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FINAL

FINDINGS OF SUITABILITY TO LEASE (FOSL)

JPA MASTER LEASE
FORT MCCLELLAN, CALHOUN COUNTY, ALABAMA

Volume II of II

JANUARY 6, 2000

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ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 51

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
OPEN DINING FACILITY/OLD OFFICERS CLUB
BUILDING 51

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349
HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
OPEN DINING FACILITY/OLD OFFICERS CLUB
BUILDING 51

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

January, 1998

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1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at the Building 51 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines, which include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of May 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 51 for the purpose of identifying building materials suspected to contain asbestos. Building 51 is an Open Dining /Officers Club facility comprised of a ground level floor and a basement containing approximately 22,500 sq. ft. of floor space. Based on information provided by Fort McClellan representatives, the building was originally constructed in 1954. Various renovations have no doubt taken place since the building was originally constructed but no building plans have been found that could be used to verify specific dates.

The majority of interior walls are constructed of either concrete block or wallboard. Ceilings for the most part are lay-in acoustical composition tile. The dominant flooring

conditions existing in the facility are 1) vinyl floor tile, 2) parquet wood, 3) brick tile, and 4) ceramic tile.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. A number on the plans in Appendix C represents each sample location. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Boiler insulation

Miscellaneous Material

- Vinyl floor tiles 12x12
- Vinyl flooring mastics
- Parquet wood floor mastic

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 3 bulk sample was collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all **suspect** materials, their corresponding sample numbers, general location, and asbestos content are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

A friable asbestos containing insulation was found to be present on the boiler located in the basement of Building 51

NON FRIABLE ACM

No friable asbestos containing materials were found to be present in Building 51 by laboratory testing. However, 12x12 in. floor tile found in the basement of the building that was not sampled and is **assumed** to be ACM.

1) 12x12 in. asbestos containing vinyl floor tile is found covering the floor in approximately half of the basement in Building 51.
2) A black asbestos containing mastic is found under the existing vinyl floor tile.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl space and tunnel areas should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions and some of the asbestos containing materials, are subject to routine maintenance activities that could involve significant

disturbance. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 51 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 51 during May 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
OPEN DINING FACILITY/OLD OFFICERS CLUB
BUILDING 51
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B51-03	Boiler Insulation	Basement Boiler Rm.	100 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS

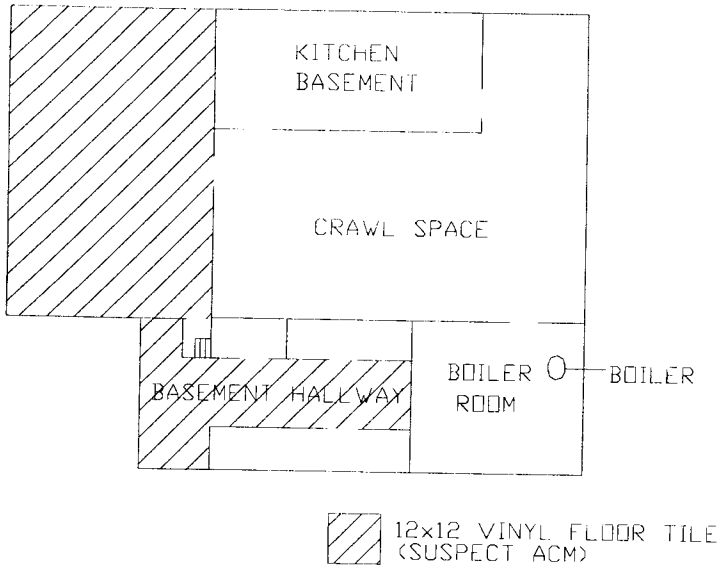

FIG. 1

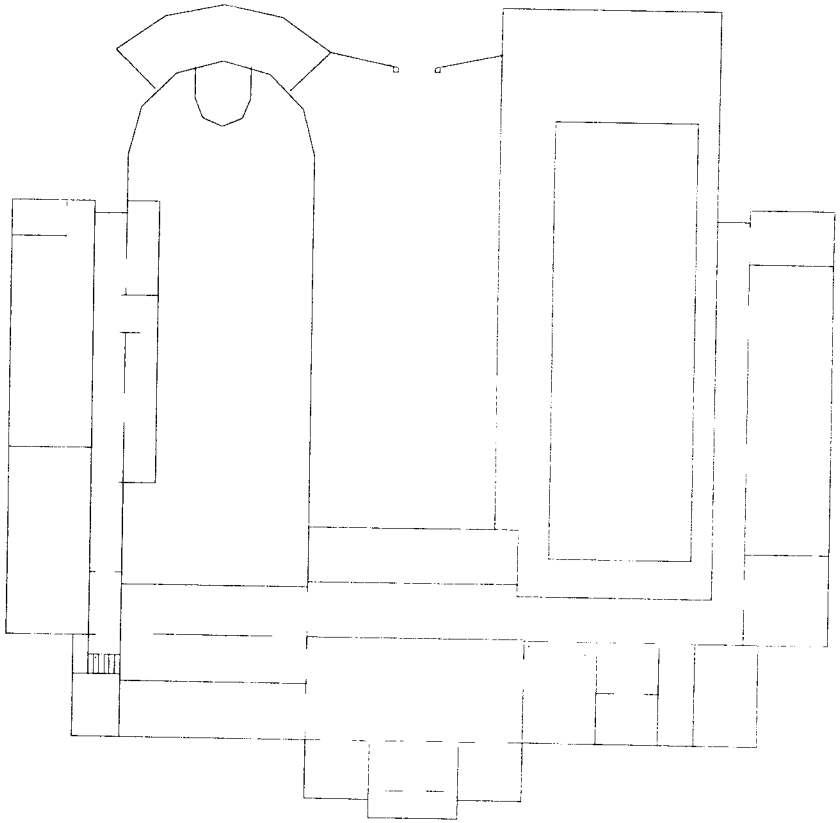

FIG. 2

BUILDING: 51	FIG 1 BASEMENT PLAN FIG 2 FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

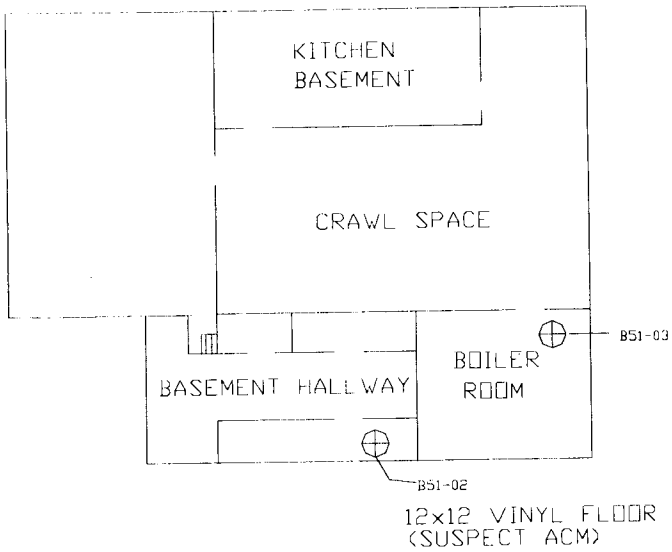

FIG. 1

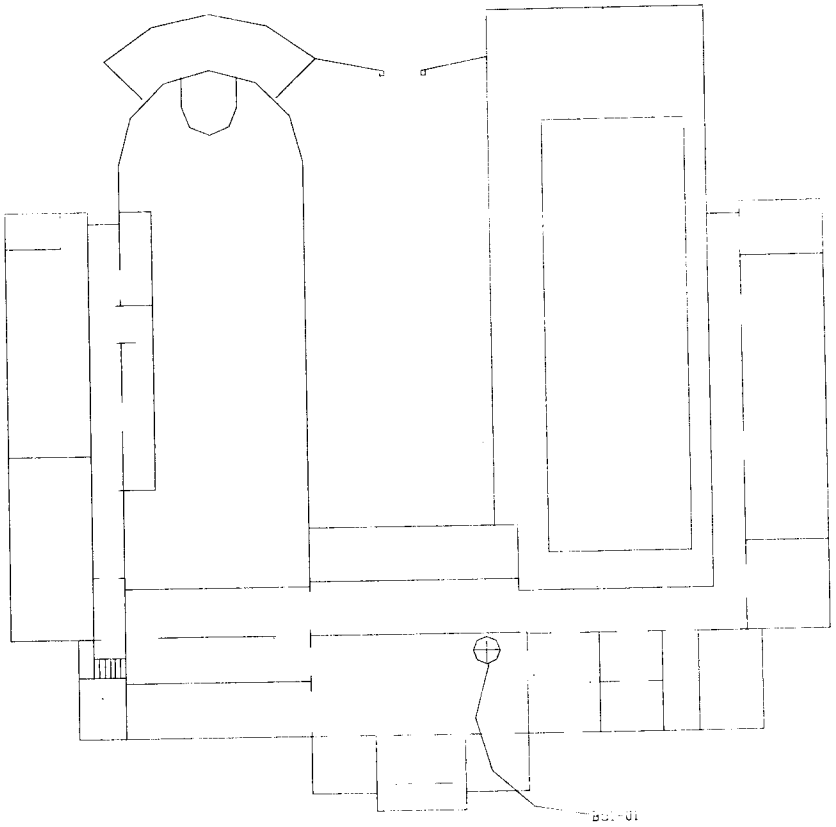

FIG. 2

BUILDING: 51	FIG. 1 BASEMENT PLAN FIG. 2 FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 63

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
SAFETY/LEGAL BUILDING
BUILDING 63

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
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Fort McClellan

Staying Beautiful

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ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
SAFETY/LEGAL BUILDING
BUILDING 63

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January, 1998

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1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at the Building 63, Safety/Legal, located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method

   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines, which include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of May 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 63 for the purpose of identifying building materials suspected to contain asbestos. Building 63 is a Safety/Legal facility, which is comprised of a two floors and a basement containing approximately 19,000 sq. ft. of floor space. Based on information provided by Fort McClellan representatives, the building was originally constructed in 1924. Various renovations have no doubt taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates. All friable asbestos containing materials were apparently abated from Building 63 in 1987.

The majority of interior walls are constructed of either concrete block or wallboard. Ceilings for the most part are lay in acoustical composition tile. A preexisting 9x9 in. acoustical ceiling tile is found in some areas glued to the deck above the currently drop ceiling in much of the building. The two dominant flooring conditions existing in the facility are 1) vinyl floor tile, and 2) linoleum.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. A number on the plans in Appendix C represents each sample location. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Hot water tank insulation
- HVAC insulation tape

Miscellaneous Material

- Vinyl floor tiles 12x12
- Vinyl flooring mastics
- 9x9 in. ceiling tile & mastic

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 4 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all **suspect** materials, their corresponding sample numbers, general location, and asbestos content are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

No friable asbestos containing materials were found to be present in Building 63.

NON FRIABLE ACM

No friable asbestos containing materials were found to be present in Building 63 by laboratory testing. However, 12x12 in floor tile found throughout the majority of the building was not sampled and is **assumed** to be ACM.

1) 12x12 in. asbestos containing vinyl floor tile is found throughout the majority of Building 63.
2) A black asbestos containing mastic is found under the existing vinyl floor tile.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl space and tunnel areas should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions and some of the asbestos containing materials, are subject to routine maintenance activities that could involve significant disturbance. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 63 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions which were observed during the inspections of Building 63 during May 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

APPENDIX B

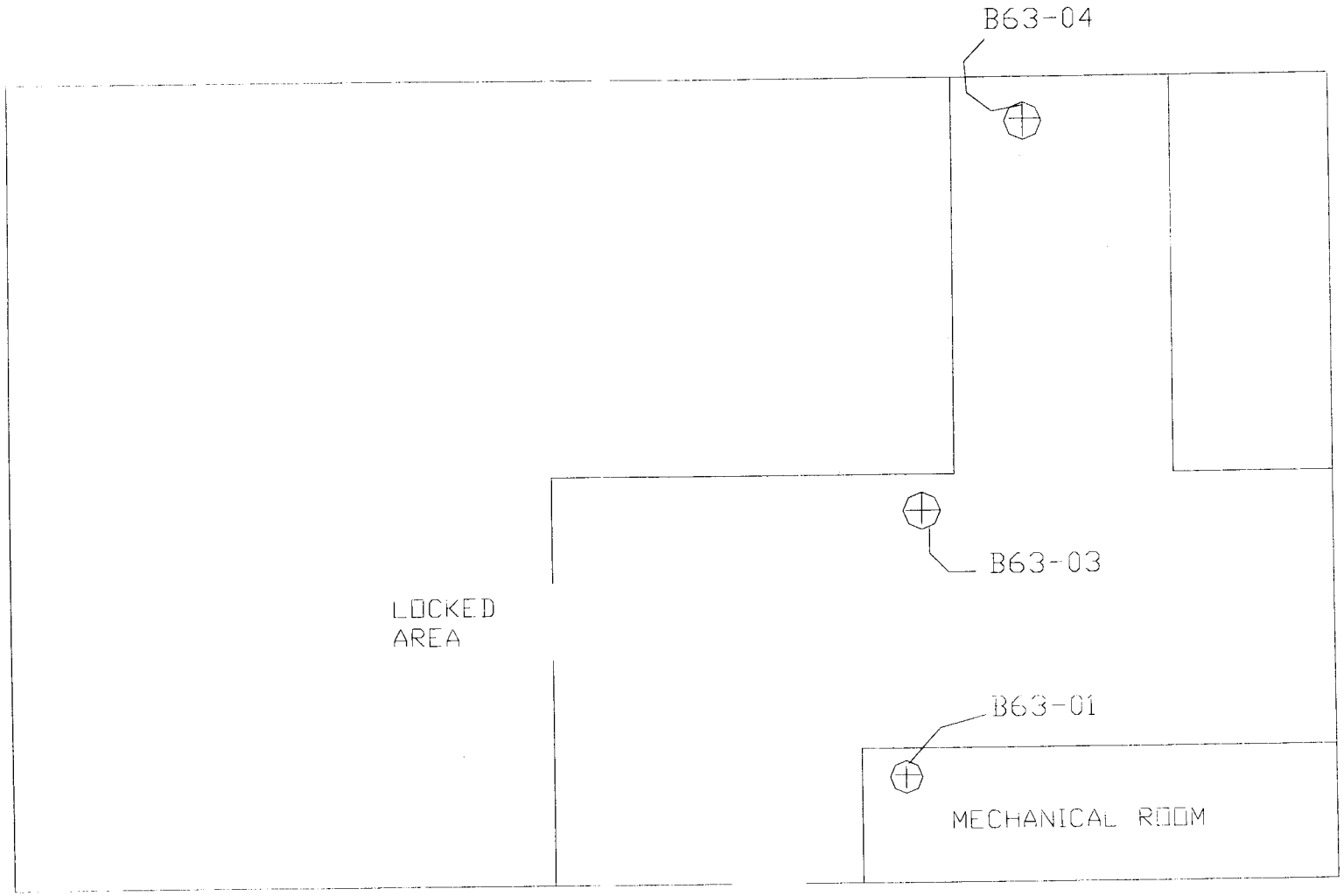
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
SAFETY/LEGAL BUILDING
BUILDING 63
FORT McCLELLAN, ALABAMA

No friable asbestos found.

APPENDIX C

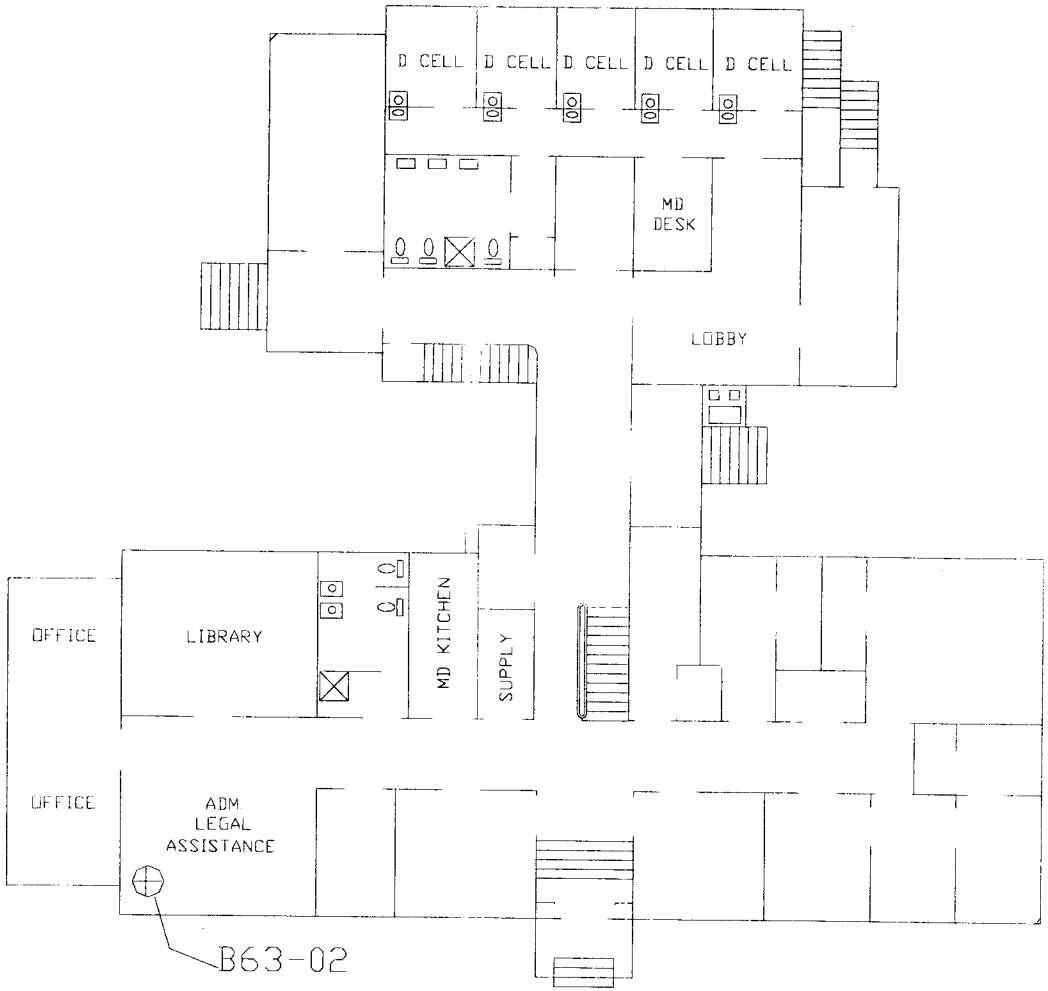
SAMPLE LOCATIONS PLANS



NEGATIVE SAMPLE LOCATION

POSITIVE SAMPLE LOCATION

BUILDING 63	FIG. 3 BASEMENT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



NEGATIVE SAMPLE LOCATION

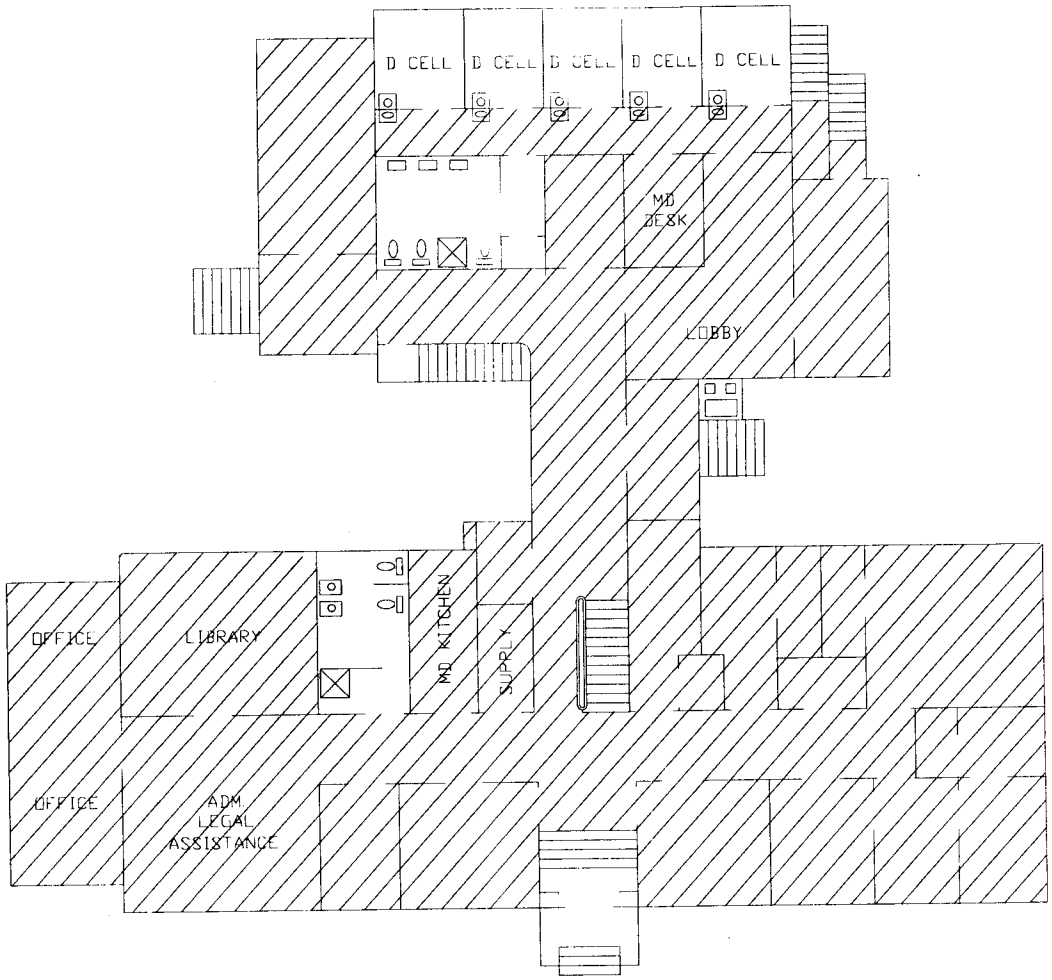
POSITIVE SAMPLE LOCATION

BUILDING: 63	FIG 1 FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS

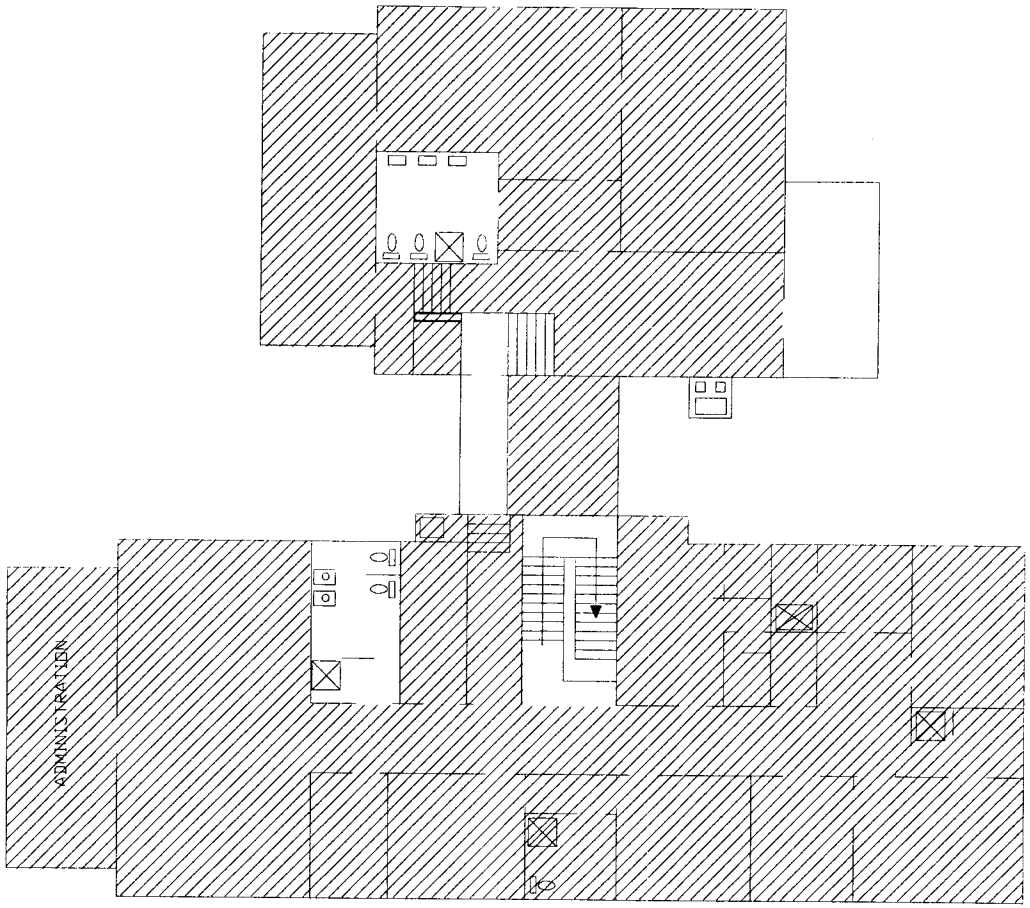
BUILDING: 63	FIG. 3 BASEMENT	ASBESTOS SURVEY DABT02-96-D-C005 FM705	**REISZ ENGINEERING**



MIXED 9x9 & 12x12 VINYLE FLOOR TILE

12x12 VINYL FLOOR TILE

BUILDING: 63	FIG. 2 FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



12x12 VINYL FLOOR TILE
(SUSPECT ACM)

BUILDING 63	FIG 2 SECOND FLOOR	ASBESTOS SURVEY DAB102-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 65

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
ADMINISTRATIVE BUILDING
BUILDING 65

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
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HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
ADMINISTRATIAVE BUILDING
BUILDING 65

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Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

January, 1998

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APPENDIX E - SELECTED ACM PHOTOGRAPHS (none)

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at the Building 65 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines, which include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of May 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 65 for the purpose of identifying building materials suspected to contain asbestos. Building 65 is an Administrative facility comprised of a ground level floor and a basement containing approximately 9,300 sq. ft. of floor space. Based on information provided by Fort McClellan representatives, the building was originally constructed in 1931. Various renovations have no doubt taken place since the building was originally constructed. Building plans do describe a renovation having taken place in 1980. During this renovation, much of the old friable asbestos may have been removed. The renovation plans describe the addition of vinyl asbestos containing floor tile to the building.

The majority of interior walls are constructed of either concrete block or wallboard. Ceilings for the most part are lay-in acoustical composition tile. An acoustical wall tile is found in some areas of both floors. The two dominant flooring conditions existing in the facility are 1) vinyl floor tile, and 2) concrete.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. A number on the plans in Appendix C represents each sample location. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- None

Miscellaneous Material

- Vinyl floor tiles 12x12
- Vinyl flooring mastics
- Acoustical wall tile

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 1 bulk sample was collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all **suspect** materials, their corresponding sample numbers, general location, and asbestos content are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

No friable asbestos containing materials were found to be present in Building 65.

NON FRIABLE ACM

No friable asbestos containing materials were found to be present in Building 65 by laboratory testing. However, 12x12 in floor tile found throughout much of the building was not sampled and is **assumed** to be ACM.

1) 12x12 in. asbestos containing vinyl floor tile is found throughout the majority of Building 65.
2) A black asbestos containing mastic is found under the existing vinyl floor tile.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl space and tunnel areas should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions and some of the asbestos containing materials, are subject to routine maintenance activities that could involve significant disturbance. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 65 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 65 during May 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
SAFETY/LEGAL BUILDING
BUILDING 65
FORT McCLELLAN, ALABAMA

No friable asbestos found.

APPENDIX C

SAMPLE LOCATIONS PLANS

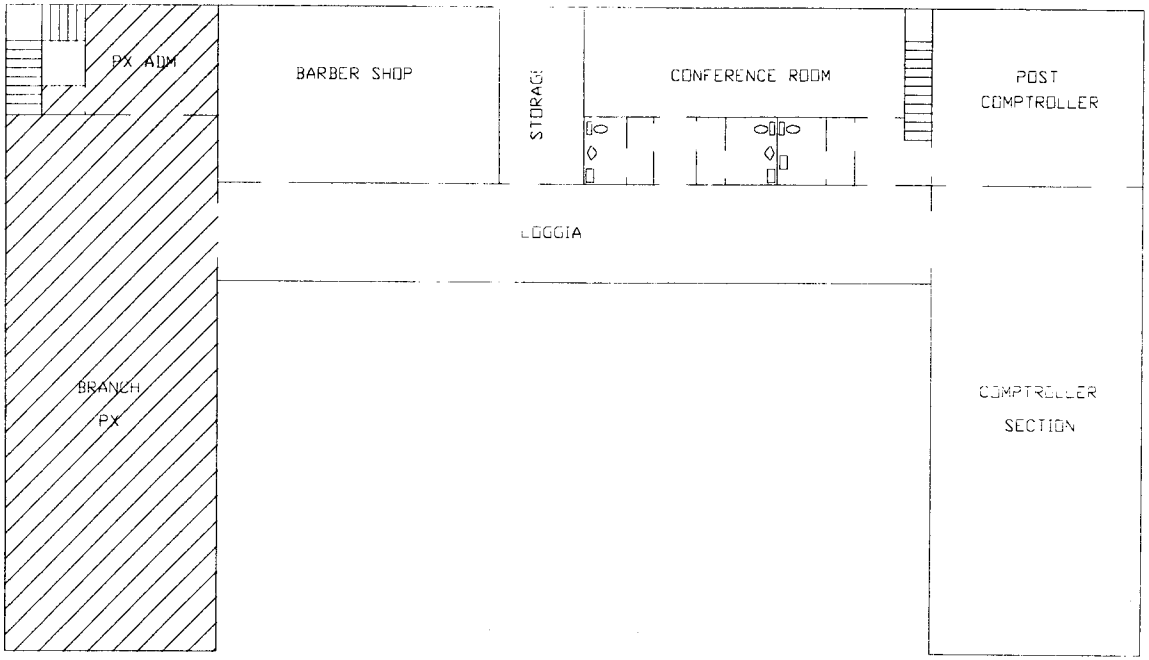

FIG 1 FIRST FLOOR

SCALE: 1"=20'

12x12 VINYL FLOOR TILE (SUSPECT ACM)

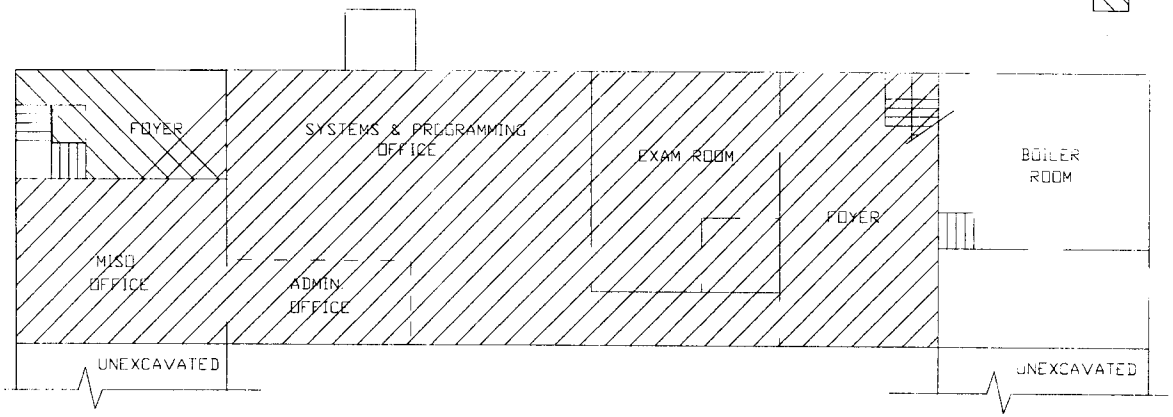

FIG 2 BASEMENT

SCALE 1"=20'

BUILDING: 65	FIG. 1 FIRST FLOOR FIG. 2 BASEMENT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 67

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CHAPEL
BUILDING 67

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349
HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CHAPEL
BUILDING 67

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

February, 1998

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1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 67, Chapel, located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines, which include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of May 1997, Reisz Engineering accredited Asbestos Inspectors performed an inspection of Building 67 for the purpose of identifying building materials suspected to contain asbestos. Building 67 is a Chapel/Religious facility, which is comprised of a ground-level floor, a basement, and attic containing approximately 5,800 sq. ft. of floor space. Based on information provided by Fort McClellan representatives, the building was originally constructed in 1958. Various renovations have more than likely taken place since the building was originally constructed but no construction plans could be found to verify specifics. Generally, Building 67 can be described as a concrete/stucco structure.

The majority of interior walls are constructed of wallboard or concrete. Ceilings are primarily plaster and lathe, lay-in acoustical tile, or open to the roof deck. The two dominant flooring conditions existing in the facility are 1) wood, and 2) 9 x9 inch vinyl floor tile.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. A number on the plans in Appendix C represents each sample location. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled. All 12x12 and 9x9 vinyl floor tile is assumed to be asbestos containing material and should be treated accordingly.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- none

Thermal System Insulation

- White/gray pipe insulation
- Cementitious hand-formed pipe fitting insulation
- Fibrous pipe insulation
- White insulation tape on furnace exhaust

Miscellaneous Material

- Vinyl floor tiles 9x9 (not sampled)
- Vinyl flooring mastics (not sampled)
- ceiling tile
- ceiling tile mastic

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 6 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and asbestos content are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in two types of friable materials: 1) cementitious hand-formed pipe fitting insulation, 2) pipe insulation found throughout the basement and crawlspace areas of the building.

1) A friable, hand-formed, asbestos containing insulation compound is applied to the fittings of pipes throughout the basement and crawlspace areas of the building. The material was found to be in generally Good to Fair condition.

   Asbestos containing friable insulation is found on the straight runs of approximately 900 linear feet of piping throughout the basement and crawlspace areas of the building. The material was found to be in generally Good condition with the exception of approximately 30 LF in the pipe organ air room and 50 LF in the crawlspace.

   Asbestos containing tape was found wrapped on the furnace exhaust duct in the basement furnace room. This material is in Poor condition and should be removed as soon as possible.

NON FRIABLE ACM

Suspect tile glued with black mastic to the ceiling in some areas of the building was found not to contain asbestos. Refer to the asbestos survey report for Building 67.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl space and tunnel areas should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal working conditions. However, asbestos tape found on the furnace exhaust ductwork is in poor condition and generally hanging loose. It is our recommendation that this tape be removed as soon as possible to avoid any possible fiber release. Some pipe fittings and straight run insulation located in the pipe organ air room and crawlspace have been damaged and may present a hazard to workers accessing these areas. Damaged asbestos containing TSI in the pipe organ air room may present problems due to the potential for air movement from this area. Based upon the aforementioned conditions, abatement of asbestos containing materials in these areas should be considered. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 67 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 67 during May 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
CHAPEL
BUILDING 67
FORT McCLELLAN, ALABAMA

SAMPLE #(s)	Description of Material	General Location Of Material	Quantity (approx.)
B67-01	Insulation Tape on Furnace Exhaust	Basement Mechanical Rm, Furnace Exhaust	20 linear ft.
B67-02	TSI, Straight Runs	Basement Mechanical Room and Hallway	150 linear ft.
B67-03	TSI joints and fittings 6-10 in. pipes	Basement Mechanical Room and Hallway	20 fittings
B67-04	Pipe Insulation 12 in. pipes	Organ Air Room and Crawlspace	700 linear ft. 50 fittings
Not Sampled	9 x 9 inch Vinyl Floor Tile	Basement	1000 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS

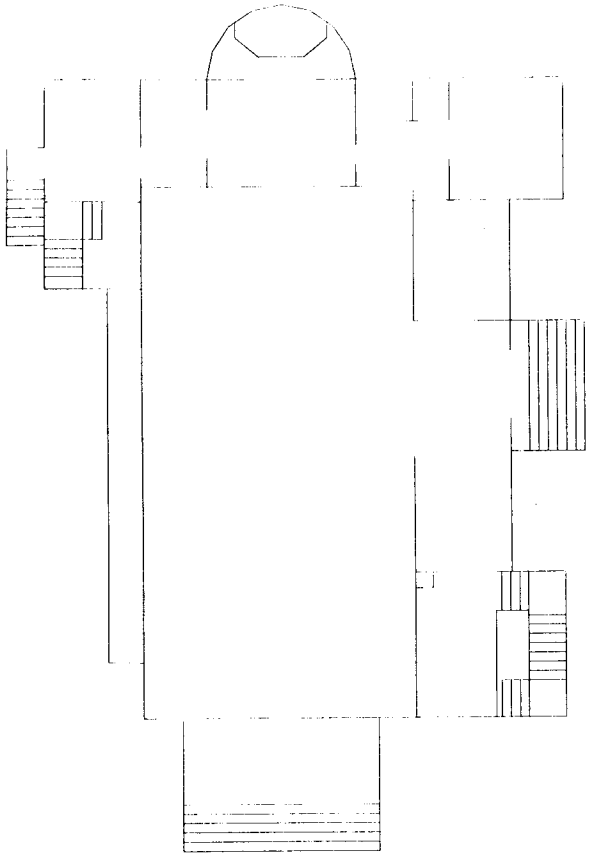


FIG. 1 FIRST FLOOR SCALE: 1"=20'

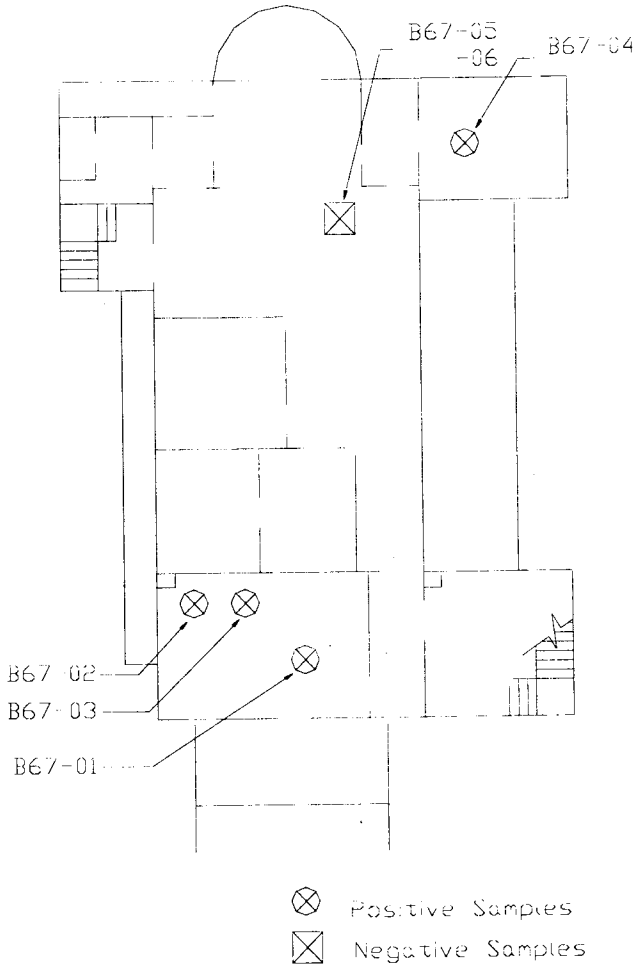


FIG. 2 BASEMENT SCALE: 1"=20'

BUILDING 67	FIG. 1 FIRST FLOOR FIG. 2 BASEMENT	ASBESTOS SURVEY DAB102-96-D-0005 FM705	REISZ ENGINEERING

APPENDIX D

SELECTED ACM LOCATION PLANS

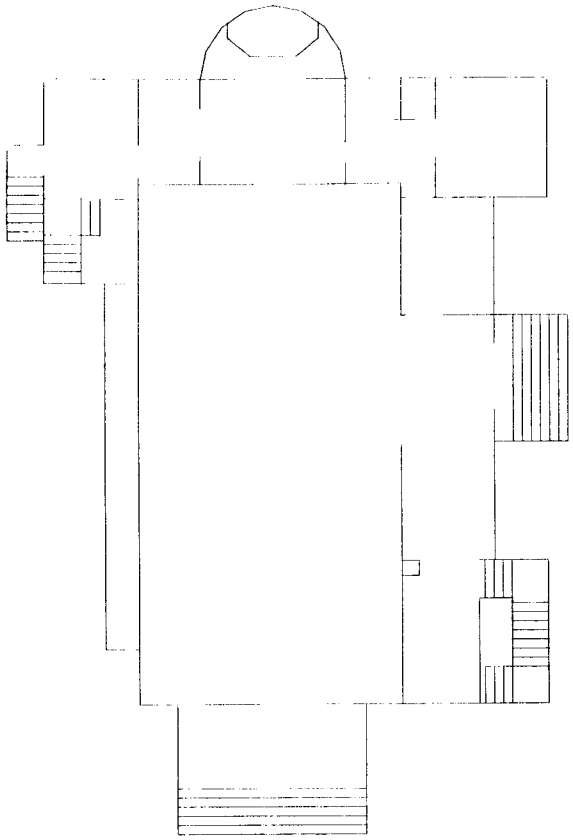
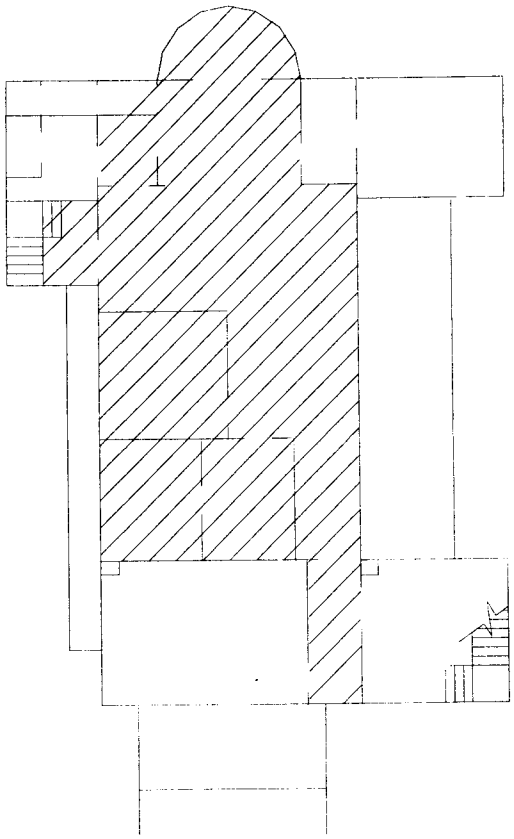


FIG. 1 FIRST FLOOR SCALE: 1"=20'



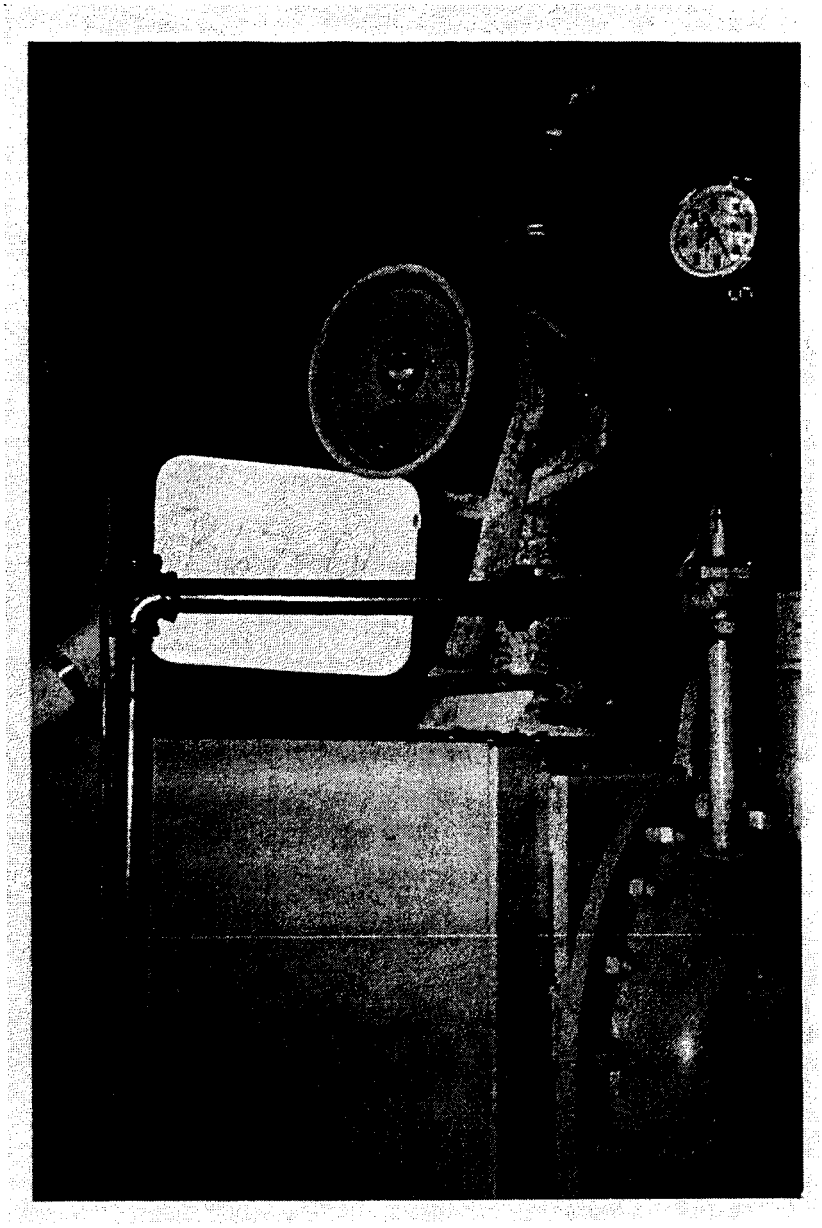
9x9 Floor Tile

FIG. 2 BASEMENT SCALE: 1"=20'

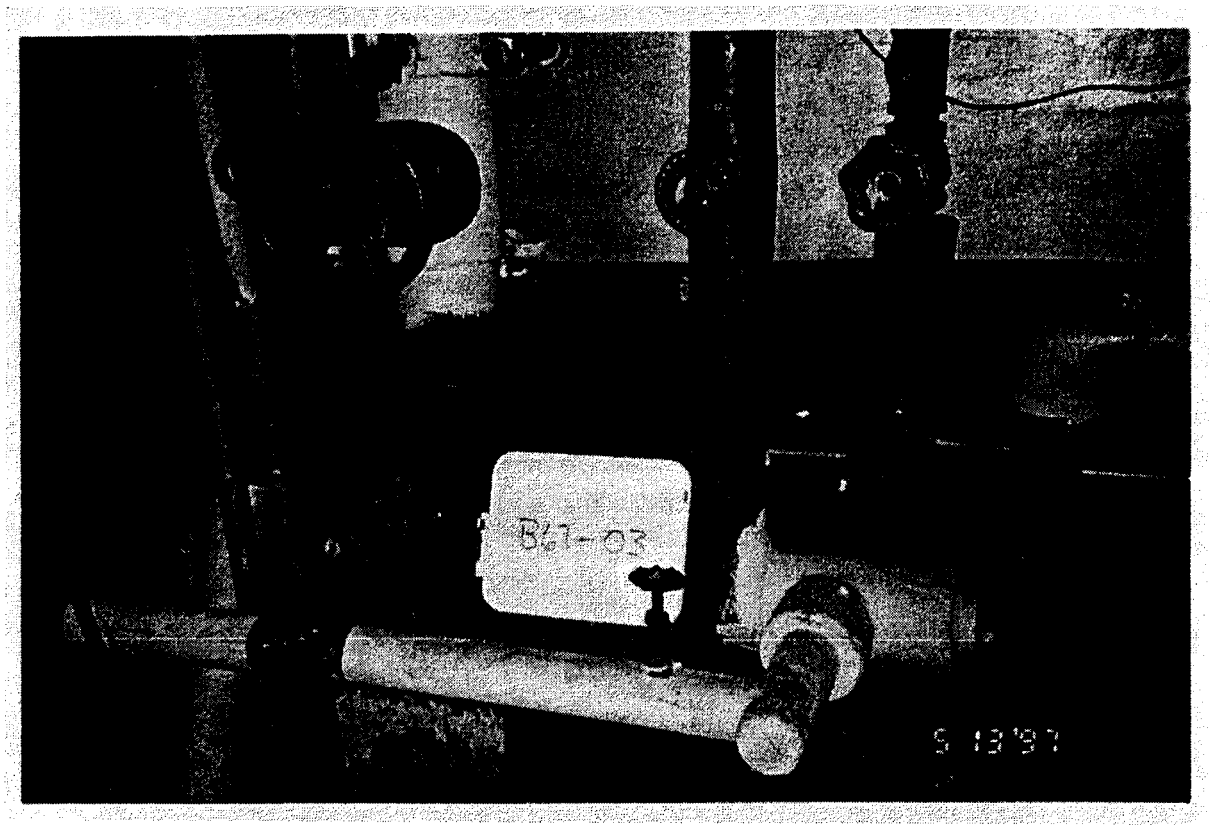
BUILDING 67	FIG 1 FIRST FLOOR FIG 2 BASEMENT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX E

SELECTED ACM PHOTOGRAPHS



Sample # B67-01: Asbestos tape (furnace exhaust).



Sample # B67-03: Pipe fitting (furnace room).

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 161

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
AUDITORIUM
BUILDING 161

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
AUDITORIUM
BUILDING 161

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

April, 1998

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1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 161 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of August 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 161 for the purpose of identifying building materials suspected to contain asbestos. Building 161 is a single story structure with basement and crawlspace areas containing approximately 5,400 sq. ft. of floor space. Based on information provided by Fort McClellan representatives the building was originally constructed in 1936. Various renovations have no doubt taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The two dominant flooring conditions existing in the facility are 1) bare concrete, and 2) carpet.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Brown paper-like pipe insulation (straight-runs)
- Cementitious hand-formed pipe fitting insulation
- White powdery pipe insulation

Miscellaneous Material

- None

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 3 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in thwo types of friable materials: 1) cementitious hand-formed pipe fitting insulation in the crawl space of the building, and 2) a white powdery insulation found on the straight-runs of pipes in the crawl space.

1) A friable, hand-formed, asbestos containing insulation compound is applied to the fittings of pipes located in the crawl-space of the building. This material was found to be in generally Good condition.
2) A cementitious asbestos containing insulation is found on the straight-runs of piping located in the crawl-space. The material was found to be in generally Good condition.

NON FRIABLE ACM

No non-friable asbestos containing materials were found to be present in Building 161.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. However, some of the asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Those materials include the pipe fitting and straight-run insulation located in the crawl-space. Based upon the aforementioned conditions, no abatement is necessary at this time. Proper management of the material in-place may be acceptable assuming

the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 161 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 161 during August, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 08/22/97

Sample Date : 08/20/97

Microscopist: Tom Carrington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B161-01/ 1" pipe TSI brown Material					70				30
B161-02/ 1" elbow TSI white Hard material	65		25						10
B161-03/ 12" pipe TSI white powder-like	60	30							10

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04**= Calcium Sulfate
Fbgl = Fiberglass

A Space Grant College
An Affirmative Action / Equal
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APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
AUDITORIUM
BUILDING 161
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B161-02	Pipe fitting insulation	Crawl-Space	50 fittings
B161-03	Straight-run piping Insulation (white)	Crawl-Space	600 linear ft.

APPENDIX C

SAMPLE LOCATIONS PLANS

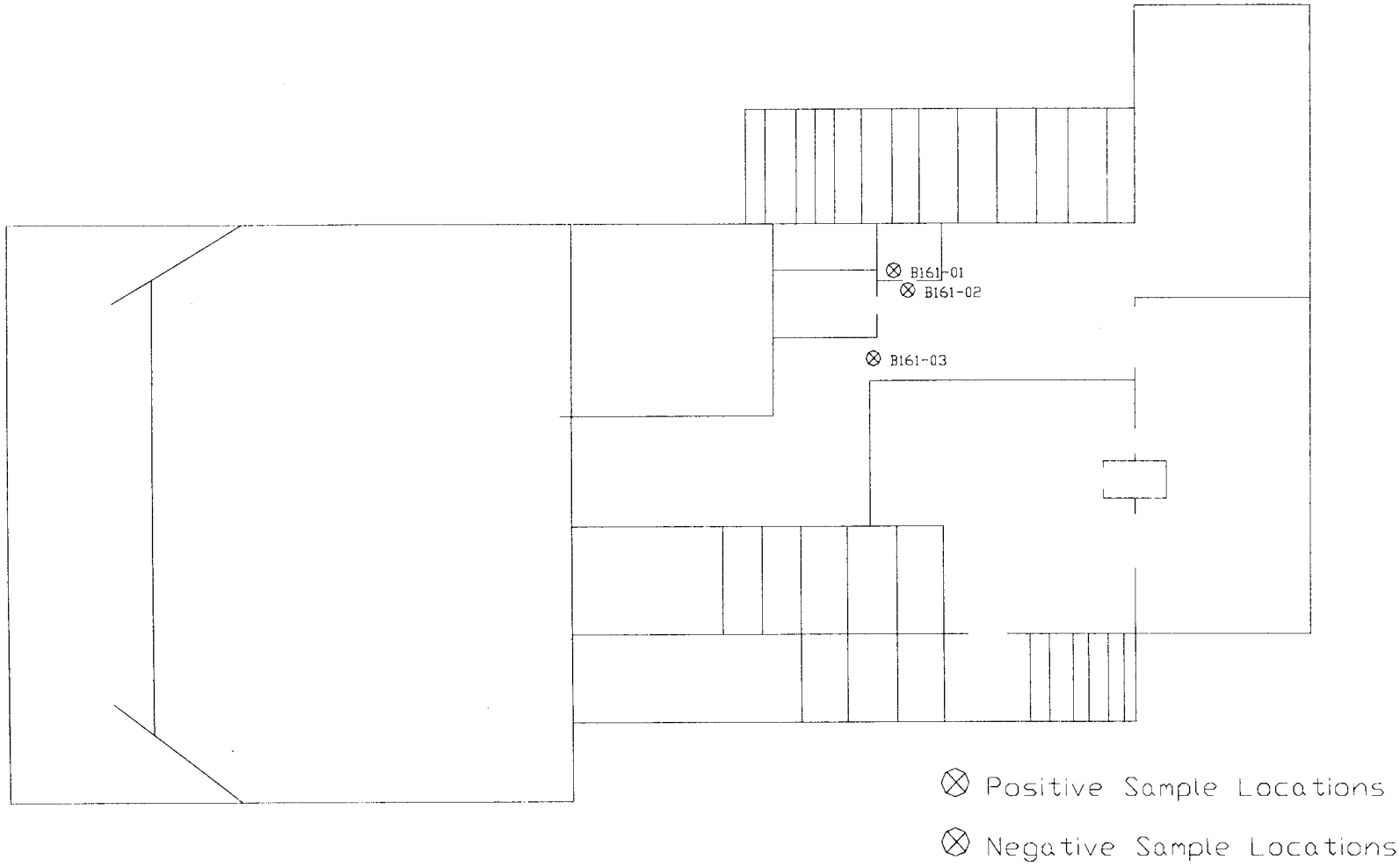


FIG. 1 LAYOUT PLAN

BUILDING: 161	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS

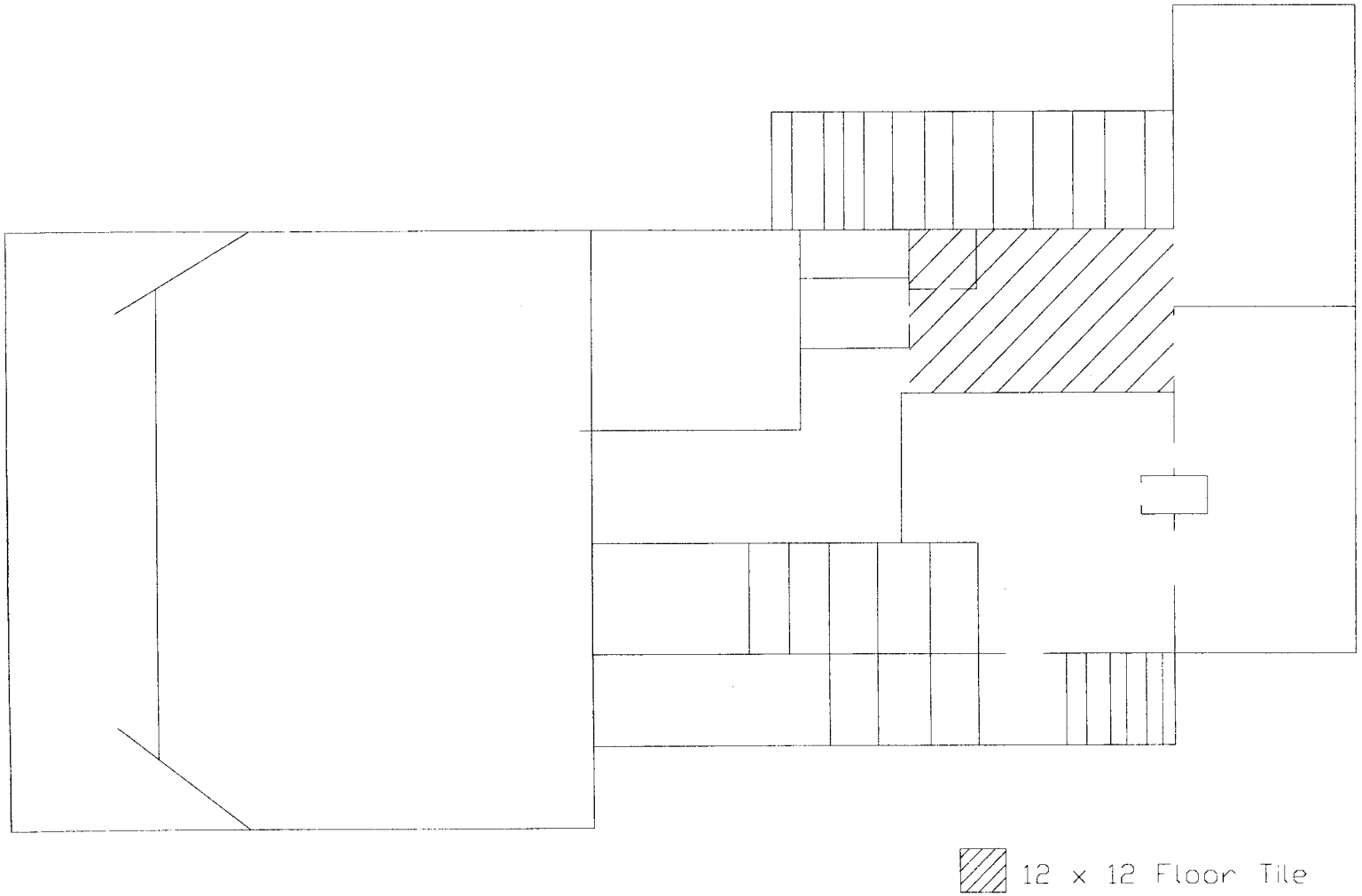
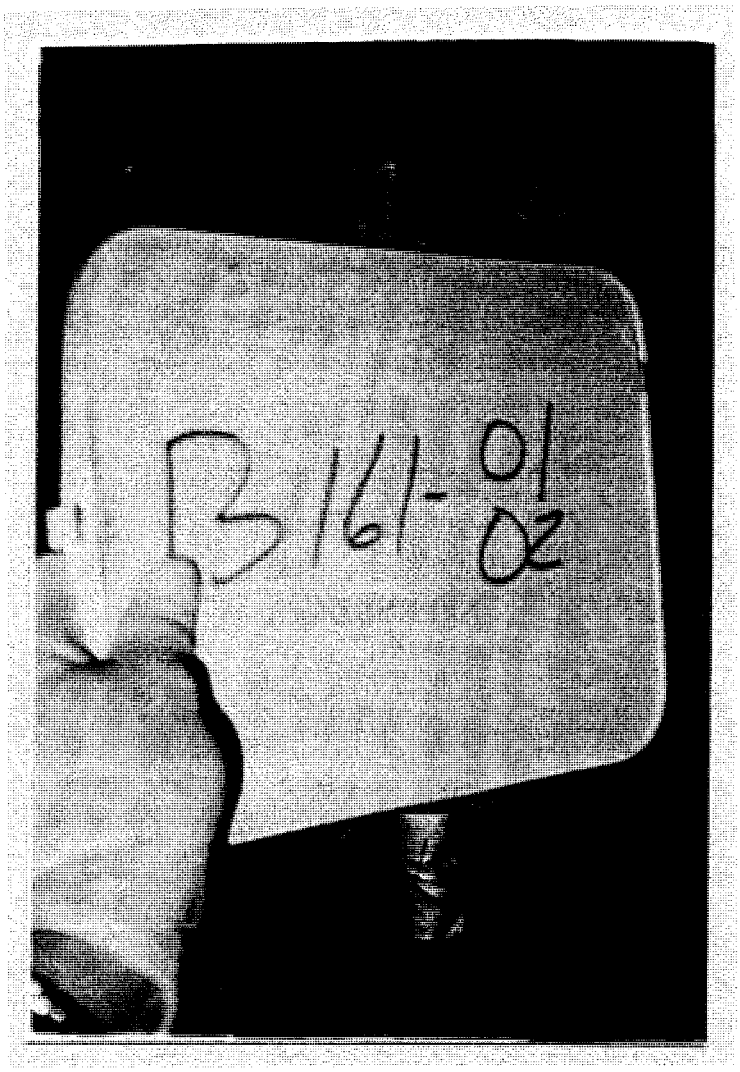


FIG. 1 LAYOUT PLAN

BUILDING: 161	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX E

SELECTED ACM PHOTOGRAPHS



B161-01,02: Typical pipe fitting and straight-run insulation located in crawl-space.

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 162

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
ADMINISTRATIVE
BUILDING 162

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
ADMINISTRATIVE
BUILDING 162

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

May, 1998

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APPENDIX E - SELECTED ACM PHOTOGRAPHS (None)

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 162 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing EPA to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the EPA was directed to address the issues of: 1) identifying, 2) evaluating and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines, which include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of September 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 162 for the purpose of identifying building materials suspected to contain asbestos. Building 162 is an office/administrative facility with an overall size of approximately 20,986 sq. ft. of floor space. Based on information provided by Fort McClellan representatives, the building was originally constructed in 1930. Various renovations have no doubt taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates.

The majority of interior walls are constructed of concrete. Ceilings for the most part are lay in acoustical composition tile system systems. The dominant flooring type existing in the facility is 12 x 12 inch vinyl floor tile.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. A number on the plans in Appendix C represents each sample location. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Cementitious hand-formed pipe fitting insulation
- Cementitious straight run pipe insulations
- White, gray and brown, paper-like straight run pipe insulation
- Cementitious boiler insulation

Miscellaneous Material

- Vinyl floor tiles 12x12
- Vinyl flooring mastics

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 13 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and asbestos content are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in four types of friable materials: 1) cementitious hand-formed pipe fitting insulation in the basement and crawlspace, 2) cementitious TSI on the straight runs of pipe in the basement and crawlspace, 3) a paper-like insulation on

straight runs of piping in the basement and crawlspace, and 4) cementitious insulation found on the boiler.

1) A friable, hand-formed, asbestos containing insulation compound is applied to the fittings of pipes in the basement and crawlspace of the building. The material was found to be in generally Good condition.

2) A friable, asbestos containing cementitious insulation is found on straight runs of some of the piping in the basement and crawlspace. The materials was found to be in generally Good condition.

3) A friable, asbestos containing paper-like insulation is found on the straight runs of some pipes in the basement and crawlspace of the building. This material was found to be in generally Good condition.

4) A friable, asbestos containing cementitious insulation is found applied to the boiler. This material was found to be in generally Good condition.

NON FRIABLE ACM

An assumed ACM containing 12 x 12 floor tile and mastic is found throughout the majority of the building. This floor tile was found to be generally in Good condition.

INACCESSIBLE MATERIAI,

TSI, other insulation, or spray-on compounds associated with inaccessible crawl space and tunnel areas should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions although some of the asbestos containing materials are subject to routine maintenance activities that could involve significant disturbance. Those materials include the pipe fitting and straight run insulation located within the basement and crawlspace of the building. Based upon the aforementioned conditions, none of the ACM found within Building 162 requires immediate abatement. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 162 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 162 during September 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material that were not visible on the surface were not inspected and may differ from those observed. It was

not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
ADMINISTRATIVE
BUILDING 162
FORT McCLELLAN, ALABAMA

SAMPLE #(s)	Description of Material	General Location Of Material	Quantity (approx.)
B162-01,12	Pipe fitting TSI White chalky	Basement Crawlspace	30 fittings
B162-02	8 inch pipe straight run TSI, gray	Basement	175 linear ft.
B162-03,10,13	12 inch pipe straight run, white chalky	Basement	1500 linear ft.
B162-05	Brown paper-like TSI on straight runs	Basement	100 linear ft.
B162-06	White paper-like TSI on Straight runs	Basement	150 linear ft.
B162-09	Gray fibrous TSI on Straight runs	Boiler Room	3000 linear ft.
B162-11	White powdery TSI on Boiler	Boiler Room	50 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS

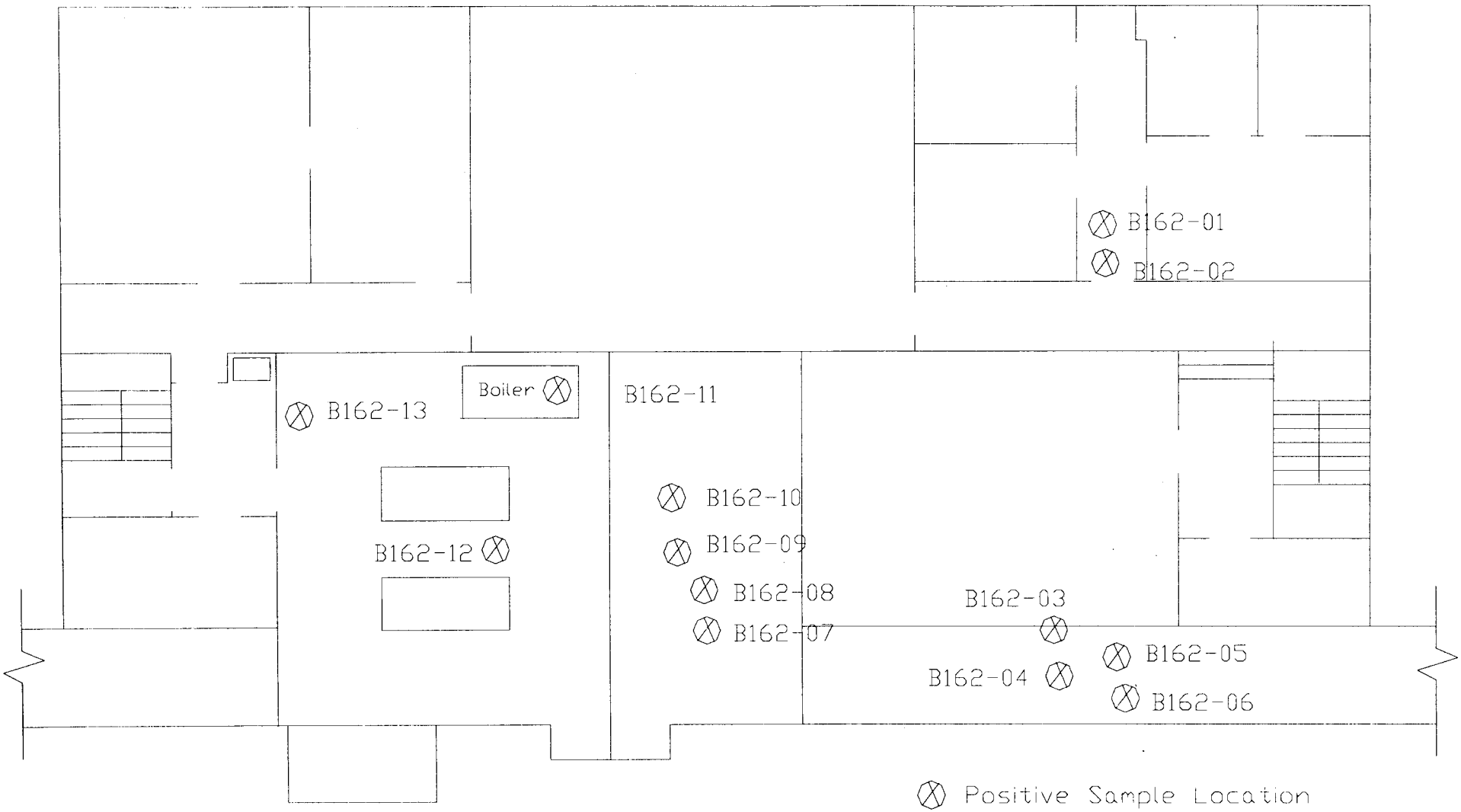

FIG. 1 LAYOUT PLAN

BUILDING: 162	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS

APPENDIX E

SELECTED ACM PHOTOGRAPHS

Sample # B141-01: Boiler insulation. (None-ACM)

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 163

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
INSTRUCTIONAL
BUILDING 163

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
INSTRUCTIONAL
BUILDING 163

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

May, 1998

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APPENDIX E - SELECTED ACM PHOTOGRAPHS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 163 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing EPA to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the EPA was directed to address the issues of: 1) identifying, 2) evaluating and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines, which include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of August 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 163 for the purpose of identifying building materials suspected to contain asbestos. Building 163 is a general instructional facility with an overall size of approximately 6,466 sq. ft. Based on information provided by Fort McClellan representatives, the building was originally constructed in 1978. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates. The dominant flooring type existing in the facility is 12 x 12 inch vinyl floor tile.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. A number on the plans in Appendix C represents each sample location. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Brown TSI on pipe straight runs in basement
- White chalky TSI on pipe fittings and straight runs in crawlspace

Miscellaneous Material

- Vinyl floor tiles 12x12
- Vinyl flooring mastics

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 11 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and asbestos content are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in two types of friable materials: 1) white chalky pipe fitting and straight run insulation in the basement and crawlspace, and 2) a paper-like insulation on straight runs of piping in the basement and crawlspace.

1) A friable, white, chalky, asbestos containing insulation compound is applied to the fittings

   and straight runs of pipes in the basement and crawlspace of the building. The material was found to be in generally Poor condition.

2) A friable, brown, paper-like, asbestos containing insulation is found on straight runs of some of the piping in the basement. The material was found to be in generally Good condition.

NON FRIABLE ACM

Non-friable, asbestos containing, 12 x 12 floor tile and mastic is found throughout the majority of the building. This floor tile was found to be generally in Good condition.

INACCESSIBLE MATERIAI,

TSI, other insulation, or spray-on compounds associated with inaccessible crawl space and tunnel areas should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Some of the materials identified within this report are damaged to the extent that significant asbestos fiber release may occur under normal conditions. The remainder of the asbestos containing materials are subject to routine maintenance activities that could involve significant disturbance. Those materials include the pipe fitting and straight run insulation located within the basement and crawlspace of the building. Based upon the aforementioned conditions, the abatement of damaged ACM within the basement and crawlspace areas of Building 163 should be considered. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 163 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 163 during September 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
INSTRUCTIONAL
BUILDING 163
FORT McCLELLAN, ALABAMA

SAMPLE #(s)	Description of Material	General Location Of Material	Quantity (approx.)
B163-01,2	Brown TSI on straight runs and fittings	Basement	50 linear ft.
B163-05,06,07,08,09	White, chalky TSI on straight runs and fittings	Crawlspace 4-8 inch pipe	1500 linear ft.
B163-10,12	Floor tile and mastic	Throughout majority of building	6,400 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS

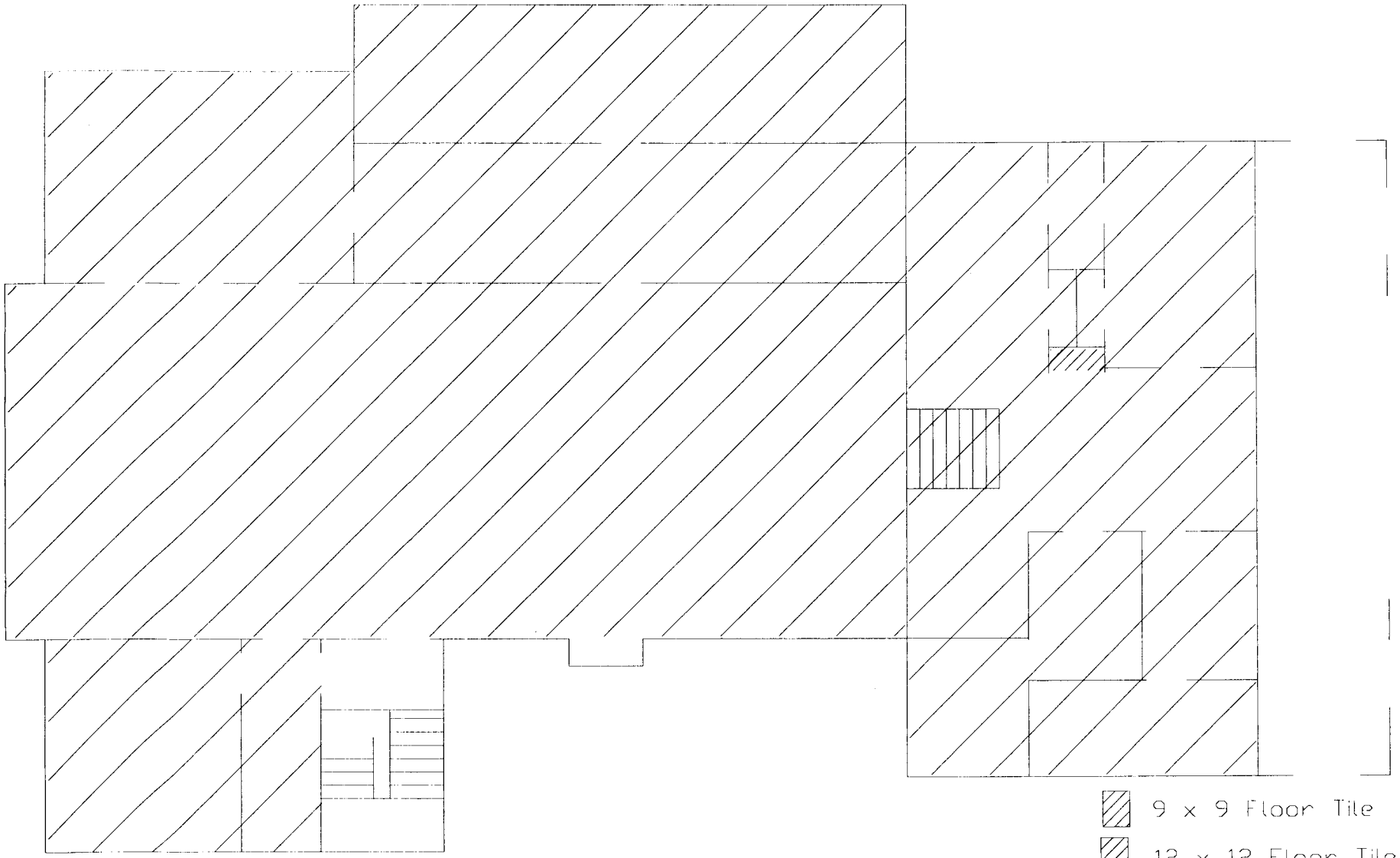

FIG. 1 LAYOUT PLAN SCALE: 1"=10'

BUILDING: 163	FIG. 1 FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

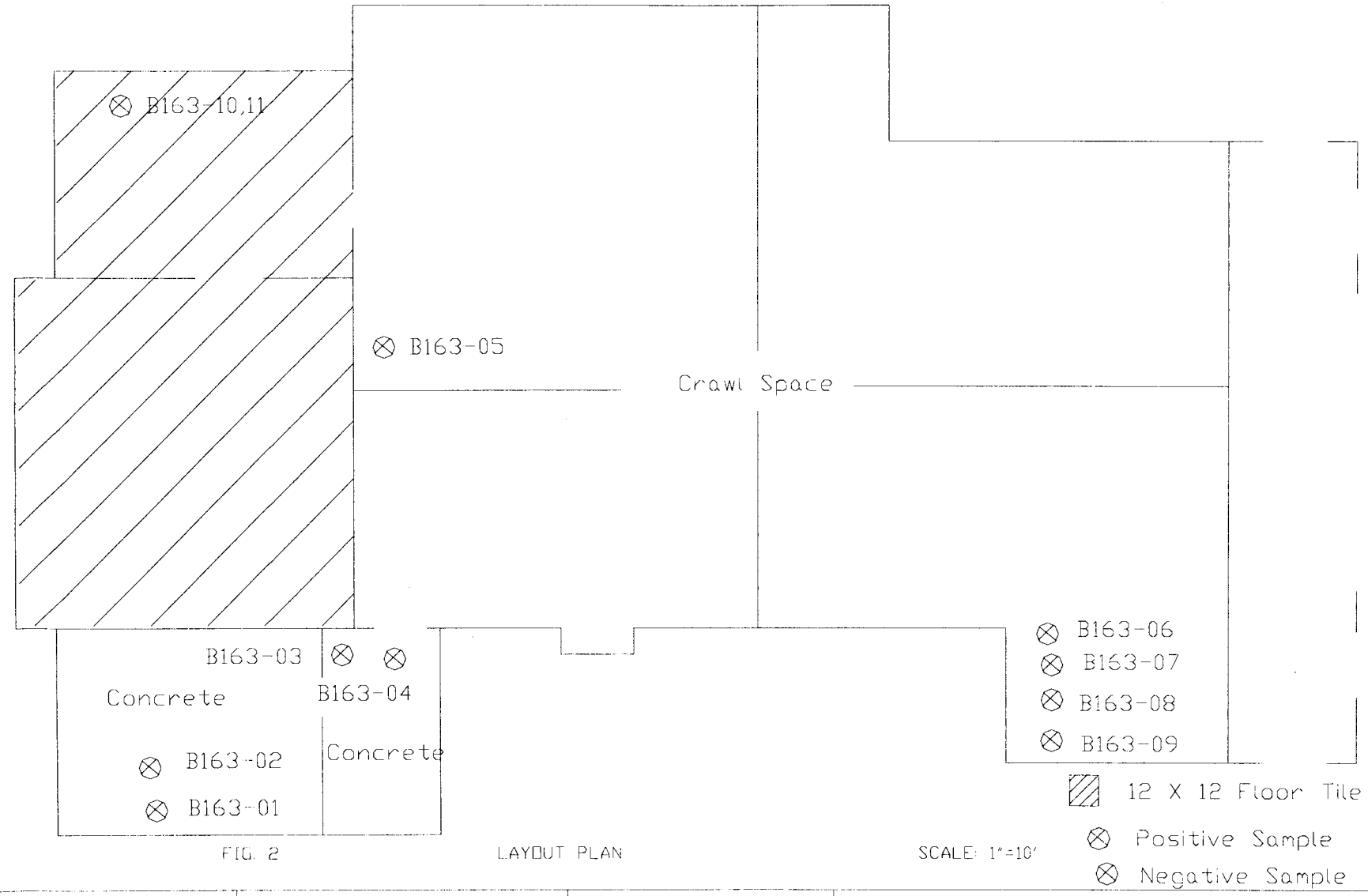

FIG. 2 LAYOUT PLAN SCALE: 1"=10'

BUILDING: 163	FIG. 2 BASEMENT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

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SELECTED ACM LOCATION PLANS

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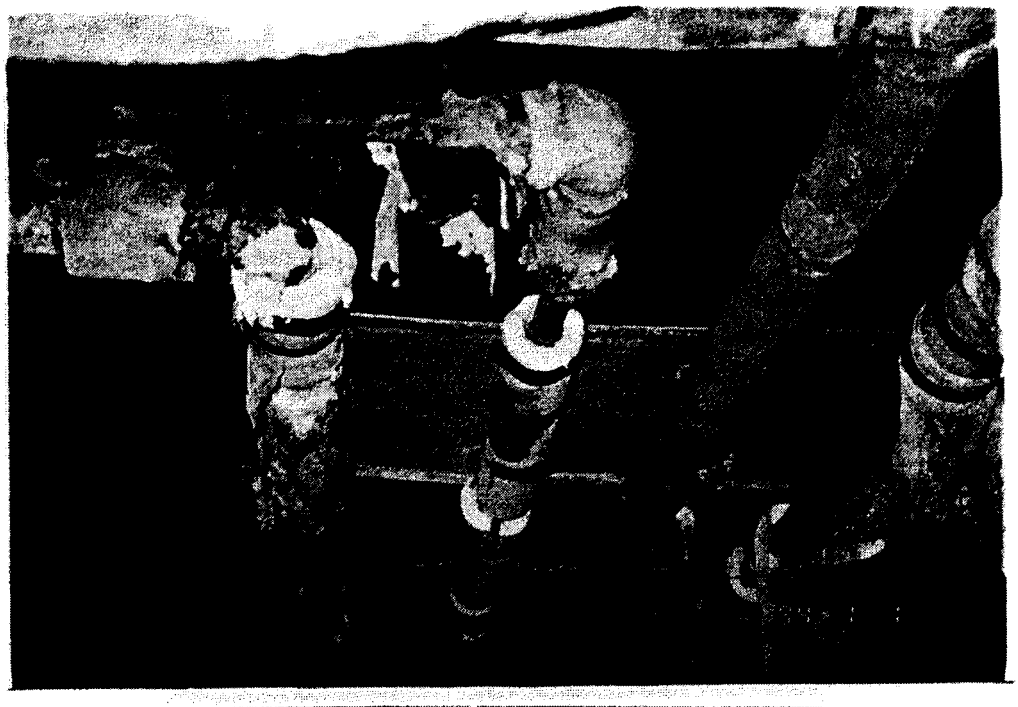
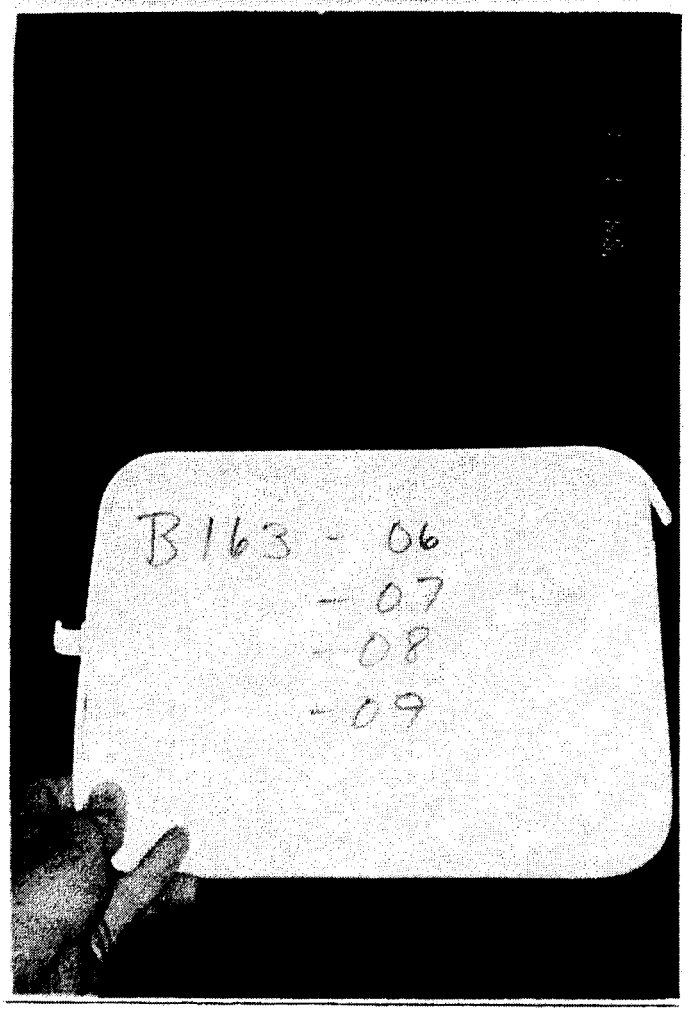
SELECTED ACM PHOTOGRAPHS





Sample # B163,06-09: Pipe and fitting TSI.

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 270

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
WOODSHOP
BUILDING 270

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349
HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
WOODSHOP
BUILDING 270

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

February, 1998

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APPENDIX C - SAMPLE LOCATIONS PLANS
APPENDIX D - SELECTED ACM LOCATIONS PLANS
APPENDIX E - SELECTED ACM PHOTOGRAPHS (none)

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at the Building 270, Woodshop, located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines, which include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of May 1997, Reisz Engineering accredited Asbestos Inspectors performed an inspection of Building 270 for the purpose of identifying building materials suspected to contain asbestos. Building 270 is a woodshop facility comprised of a ground level floor containing approximately 4,000 sq. ft. of floor space. Based on information provided by Fort McClellan representatives, the building was originally constructed in 1941. Various renovations have no doubt taken place since the building was originally constructed. However, no construction plans have been found that verify specific dates or projects. The majority of interior walls are constructed of either concrete block or wallboard. Ceilings for the most part are

lay-in acoustical composition tile. The two dominant flooring conditions existing in the facility are 1) 9 x 9 inch vinyl floor tile, and 2) concrete.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. A number on the plans in Appendix C represents each sample location. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- None

Miscellaneous Material

- Vinyl floor tiles 9x9 inch
- Vinyl flooring mastics

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 1 bulk sample was collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all **suspect** materials, their corresponding sample numbers, general location, and asbestos content are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

No friable asbestos containing materials were found to be present in Building 270.

NON FRIABLE ACM

Friable asbestos containing materials were found to be present in Building 270 by laboratory testing. 9 x 9 inch floor tile and black mastic was found throughout much of the building. Refer to Appendix A for laboratory results.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl space and tunnel areas should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions and some of the asbestos containing materials, are subject to routine maintenance activities that could involve significant disturbance. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 65 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 65 during May 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE
Environmental Laboratory
Huntsville, Alabama 35899
(205)890-6391

BULK SAMPLE ANALYSIS REPO
AIHA Accrditation #xxxx
Polarized Light Dispersion Staining
EPA/600/R-93/116 July 1993

Client: REISZ ENGINEERING

Laboratory ID #	XXXXXXXX
Date Received:	4/25/97
Date AnaJyzed:	4/25/97
Project Identification:	Building XXX

CHRY = Chrysotile
CROC = Crocidolite
AMOS = Amosite

AC/TR = Actinolite/Tremollite

FBGL = Fibrous Glass

CELL = Cellulose
MW = Mineral Wool
PC = Point Counted

Percentages Given Are Visual Estimates
Laboratory Not Responsible for Sampling Technique

_____
Analyst

APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
WOODSHOP
BUILDING 270
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Material	General Location of Material	Quantity (approx.)
B270-01	9 x 9 in. Floor Tile	Majority of Building	3000 sq. ft.
B270-02	Black floor tile mastic	Under all floor tile	3000 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS

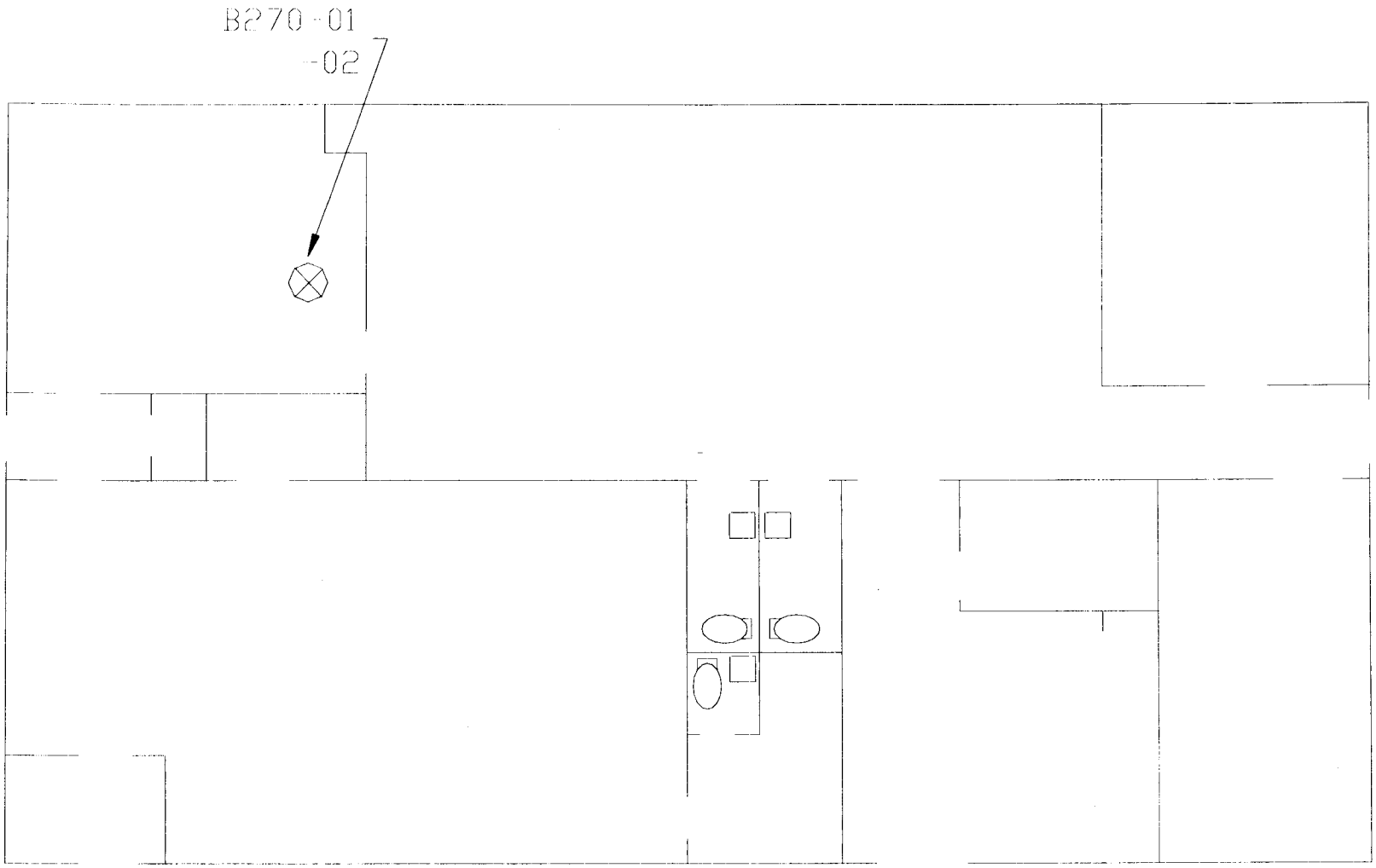

FIG. 1

Positive Samples

Negative Samples

LAYOUT PLAN

BUILDING: 270	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATIONS PLANS

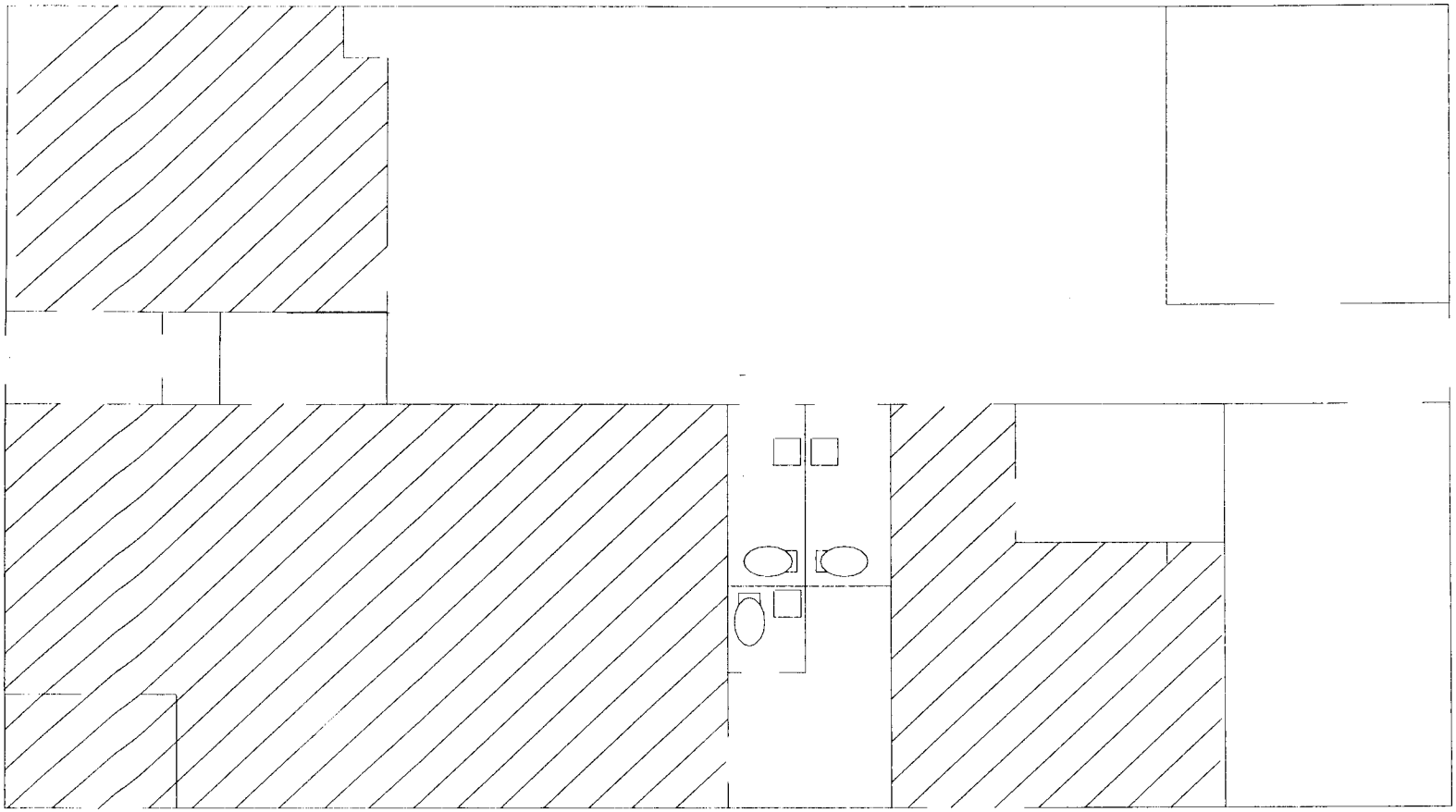

FIG. 1

LAYOUT PLAN

9X9 Floor Tile and Mastic

BUILDING: 270	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 295

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
HEALTH CLINIC
BUILDING 295

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349
HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
HEALTH CLINIC
BUILDING 295

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JOSEPH L. HILLERICH

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX B - SUMMARY TABLE OF ACM
APPENDIX C - SAMPLE LOCATIONS PLANS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 295 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accesible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friables such as transite, ect.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.
5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.
6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings

containing friable asbestos materials.

2.0 REGULATORY STANDARDS

T'he National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e. g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations (40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally

accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines which include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of September 1997, Reisz Engineering accredited asbestos Inspectors performed inspections of Building 295 for the purpose of identifying building materials suspected to contain asbestos. This building is a multi-use facility which is comprised of 2 floors and a basement containing approximately 11,964 sq. ft. of floor space. Based on information provided by Fort McClellan representatives, our observations, and tests results, it appears that the entire structure was built in 1962.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix

C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 20 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even

though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- White chalky pipe insulation

Miscellaneous Material

- None

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of six bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and asbestos content are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in the white chalky pipe insulation found in the basement.

INACCESSIBLE MATERIAL

Insulation and spray-on compounds associated with inaccessible crawl space and tunnel areas are assumed to be "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release is likely under normal conditions. However, some of the asbestos containing materials, are subject to routine maintenance activities that could involve significant disturbance. Those materials include the pipe fitting insulations and ceiling tiles. Based upon the aforementioned conditions no action is recommended at this time. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 295 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions which were observed during the inspections of Building 295 during September 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material which were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials which lay beneath the surface. Our selection of sample locations andfrequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH
The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos Analysis
EPA 600/R-931116

AIHA: 023601

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Receipt Date : 09-11-97

Sample Date : 09/09197

Microscopist : Tom Carrington

Sample/Description	Asbestos Fibers (%)			Non-Asbestos Material (%)			
	Chry	Amos	Croc Othr	Cell	Fbgl	MW	CaSO4 Othr
B295-01 I S" pipe TSI run white powder	25	55		5			15
B295-02 /150 gas boiler tank white powder	75	5					20
B295-03 / 6" pipe TSI run white powder	10	70					20
B295-04 / 12" pipe TSI run white powder		80					20
B295-05 14" pipe TSI- elbow white powder	45				15		40
B295-06 / 8" pipe Bl- run white, powder	30	50					20

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca S04 = Calcium Sulfate
Fbgl = Fiberglass

APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
HEALTH CLINIC
BUILDING 295
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B295-01	White powder TSI	8" pipe, basement	15 linear feet
B295-02	White powder TSI	150 gal boiler tank in basement mech. room	80 square feet
B295-03	White powder TSI	6" pipe, basement	25 linear feet
B295-04	White powder TSI	12" pipe, basement	15 linear feet
B295-05	White powder TSI	4" pipe, basement	4 linear feet
B295-06	White powder TSI	8" pipe, basement	15 linear feet

APPENDIX C

SAMPLE LOCATIONS PLANS

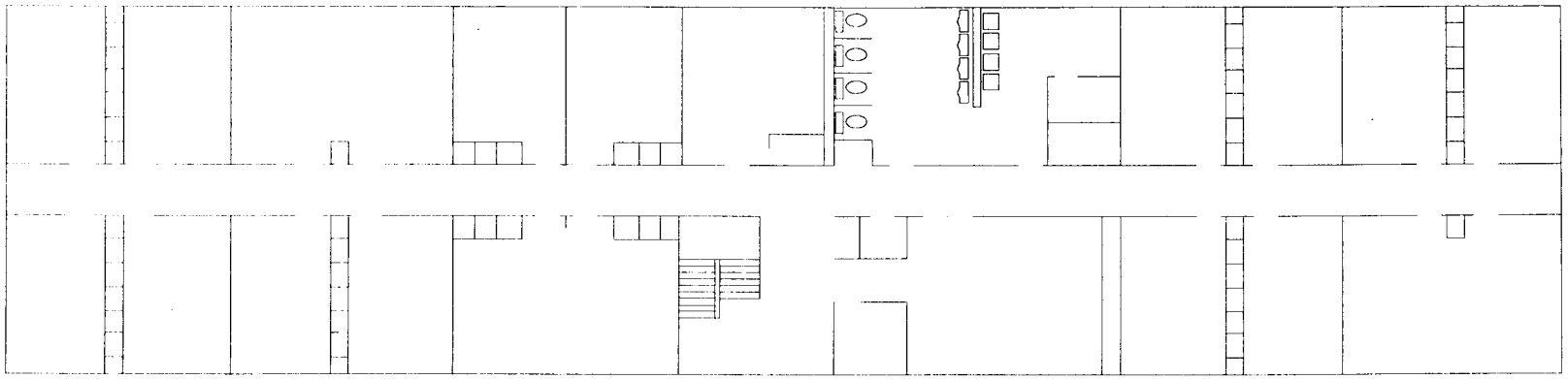

FIG. 1

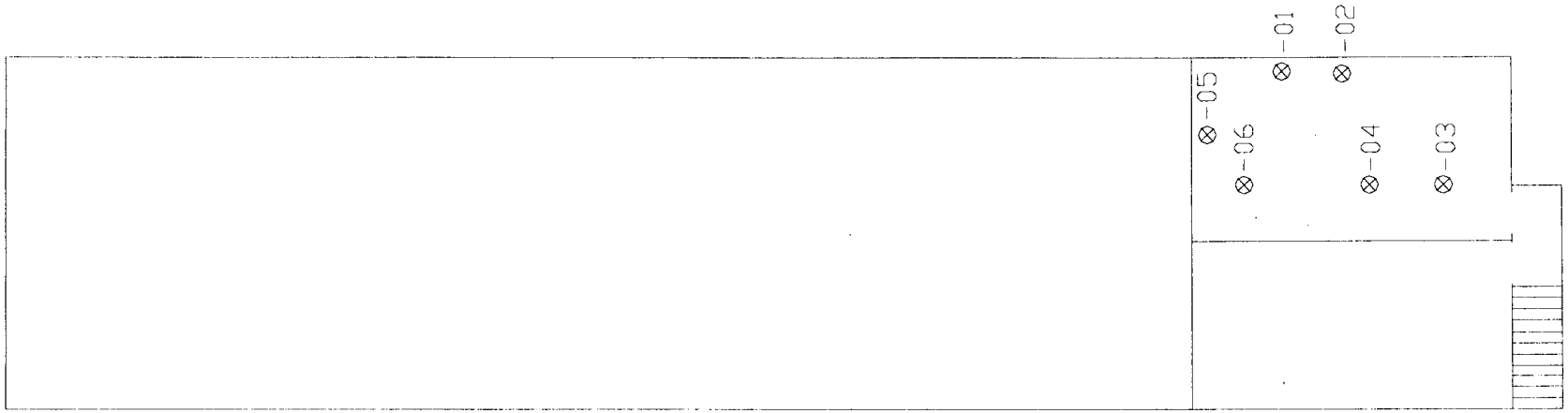

FIG. 2

⊗ Negative Sample Locations

⊗ Positive Sample Locations

BUILDING: 295	FIG. 1 FIRST FLOOR FIG. 2 BASEMENT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

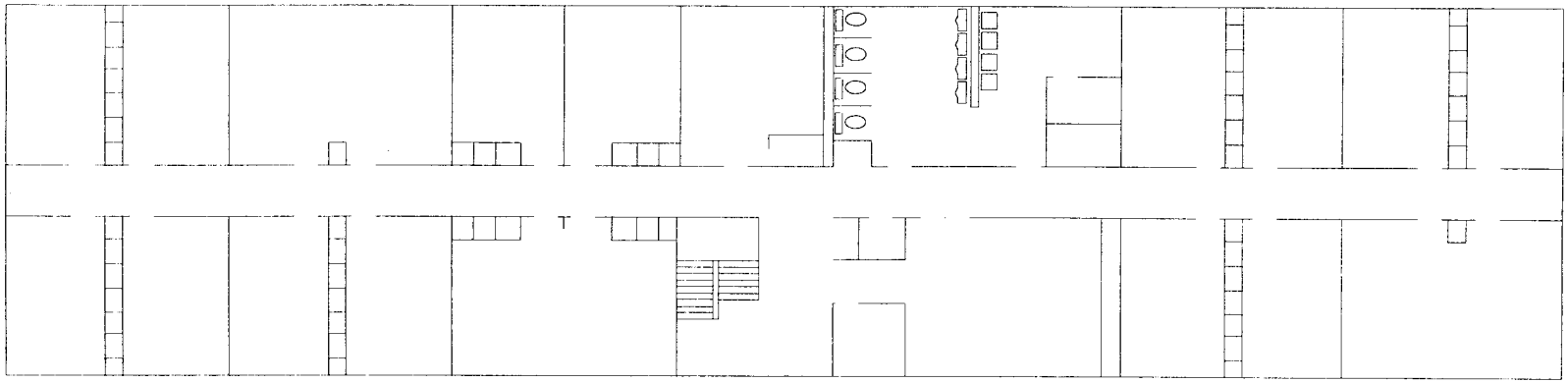

FIG. 3

⊗ Negative Sample Locations

⊗ Positive Sample Locations

BUILDING: 295	FIG. 3 SECOND FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S): 500, 501, 502, 503, 504, 505

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
BUILDINGS 500-505

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
BUILDINGS 500-505

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX B - SUMMARY TABLE OF ACM
APPENDIX C - SAMPLE LOCATIONS PLANS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Buildings 500-505 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations (40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A.

was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of June 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of these buildings for the purpose of identifying building materials suspected to contain asbestos. Buildings 500-505 are office/administration, barracks, mess hall & warehouse facilities. Based on information provided by Fort McClellan representatives the buildings were constructed at various times. Various renovations may have taken place since the buildings were originally constructed but no building plans have been found which can be used to verify specific dates and activities. The dominant flooring condition existing in the buildings are 12x12 vinyl floor tile.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the floor plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and detailed description of these materials can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Air handler flex connector
- White cementitious pipe fitting insulation
- Pipe insulation wrap
- Straight run pipe insulation

Miscellaneous Material

- 12x12 vinyl floor tile in all buildings excluding B504
- Vinyl flooring mastics
- Transite panels on cooling tower of B503

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 7 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in one type of friable material: 1) pipe tape (wrapping) in mechcanical room of Building 505.

1) An asbestos containing pipe tape (wrapping) is found on approximately 10 linear feet of pipe in the mechanical room of Building 505. The remaining piping in all buildings are either bare or insulated with fiberglass. The material was found to be in generally Good condition.

NON FRIABLE ACM

Three types of non-friable PACM were found in the majority of the buildings. 1) transite panels are located on the cooling tower at Building 503, 2) 12x12 inch floor tile is found in all buildings excluding B504, and 3) mastics associated with 12x12 vinyl floor tile.

1) Asbestos containing transite panels can be found on the cooling tower at Building 503.
2) Presumed asbestos containing 12x12 inch floor tile is found in all buildings excluding B504.
3) Black, presumed asbestos containing mastics are present below vinyl floor tiles found in all of the buildings.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. The asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for the buildings and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Buildings 500-505 during June, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 895-6391
Fax: (205) 895-6376

Re Bulk Asbestos Analysis EPA 600/R-93/116
AIHA: 023601

Receipt Date, : 06-06-97

Sample Date : 06/03/97

Microscopist: Tom Can-ington

Client: Reisz Engineering
Building 32 Suite A2
3322 Memorial Parkway
South Huntsville, AL
35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
BS00-01 / floor tile					10				90
B500-02 / mastic-floor tile		10			10				80
B500-03 / air handler connectionjoint						25			75

'hry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other Cell
= Cellulose

MW = Mineral Wool
Ca S04 = Calcium Sulfate
Fbgl = Fiberglass

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 895-6391 Fax: (205) 895-6376

Re : Bulk Asbestos Analysis EPA 600/R-93/116
AIHA: 023601

Receipt Date: 06-06-97

Sample Date : 06/03/97

Client: Reisz Engineering
Building 32 Suite A2
3322 Memorial Parkway
South Huntsville, AL
35801

Microscopist: Tom Canington

Sarnple/Descr iption	Asbestos Fibers (%) Chry	Amos	Croc	Othr	Non-Asbestos Material (%) Cell	Fbgl	MW	CaSO4	Othr
B503-01 / cooling tower transite board	30								70
B503-02 / pipe TSI white powder under wrap					65				35

Chry = Chrysotile
Am6s = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04 = Calciuni** Sulfate
Fbgl = Fiberglass

UAH

Environmental Laboratory
Kenneth E. Johnson
Research Center

Huntsville, Alabama 35899
Phone: (205) 895-6391
Fax: (205) 895-6376

Re Bulk Asbestos Analysis EPA 600/R-93/116
AIHA: 023601

Receipt Date: 06-06-97

Sample Date : 06/03/97

Client: Reisz Engineering
Building 32 Suite A2
3322 Memorial Parkway
South Huntsville, AL
35801

Microscopist: Tom Canington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B505-01 / pipe tape front R in mech. Room	15				5				80
B505-02/ pipe TSI upper level-mech. Room					10				90

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other Cell
= Cellulose

MW = Mineral Wool
Ca SO4 = Calcium Sulfate
Fbgl = Fiberglass

APPENDIX B

ASBESTOS CONTAINING MATERIALS

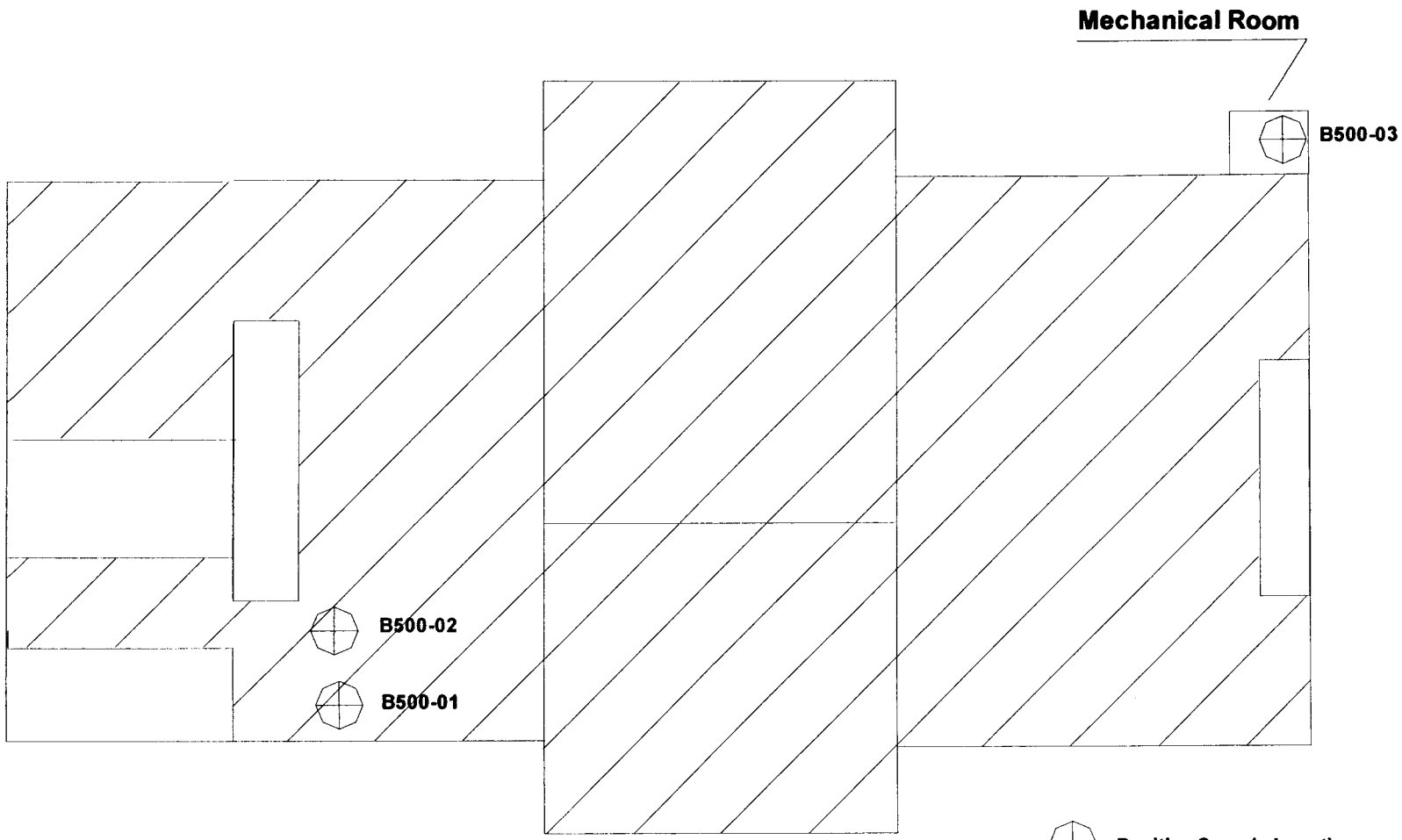
SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
MISCELLANEOUS
BUILDINGS 500-505

FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B500-01,02	12x12 floor tile and mastic	Building 500	39,000 sq. ft.
PACM	12x12 floor tile & mastic	Building 501	32,000 sq. ft.
PACM	12x12 floor tile & mastic	Building 502	5,000 sq. ft.
PACM	12x12 floor tile & mastic	Building 503	16,000 sq. ft.
B503-01	Cooling tower transite	Building 503	600 sq. ft.
B505-01	Pipe tape in mechanical room	Building 505 Mechanical room	10 linear ft.
PACM	12x12 floor tile & mastic	Building 505	48,000 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS



FIRST FLOOR PLAN

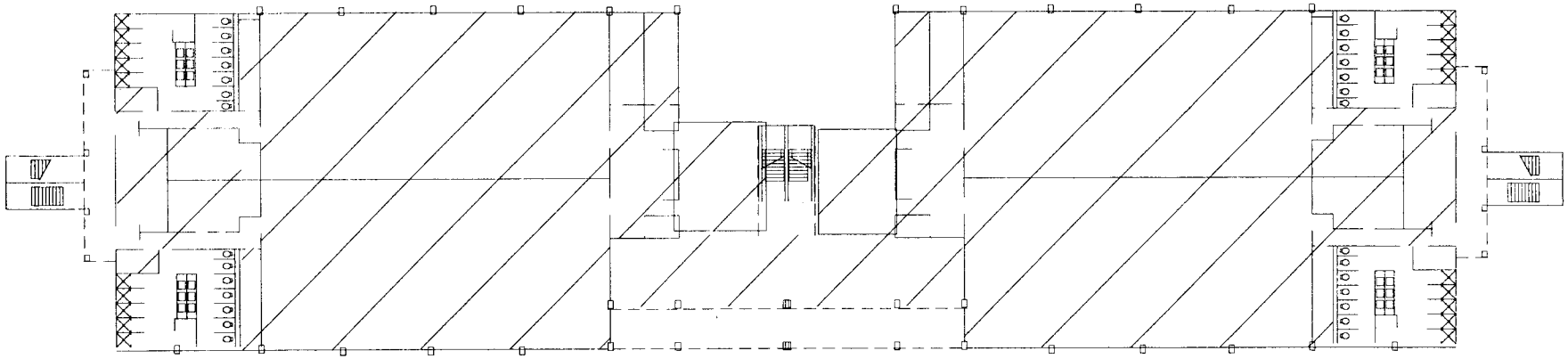
Positive Sample Location

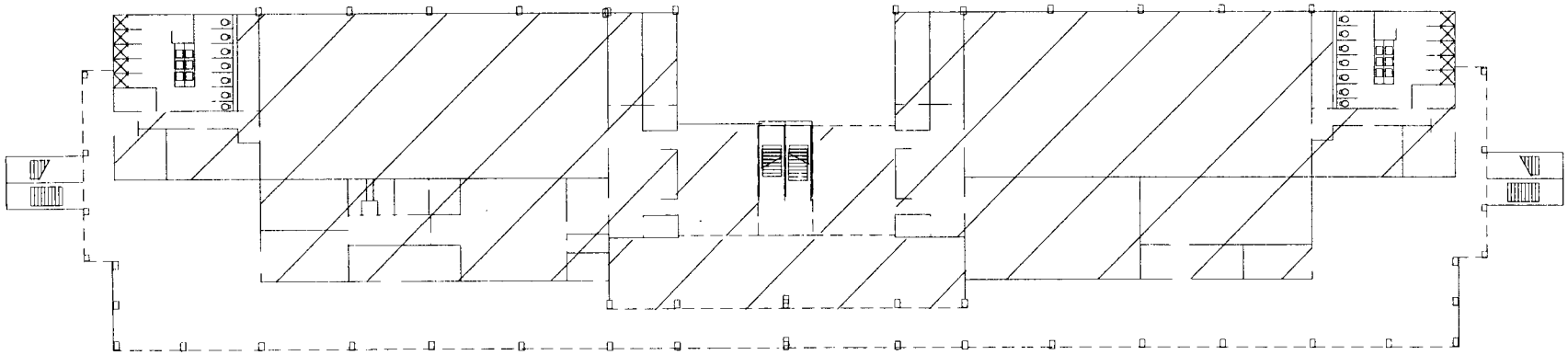
Negative Sample Location

12 X 12 Tile & Mastic

BUILDING 500	FIG.1 LAYOUT PLAN	ASBESTOS SURVEY DABT02-96-D-0005 FM705	REISZ ENGINEERING

SECOND FLOOR PLAN

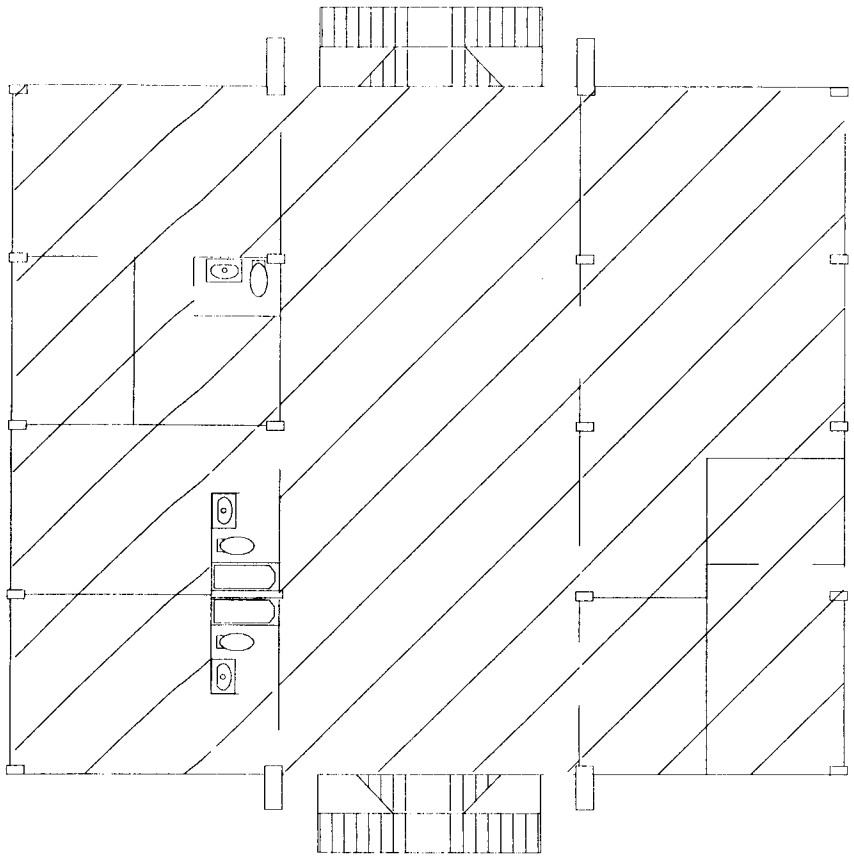




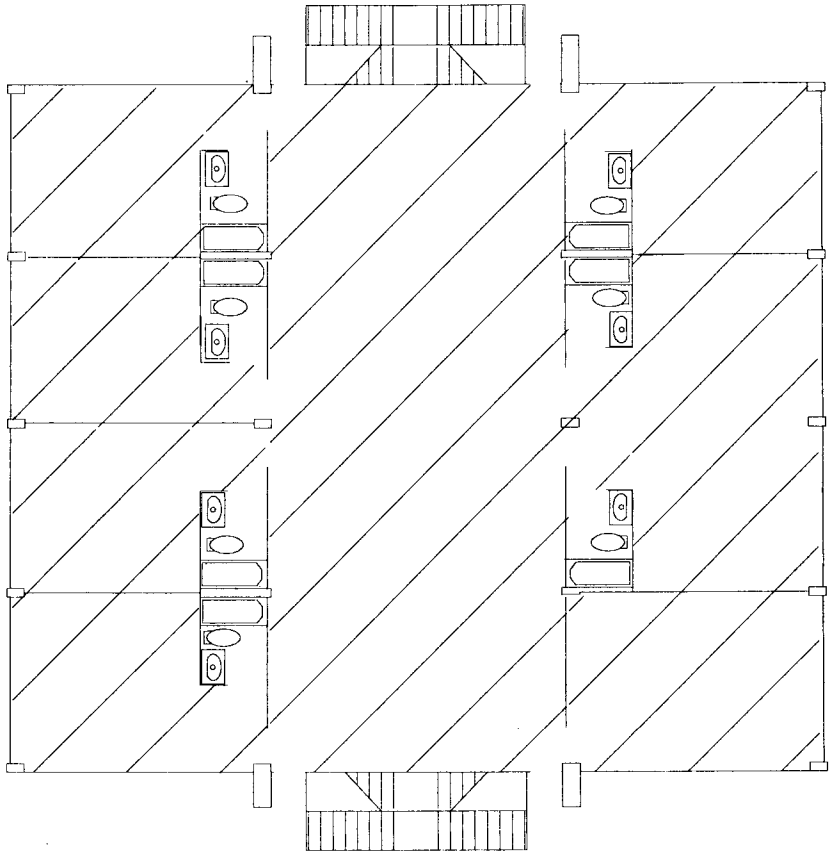
FIRST FLOOR PLAN

12 X 12 Tile & Mastic

BUILDING 501		**ASBESTOS SURVEY** **DABT02-96-D-0005** **FM705**	**REISZ ENGINEERING**



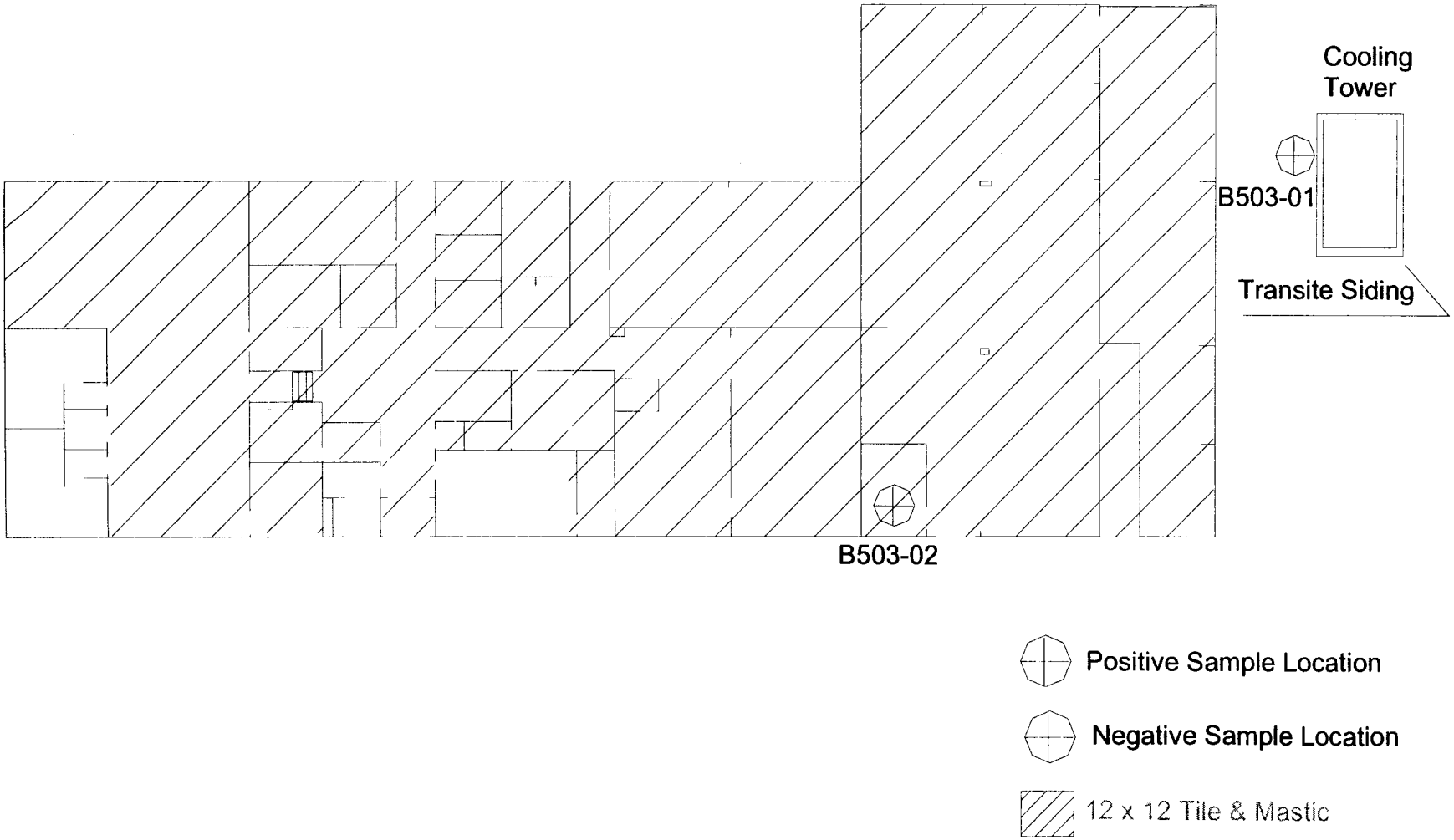
FIRST FLOOR



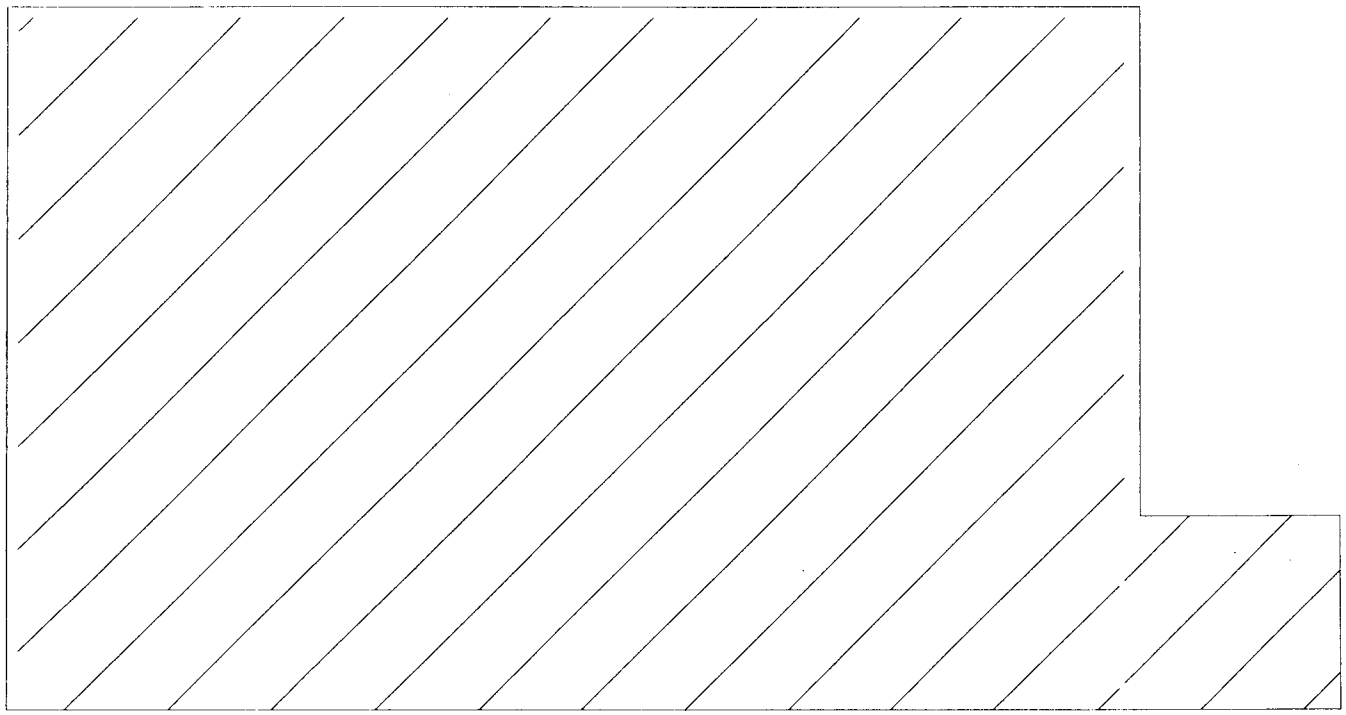
SECOND FLOOR

12 X 12 Tile & Mastic

BUILDING 502	FLOOR PLAN LAYOUT	ASBESTOS SURVEY DABT02-96-D-005 FM705	REISZ ENGINEERING

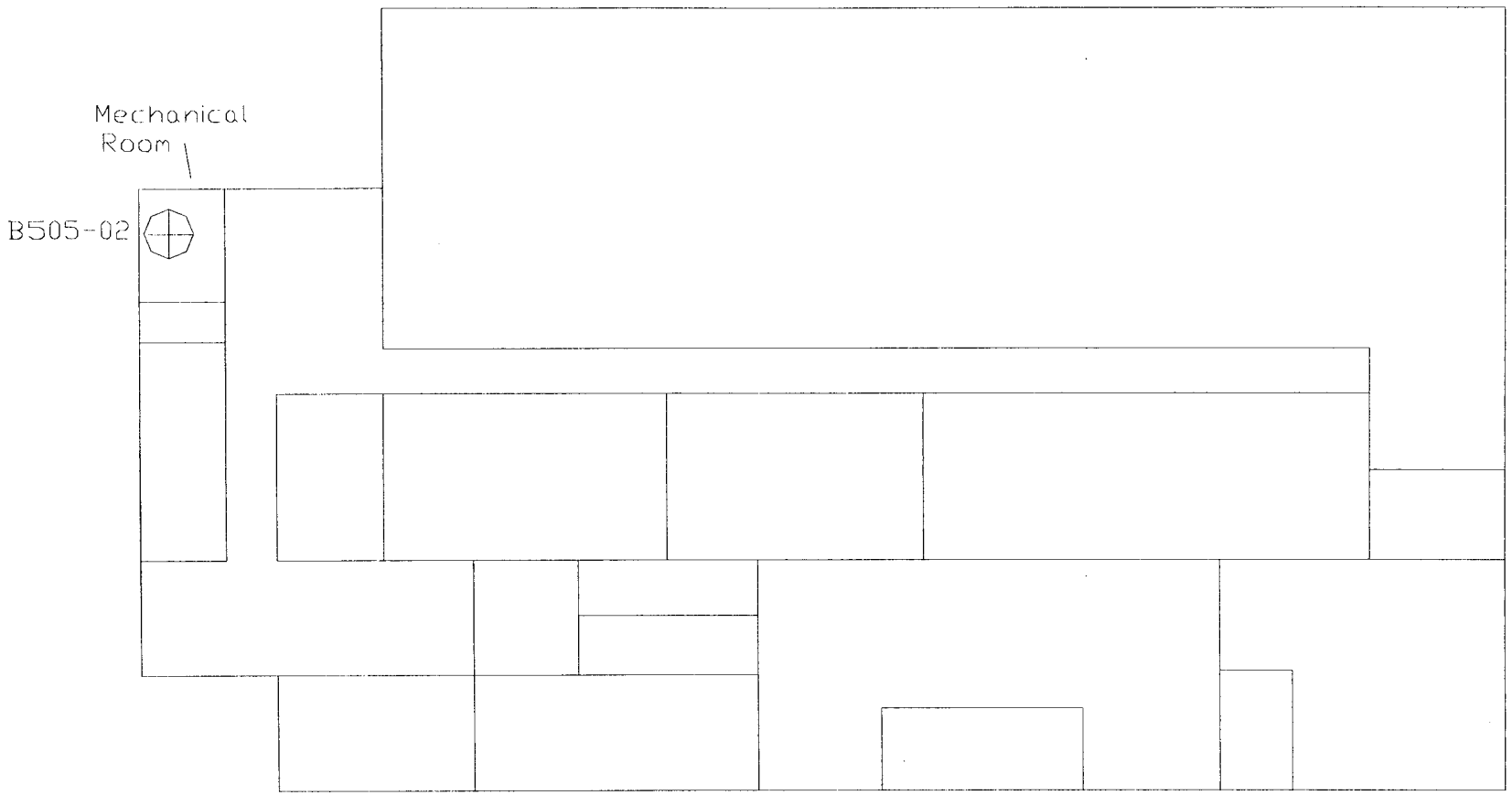


BUILDING 503	LAYOUT PLAN	ASBESTOS SURVEY DABTO2-96-D-0005 FM705	**REISZ ENGINEERING**



Ceramic Tile

BUILDING 504	LAYOUT PLAN	ASBESTOS SURVEY DABTO2-96-D-0005 FM705	**REISZ ENGINEERING**



Positive Sample Location

Negative Sample Location

BUILDING: 505	SECOND FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S): 801 - 814

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
OFFICE/CLASSROOM
BUILDINGS 801-814

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
OFFICE/CLASSROOM
BUILDINGS 801-814

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX A - REPORT OF LABORATORY ANALYSIS
APPENDIX B - SUMMARY TABLE OF ACM
APPENDIX C - SAMPLE & ACM LOCATIONS PLANS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Buildings 801-814 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of September 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of these buildings for the purpose of identifying building materials suspected to contain asbestos. Buildings 801-814 are single story structures of identical construction containing approximately 2,232 sq. ft of floor space. Based on information provided by Fort McClellan representatives the buildings were originally constructed in 1941. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities. The dominant flooring condition existing in the buildings are 12x12 vinyl floor tile and cement.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these materials can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- White, air-cell type insulation on remaining roof vent in all buildings

Miscellaneous Material

- 12x12 vinyl floor tile in all buildings excluding B808
- Vinyl flooring mastics
- Transite siding on exterior of all buildings

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 6 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in one type of friable material: 1) white, air-cell type insulation.

1) A white, air-cell type asbestos containing material is found on 12 inch pipe roof vents located in all buildings. The remaining piping in all buildings are either bare or are insulated with fiberglass. The material was found to be in generally Good to Fair condition depending on the building and area.

NON FRIABLE ACM

Two types of non-friable PACM were found in the majority of the buildings. 1) transite panels are located on the exterior of all buildings, 2) 12x12 inch floor tile is found in all buildings excluding B808, and 3) mastics associated with 12x12 vinyl floor tile.

1) Presumed asbestos containing transite panels can be found on the exterior walls of all buildings
2) Presumed asbestos containing 12x12 inch floor tile is found in all buildings excluding B808.
3) Black, presumed asbestos containing mastics are present below vinyl floor tiles found in all of the buildings.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may and should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. The asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for the buildings and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Buildings 801-814 during September, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 09/11/97

Sample Date : 09/15/97

Microscopist: Tom Carrington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B805-01/ paper like air vent insulation	35				30				35
B806-01/ paper like air vent insulation	60				35				5
B807-01/ paper like air [illegible]t insulation	65				30				5
[illegible]8-01/ paper like air vent insulation	50				40				10
B814-01/ paper like air vent insulation	55				35				10

[illegible]ry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04=** Calcium Sulfate
Fbgl = Fiberglass

A Space Grant College
An Affirmative Action / Equal
Opportunity Institution

APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
MISCELLANEOUS CLASSROOM
BUILDINGS 801-814

FORT McCLELLAN, ALABAMA

SAMPLE #(S)	**Description of Materials**	**General Location of Material**	**Quantity (approx.)**
Multiple Samples	White air-cell type insulation	All buildings excluding B3211, roof vent	12 inch pipe 2ft/bldg 28 linear ft. total
PACM	12x12 floor tile & Mastic	All buildings excluding B808	24,000 sq. ft. total
PACM	Transite siding	Exterior of all buildings	22,880 sq.ft. per bldg 320,320 sq.ft. total

APPENDIX C

SAMPLE & ACM LOCATIONS PLANS

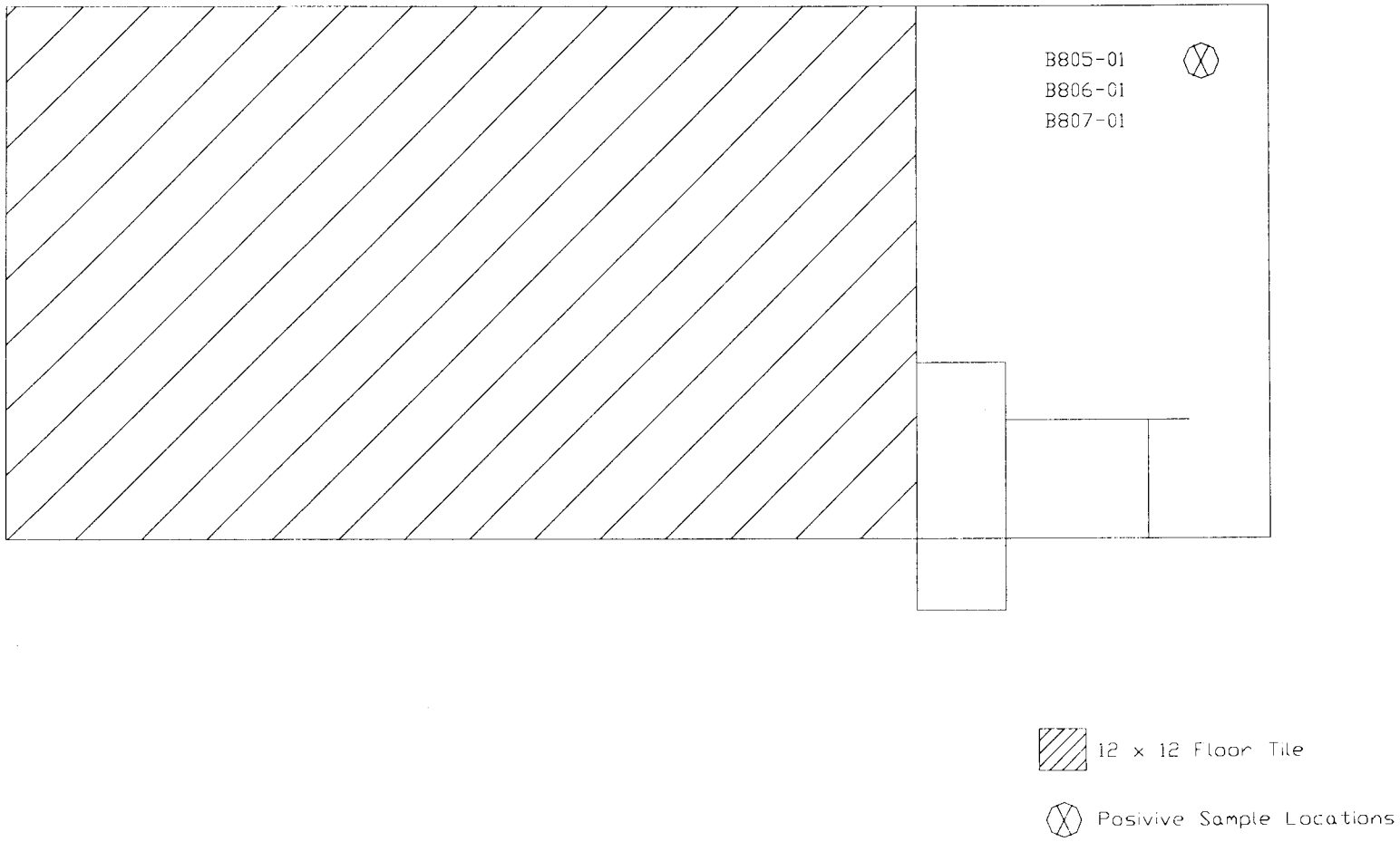
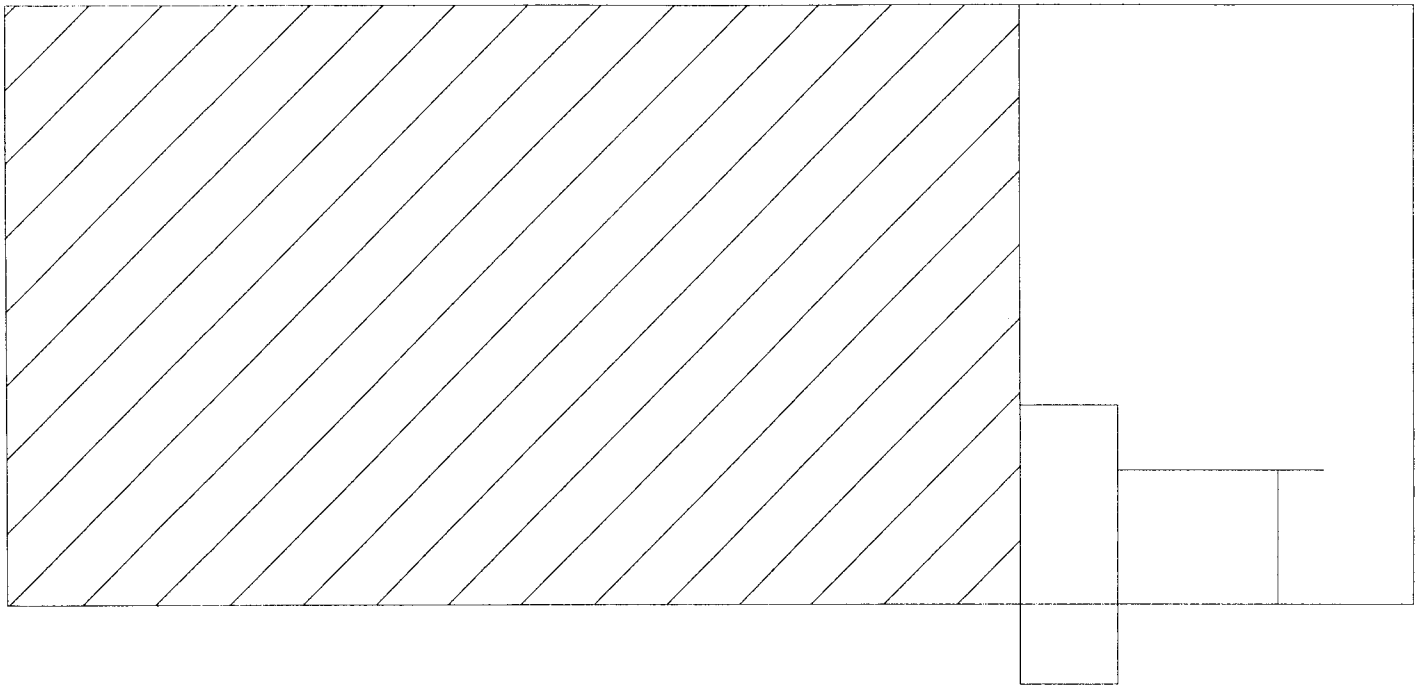


FIG. 1 LAYOUT PLAN

BUILDING: 802, 805-807	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



12 x 12 Floor Tile

FIG. 1 LAYOUT PLAN

BUILDING: 803	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

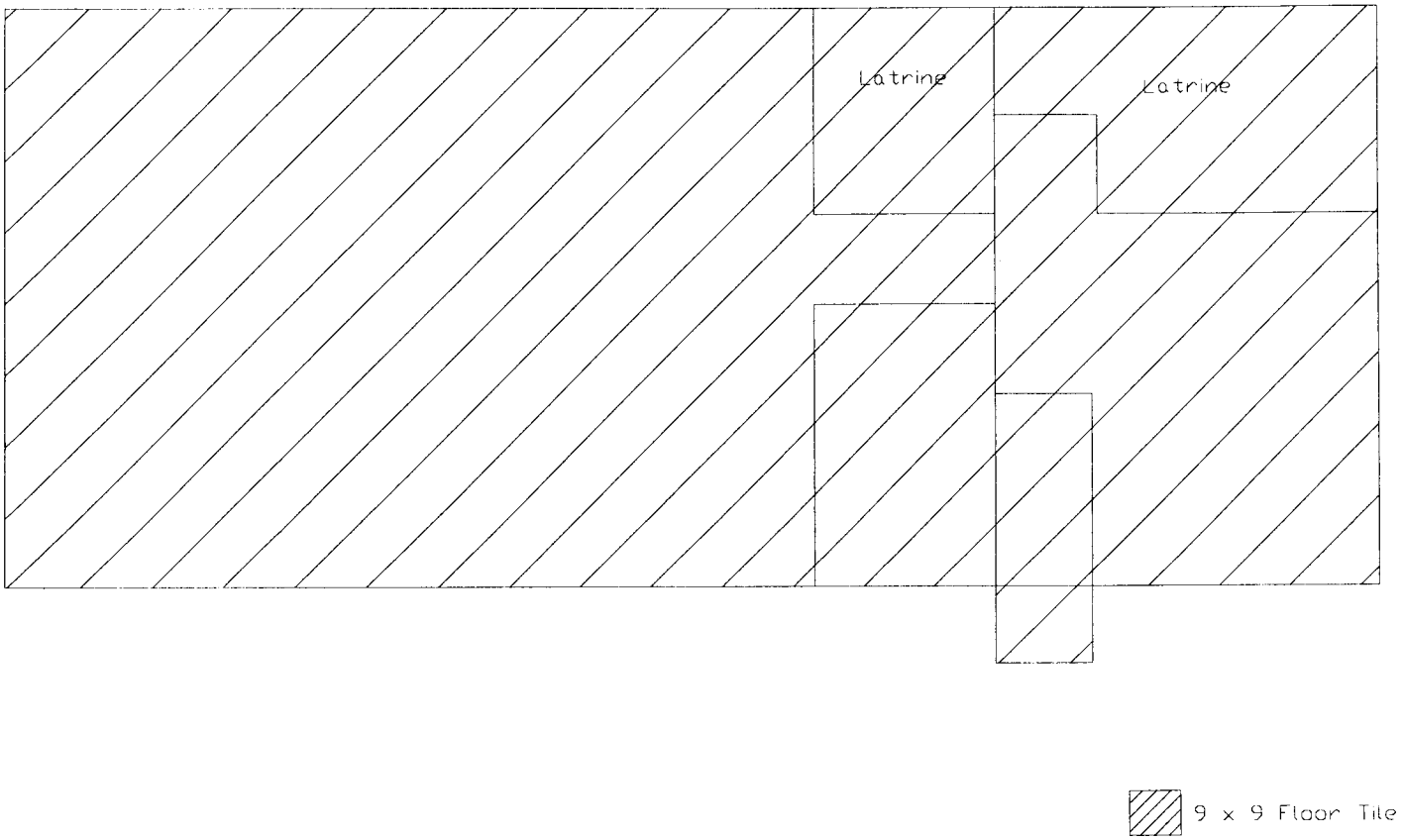
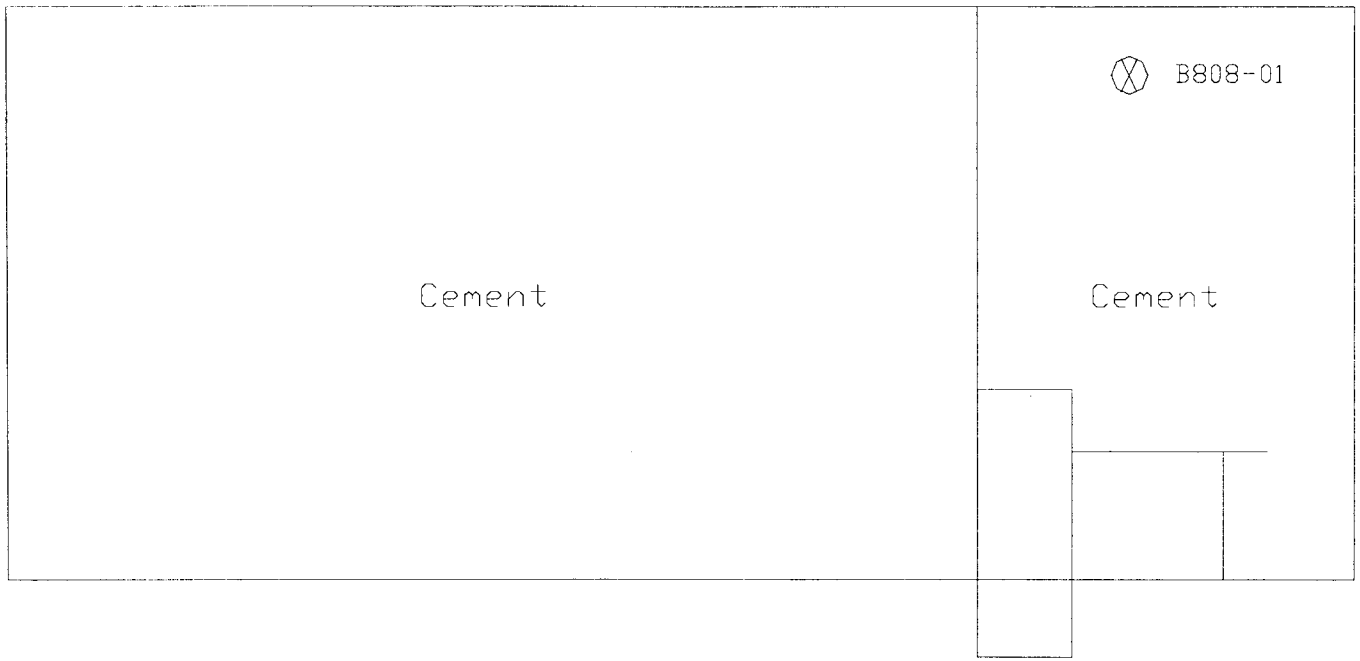


FIG. 1 LAYOUT PLAN

BUILDING: 804, 809,811,812,813	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



⊗ Positive Sample Locations
No Floor Tile

FIG. 1 LAYOUT PLAN

BUILDING: 808	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

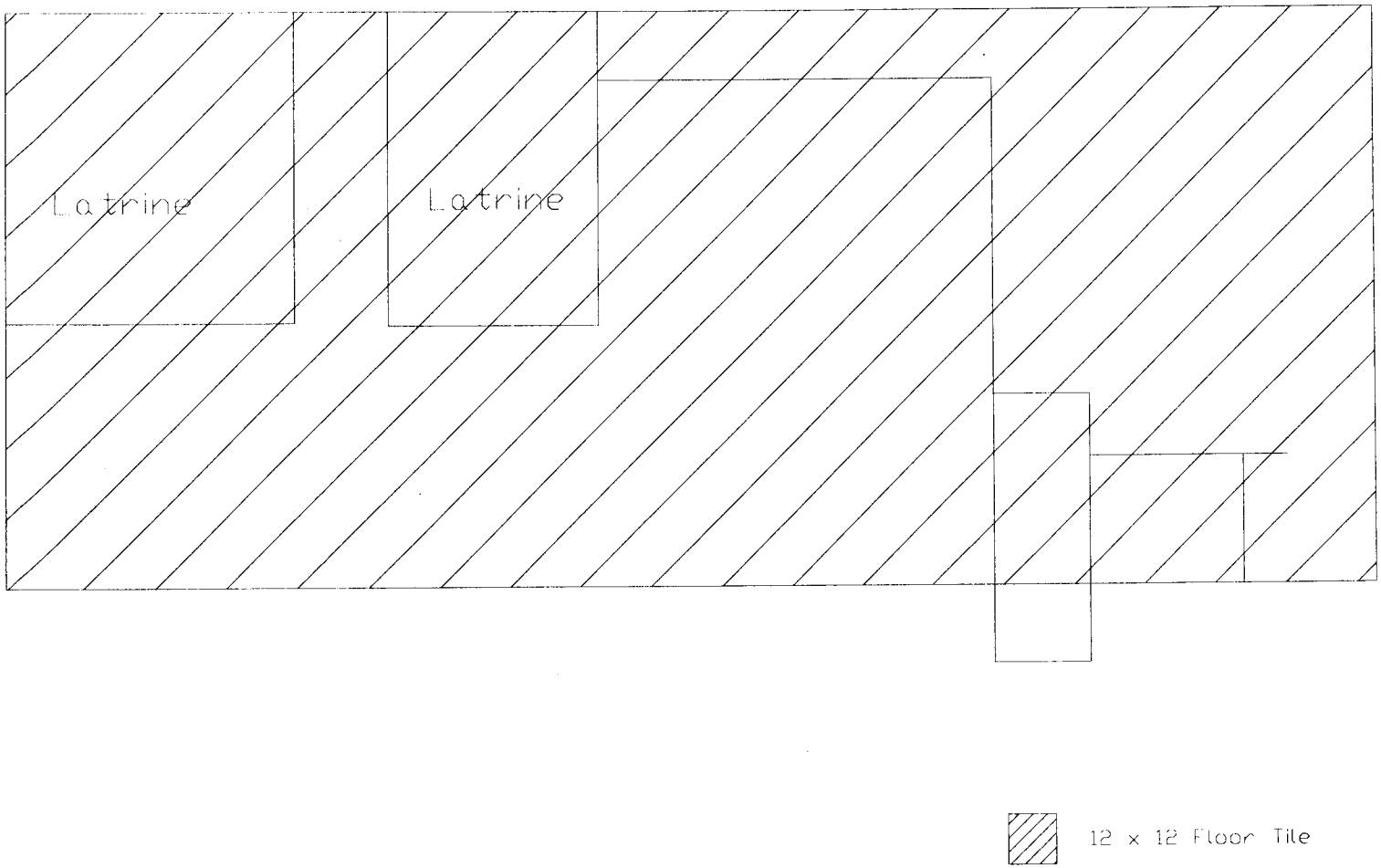


FIG. 1 LAYOUT PLAN

BUILDING: 810	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

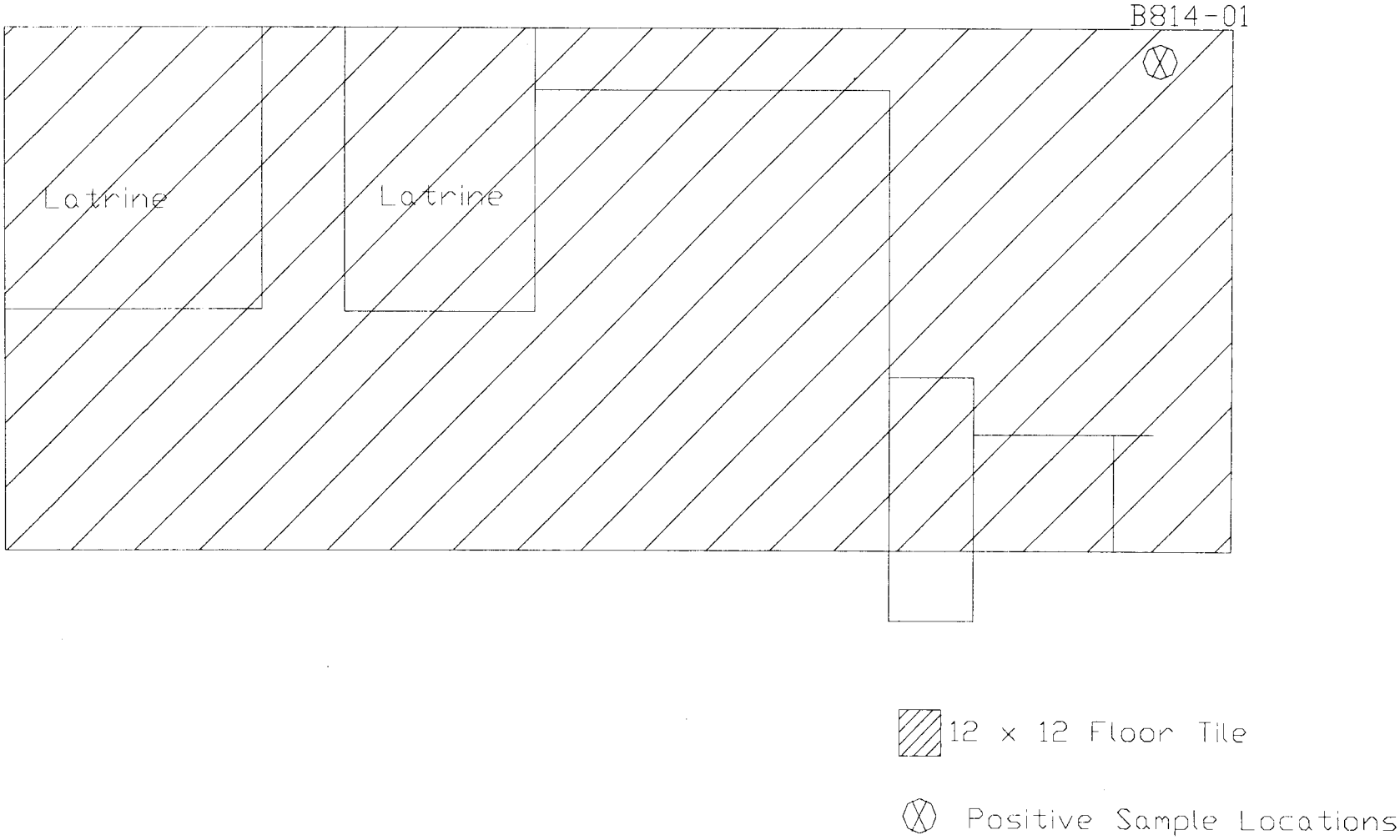


FIG. 1 LAYOUT PLAN

BUILDING: 814	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S): 829-834, 837-844, 852-859, 874, and 875

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS OFFICE/CLASSROOM
BUILDINGS (800s)

CONTAINING NON-FRIABALE PACM

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY MISCELLANEOUS OFFICE/CLASSROOM BUILDINGS (800s)

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDICES

APPENDIX A - SUMMARY TABLE OF ACM AND COST ESTIMATES
APPENDIX B – SAMPLE & ACM LOCATIONS PLANS
APPENDIX C – LIST OF BUILDINGS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at miscellaneous 800 series buildings located at Fort McClellan, Alabama. (See Appendix C for a complete list of buildings included in this document). Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.
6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations (40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A.

was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of September 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of these buildings for the purpose of identifying building materials suspected to contain asbestos. All buildings referenced in this survey contain only non-friable ACM. None of the buildings within this survey were found to have any friable asbestos containing materials. Based on information provided by Fort McClellan representatives the buildings were originally constructed in 1940 and 1941. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities. The dominant flooring condition existing in the buildings are 12x12 or 9x9 vinyl floor tile and cement.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these materials can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- None

Miscellaneous Material

- 12x12 vinyl floor tile in various buildings
- 9x9 vinyl floor tile in various buildings
- Vinyl flooring mastics
- Transite siding on exterior of various buildings

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

No bulk samples were collected and analyzed.

FRIABLE ACM

None

NON FRIABLE ACM

Four types of non-friable PACM were found in various buildings. 1) transite siding is located on the exterior of various buildings, 2) 12x12 inch floor tile, 3) 9x9 floor tile, and 4) mastics associated vinyl floor tile.

1) Presumed asbestos containing transite siding can be found on the exterior walls of the following buildings:
B830 B831 B856 B857 B874 B875

2) Presumed asbestos containing 12x12 inch floor tile and mastic is found in the following buildings:
B832 B833 B834 B837 B838 B839 B840 B841 B852 B855 B856 B874

3) Presumed asbestos containing 9x9 inch floor tile and mastic is found in the following buildings:
B829 B830 B831 B842 B843 B844 B853 B854 B857 B858 B859

Building 874 is bare concrete.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. The asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has not written a Building Operations & Maintenance Plan for these buildings. Refer to Appendix B for Cost Estimates related to the abatement of the included ACM.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of these buildings during September, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

SUMMARY TABLE OF ACM AND COST ESTIMATES

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
MISCELLANEOUS OFFICE/CLASSROOM
BUILDINGS (800s)

FORT McCLELLAN, ALABAMA

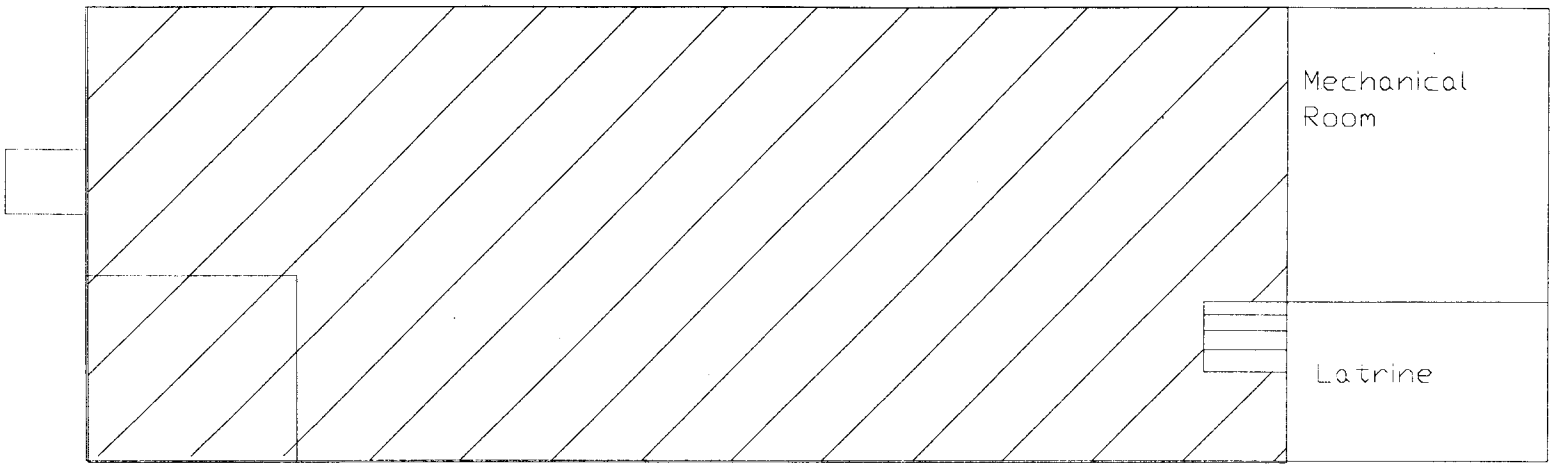
SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)	Estimated Abatement Cost
PACM (1)	Transite Siding	See (1) below	8340 sq.ft. per/bldg 33,360 sq.ft. total	$57,540
PACM (2)	12x12 floor tile & mastic	See (2) below	36,000 sq.ft. total	$82,800
PACM (3)	9x9 floor tile & mastic	See (3) below	28,000 sq.ft. total	$52,900

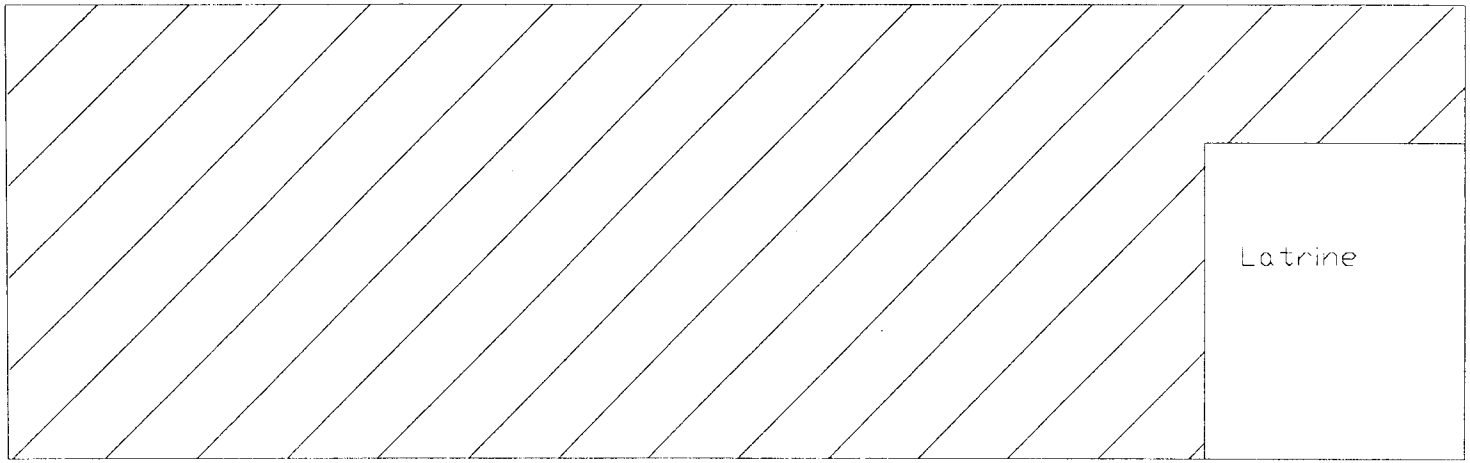
1)	B830	**2)**	B832	**3)**	B829-831
	B831		B833		B842-844
	B856		B834		B853
	B857		B837-841		B854
	B874		B852		B857
	B875		B855		B859
			B856		
			B874		

APPENDIX B

ACM LOCATION PLANS

First Floor





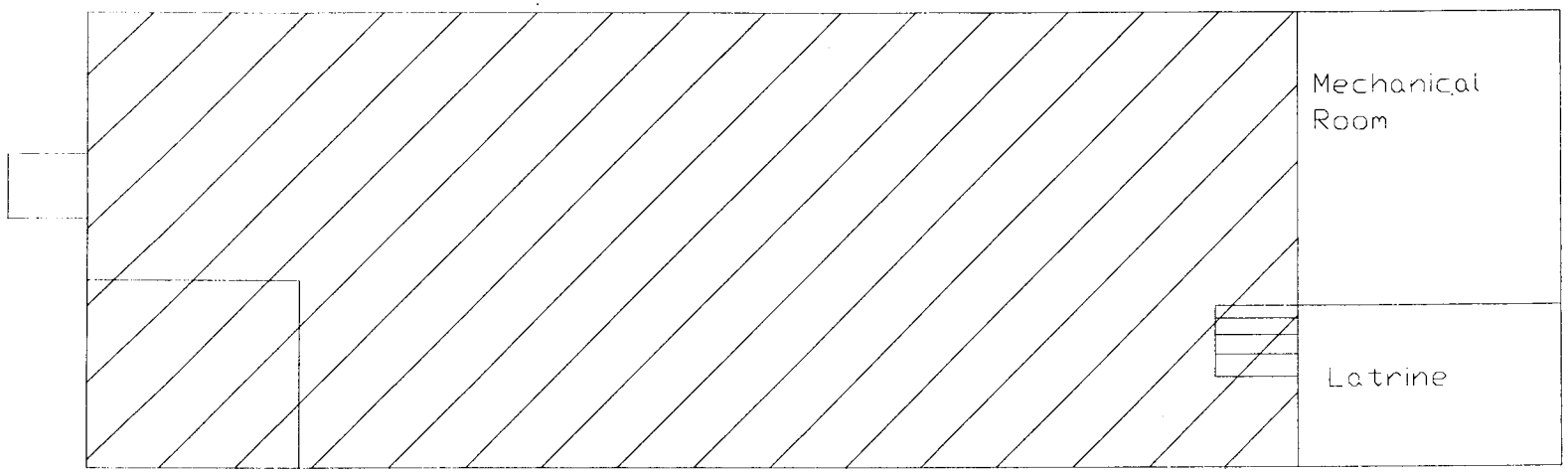
Second Floor

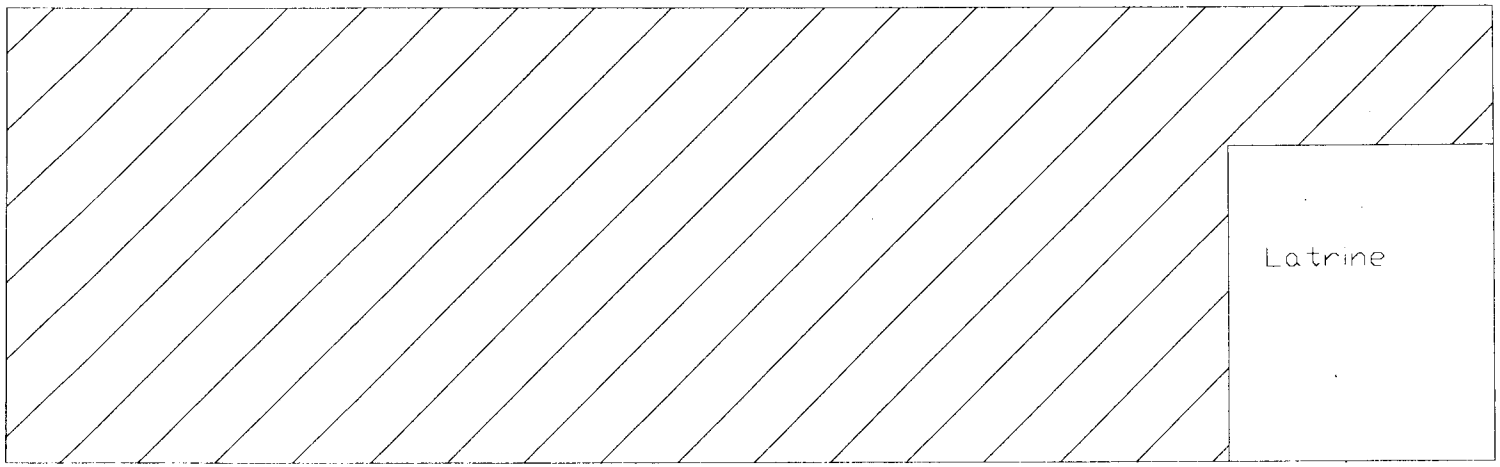
FIG. 1 LAYOUT PLAN

9 x 9 Floor Tile

BUILDINGS: 829, 830, 831, 842, 843, 844	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

First Floor





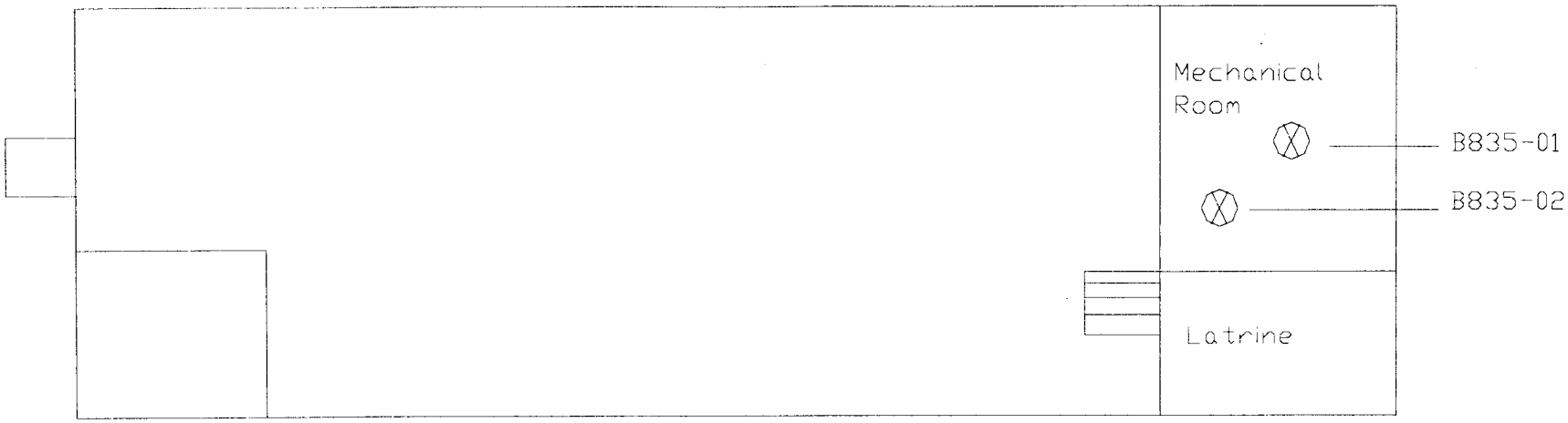
Second Floor

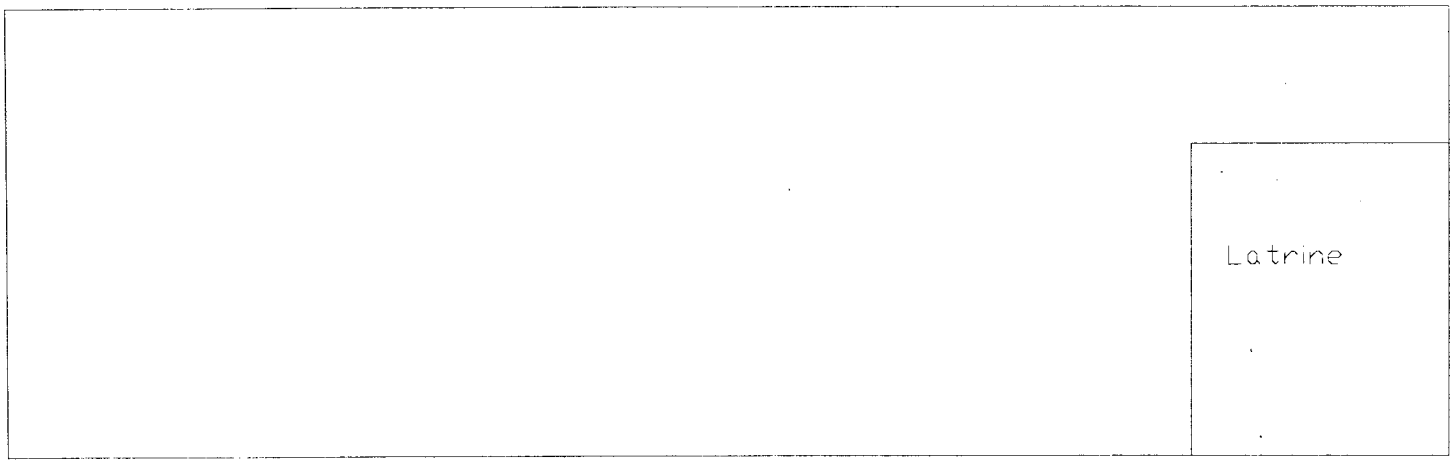
12 x 12 Floor Tile

FIG. 1 LAYOUT PLAN

BUILDING: 832, 833,834 837-841	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

First Floor





Second Floor

Positive Sample Locations

BUILDING 835	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

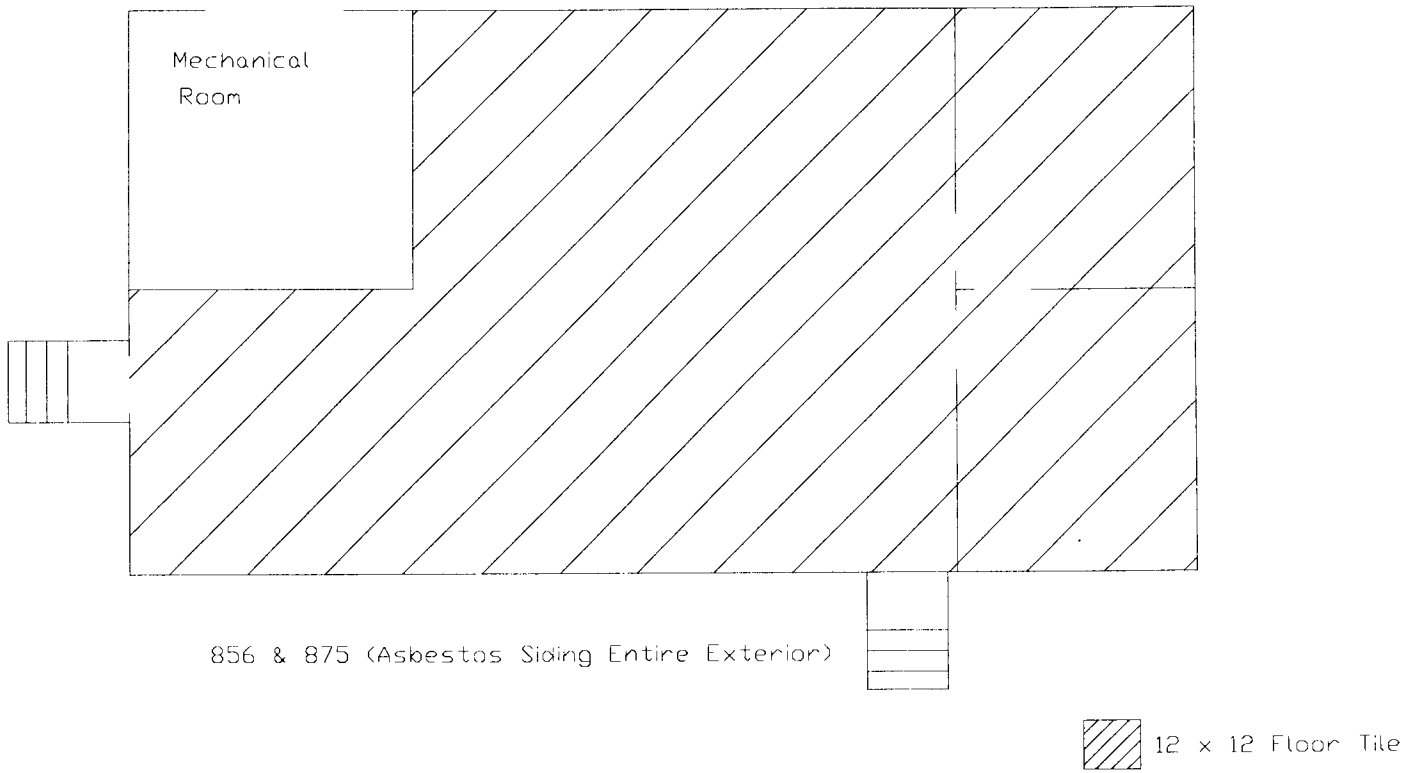


FIG. 1 LAYOUT PLAN

BUILDING: 852, 855,856,875	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

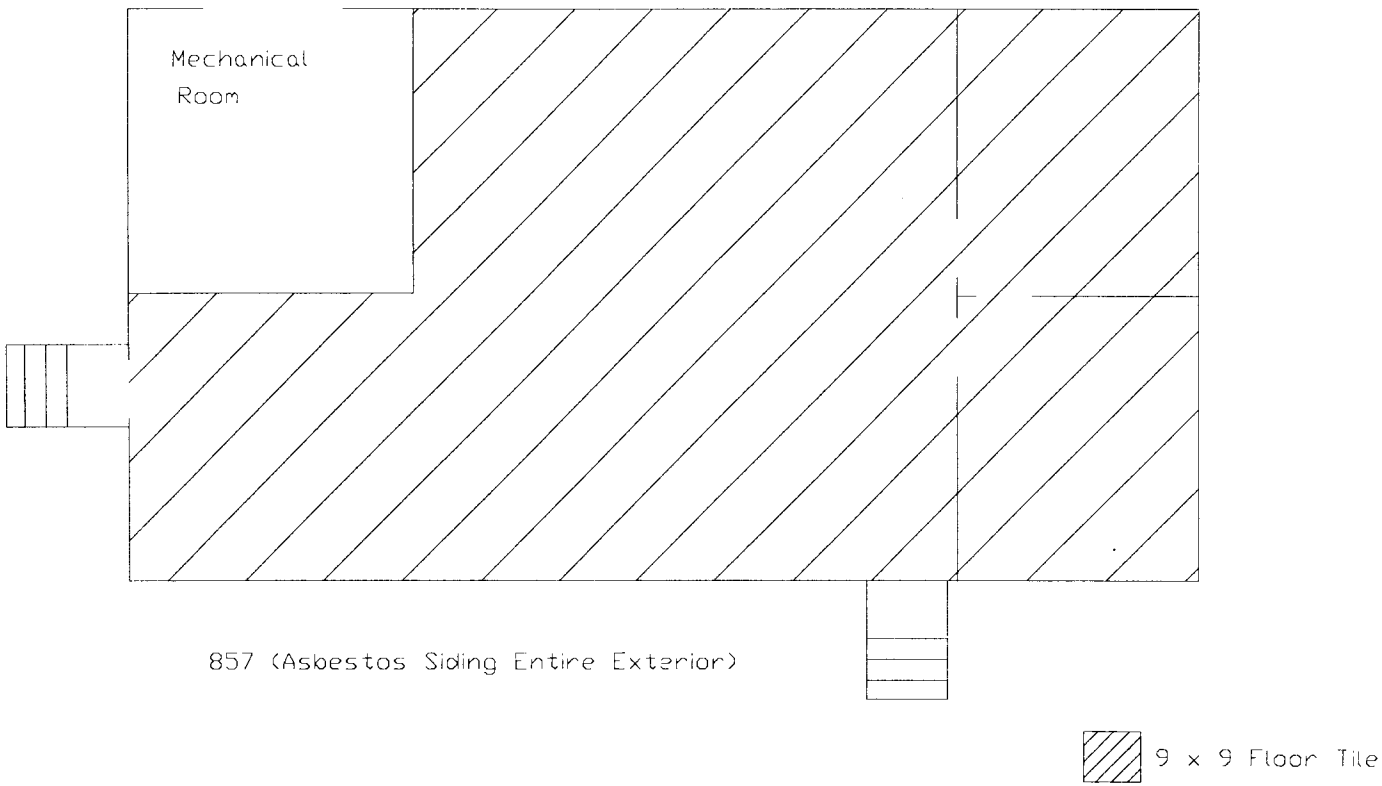


FIG. 1 LAYOUT PLAN

BUILDING: 853, 854,857,858,859	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX C

LIST OF BUILDINGS

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ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 893

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CHAPEL
BUILDING 893

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CHAPEL
BUILDING 893

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

May, 1998

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APPENDIX B - SUMMARY TABLE OF ACM
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APPENDIX E - SELECTED ACM PHOTOGRAPHS (None)

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 893 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of September 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 893 for the purpose of identifying building materials suspected to contain asbestos. Building 893 is a single story chapel/religious facility containing approximately 3,701 sq. ft. of floor space. Based on information provided by Fort McClellan representatives the building was originally constructed in 1936. Various renovations have no doubt taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The two dominant flooring conditions existing in the facility are 1) wood, 2) 9x9 vinyl floor tile, and 3) linoleum. Also, carpet has been installed over vinyl tiles in the entrance area.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Paper-like pipe insulation (straight-runs)
- Cementitious hand-formed pipe fitting insulation

Miscellaneous Material

- Vinyl floor tiles 9X9
- Vinyl flooring mastics

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 3 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in two types of friable materials: 1) cementitious hand-formed pipe fitting insulation in mechanical room, 2) a brown paper-like insulation on a 3 inch water pipes located in the mechanical room and possibly other areas of the building

1) A friable, hand-formed, asbestos containing insulation compound is applied to the fittings of 8 inch pipes located in the mechanical room of the building. This material was found to be in generally Good condition.
2) A brown paper-like asbestos containing friable insulation compound is found on the straight runs of pipes associated with the building water. This material may be present on pipes running along the ceiling of the structure. Access could not be made to the pipes. The insulation is found to be in generally Good condition.

NON FRIABLE ACM

Two types of (Assumed) non-friable ACM's were found in the building: 1) vinyl floor tile, 9x9, and 2) mastics associated with vinyl floor tile.

1) Assumed asbestos containing vinyl floor tiles in 9x9 inch size are present in various locations scattered throughout the of the building with a large amount covered by carpet. Generally, the tiles were found to be in Good condition.

2) Black, asbestos containing mastics are present below vinyl floor tiles within the building.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. However, some of the asbestos containing materials are subject to routine maintenance activities that could involve significant disturbance. Those materials include the pipe fitting and straight-run insulation located in the mechanical room and other areas. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 893 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 893 during September, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of

the structure or materials that may lie beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

APPENDIX B

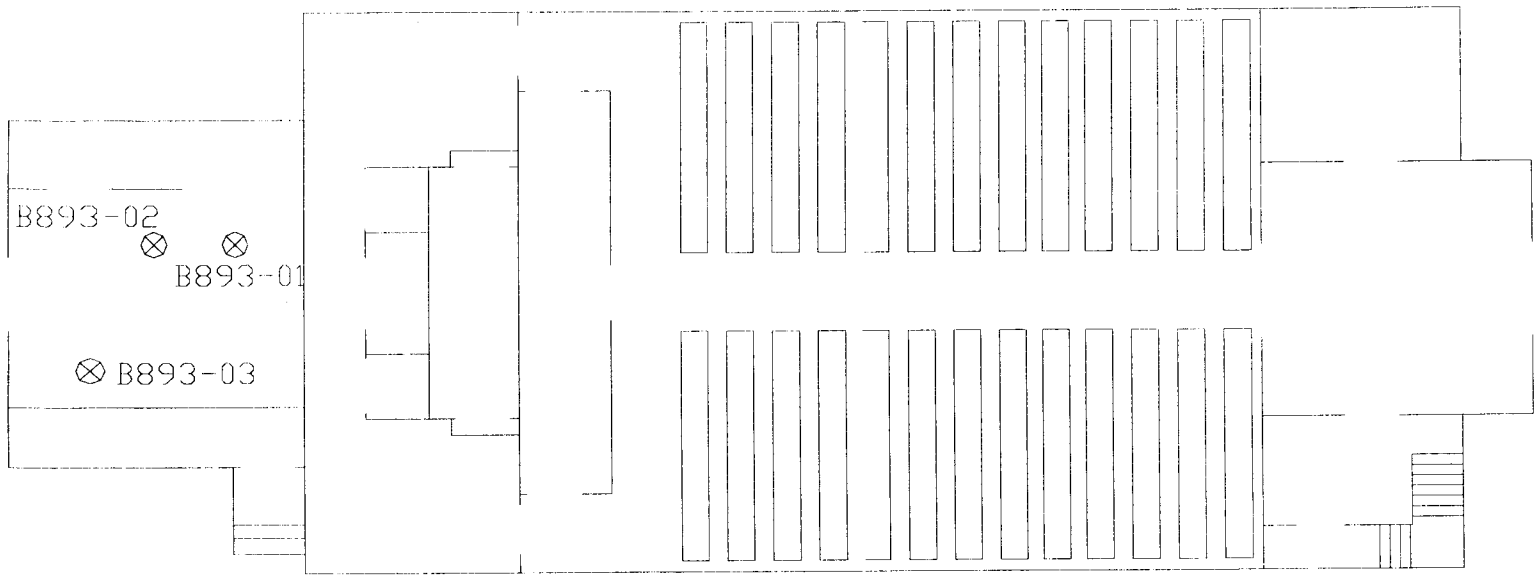
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
CHAPEL
BUILDING 893
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B893-01	Paper-like insulation on water pipes	Mechanical Room	10 linear ft.
B893-02,03	Pipe fitting insulation on 8 inch pipe	Mechanical Room	10 fittings

APPENDIX C

SAMPLE LOCATIONS PLANS

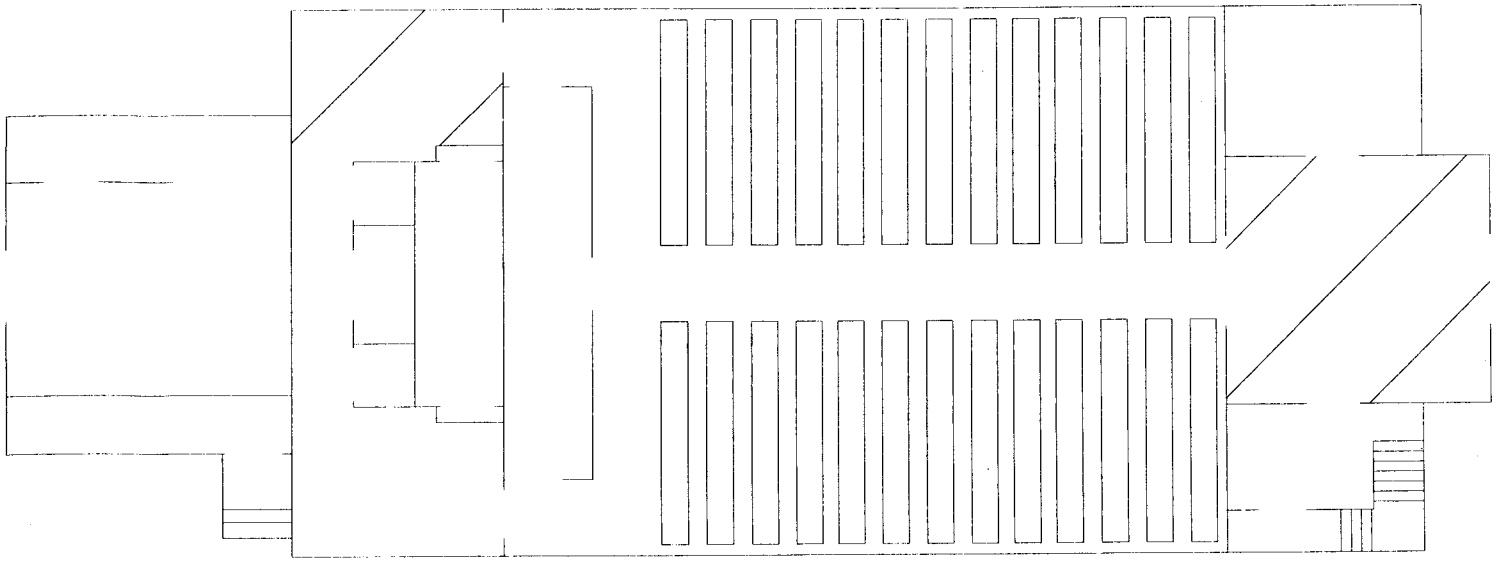


⊗ - POSITIVE SAMPLE LOCATION
⊗ - NEGATIVE SAMPLE LOCATION

BUILDING: 893	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM70	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS



- 9 X 9 FLOOR TILE
- 12 X 12 FLOOR TILE

BUILDING: 893	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S): 930 and 931

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
BUILDINGS (900s)

CONTAINING NON-FRIABLE PACM

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY MISCELLANEOUS BUILDINGS (900s)

CONTAINING NON-FRIABLE PACM

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX B - LIST OF BUILDINGS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at miscellaneous 900 series buildings located at Fort McClellan, Alabama. (See Appendix B for a complete list of buildings included in this document). Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

Reisz Engineering accredited Asbestos Inspectors performed inspections of these buildings for the purpose of identifying building materials suspected to contain asbestos. All buildings referenced in this survey contain only non-friable ACM. None of the buildings within this survey were found to have any friable asbestos containing materials. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control

samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these materials can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- None

Miscellaneous Material

- 12x12 vinyl floor tile in various buildings
- Vinyl flooring mastics
- Transite

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

No bulk samples were collected and analyzed.

FRIABLE ACM

None

NON FRIABLE ACM

Three types of non-friable PACM were found in various buildings. 1) suspect transite siding, 2) 12x12 inch floor tile, and 3) mastics associated vinyl floor tile.

1) Presumed asbestos containing transite siding is be found on the exterior of the following buildings:
B930 B931

2) Presumed asbestos containing 12x12 inch floor tile and mastic is found in the following buildings:

B930 B954 B959

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. The asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has not written a Building Operations & Maintenance Plan for these buildings. Refer to Appendix A for Cost Estimates related to the abatement of the included ACM.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

SUMMARY TABLE OF ACM AND COST ESTIMATES

Building Number	PACM Material	Quantity	Estimated abatement cost*
B930	12x12 floor tile and mastic	9,000 sq. ft.	$20,700
	Transite siding	3,200 sq. ft.	$5,400
		TOTAL	$26,100
B931	Transite siding	2,500 sq. ft.	$4,400
B954	12x12 floor tile and mastic	3,750 sq. ft.	$8,625
B959	12x12 floor tile and mastic	4,500 sq. ft.	$10,350

***Includes all air monitoring and design fees**

APPENDIX B

LIST OF BUILDINGS

BUILDING NUMBER

B930
B931
B954
B959

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 2101

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
AUDITORIUM
BUILDING 2101

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
AUDITORIUM
BUILDING 2101

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX B - SUMMARY TABLE OF ACM
APPENDIX C - SAMPLE LOCATIONS PLANS
APPENDIX D - SELECTED ACM LOCATIONS PLANS (None)

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 2101 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of October 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 2101 for the purpose of identifying building materials suspected to contain asbestos. Building 2101 is a one story auditorium facility containing approximately 11,119 sq. ft. of floor space. Based on information provided by Fort McClellan representatives the building was originally constructed in 1970. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities. The two dominant flooring conditions existing in the facility are 1) carpet, and 2) cement.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- White pipe fitting insulation on pipes in mechanical room

Miscellaneous Material

- None

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 1 bulk sample was collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in one type of friable material: 1) pipe fitting insulation in mechanical room. All straight run pipe insulation is fiberglass.

1) A friable, asbestos containing insulation compound is applied to pipe fittings located in the mechanical room of the building.

NON FRIABLE ACM

No non-friable asbestos containing materials were found.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 1060 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 11/17/97

Sample Date : 10/29/97

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Microscopist: Tom Carrington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3183-01/ white putty at Elbow of pipes		5			5		30		60

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate
Fbgl = Fiberglass

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APPENDIX B

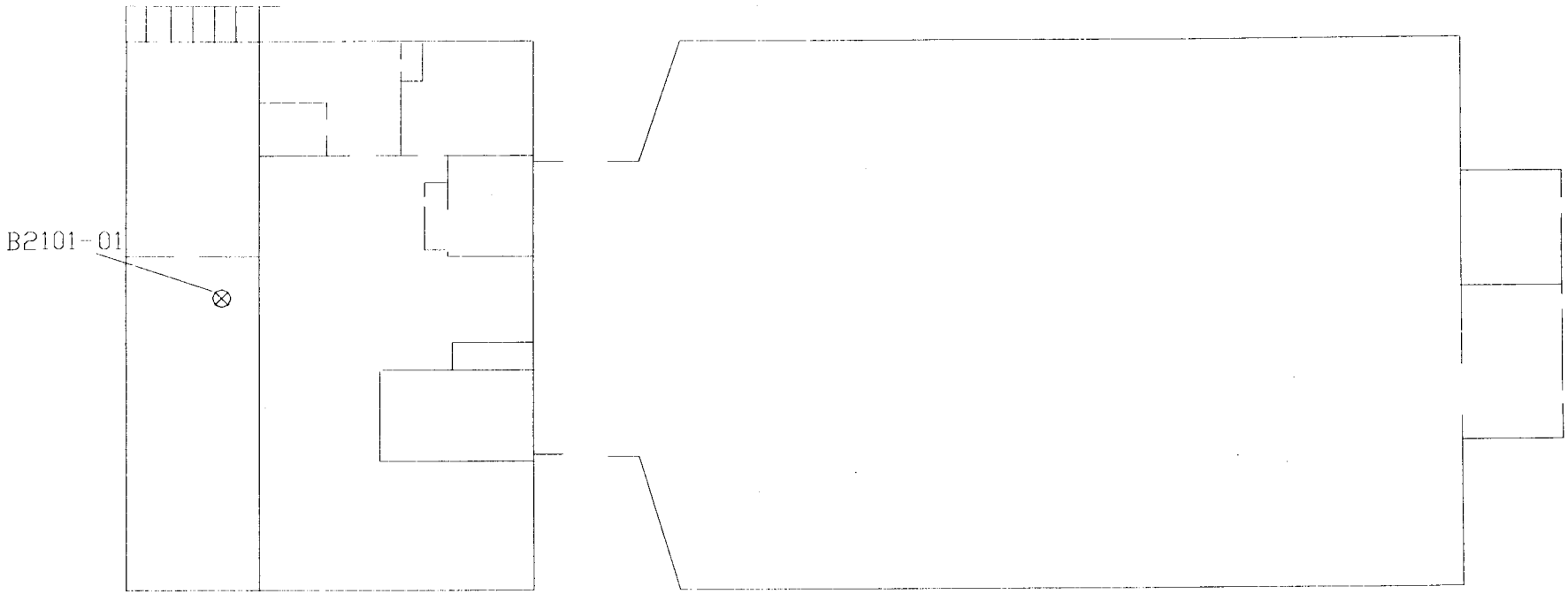
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
AUDITORIUM
BUILDING 2101
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B2101-01	Pipe fitting insulation	Mechanical Room	20 linear ft.

APPENDIX C

SAMPLE LOCATIONS PLANS



⊗ POSITIVE SAMPLE LOCATION

BUILDING: 2101	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT03-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 2213

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CHILD DEVELOPMENT CENTER
BUILDING 2213

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CHILD DEVELOPMENT CENTER
BUILDING 2213

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX E - SELECTED ACM PHOTOGRAPHS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 2213 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of June 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 2213 for the purpose of identifying building materials suspected to contain asbestos. Building 2213 is a single story child development center containing approximately 23,898 sq. ft. of floor space. Based on information provided by Fort McClellan representatives the building was originally constructed in 1955. Various renovations have no doubt taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The two dominant flooring conditions existing in the facility are 1) vinyl floor tile, and 2) linoleum.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Cementitious hand-formed pipe fitting insulation
- Cementitious straight run pipe insulation
- Cementitious boiler insulation

Miscellaneous Material

- Vinyl floor tile 12x12
- Vinyl floor tile 9x9
- Vinyl flooring mastic

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 10 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in three types of friable material: 1) cementitious hand-formed pipe fitting insulation in boiler room, 2) cementitious straight run pipe insulation, and 3) cementitious boiler insulation.

1) A friable, hand-formed, asbestos containing insulation compound is applied to some of the fittings of pipes located in the boiler room of the building. This material was found to be in generally Good condition.

2) A friable, white, asbestos containing insulation is found on some of the straight runs of piping in the boiler room. Piping accessible outside the boiler room was found to have fiberglass insulation. This material was found to be in generally Good condition.

3) A friable, white, asbestos containing insulation is found on the boiler in the boiler room. This material was found to be in generally Good condition.

NON FRIABLE ACM

Two types of non-friable ACM were found in the building: 1) 9x9 vinyl floor tile, and 2) mastic associated with 9x9 vinyl floor tile. In addition, two types of presumed ACM were found in the form of 12x12 vinyl floor tile and mastic.

1) 9x9 inch asbestos containing vinyl floor tile was found in a small part of the building. The material was found to be in generally Good condition.

2) Black, asbestos containing mastics are present below 9x9 vinyl floor tiles in a small part of the building.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. However, some of the asbestos containing materials are subject to routine maintenance activities that could involve significant disturbance. Those materials include the pipe fitting, straight run, and boiler insulation located in the boiler room. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 328 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 2213 during June, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 06/22/97

Sample Date : 06/16/97

Microscopist: Tom Carrington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B2213-01/ 9 X 9 floor tile	15								85
B2213-02/ tile mastic	1				15	1			83
B2213-03/ boiler tank TSI	65	3							10
B2213-04/ pipe joint TSI Boiler room						35		5	60
B2213-05/ pipe run TSI Boiler room	25				15	5			55
B2213-06/ pipe run TSI Boiler room	65	5							30
B2213-07/ pipe TSI-run Crawlspace entrance					90				10
B2213-08/ pipe TSI-joint Crawlspace entrance								60	40
B2213-09/ pipe TSI-run Boiler room	35	35							30
B2213-10/ pipe TSI-elbow Boiler room		65							35

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04=** Calcium Sulfate
Fbgl = Fiberglass

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APPENDIX B

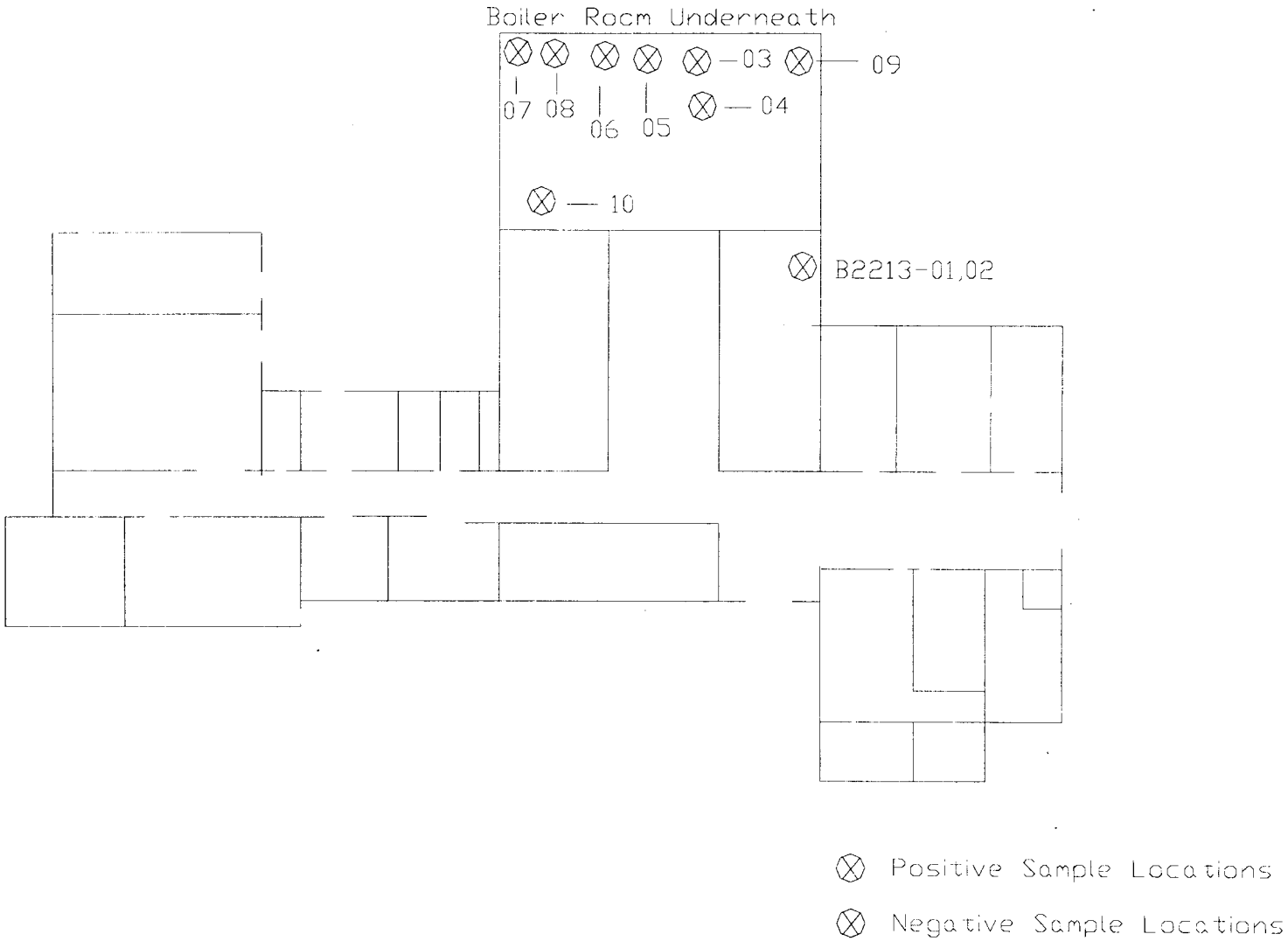
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
CHILD DEVELOPMENT CENTER
BUILDING 2213
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B2213-01,02	9x9 inch Floor Tile and Mastic	Near storage room	1620 sq. ft.
B2213-03	Boiler insulation	Boiler room	40 sq. ft.
B2213-05,06,09	Pipe straight run insulation	Boiler room	60 linear ft.
B2213-10	Pipe fitting	Boiler Room	10 fittings

APPENDIX C

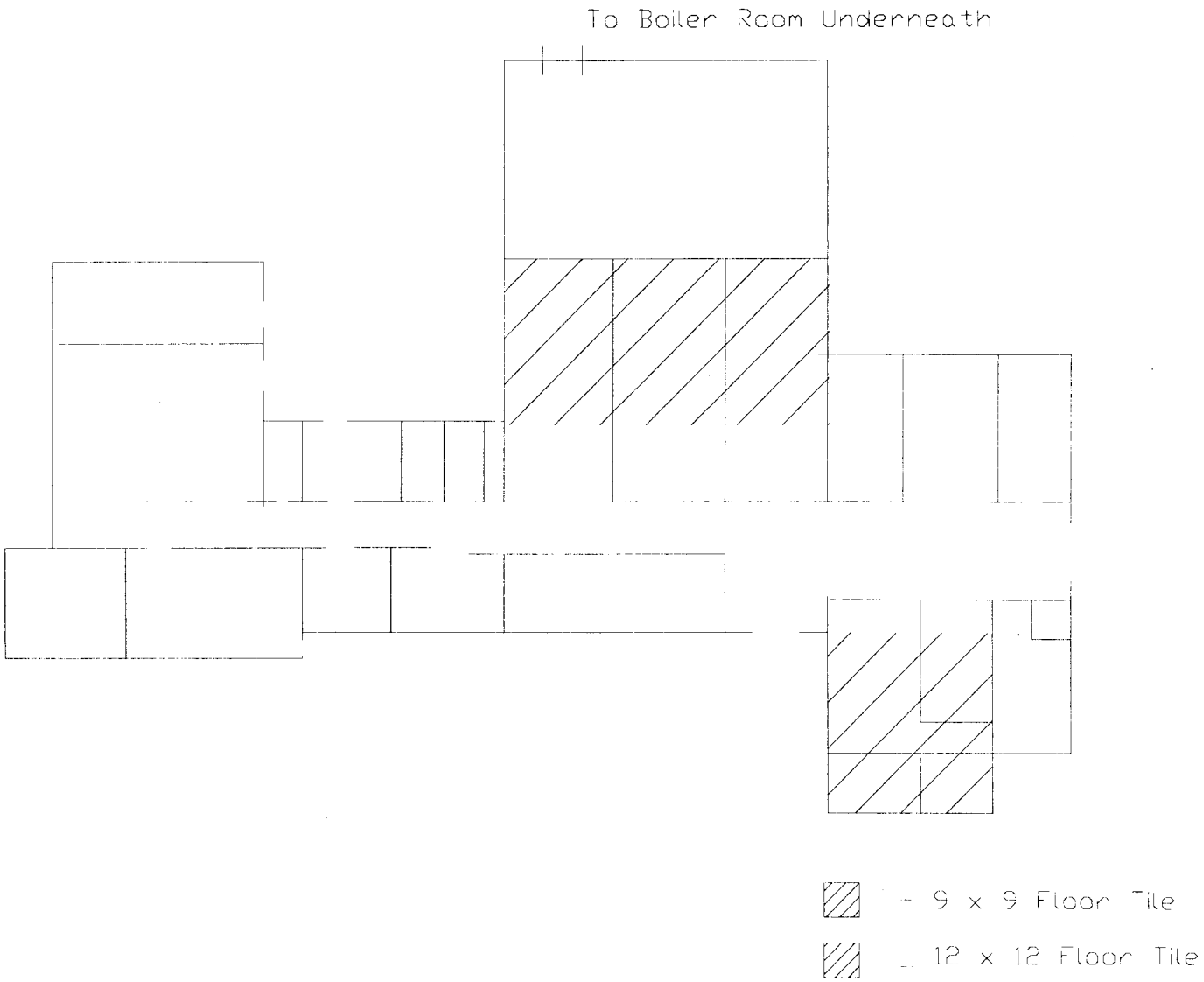
SAMPLE LOCATIONS PLANS



BUILDING: 2213 PRESCHOOL	FIGURE 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

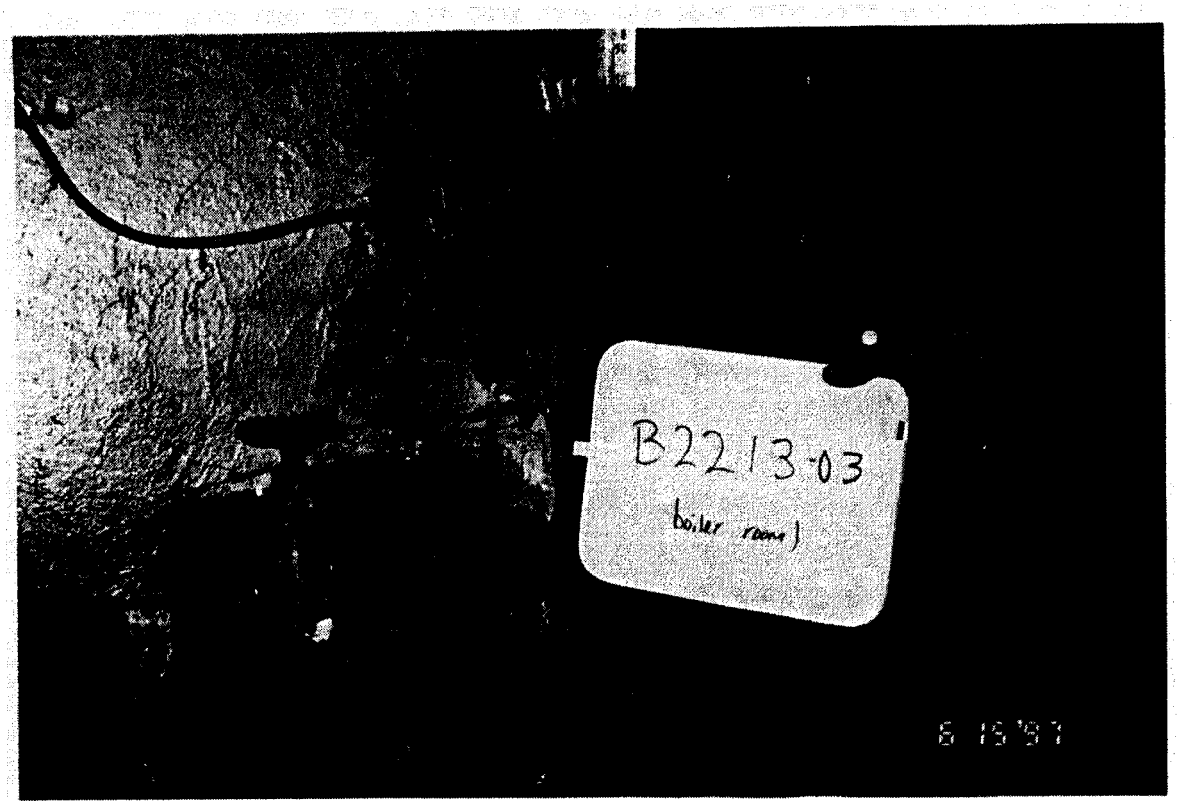
SELECTED ACM LOCATION PLANS



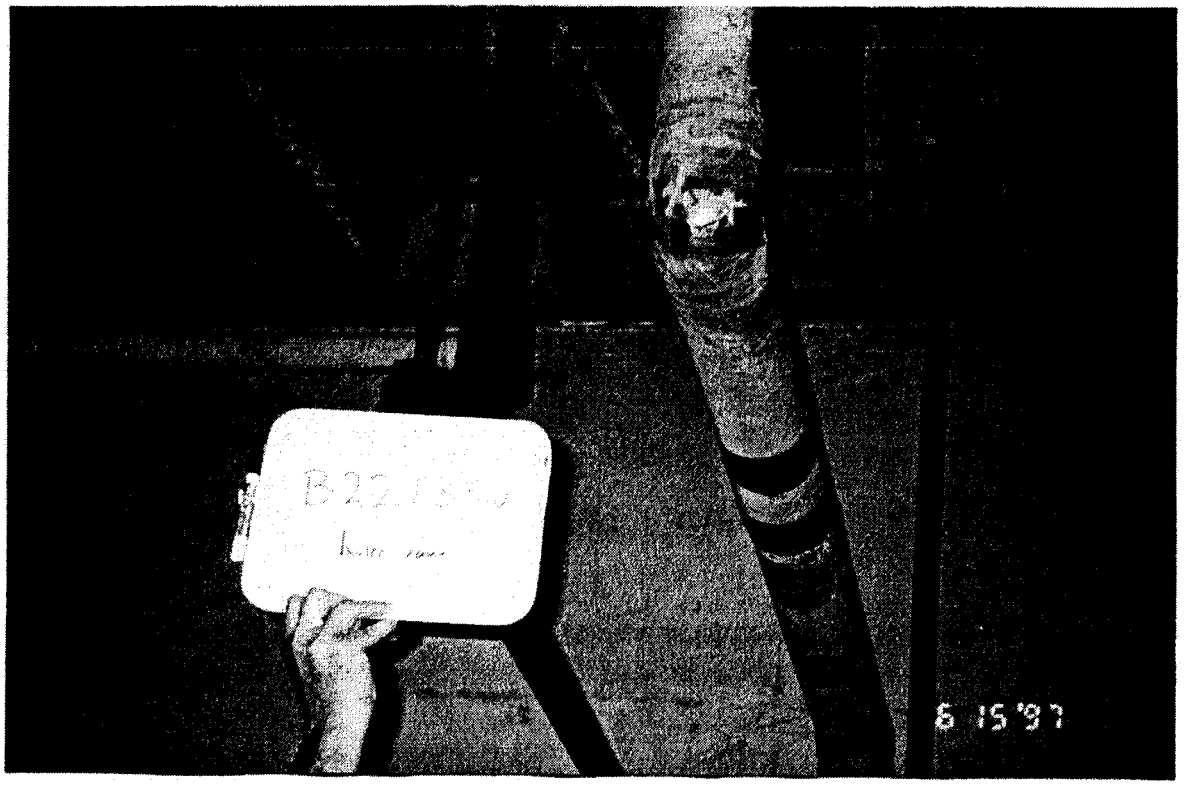
BUILDING: 2213 PRESCHOOL	FIGURE 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX E

SELECTED ACM PHOTOGRAPHS



B2213-03: Boiler Insulation



B2213-10: Pipe fitting TSI

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S): 3137

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CLASSROOM
BUILDING 3181

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CLASSROOM
BUILDING 3181

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 3181 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of June 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 3181 for the purpose of identifying building materials suspected to contain asbestos. Building 3181 is a large classroom facility containing approximately 120,000 sq. ft. of floor space. Based on information provided by Fort McClellan representatives the building was originally constructed in 1941. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The dominant flooring conditions existing in the facility are 1) 12x12 vinyl floor tile, and 2) 9x9 vinyl floor tile. Several types of suspect pipe insulations are found on pipe throughout the building.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- White chalky insulation is found on piping straight runs throughout the building
- White paper-like insulation is found on some piping straight runs
- White pipe fitting insulation is found on various pipes in the building

Miscellaneous Material

- 12x12 vinyl floor tile
- 9x9 vinyl floor tile
- Vinyl flooring mastic

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 21 bulk samples were collected and analyzed. Samples #31 & 32 are out of sequence and should be labeled #'s 20 & 21. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in three types of friable materials: 1) white paper-like pipe insulation, and 2) white powdery pipe insulation, and 3) white pipe fitting insulation.

1) A friable, white, chalky asbestos containing insulation compound is applied to 8 & 12 inch pipes throughout the 1st floor and in some cases the crawlspace of Building 3181.
2) A friable, white air-cell type asbestos containing pipe insulation is found on runs of 6 inch piping throughout Building 3181.
3) A friable, white, asbestos containing pipe fitting insulation is found applied to various pipes in Building 3181.

NON FRIABLE ACM

Three types of non-friable ACM were found to be present in the building: 1) 12x12 inch vinyl floor tile, 2) 9x9 inch vinyl floor tile, and 3) mastics associated with vinyl floor tile.

1) Asbestos containing 12x12 inch vinyl floor tile is found in various locations of the building.
2) Asbestos containing 9x9 inch vinyl floor tile is found in various location of the the building.
3) Asbestos containing mastics associated with vinyl floor tile is found throughout the majority of the building.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 3181 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 3181 during June, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and

frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 06/27/97

Sample Date : 06/24-26/97

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3181-01/ Pipe Insul (black rock-looking)					5	15			80
B3181-02/ Pipe Insul (brown rock-looking)						80			20
B3181-03/ Pipe TSI (orange rock-looking)						85			15
B3181-04/ Pipe TSI (black cork)					5				95
B3181-05/ Pipe TSI 12" paperlike	10				80				10
B3181-06/ Pipe TSI 12" White powder	10	45	3			12			30
B3181-07/ Pipe TSI 8" White powder	5	50	10						35
B3181-08/ Pipe TSI 8" Paperlike	25				65				10
B3181-09/ Pipe TSI 8" paperlike					90				10

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate
Fbgl = Fiberglass

A Space Grant College
An Affirmative Action / Equal
Opportunity Institution

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 06/20/97

Sample Date : 06/19/97

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3181-10/ Pipe TSI White paper-like 6"	40				40				20
B3181-11/ Pipe TSI 6" Elbow white mud	45				5		25		25
B3181-12/ Pipe TSI 6" Elbow white mud	60				5		15		25
B3181-13/ Tan 12 X 12 Floor tile									100
B3181-14/ Tan floor mastic	10				10		15		60
B3181-15/ 9 X 9 black & Green floor tile	10								90
B3181-16/ 9 X 9 floor tile mastic	15				1				84
B3181-17/ 12" pipe TSI Orange foam-like							85		15
B3181-18/ green floor tile	25								75
B3181-19/ green floor tile mastic	15				10		1		74

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04=** Calcium Sulfate
Fbgl = Fiberglass

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Opportunity Institution

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 08/04/97

Sample Date : 07/31/97

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Microscopist: Tom Canington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3181-31/6" dia. pipe Insul (paper)	30				50				20
B3181-32/ 6" dia. pipe [illegible]ow insulation	45						25		30

[illegible] = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate
Fbgl = Fiberglass

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APPENDIX B

ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
CLASSROOM
BUILDING 3181
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B3181-05	White air-cell type pipe insulation	12 inch piping throughout building	700 linear ft.
B3181-06,07	White powdery pipe insulation	8 & 12 inch pipe insulation, length of bldg.	300 linear ft.
B3181-08,09	White air-cell type pipe insulation	8 inch piping throughout building	1,000 linear ft.
B3181-10,31	White air-cell type pipe insulation	6 inch piping associated with AH #7	260 linear ft.
B3181-11,12,32	Pipe fitting insulation	On 6 inch piping at AH #7	30 fittings
B3181-14	Mastic associated with 12x12 floor tile	Under 12x12 floor tile Throughout building	13,200 sq. ft.
B3181-15,16,18,19	9x9 inch floor tile & mastic throughout building	Throughout various Locations in building	15,824 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS

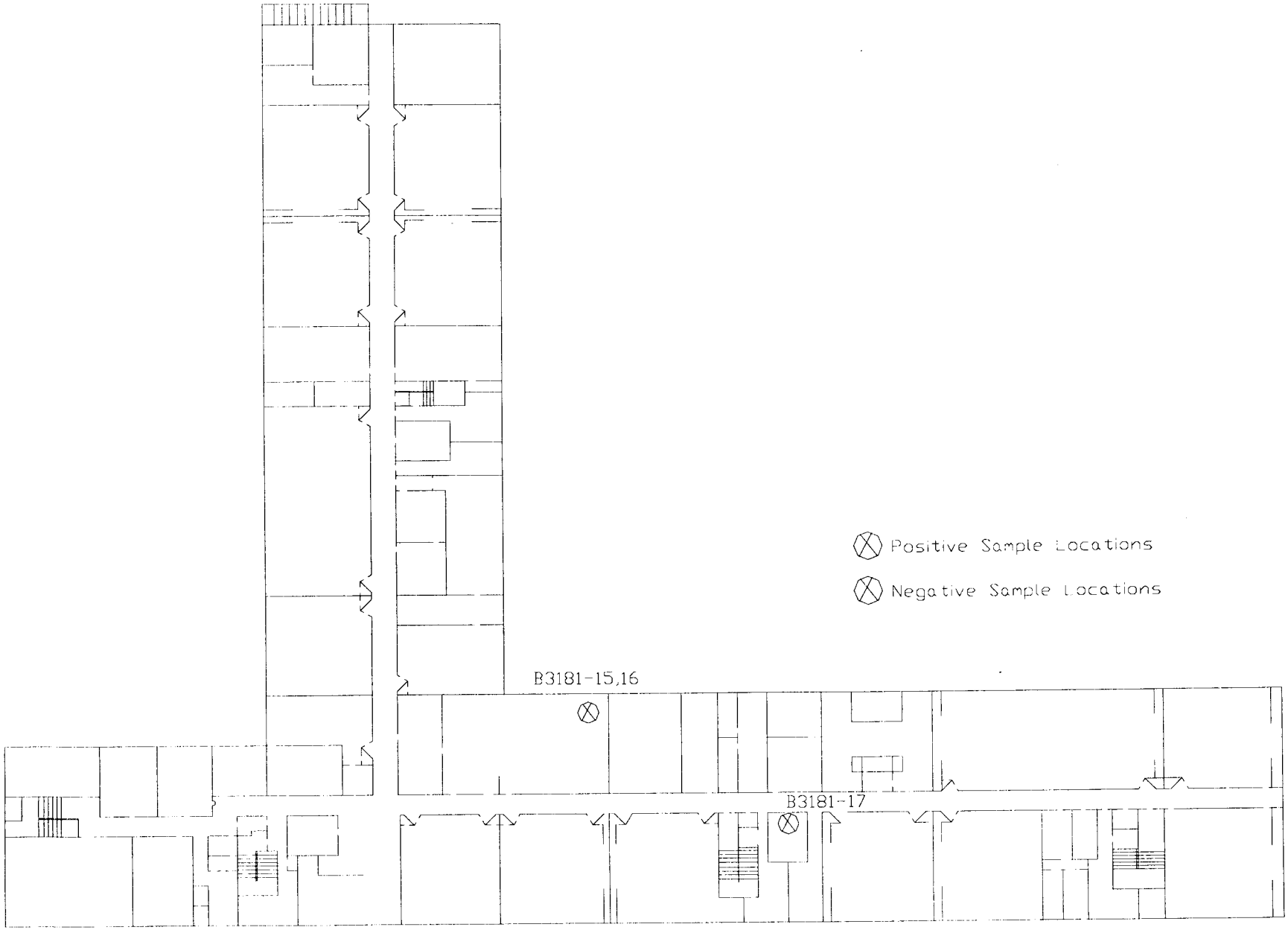

FIG 1: LAYOUT PLAN

BUILDING: 3181	FIG. 1 SECOND FLOOR	ASBESTOS SURVEY DAB102-96-D-0005 FM705	**REISZ ENGINEERING**

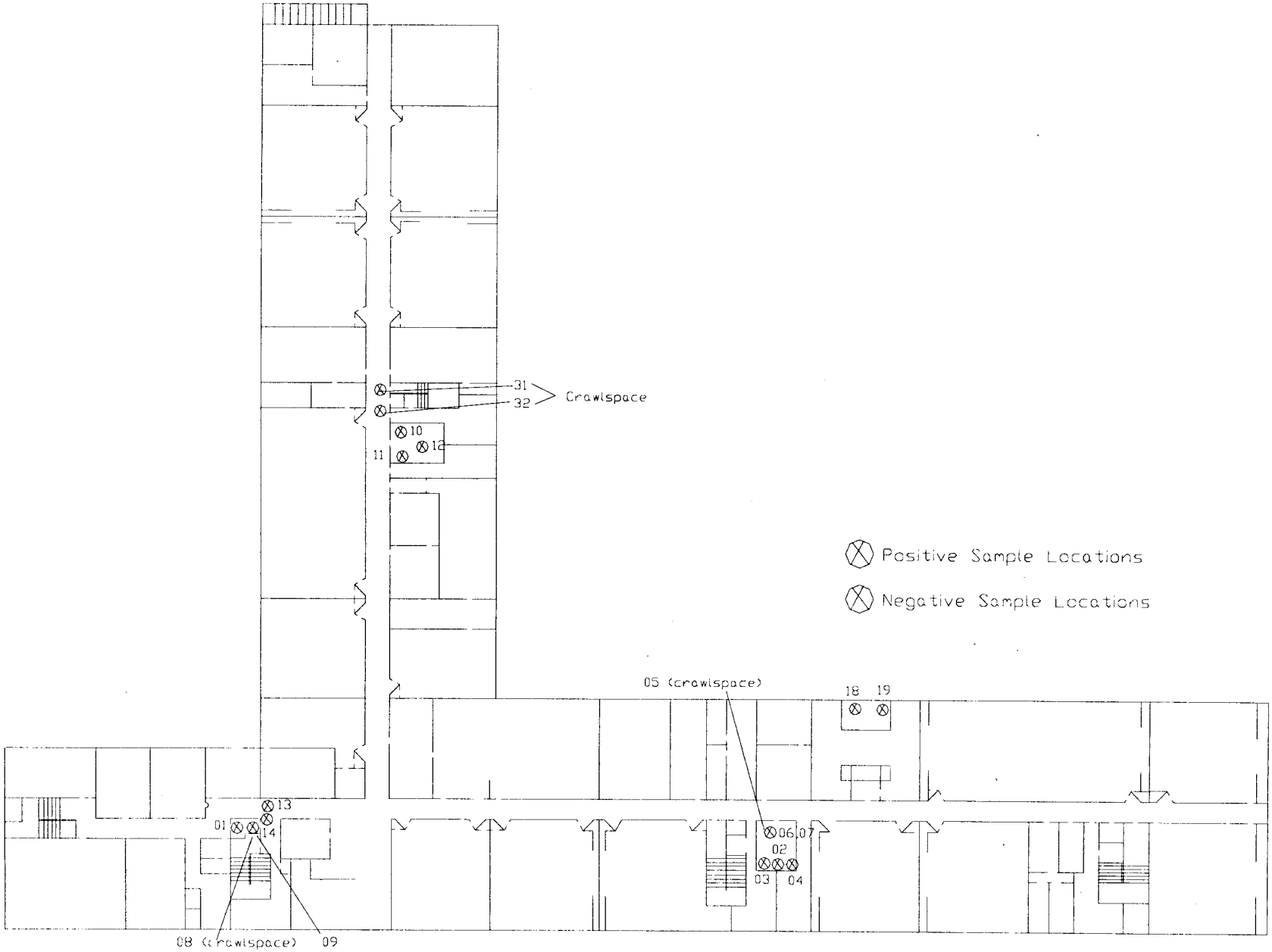

FIG 1: LAYOUT PLAN

BUILDING: 3181	FIG. 1 FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS

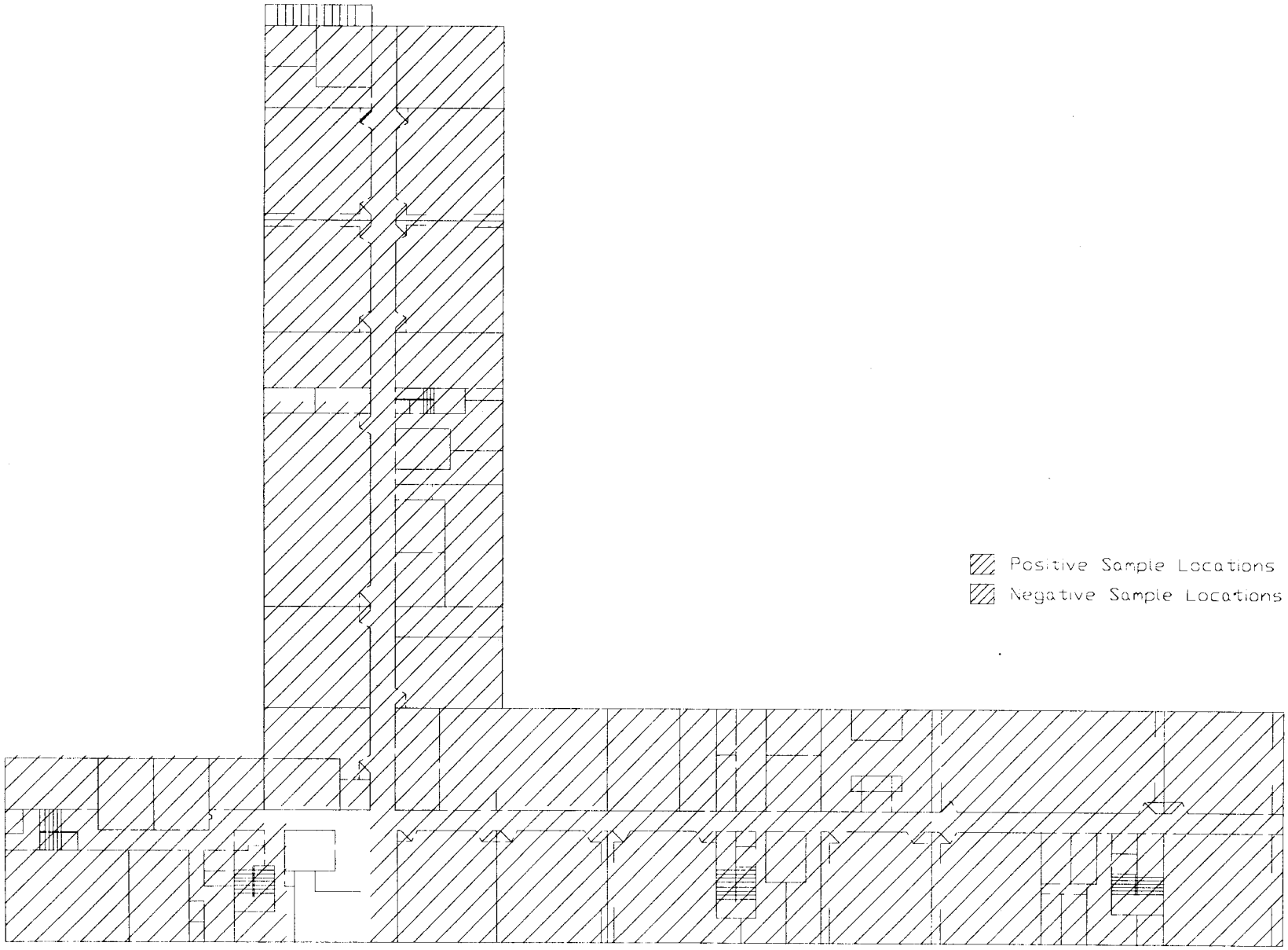

FIG 1 LAYOUT PLAN

BUILDING 3181	FIG. 1 FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

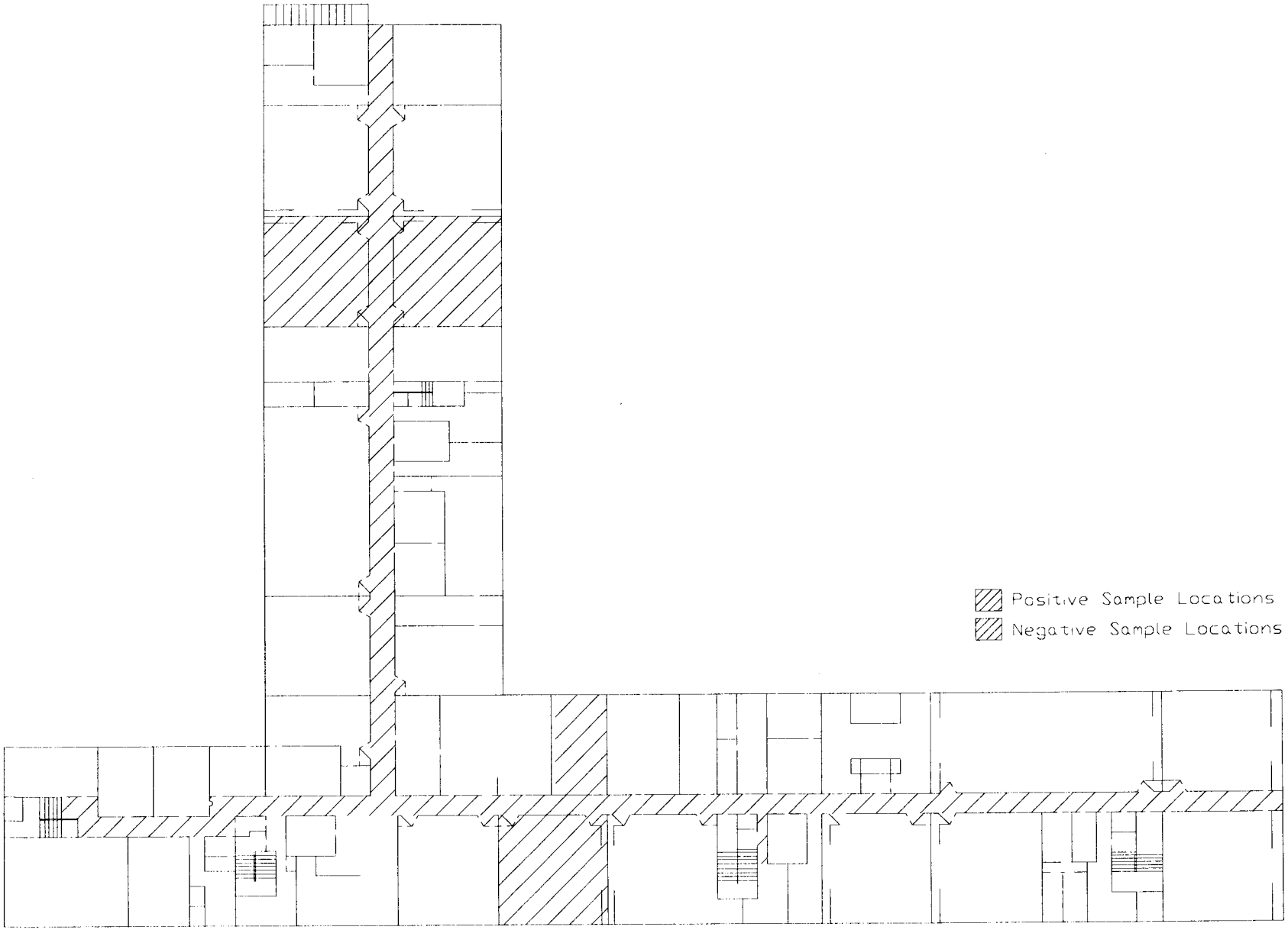

FIG 1: LAYOUT PLAN

BUILDING: 3181	FIG. 1 SECOND FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 3184

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CLASSROOM
BUILDING 3184

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CLASSROOM
BUILDING 3184

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX E - SELECTED ACM PHOTOGRAPHS (None)

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 3184 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
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4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

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(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of December 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 3184 for the purpose of identifying building materials suspected to contain asbestos. Building 3184 is a single story classroom facility containing approximately 23,898 sq. ft. of floor space. The building has a basement mechanical room. Based on information provided by Fort McClellan representatives the building was originally constructed in 1954. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The dominant flooring conditions existing in the facility is 12x12 inch vinyl floor tile. A suspect brown air-cell type pipe insulation runs from the mechanical room throughout the building.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Cementitious gray & white hand-formed pipe fitting insulation
- Brown air-cell type straight run pipe insulation

Miscellaneous Material

- Vinyl floor tile 12x12
- Vinyl flooring mastic

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 4 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in two types of friable material: 1) cementitious hand-formed pipe fitting insulation on 4 inch pipes, and 2) brown air-cell type straight run pipe insulation on 3 inch pipes throughout the building.

1) A friable, hand-formed, asbestos containing insulation compound is applied to some of the 4 inch fittings of pipes located in the building. This material was found to be in generally Good condition.

2) A friable, brown air-cell type asbestos containing insulation is found on some of the straight runs of 3 & 4 inch piping throughout the building. This material was found to be in generally Good condition.

NON FRIABLE ACM

Two types of non-friable presumed ACM were found in the building: 1) 12x12 vinyl floor tile, and 2) mastic associated with 12x12 vinyl floor tile.

1) 12x12 inch asbestos containing vinyl floor tile was found throughout the building. The material was found to be in generally Good condition.

2) Black, asbestos containing mastics are present below 12x12 vinyl floor tiles in the building.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. However, some of the asbestos containing materials are subject to routine maintenance activities that could involve significant disturbance. Those materials include the pipe fitting, straight run, and boiler insulation located in the boiler room. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 328 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 3184 during December, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of

the structure or materials that may lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth **E.** Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 890-6391 Fax: (205) 890-6376

: Bulk Asbestos Analysis EPA 600/R-93/116

Receipt Date: 01/15/98

Sample Date : 12/17/97

Microscopis : Tom Canington

t

Client: Reisz Engineering
Building 32 Suite A2
3322 Memorial Parkway
South Huntsville, AL
35801

Sample/Description	Asbestos Fibers(%)				Non-Asbestos Material (%)		
	Chry	Amos	Croe	Othr	Cell	Fbgl	MW
B3184-011 Brown paper insul. on 3 " pipe		35			50		15
B3184-021 Brown paper insul. on 4 " pipe		15			60		25
B3184-03/ **Brown paper insul. on** 3 " **pipe**		20			55		25
B3184-04/ Elbow **putty** on 4 " pipe		30			40		30

CaSO4 Othr

Othr = Other
Cell = Cellulose

NIW = Mineral Wool
Ca S04 = Calcium Sulfate Fbgl = Fiberglass

y = Chrysotilo
Amos = Amosite
Croc =
Crocidolite,

APPENDIX B

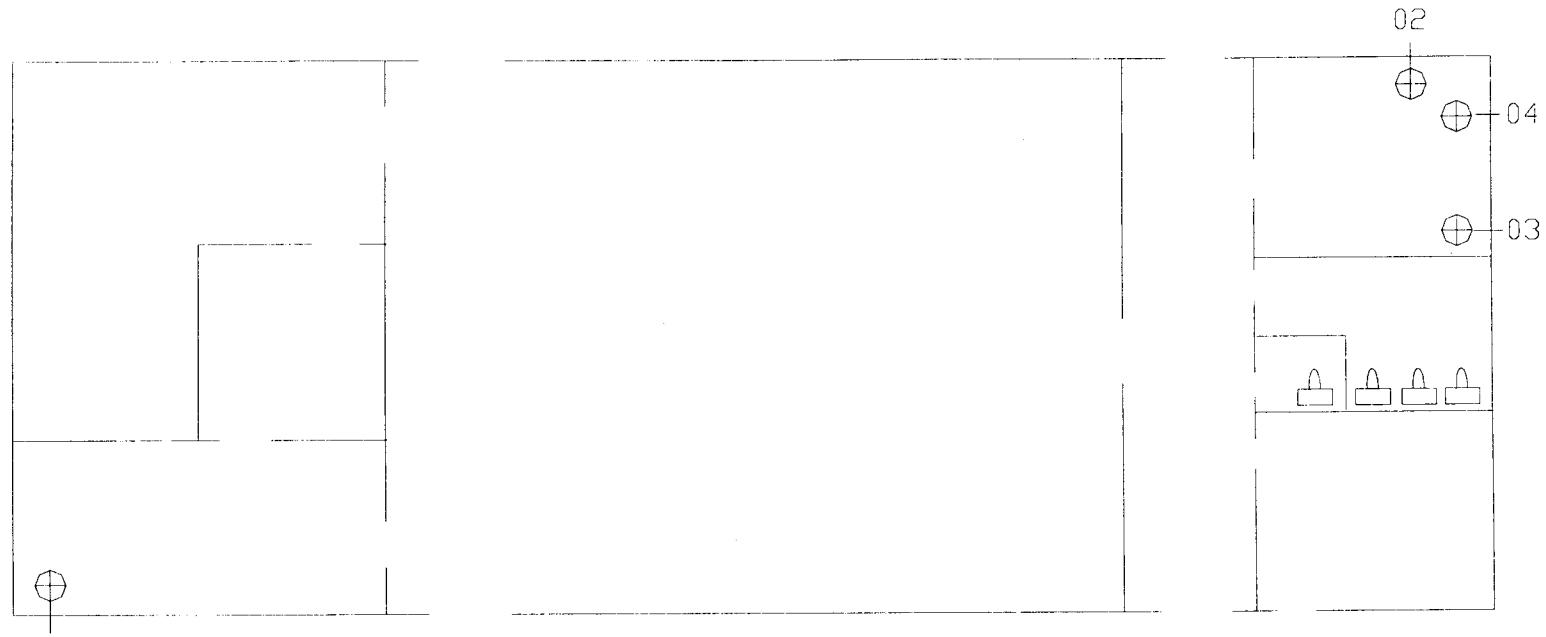
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
CLASSROOM
BUILDING 3184
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	**Description of Materials**	**General Location of Material**	**Quantity (approx.)**
B3184-01,02,03	Brown air-cell type pipe insulation	3 & 4 inch piping throughout building	220 linear ft.
B3184-04	Gray & white pipe Fitting insulation	On 4 inch pipe	10 fittings
PACM	12x12 inch floor tile throughout building	Throughout building	4,000 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS



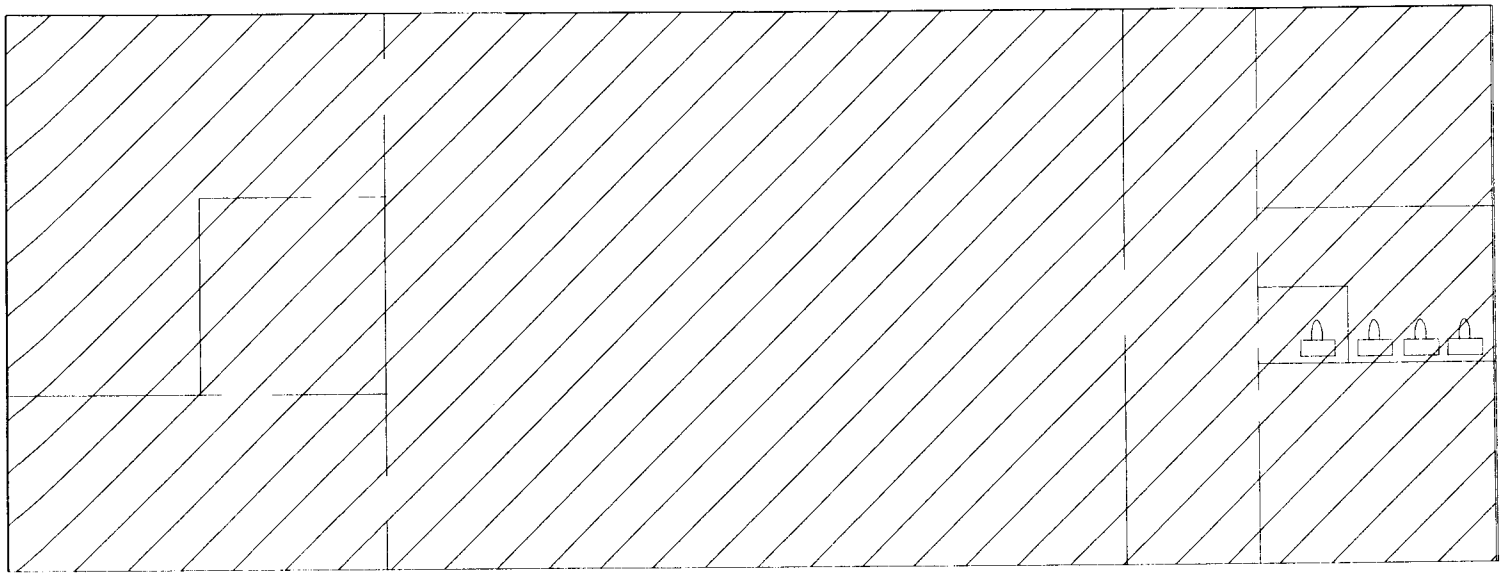
⊕ Positive Sample Location

⊕ Negative Sample Location

BUILDING: 3184		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS



12 x 12 Floor Tile

BUILDING 3184

ASBESTOS SURVEY
DABT02-96-D-0005
FM705

REISZ ENGINEERING

APPENDIX E

SELECTED ACM PHOTOGRAPHS

B2213-03: Boiler Insulation

B2213-10: Pipe fitting TSI

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 3181

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CLASSROOM
BUILDING 3181

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CLASSROOM
BUILDING 3181

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 3181 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations. and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of June 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 3181 for the purpose of identifying building materials suspected to contain asbestos. Building 3181 is a large classroom facility containing approximately 120,000 sq. ft. of floor space. Based on information provided by Fort McClellan representatives the building was originally constructed in 1941. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The dominant flooring conditions existing in the facility are 1) 12x12 vinyl floor tile, and 2) 9x9 vinyl floor tile. Several types of suspect pipe insulations are found on pipe throughout the building.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- White chalky insulation is found on piping straight runs throughout the building
- White paper-like insulation is found on some piping straight runs
- White pipe fitting insulation is found on various pipes in the building

Miscellaneous Material

- 12x12 vinyl floor tile
- 9x9 vinyl floor tile
- Vinyl flooring mastic

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 21 bulk samples were collected and analyzed. Samples #31 & 32 are out of sequence and should be labeled #'s 20 & 21. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in three types of friable materials: 1) white paper-like pipe insulation, and 2) white powdery pipe insulation, and 3) white pipe fitting insulation.

1) A friable, white, chalky asbestos containing insulation compound is applied to 8 & 12 inch pipes throughout the 1st floor and in some cases the crawlspace of Building 3181.
2) A friable, white air-cell type asbestos containing pipe insulation is found on runs of 6 inch piping throughout Building 3181.
3) A friable, white, asbestos containing pipe fitting insulation is found applied to various pipes in Building 3181.

NON FRIABLE ACM

Three types of non-friable ACM were found to be present in the building: 1) 12x12 inch vinyl floor tile, 2) 9x9 inch vinyl floor tile, and 3) mastics associated with vinyl floor tile.

1) Asbestos containing 12x12 inch vinyl floor tile is found in various locations of the building.
2) Asbestos containing 9x9 inch vinyl floor tile is found in various location of the the building.
3) Asbestos containing mastics associated with vinyl floor tile is found throughout the majority of the building.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 3181 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 3181 during June, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and

frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 06/27/97

Sample Date : 06/24-26/97

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Microscopist: Tom Canington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3181-01/ Pipe Insul (black rock-looking)					5	15			80
B3181-02/ Pipe Insul (brown rock-looking)						80			20
B3181-03/ Pipe TSI (orange rock-looking)						85			15
B3181-04/ Pipe TSI (black cork)					5				95
B3181-05/ Pipe TSI 12" paperlike	10				80				10
B3181-06/ Pipe TSI 12" White powder	10	45	3			12			30
B3181-07/ Pipe TSI 8" White powder	5	50	10						35
B3181-08/ Pipe TSI 8" Paperlike	25				65				10
B3181-09/ Pipe TSI 8" paperlike					90				10

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate
Fbgl = Fiberglass

A Space Grant College
An Affirmative Action / Equal
Opportunity Institution

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 06/20/97

Sample Date : 06/19/97

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3181-10/ Pipe TSI White paper-like 6"	40				40				20
B3181-11/ Pipe TSI 6" Elbow white mud	45				5		25		25
B3181-12/ Pipe TSI 6" Elbow white mud	60				5		15		25
B3181-13/ Tan 12 X 12 Floor tile									100
B3181-14/ Tan floor mastic	10				10		15		60
B3181-15/ 9 X 9 black & Green floor tile	10								90
B3181-16/ 9 X 9 floor tile mastic	15				1				84
B3181-17/ 12" pipe TSI Orange foam-like							85		15
B3181-18/ green floor tile	25								75
B3181-19/ green floor tile mastic	15				10		1		74

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04=** Calcium Sulfate
Fbgl = Fiberglass

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Opportunity Institution

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 08/04/97

Sample Date : 07/31/97

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Microscopist: Tom Canington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3181-31/6" dia. pipe Insul (paper)	30				50				20
B3181-32/ 6" dia. pipe [illegible]bow insulation	45						25		30

[illegible]y = Chrysotile
AmOS = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate
Fbgl = Fiberglass

A Space Grant College
An Affirmative Action / Equal
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APPENDIX B

ASBESTOS CONTAINING MATERIALS

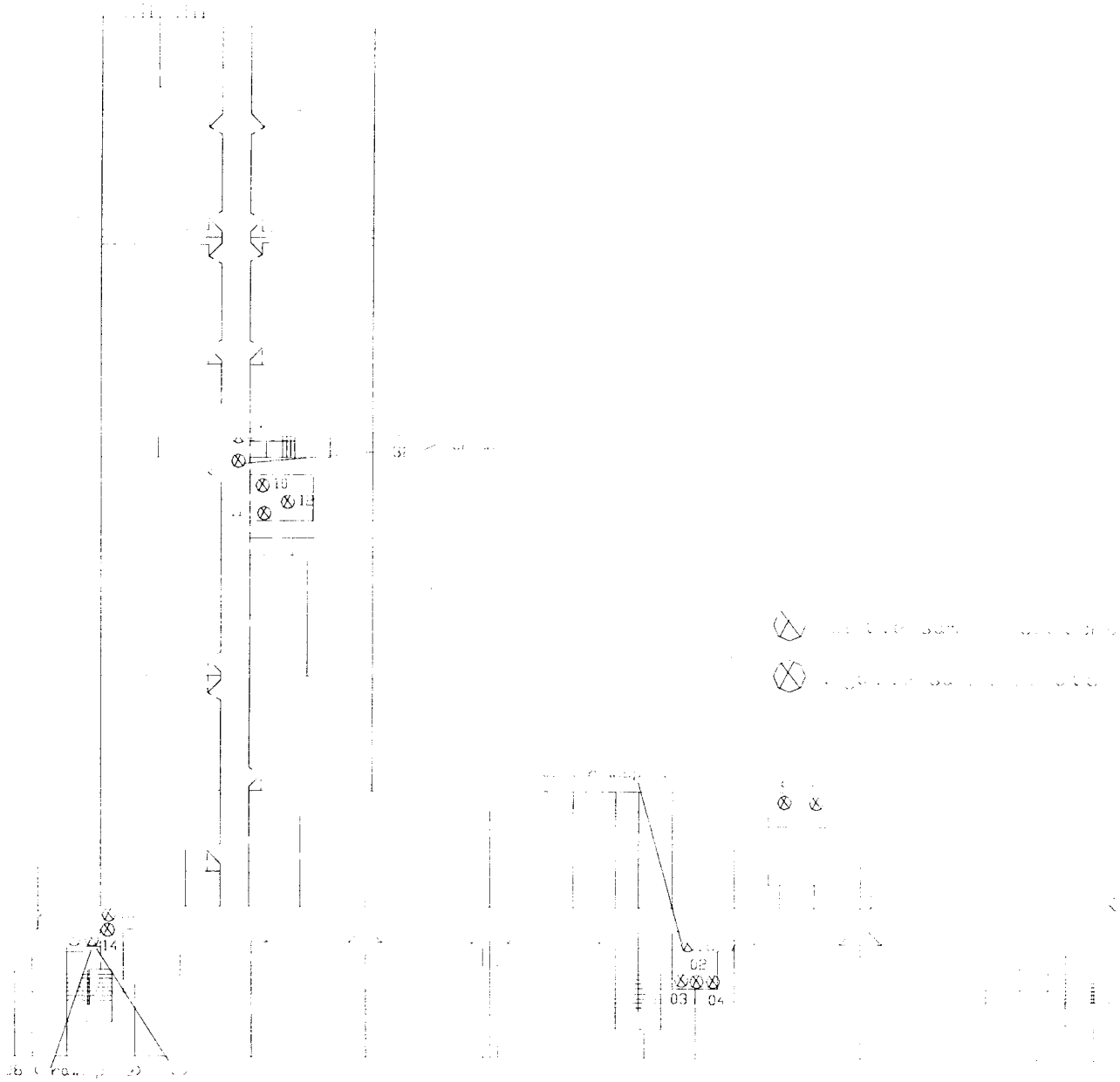
SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
CLASSROOM
BUILDING 3181
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B3181-05	White air-cell type pipe insulation	12 inch piping throughout building	700 linear ft.
B3181-06,07	White powdery pipe insulation	8 & 12 inch pipe insulation, length of bldg.	300 linear ft.
B3181-08,09	White air-cell type pipe insulation	8 inch piping throughout building	1,000 linear ft.
B3181-10,31	White air-cell type pipe insulation	6 inch piping associated with AH #7	260 linear ft.
B3181-11,12,32	Pipe fitting insulation	On 6 inch piping at AH #7	30 fittings
B3181-14	Mastic associated with 12x12 floor tile	Under 12x12 floor tile Throughout building	13,200 sq. ft.
B3181-15,16,18,19	9x9 inch floor tile & mastic throughout building	Throughout various Locations in building	15,824 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS

REISZ ENGINEERING

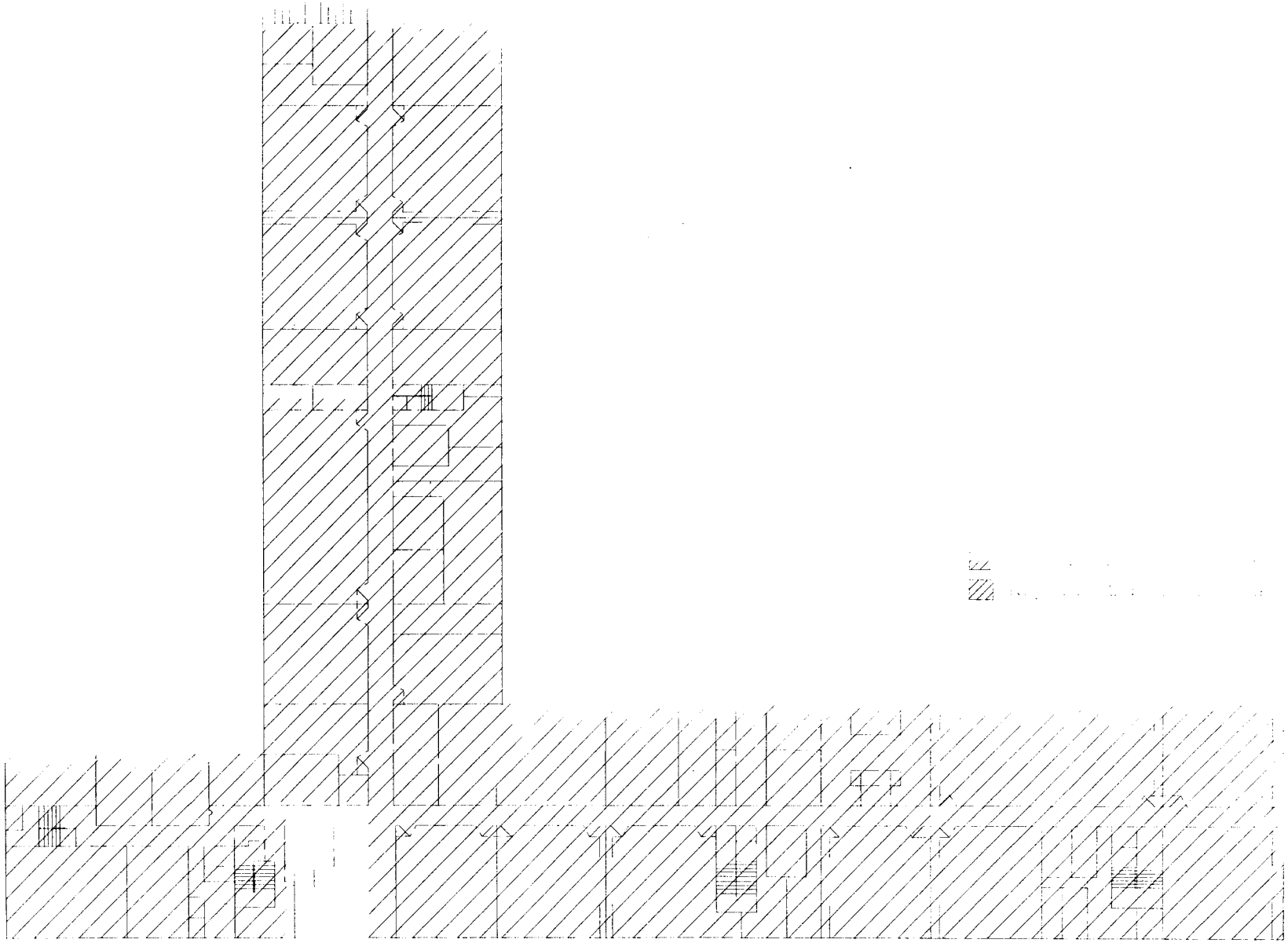


DA3102 9 0 0005
FM/05

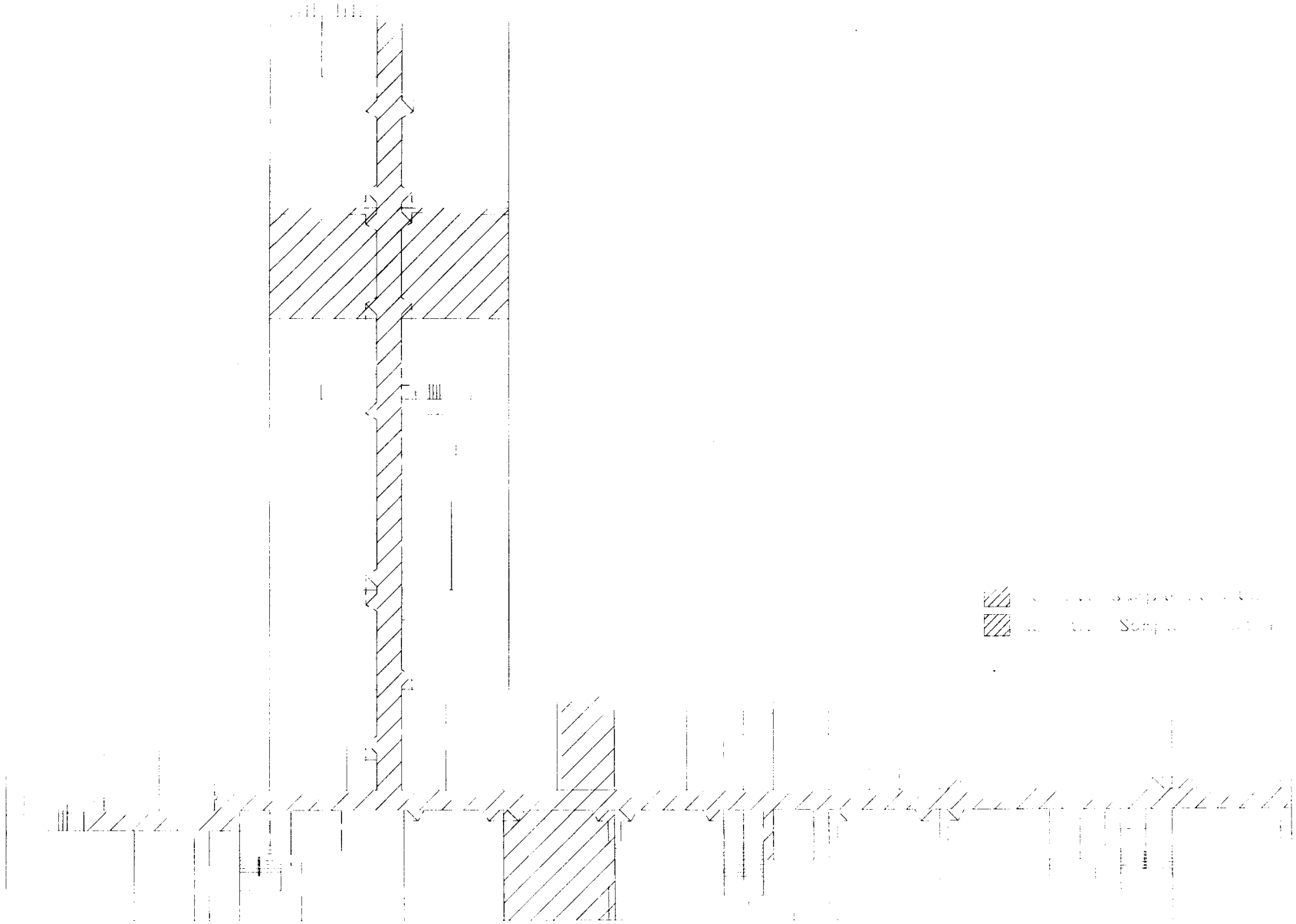
REISZ ENGINEERING

APPENDIX D

SELECTED ACM LOCATION PLANS



REISZ ENGINEERING



REISZ ENGINEERING

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S): 3201 - 3211

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
BUILDINGS 3201-3211

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
BUILDINGS 3201-3211

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Buildings 3201-3211 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of December 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of these buildings for the purpose of identifying building materials suspected to contain asbestos. Buildings 3201-3211 are single story structures of similar construction. The buildings range in size from 3,179 sq. ft. to 4,156 sq. ft. Based on information provided by Fort McClellan representatives the buildings were constructed beginning in 1953. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities. The dominant flooring condition existing in the buildings are 12x12 and/or 9x9 vinyl floor tile.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these materials can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Cementitious hand-formed pipe fitting insulation
- White, powdery TSI on hot water tanks
- Brown, air-cell type pipe insulation

Miscellaneous Material

- 12x12 vinyl floor tile
- 9x9 vinyl floor tile
- Vinyl flooring mastics
- Transite on some kitchen and mechanical room walls

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 30 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in two types of friable materials: 1) cementitious hand-formed pipe fitting insulation, and 2) brown, air-cell type straight-run pipe insulation.

1) A friable, hand-formed, asbestos containing insulation compound is applied to the fittings located in various locations both within the buildings. This material was found to be in Good to Fair condition depending on the building and area.

2) A brown, air-cell type asbestos containing material is found on straight runs of pipes located in all buildings except 3211. Some buildings have pipes that are either bare or are insulated with fiberglass. The material was found to be in generally Good to Fair condition depending on the building and area.

NON FRIABLE ACM

Three types of non-friable ACM was found in the majority of the buildings. 1) transite panels located in kitchen areas of all buildings except 3207 & 3211, 2) 9x9 inch floor tile, and 3) mastics associated with 9x9 and 12x12 vinyl floor tile. 12x12 inch floor tile found in the majority of the buildings is presumed to contain asbestos.

1) Asbestos containing transite panels can be found on the walls around ovens in the kitchen areas of all buildings except 3207 & 3211.
2) Asbestos containing 9x9 inch floor tile is found in Building 3206.
3) Black, asbestos containing mastics are present below vinyl floor tiles found in all of the building.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. The asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Those materials include the pipe fitting and straight-run insulation located within the buildings. Based upon the aforementioned conditions, abatement of friable asbestos containing materials associated with these buildings should be considered. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for the buildings and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Buildings 3201-3211 during December, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and

frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson
Research Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 01/15/97

Sample Date : 12/29/97

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite A2
3322 Memorial Parkway
South Huntsville, AL
35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3201-011 Brown paper on 3 " pipe	15				70				15
B3201-02/ Elbow putty on 3 " pipe							60		40
B3201-03/ Hot **water tank** insulation						10	45		45
B3201-041 Brown paper insul. on 3 " pipe	25				60				15
B3201-05/ Brown paper insul. on 3 " pipe	30				45				25

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 890-6391 Fax: (205) 890-6376

Re : Bulk Asbestos Analysis EPA 600/R-93/116
AIHA: 023601

Receipt Date: 01/15/97

Sample Date : 12/30/97

Microscopist: Tom Carrington

Client: Reisz Engineering
Building 32 Suite A2
3322 Memorial Parkway
South Huntsville, AL
35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3202-01/ Brown paper insul. on 3 " pipe	30				45				25
B3202-02/ Brown paper insul. on 3 " pipe							60		40
B3202-031 Brown paper insul. on 6 " pipe	50				20				30
B3202-04/ White elbow putty insul. on 6 " pipe	40						45		15

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other Cell
= Cellulose

MW = Mineral Wool
Ca SO4 = Calcium Sulfate
Fbgl = Fiberglass

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UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos Analysis EPA 600/R-931116
AIHA: 023601

Receipt Date: 11/15/97

Sample Date : 12/30/97

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway
South Huntsville, AL
35801

Microscopist: Tom Canington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3203-01/ (a) floor tile 12x 12					10				90
B3203-011 (b) Mastic	3				20				77
B3203-021 Brown paper insul. on 3 " pipe	15				70				15

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other Cell
= Cellulose

NIW = Mineral Wool
Ca S04 = Calcium Sulfate
Fbgl = Fiberglass

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The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos Analysis EPA 600/R-931116
AIHA: 023601

Receipt Date: 01/15/98

Sample Date : 01/05/98

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite A2
3322 Memorial Parkway
South Huntsville, AL
35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3204-01/ Brown paper insul. on 3 " pipe	15				60				25
B3204-02/ Elbow putty insul. on 4 " pipe						1	10		89
B3204-03/ Brown paper insul. on 4 " pipe	65								35
B3204-04/ Brown paper insul. on 3 " pipe	25				55				20
B3204-05/ (a) 12 x 12 tile	No sample in container!								
B3204-051 (b) Mastic	No sample in container!								
B3204-06/ Hot water tank insul.					5	10	35		50

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other Cell
= Cellulose

MW = Mineral Wool
Ca SO4 = Calcium Sulfate
Fbgl = Fiberglass

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The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116

Receipt Date: 01/15/98

Sample Date : 01/05198

Client: Reisz Engineering
Building 32 Suite A2
3322 Memorial Parkway
South Huntsville, AL
35801

Microscopist: Tom Canington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3205-01/ Brown paper insul. on 3 " pipe	18				65				17

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca S04= Calcium Sulfate
Fbgl = Fiberglass

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UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 01/15/98

Sample Date : 01/06/98

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3206-01/ Brown paper insul. on 4 " pipe	45				30				25
B3206-02/ Brown paper insul. on 3 " pipe	25				60				15
B3206-03/ (a) 9 x 9 floor tile	15				15				70
B3206-03/ (b) Mastic	30				10				60

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate
Fbgl = Fiberglass

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UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date : 01/15/98

Sample Date : 01/06/98

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway
South Huntsville, AL
35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3207-01/ Brown paper insul. on 3 " pipe	15				70				15
B3207-02/ Brown paper insul. on 3 " pipe	55				25				20
B3207-03/ Brown paper insul. on 3 " pipe	30				55				15

Chry = Chrysotile Amos
= Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04=** Calcium Sulfate
Fbgl = Fiberglass

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Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date : 01/15/98

Sample Date : 01/06/98

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway
South Huntsville, AL
35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3208-01/ Brown paper insul.	50				30				20

Chry = Chrysotile Amos
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate
Fbgl = Fiberglass

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The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos Analysis EPA 600/R-93/116
AIHA: 023601

Receipt Date : 01/15/98

Sample Date : 01/07/98

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3209-01/ Brown paper insul.	50				25				25
B3209-02/ Brown paper insul.	10				35		35		20

Chry = Chrysotile Amos
= Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04**= Calcium Sulfate
Fbgl = Fiberglass

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The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date : 01/15/98

Sample Date : 01/07/98

Microscopist: Tom Canington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3210-01/ Brown paper insul.	15				65				20

= Chrysotile Amos
= Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca S04= Calcium Sulfate
Fbgl = Fiberglass

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APPENDIX B

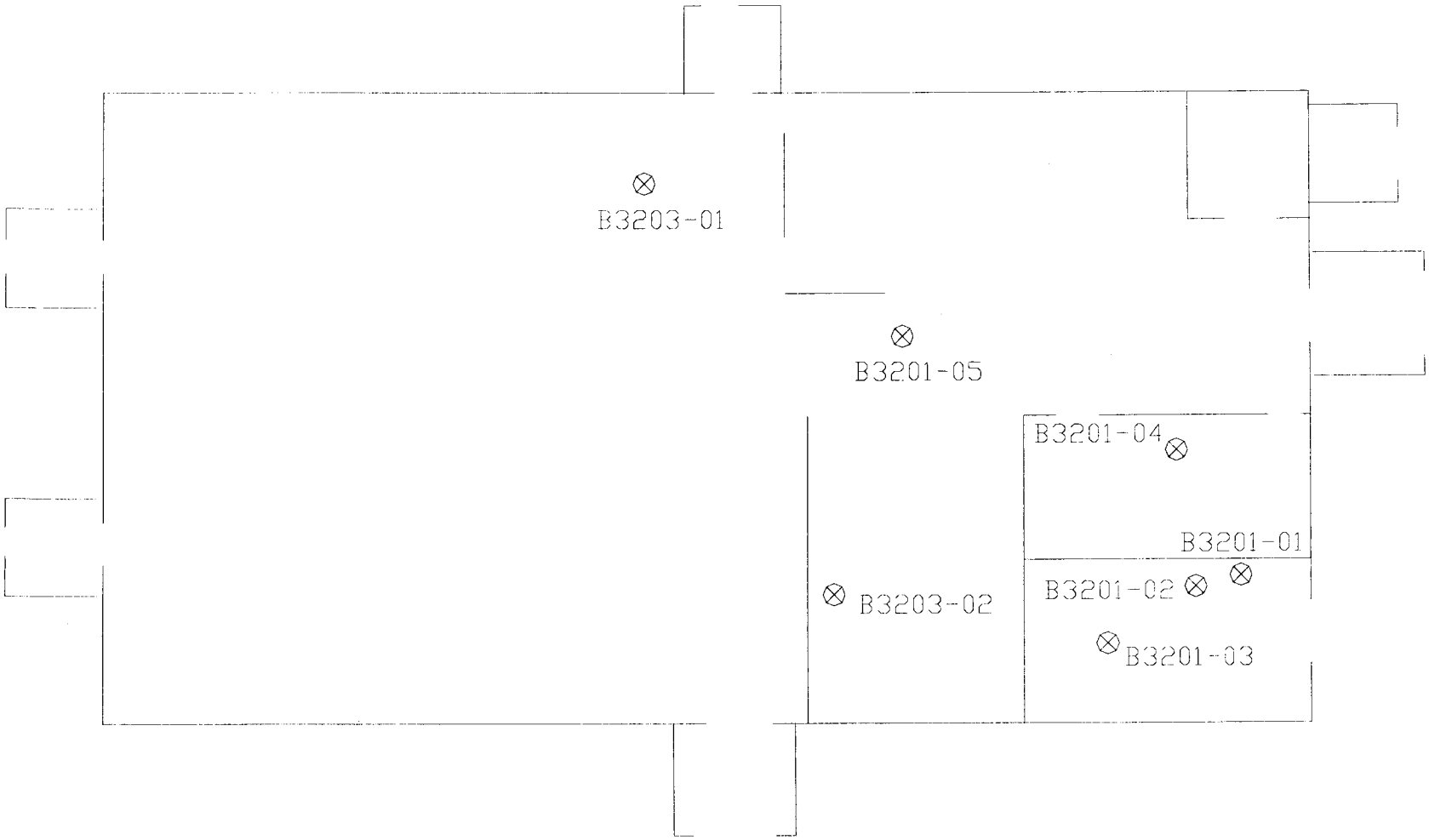
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
MISCELLANEOUS
BUILDINGS 3201-3211

Multiple Samples	Brown air-cell type Pipe insulation	All buildings excluding B3211	782 linear ft. total
Multiple Samples	Pipe fitting insulation	B3201,3202,3204 & 3209	20 fittings
B3206-03a/b	9x9 floor tile & mastic	Building 3206	2,000 sq. ft.
3203-01b	Mastic associated with 12x12 floor tile	All buildings excluding B3206	22,000 sq. ft. total
PACM	Transite panels	Kitchen area of all buildings	2,000 sq. ft. total

APPENDIX C

SAMPLE LOCATIONS PLANS

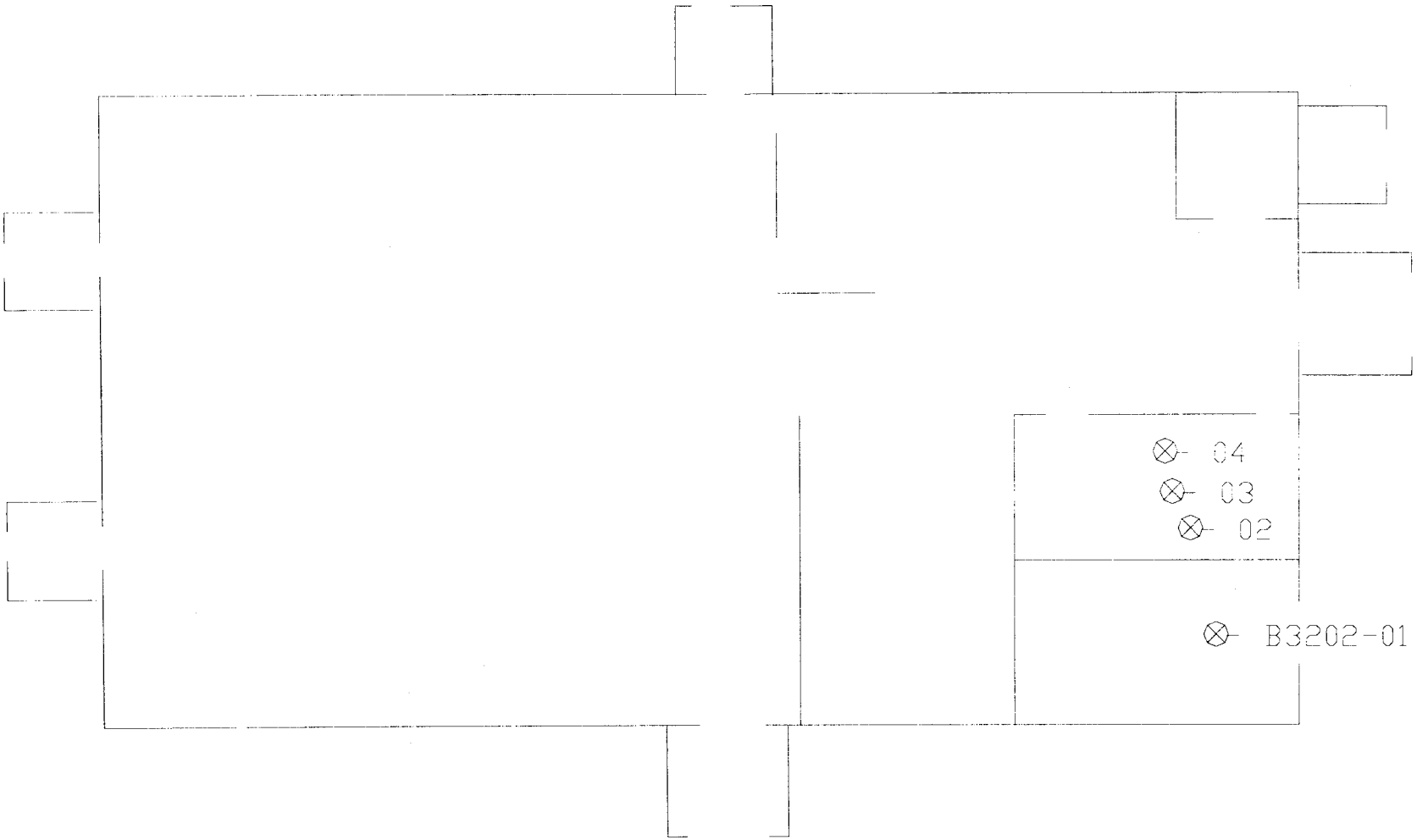


⊗ - POSITIVE SAMPLE LOCATION
⊗ - NEGATIVE SAMPLE LOCATION

BUILDIN[illegible] 3201
3203

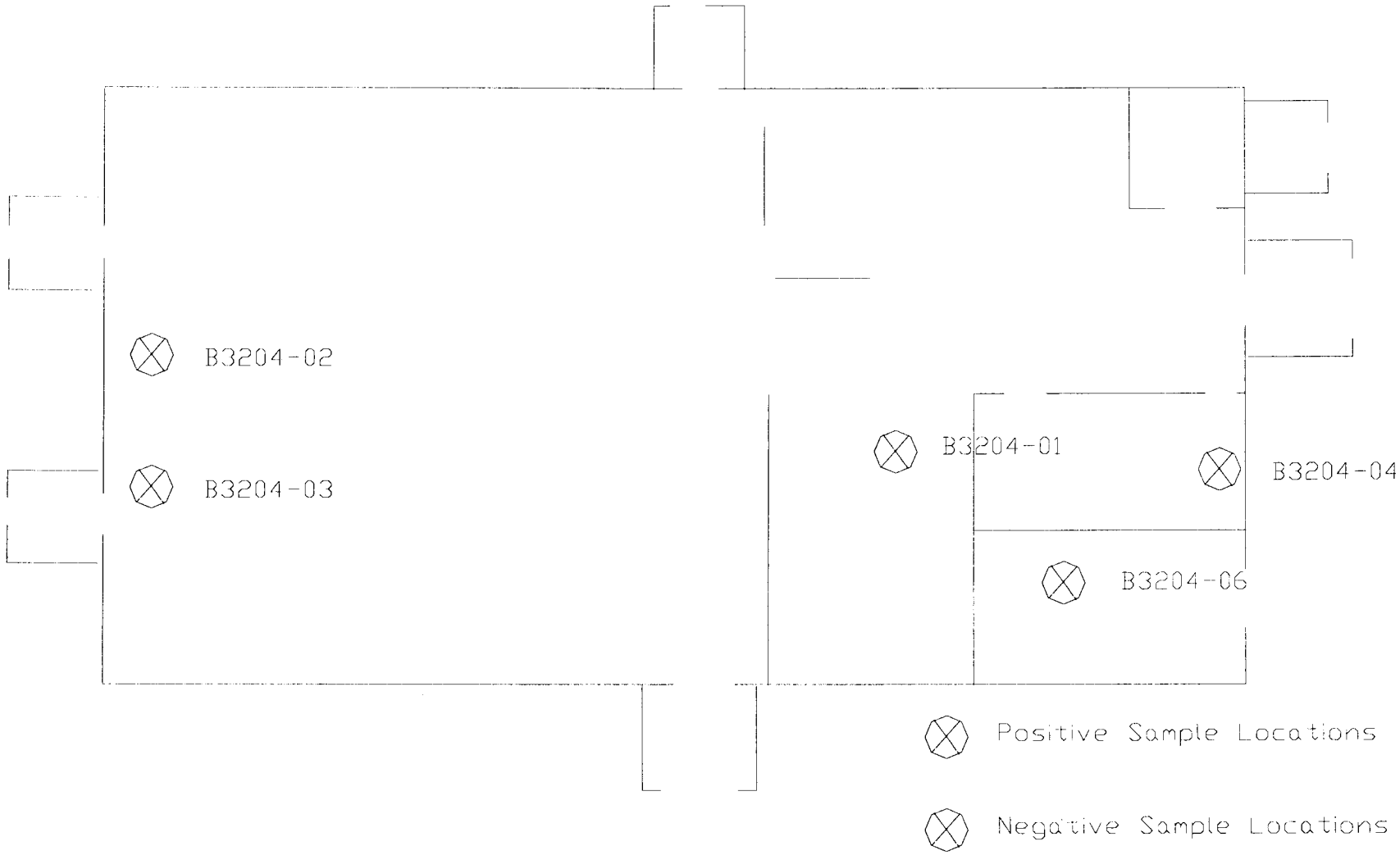
ASBESTOS SURVEY
DABT02-9[illegible]D-0005
FM705

REISZ ENGINEERI[illegible]G



⊗ - POSITIVE SAMPLE LOCATION
⊗ - NEGATIVE SAMPLE LOCATION

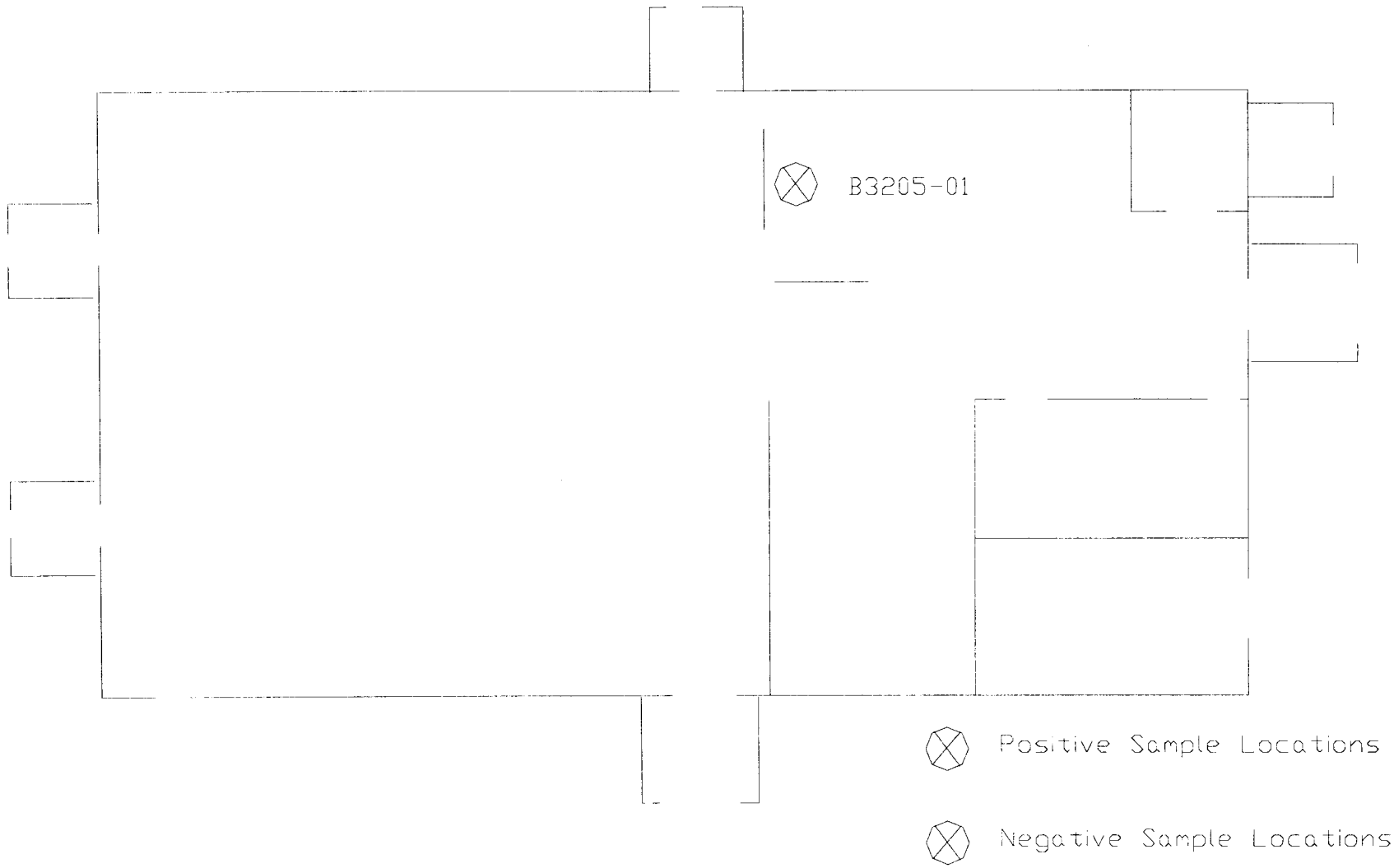
BUILDING: 3202		ASBESTOS SURVEY DAB102-96-D-0005 FM705	**REISZ ENGINEERING**



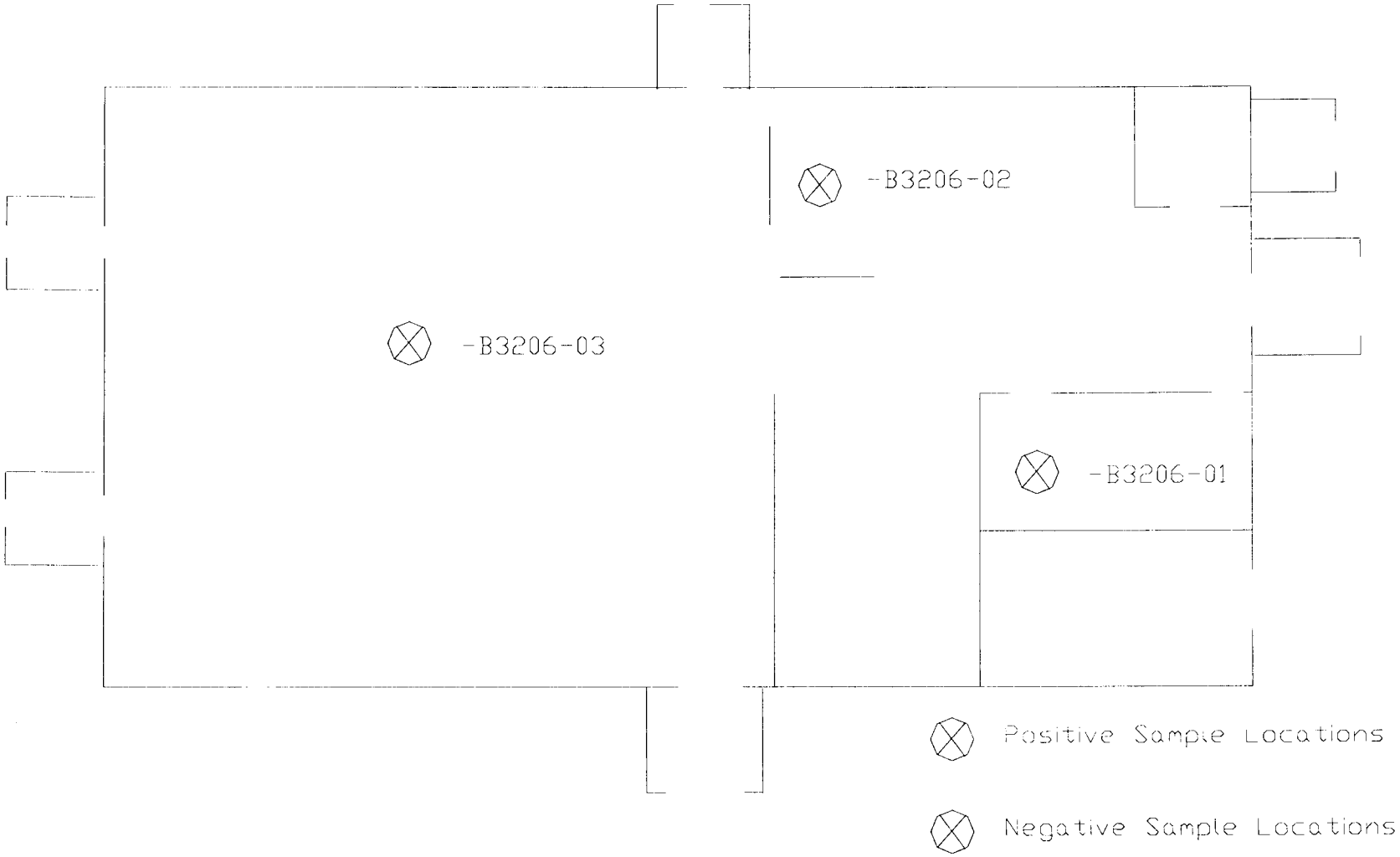
BUILDING 3204

ASBESTOS SURVEY
DABT02-96-D-0005
FM705

REISZ ENGINEERING



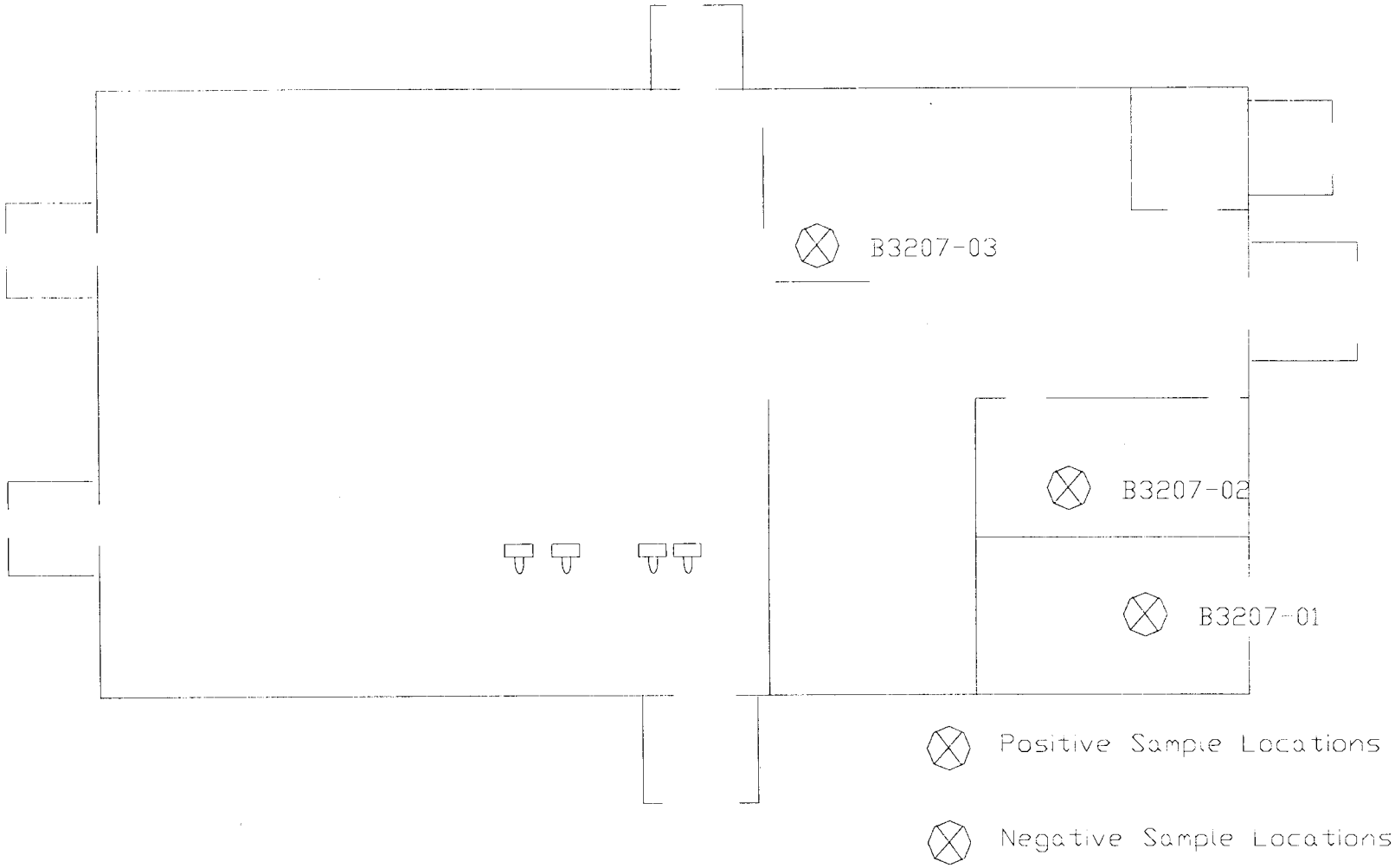
BUILDING 3205		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



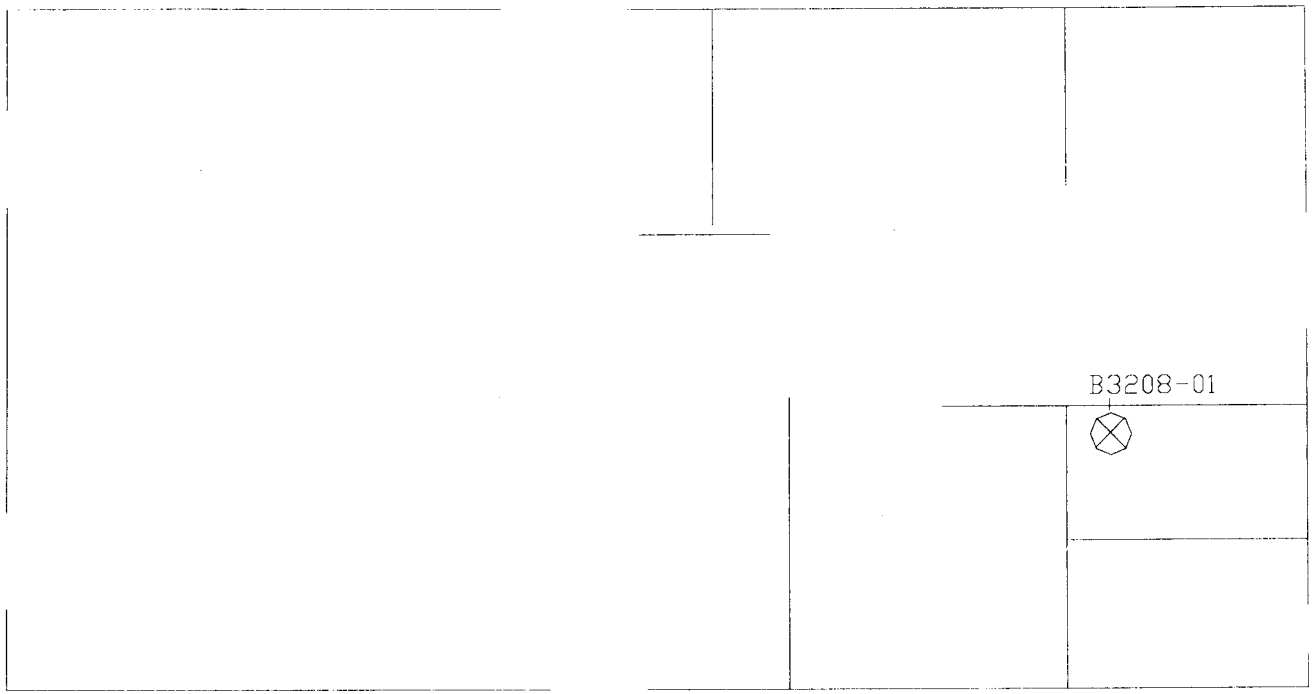
BUILDING 3206

ASBESTOS SURVEY
DABT02-96-D-C005
FM705

REISZ ENGINEERING



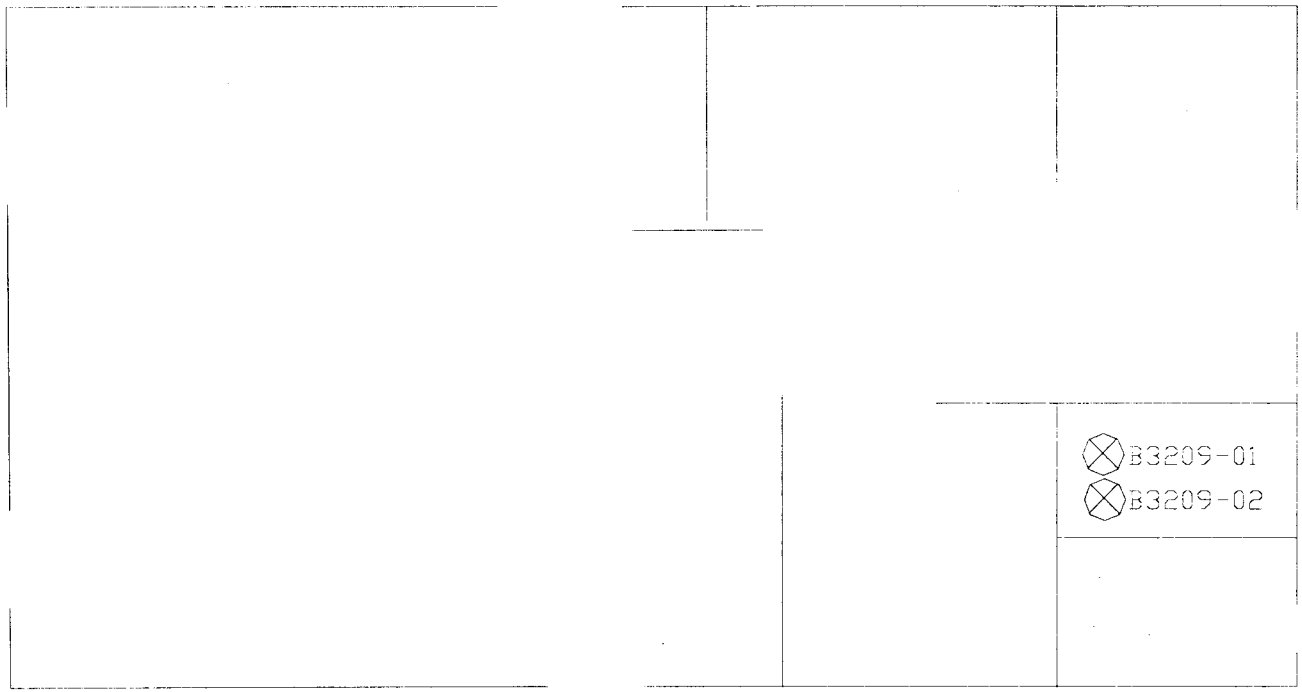
BUILDING 3207		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



Positive sample location

Negative sample location

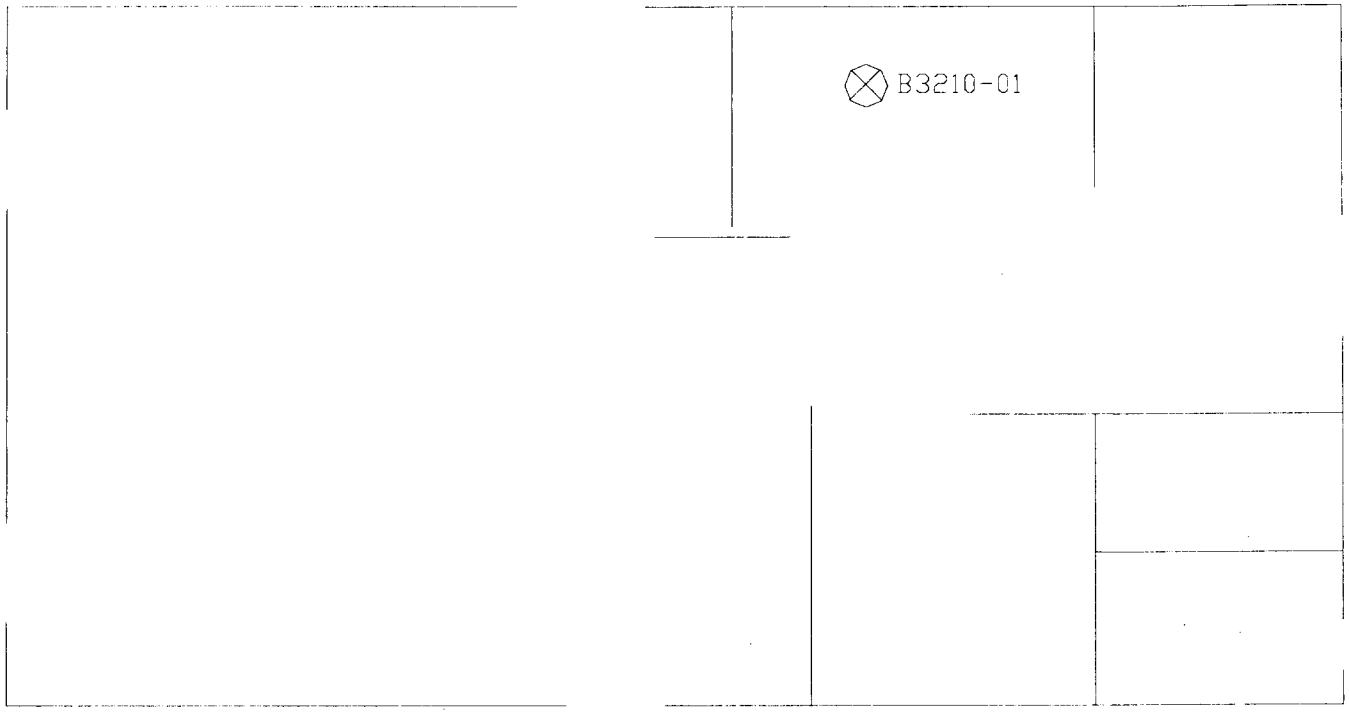
BUILDING: 3208		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



Positive sample location

Negative sample location

BUILDING: 3209		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



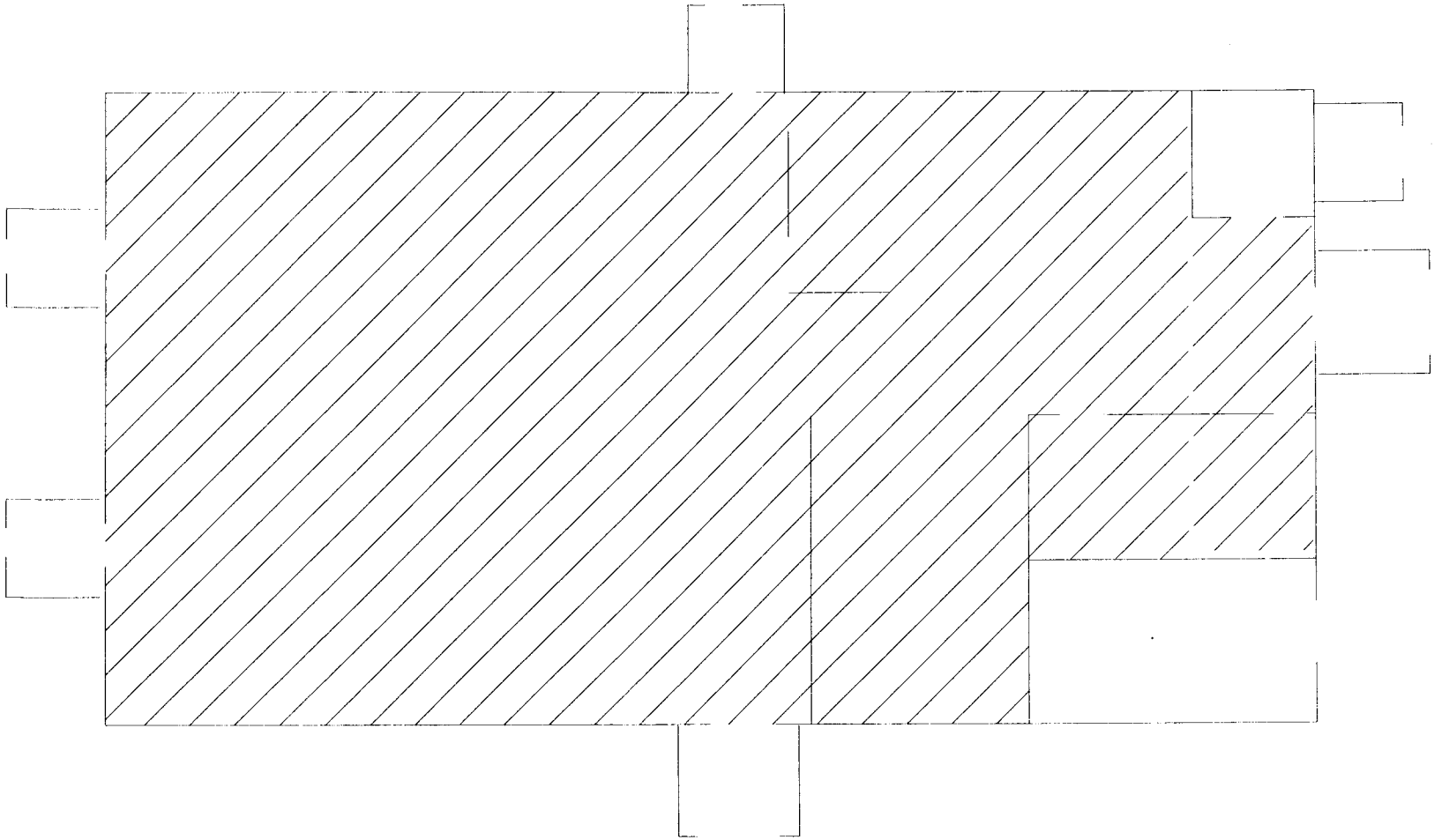
Positive sample location

Negative sample location

BUILDING 3210		ASBESTOS SURVEY DAB102-96-D-0005 FM705	**REISZ ENGINEERING**

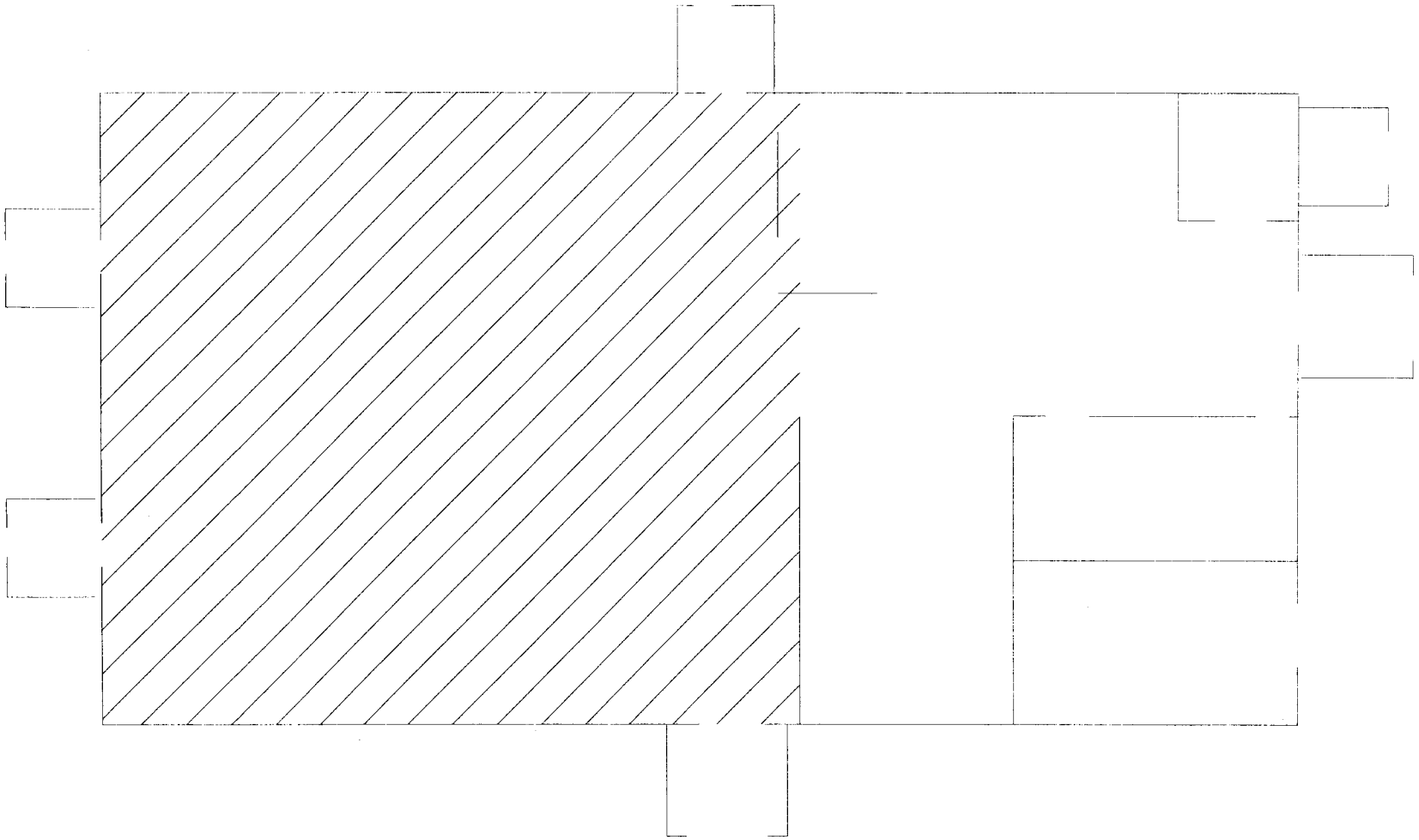
APPENDIX D

SELECTED ACM LOCATION PLANS



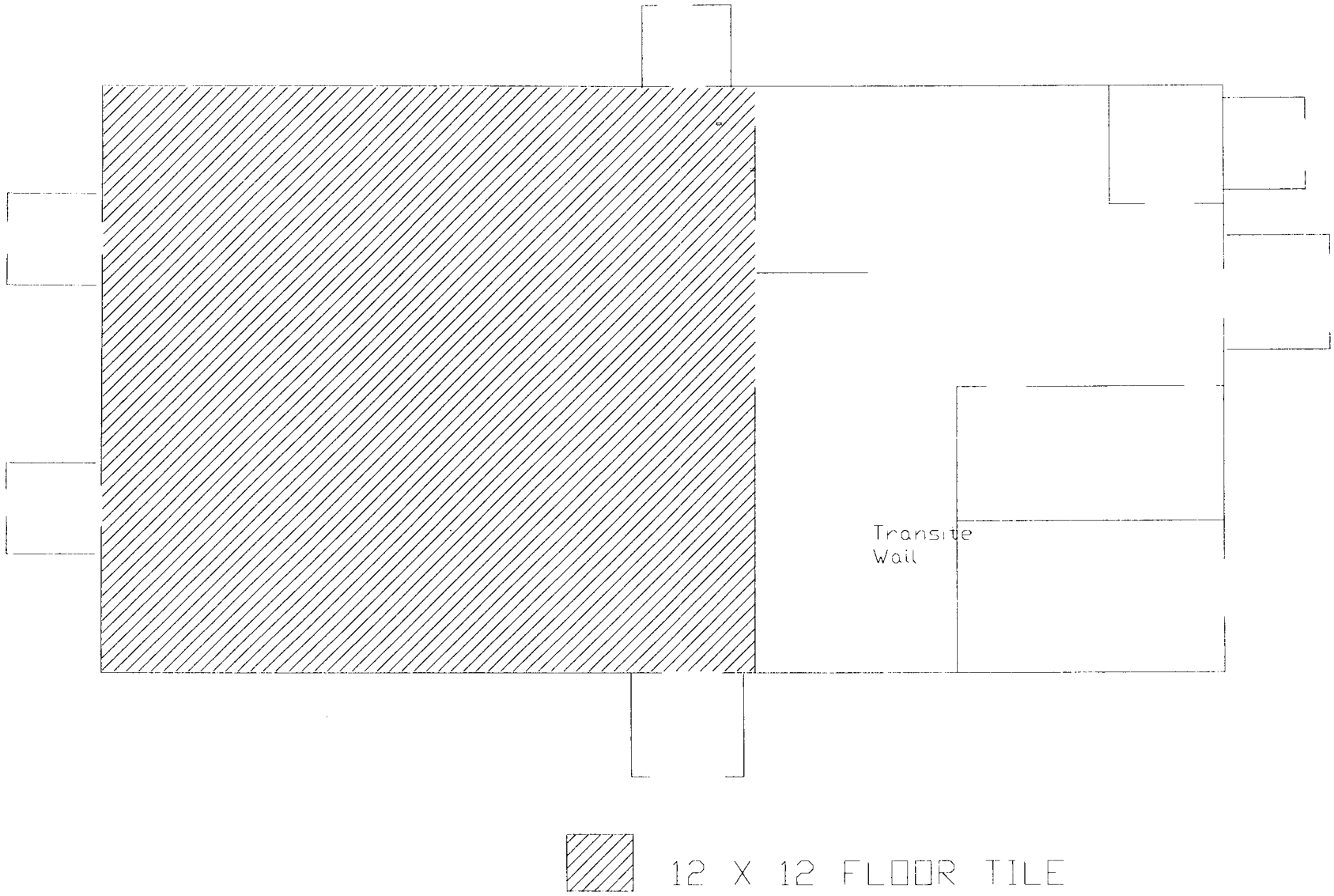
- 12 X 12 FLOOR TILE

BUILDING: 3202		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



- 9 X 9 FLOOR TILE
- 12 X 12 FLOOR TILE

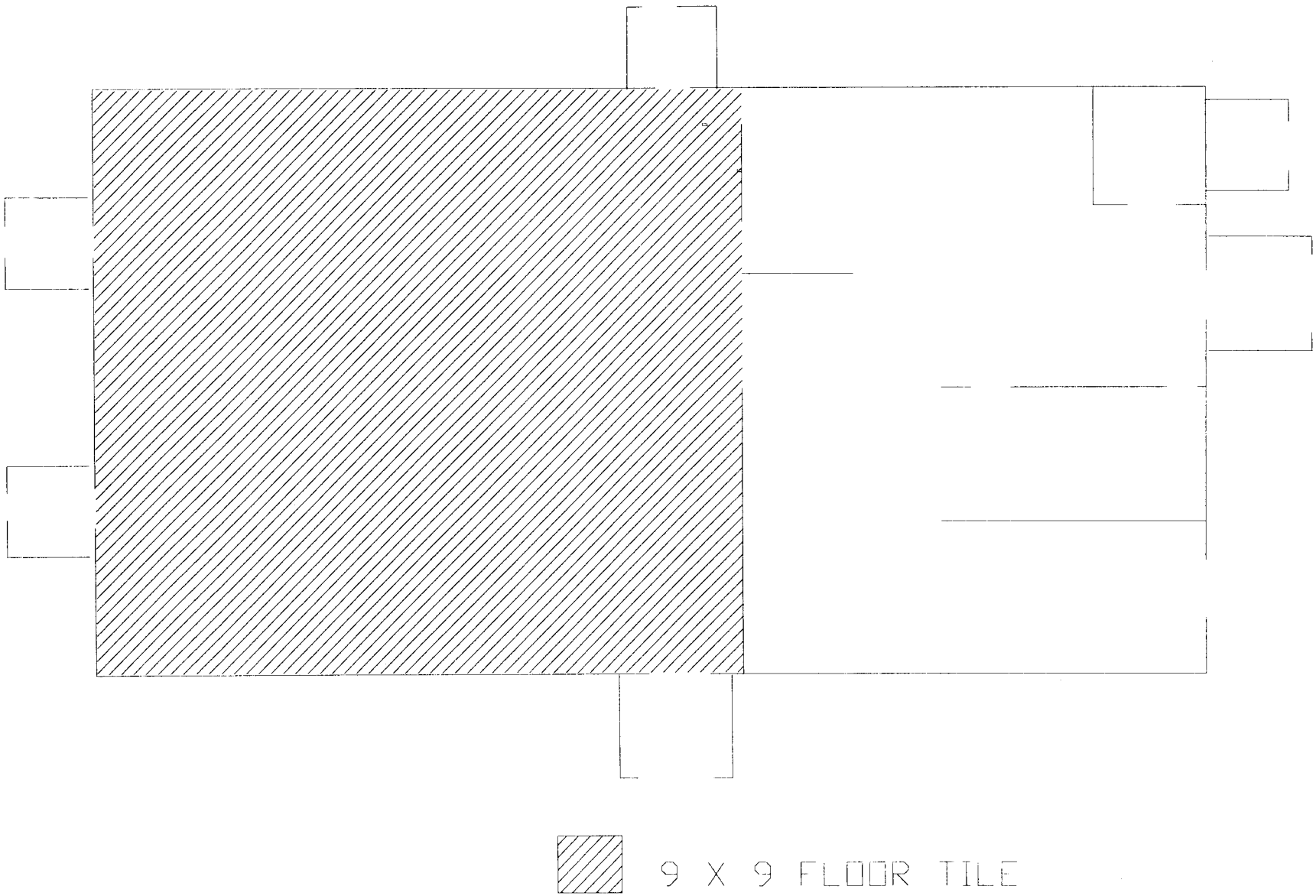
BUILDING: 3201 3203		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



BUILDING:3204,3205,3207

ASBESTOS SURVEY
DABT02-96-D-0005
FM705

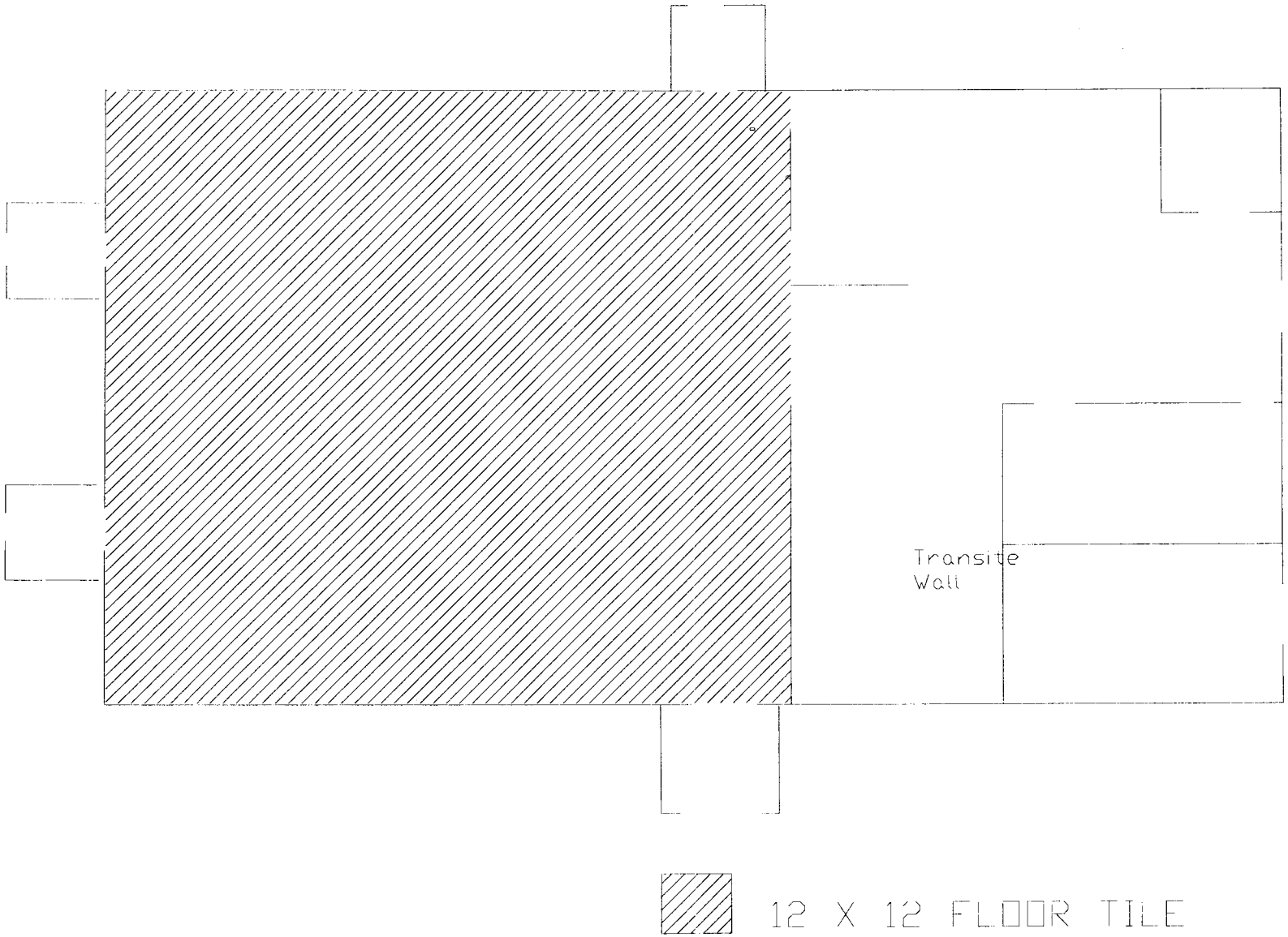
REISZ ENGINEERING



BUILDING: 3206

ASBESTOS SURVEY
DABT02-96-D-0005
FM705

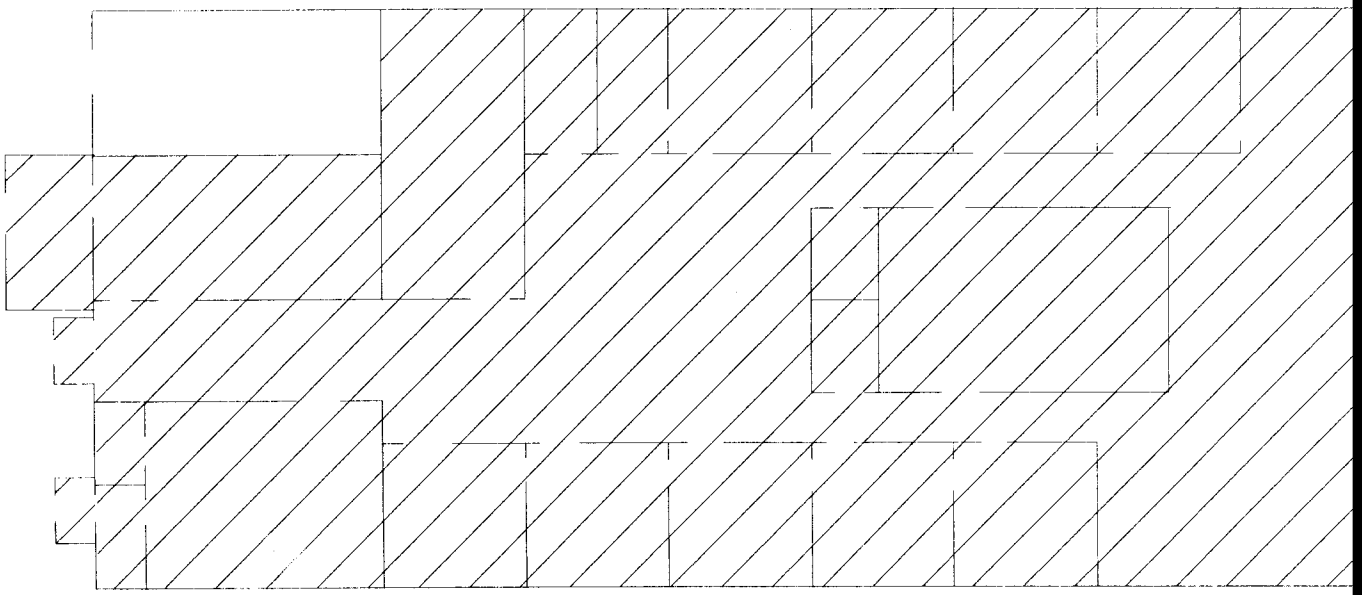
REISZ ENGINEERING



BUILDING [redacted]8,3209,3210

ASBESTOS SURVEY
DABT02[redacted]-D-0005
EM705

REISZ ENGINEE[redacted]NG



= 12 X 1

BUILDING: 3211		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENG**

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S): 3214, 3251-3253, 3270-3281, 3291-3295, and 3297

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
BUILDINGS (3200s)

CONTAINING NON-FRIABLE PACM

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY MISCELLANEOUS BUILDINGS (3200s)

CONTAINING NON-FRIABLE PACM

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX B - LIST OF BUILDINGS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at multiple 3200 series buildings located at Fort McClellan, Alabama. (See Appendix B for a complete list of buildings included in this document). Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.
6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations (40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos

containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

Reisz Engineering accredited Asbestos Inspectors performed inspections of these buildings for the purpose of identifying building materials suspected to contain asbestos. Some of the buildings referenced in this survey contain only non-friable ACM. Others contain friable, while some have no PACM. Refer to Appendix B for types and quantities of materials in individual buildings. These buildings serve as office, barracks and storage for the Alabama National Guard.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into

individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample

and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos in various buildings. A complete and more detailed description of these materials can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- None

Miscellaneous Material

- 12x12 vinyl floor tile in various buildings
- 9x9 vinyl floor tile in various buildings

- Vinyl flooring mastics
- Transite

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A narrative description of all Presumed ACM identified during the survey is given below.

FRIABLE ACM

None

NON FRIABLE ACM

Four types of non-friable presumed ACM were found in the buildings. 1) transite, 2) 9x9 floor tile, 3) 12x12 floor tile, and 4) mastics associated vinyl floor tile.

1) Presumed asbestos containing transite sheeting is found around the flue penetrations in the following buildings:
B3251 B3252 B3253

2) Presumed asbestos containing 9x9 inch floor tile and mastic is found in the following buildings:
B3251 B3252 B3253 B3272 B3247 B3278 B3279 B3280 B3291 B3292

3) Presumed asbestos containing 12x12 inch floor tile and mastic is found in the following buildings:
B3214 B3251 B3252 B3253 B3270 B3271 B3272 B3273 B3274 B3275 B3276 B3277 B3278 B3279 B3280 B3281 B3295 B3297

INACCESSIBLE MATERIAL

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. The asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for these buildings.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of these buildings during 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and

frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

SUMMARY TABLE OF ACM AND COST ESTIMATES

Building Number	PACM Material	Quantity	Estimated abatement cost*
B3214	12X12 floor tile and mastic	4000 sq. ft.	$9240
B3251,3252,3253	12x12 floor tile and mastic	5000 sq. ft. per bldg	$11500 per bldg.
	9x9 floor tile and mastic	80 sq. ft. per bldg	$200
	Transite flue insulation	8 sq. ft. per bldg	$100
B3270,3271	12x12 floor tile and mastic	2750 sq. ft. per bldg	$6275 per bldg.
B3272	12x12 floor tile and mastic	240 sq. ft.	$600
B3273	12x12 floor tile and mastic	2,750 sq. ft.	$6325
B3274	12x12 floor tile and mastic	950 sq. ft.	$2200
	9x9 floor tile and mastic	1800 sq. ft.	$4140
B3275,3276,3277, 3281	12x12 floor tile and mastic	2750 sq. ft.	$6325 per bldg.
B3278	12x12 floor tile and mastic	2500 sq. ft.	$5750
	9x9 floor tile and mastic	250 sq. ft.	$600
B3279	12x12 floor tile and mastic	2700 sq. ft.	$6210
	9x9 floor tile and mastic	50 sq. ft.	$150
B3280	12x12 floor tile and mastic	2500 sq. ft.	$5750

	9x9 floor tile and mastic	250 sq. ft.	$600
B3291, 3292	9x9 floor tile and mastic	2750 sq. ft. per bldg	$6325 per bldg.
B3295, 3297	12x12 floor tile and mastic	1000 sq. ft. per bldg	$2300 per bldg.

***Includes all air monitoring and design fees**

APPENDIX B

LIST OF BUILDINGS

BUILDING NUMBER

3214
3251
3252
3253
3270
3271
3272
3273
3274
3275
3276
3277
3278
3279
3280
3281
3291
3292
3295
3297

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S): 3220 - 3244

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
BUILDINGS 3220-3244

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
BUILDINGS 3220-3244

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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NON FRIABLE ACM 7

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APPENDIX B - SUMMARY TABLE OF ACM
APPENDIX C - SAMPLE LOCATIONS PLANS
APPENDIX C - SELECTED ACM LOCATIONS PLANS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials in Buildings 3220 through 3244 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method

   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of January 1998, Reisz Engineering accredited Asbestos Inspectors performed inspections of Buildings 3220 through 3244 for the purpose of identifying building materials suspected to contain asbestos. The buildings are constructed of cement blocks and are used as enlisted barracks and instructional buildings. Based on information provided by Fort McClellan representatives the buildings were originally constructed in 1953 and contain approximately 6,063 sq. ft. of floor space. Various renovations may have taken place since the buildings were originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The two dominant flooring conditions existing in the buildings are 1) 12x12 vinyl floor tile, 2) 9x9 vinyl floor tile and 3) cement. Building 3226 was found to contain one pipe run consisting of suspect aircel type TSI. The remaining pipes in all buildings were either bare, fiber-glass or rubber insulated. All buildings were found to have a suspect transite-like material located around the flue for the hot water heater in each building.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current

condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Brown aircel type insulation on one pipe run in building 3226

Miscellaneous Material

- Vinyl floor tile 12x12
- Vinyl floor tile 9x9
- Vinyl flooring mastics
- Transite at flue for hot water heater of each building

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 3 bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in one type of friable material: 1) brown aircel type insulation on a single pipe run in Building 3226.

1) A friable, aircel type insulation is found on approximately 14 linear feet of pipe located in Building 3226. The materials was found to be in Good condition.

NON FRIABLE ACM

Two types of non-friable ACM was found to be present in the building: 1) mastic associated with 12x12 inch floor tile, and 2) transite associated with flue of hot water heaters in all buildings. In addition, two types of non-friable Presumed ACM were found to be present in the building: 1) 9x9 inch floor tile, and 2) mastics associated with 9x9 inch vinyl floor tile.

1) Asbestos containing mastic associated with 12x12 inch floor tile is present in all of the buildings.
2) Asbestos containing transite associated with the flues of hot water heaters is present in all of the buildings.
3) A suspect 9x9 inch vinyl floor tile is found in all of the buildings.
4) A suspect black mastic is found below 9x9 inch floor tile in all of the buildings.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Buildings 3220 through 3244 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of the buildings during January, 1998. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 02/10/98

Sample Date : 01/21/98

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Microscopist: Tom Canington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3225-01/ Transite around flute	30				15				55
B3226-01/ Brown paper insul.	1				89				10
B3240-01/ (a) 12 X 12 tile					15				85
B3240-01/ (b) Mastic	5				25				70

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04=** Calcium Sulfate
Fbgl = Fiberglass

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APPENDIX B

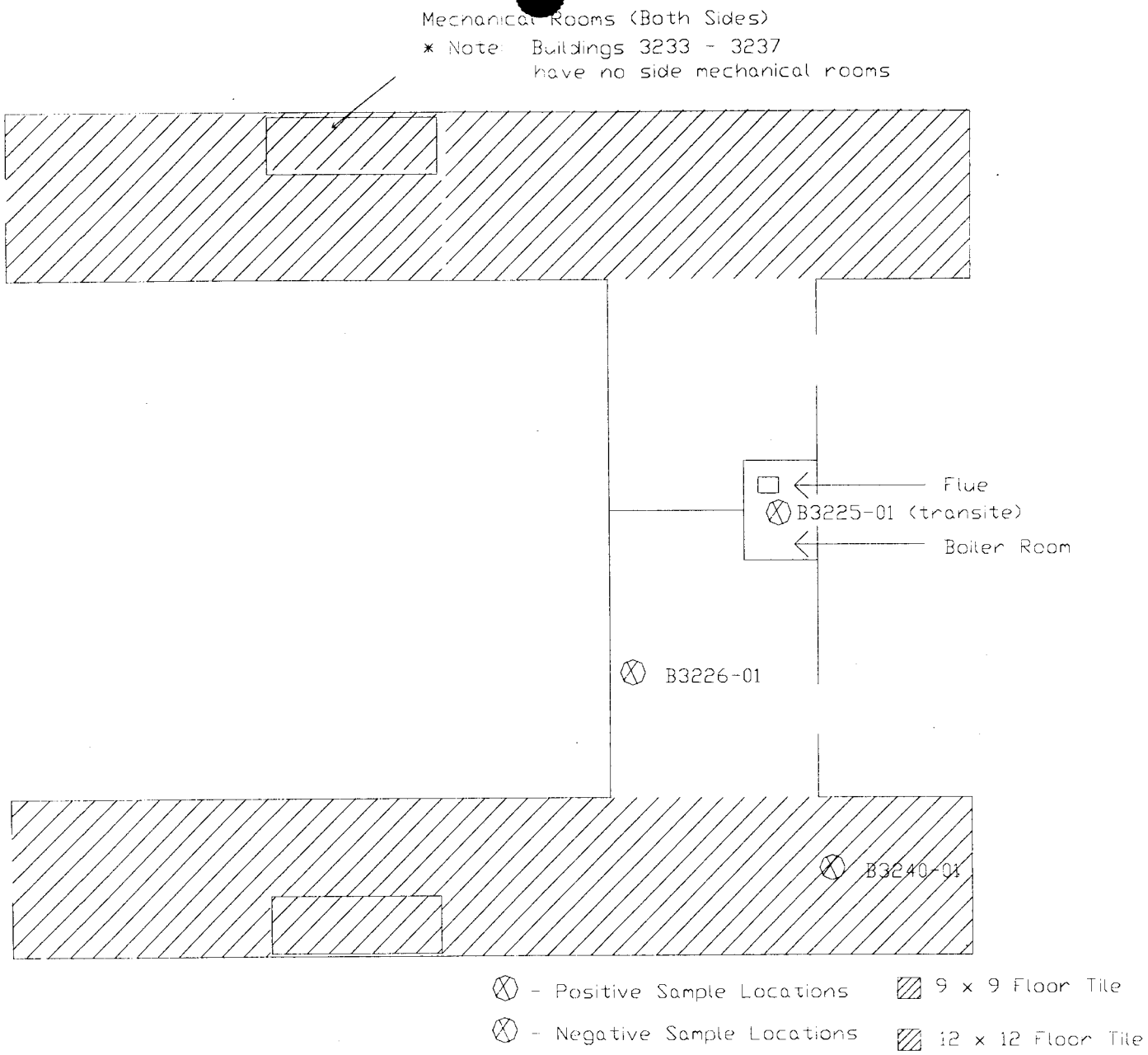
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
BUILDINGS 3220-3244
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B3225-01	Transite around flue	Boiler room hot water tank, all buildings	8 sq. ft. per building
B3226-01	Brown aircel type TSI Building 3226	One pipe run in latrine	14 linear ft.
B3240-01b	Mastic associated with 12x12 floor tile	All buildings	3500 ft^2 per bldg. in 3220-3243: 400 ft^2 in 3244
Presumed Asbestos Containing Material	9x9 inch vinyl floor tile and mastic	All buildings	400 ft^2 per bldg. In 3220-3243: 4100 ft^2 in 3244

APPENDIX C

SAMPLE LOCATIONS PLANS

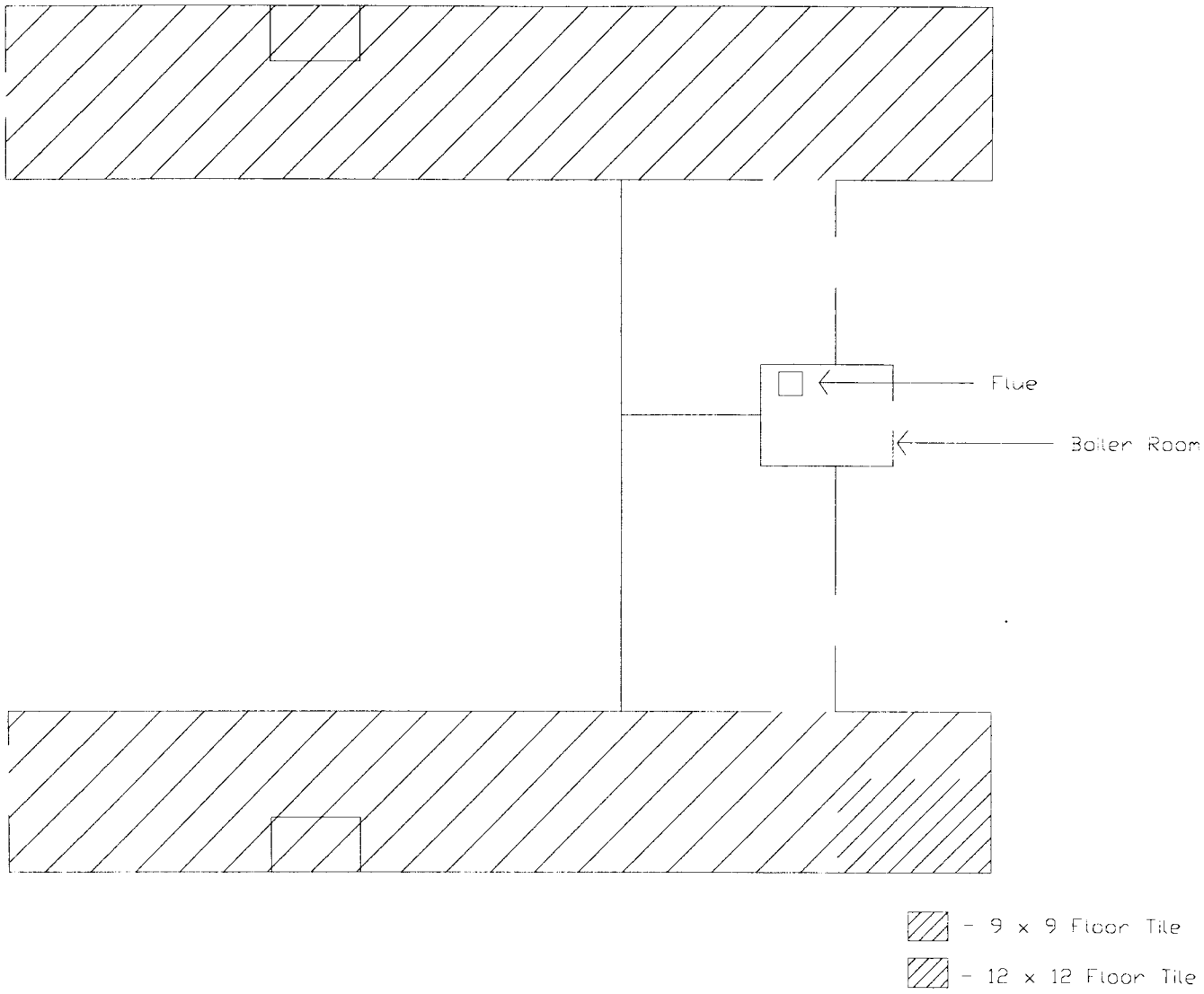


SCALE: 1"=30'

BUILDING: 3220-3243		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS



BUILDING: 3244		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 3250

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
RELIGIOUS EDUCATION FACILITY
BUILDING 3250

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
RELIGIOUS EDUCATION FACILITY
BUILDING 3250

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX C - SELECTED ACM LOCATIONS PLANS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 3250 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of January 1998, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 3250 for the purpose of identifying building materials suspected to contain asbestos. Building 3250 is a single story Religious Education Facility containing approximately 5,554 sq. ft. of floor space. Based on information provided by Fort McClellan representatives the building was originally constructed in 1953. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The two dominant flooring conditions existing in the facility are 1) 12x12 vinyl floor tile, and 2) 9x9 vinyl floor tile. A small of amount of suspect aircel type TSI was found on pipes in the mechanical room. The remaining pipes were either fiber-glass or rubber insulated.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Brown aircel type insulation on pipe in mechanical room.

Miscellaneous Material

- Vinyl floor tile 12x12
- Vinyl floor tile 9x9
- Vinyl flooring mastics

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 1 bulk sample was collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in one type of friable material: 1) brown aircel type insulation on pipe in mechanical room.

1) A friable, aircel type insulation is found on approximately 14 linear feet of pipe located in a mechanical room of Building 3250.

NON FRIABLE ACM

Three types of non-friable Presumed ACM were found to be present in the building: 1) 12x12 inch vinyl floor tile, 2) 9x9 inch floor tile, and 3) mastics associated with 12x12 and 9x9 inch vinyl floor tile.

1) A suspect 12x12 inch vinyl floor tile is found throughout the building excluding the mechanical room.
2) A suspect 9x9 inch vinyl floor tile is found under a counter/desk in one room.
3) Black, suspect mastics are present below vinyl floor tiles throughout the building.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 3250 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 3250 during January, 1998. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 02/10/98

Sample Date : 01/21/98

Microscopist: Tom Carrington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3250-01/ Brown paper insul.		20			65				15

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04=** Calcium Sulfate
Fbgl = Fiberglass

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APPENDIX B

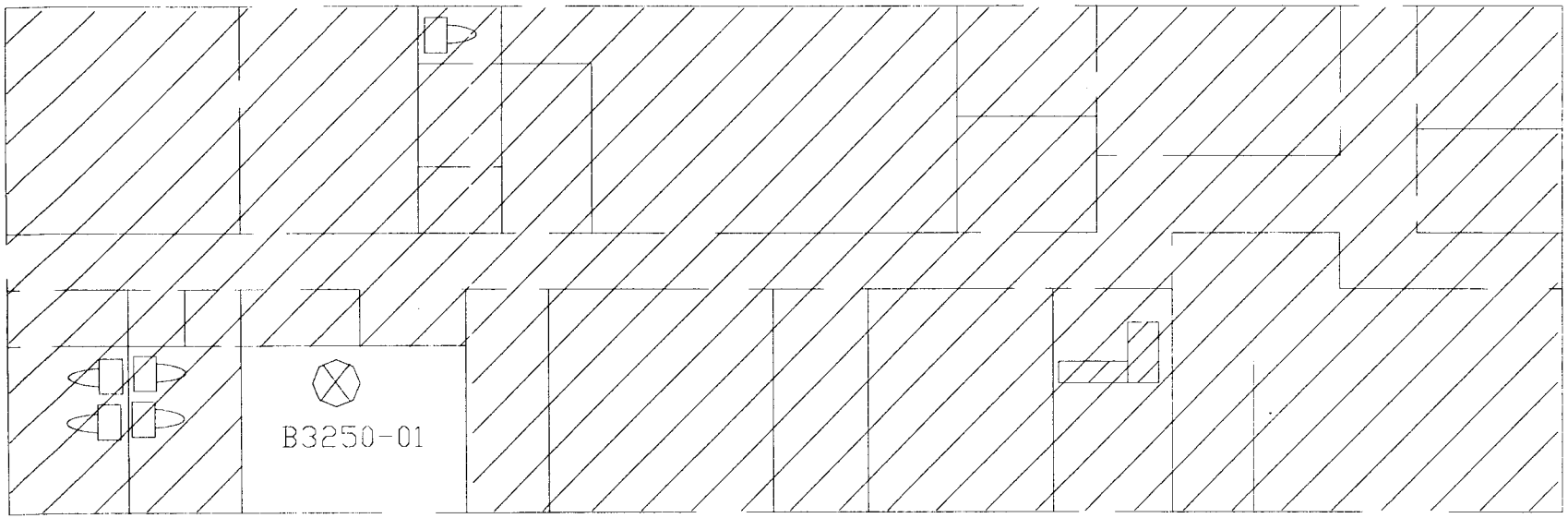
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
RELIGIOUS EDUCATION FACILITY
BUILDING 3250
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	**Description of Materials**	**General Location of Material**	**Quantity (approx.)**
B3250-01	Brown aircel type Pipe Insulation	Mechanical room	14 linear ft.
Presumed Asbestos Containing Material	9x9 inch vinyl floor tile and mastic	Under counter in one room	34 sq. ft.
Presumed Asbestos Containing Material	12x12 inch vinyl floor tile and mastic	Throughout building excluding mech. room	5,000 sq. ft.

APPENDIX C

SAMPLE LOCATIONS PLANS



- 9 x 9 Floor Tile
- 12 x 12 Floor Tile
- Positive Sample Locations

SCALE: 1"=30'

BUILDING: 3250

ASBESTOS SURVEY
DABT02-96-D-0005
FM705

REISZ ENGINEERING

APPENDIX D

SELECTED ACM LOCATION PLANS

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 3290

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
HEALTH CLINIC
BUILDING 3290

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
HEALTH CLINIC
BUILDING 3290

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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3.0 PROJECT CHARACTERISTICS..... 3

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APPENDIX D - SELECTED ACM LOCATIONS PLANS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 3290 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of January 1998, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 3290 for the purpose of identifying building materials suspected to contain asbestos. Building 3290 is a single story building serving as a health clinic. The building contains approximately 2,250 sq. ft. of floor space. Based on information provided by Fort McClellan representatives the building was originally constructed in 1953. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The dominant flooring condition existing in the facility are 1) cement, and 2) 12x12 vinyl floor tile. A small of amount of suspect air-cell type insulation was found on 3 inch piping in the building.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Brown air-cell type pipe insulation on 3 inch pipe in mechanical room and other areas.

Miscellaneous Material

- Vinyl floor tile 12x12
- Vinyl flooring mastic

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 2 bulk sample were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in one type of friable material: 1) brown air-cell type pipe insulation on 3 inch pipes.

1) A friable, asbestos containing insulation is found on 3 inch pipes located in the mechanical room and other areas of Building 3290.

NON FRIABLE ACM

Two types of non-friable Presumed ACM was found to be present in the building: 1) 12x12 inch vinyl floor tile, and 2) mastics associated with 12x12 inch vinyl floor tile.

1) A suspect 12x12 inch vinyl floor tile is found throughout the building.

2) Black, suspect mastic is present below 12x12 inch vinyl floor tile.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 3290 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 3290 during January, 1998. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no

circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 02/10/98

Sample Date : 01/27/98

Microscopist: Tom Carrington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B1060-01/ Brown paper insulation	15				75				10
B1060-02/ Brown paper insulation	17				70				13

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate
Fbgl = Fiberglass

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APPENDIX B

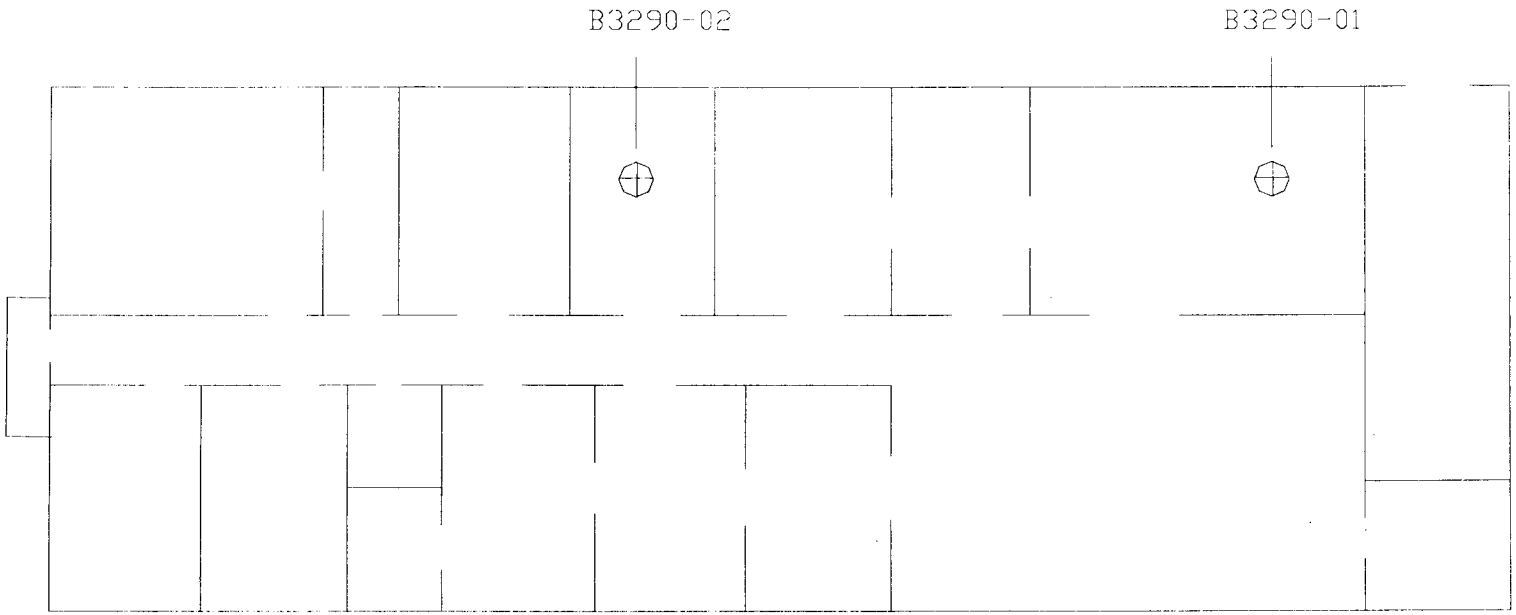
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
HEALTH CLINIC
BUILDING 3290
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B3290-01,02	Brown air-cell type Pipe insulation	Latrine and various Locations throughout	90 linear ft.

APPENDIX C

SAMPLE LOCATIONS PLANS



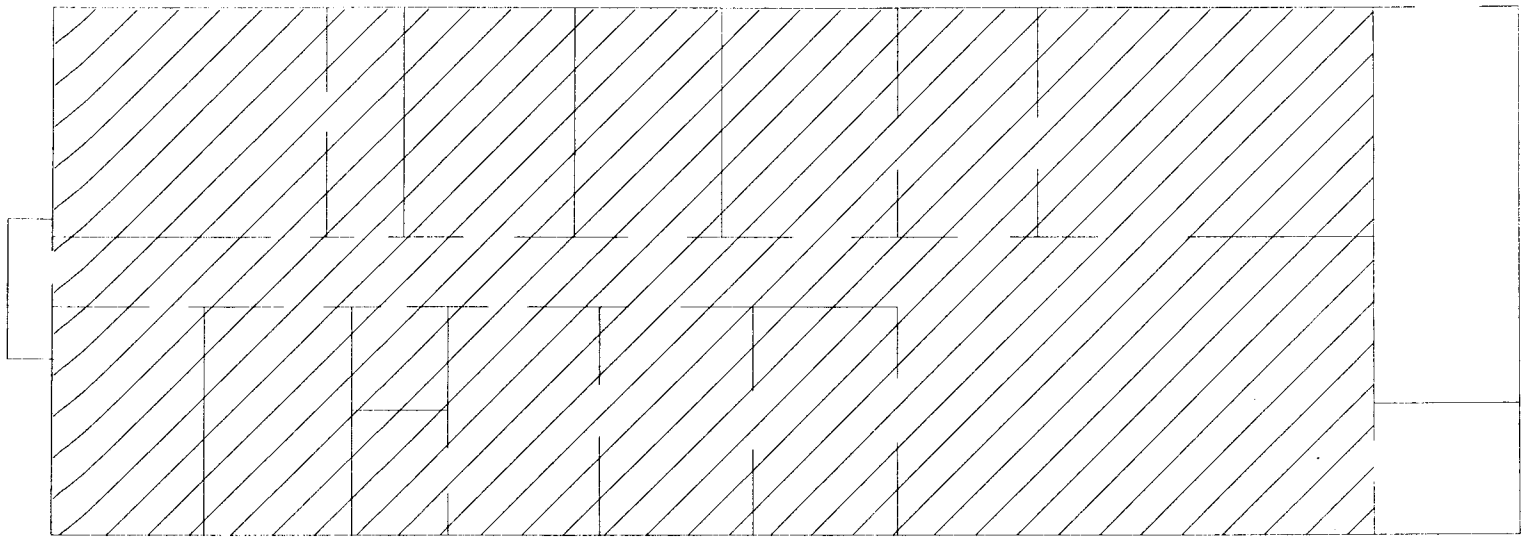
Positive Sample Location

SCALE: 1"=30'

BUILDING: 3290		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM LOCATION PLANS



12x12 Floor Tile
(Assumed ACM)

SCALE: 1"=30'

BUILDING: 3290		ASBESTOS SURVEY DAB102-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX E

SELECTED ACM PHOTOGRAPHS

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING: 3293

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S):

66, 184, 793, 891, 1108, 1919, 1920, 2020, 2090, and 3136

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CHAPEL
BUILDING 3293

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
CHAPEL
BUILDING 3293

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at Building 3293 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

During the month of June 1997, Reisz Engineering accredited Asbestos Inspectors performed inspections of Building 3293 for the purpose of identifying building materials suspected to contain asbestos. Building 3293 is a single story building serving as a Chapel. The building contains approximately 9,500 sq. ft. of floor space. Based on information provided by Fort McClellan representatives the building was originally constructed in 1953. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The dominant flooring condition existing in the facility are 1) carpet, and 2) ceramic tile. A 9x9 inch vinyl floor tile is found underneath all carpet in the facility.

4.0 SURVEY METHODOLOGY

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water

damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Cementitious pipe fitting and straight run insulation
- Air-cell type pipe insulation

Miscellaneous Material

- Vinyl floor tile 9x9
- Vinyl flooring mastic

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of 14 bulk sample were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

Laboratory analysis determined asbestos is present in three types of friable material: 1) brown air-cell type pipe insulation, 2) cementitious pipe fitting insulation, and 3) cementitious straight run pipe insulation.

1) A friable, asbestos containing air-cell type insulation is found on pipes in the crawlspace and other areas of Building 3293. Some pipes are insulated with fiberglass.

2) A friable, cementitious pipe fitting insulation is found on pipes in various locations in the building.

3) A friable, cementitious straight run pipe insulation is found on pipes in various locations in the building.

NON FRIABLE ACM

Two types of non-friable ACM were found to be present in the building: 1) 9x9 inch vinyl floor tile, and 2) mastics associated with 9x9 inch vinyl floor tile.

1) An asbestos containing 9x9 inch vinyl floor tile is found below carpet in the building.

2) Black, asbestos containing mastic is present below 9x9 inch vinyl floor tile in the building.

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 3293 and we suggest that recommendations included in this plan be followed.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of Building 3293 during June, 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 06/27/97

Sample Date : 06/23/97

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Microscopist: Tom Carrington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3293-01/ pipe insul crawl space					85				15
B3293-02/ pipe insul crawl space	15				75				10
B3293-03/ pipe insul crawl space	8				92				
B3293-04/ ceiling tile #6					75				25
B3293-05/ 9" floor tile closet #7	10								90
B3293-06/ 9" floor tile mastic	10				10		30		80
B3293-07/ 9" floor tile					5				95
B3293-08/ 9" floor tile mastic					10				90
B3293-09/ white powder insul (very hard)	10	50				5	5		30
B3293-10/ pipe insul Paper-looking					90				10
B3293-11/ white powder Insul hard	15	35					30		20
B3293-12/ white powder Insul hard					10		60		30
B3293-13/ white powder Insul hard	5	20				10	30		35
B3293-14/ pipe insul Paper-looking					85				15

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **SO4=** Calcium Sulfate
Fbgl = Fiberglass

A Space Grant College
An Affirmative Action / Equal
Opportunity Institution

APPENDIX B

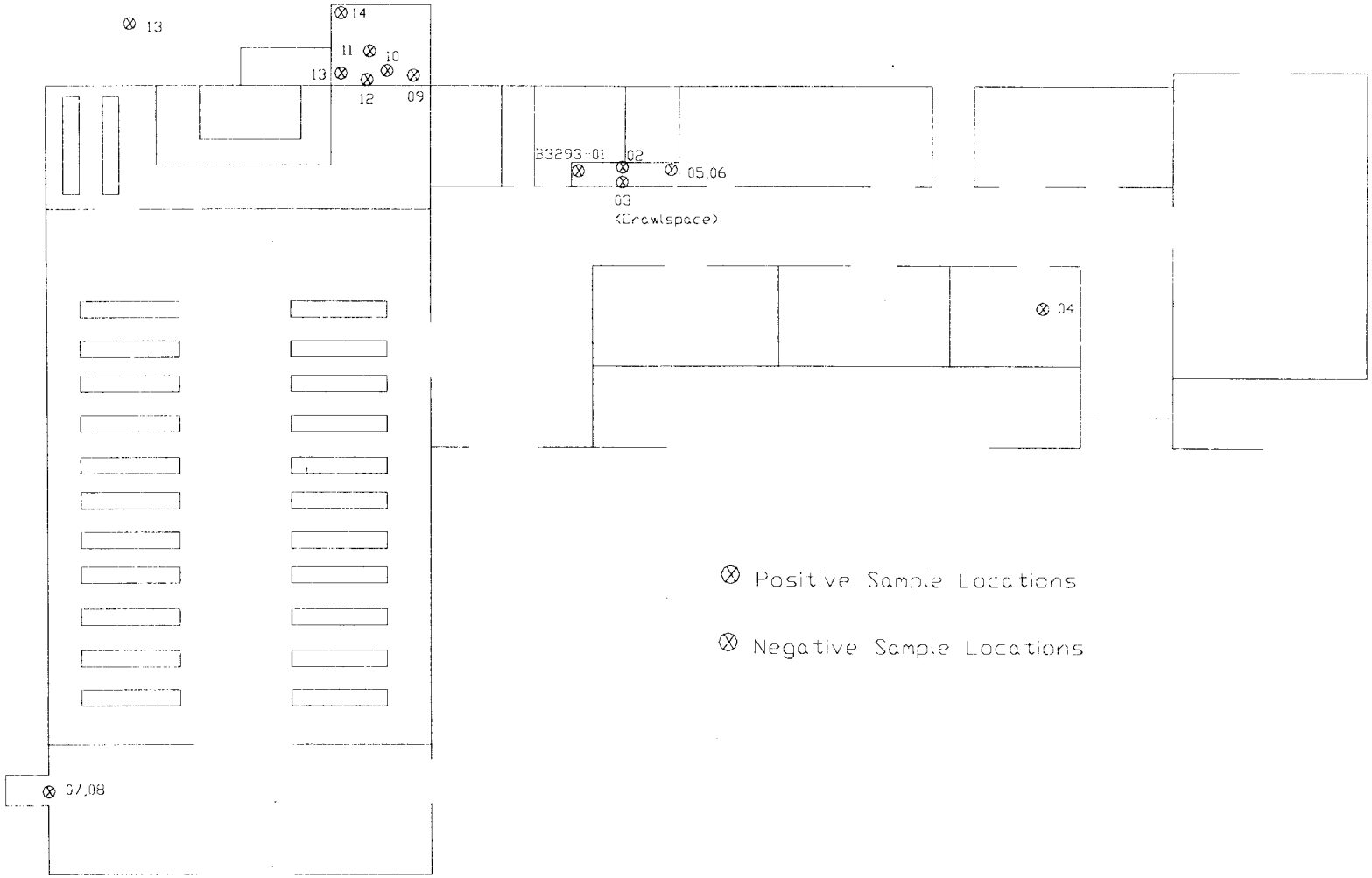
ASBESTOS CONTAINING MATERIALS

SUMMARY TABLE
ASBESTOS CONTAINING MATERIALS
CHAPEL
BUILDING 3293
FORT McCLELLAN, ALABAMA

SAMPLE #(S)	Description of Materials	General Location of Material	Quantity (approx.)
B3293-02,03	Pipe insulation on Straight runs	Crawlspace	1000 linear ft.
B3293-05,06	9x9 floor tile & mastic	Under carpet in office Areas of building	4,000 sq. ft.
B3293-09,11,13	Cementitious pipe Insulation	Mechanical room	50 linear ft.

APPENDIX C

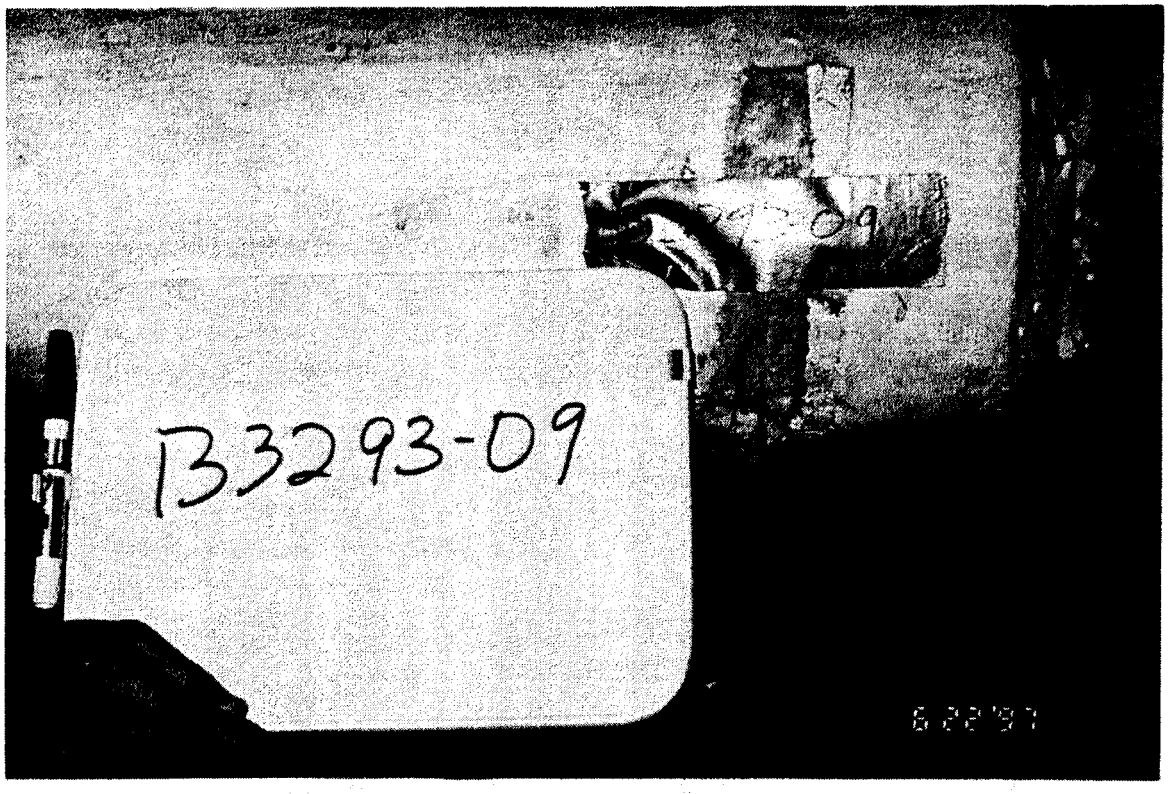
SAMPLE LOCATIONS PLANS



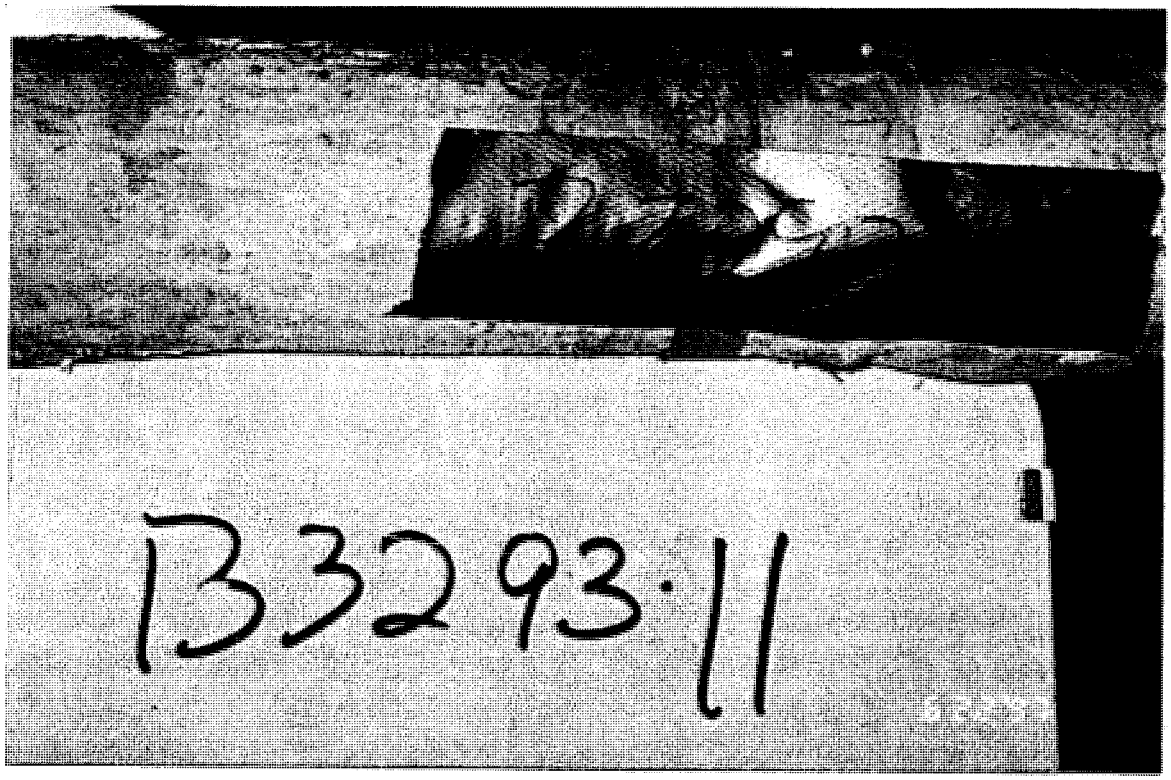
BUILDING: 3293	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SELECTED ACM PHOTOGRAPHS



B3293-09: White powdery asbestos containing pipe insulation.



B3293-11: White powdery asbestos containing pipe insulation.

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S):

1601, 1701, 1702, 1789, 1801, 1802, 1881

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS BUILDINGS
PACM
1001, 1601, 1602, 1701, 1702, 1740, 1789, 1801, 1802, 1881, 1898, 1997, 2262, 2291, & 2299

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0033

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS BUILDINGS
PACM
1001, 1601, 1602, 1701, 1702, 1740, 1789, 1801, 1802, 1881, 1898, 1997, 2262, 2291, & 2299

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0033

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JOSEPH L. HILLERICH

Conducted and Prepared by:

REISZ ENGINEERING

December, 1998

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7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

- FRIABLE ACM
- NON FRIABLE ACM
- INACCESSIBLE MATERIAL

8.0 CONCLUSIONS AND RECOMMENDATIONS

9.0 ASSUMPTIONS AND LIMITATIONS

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APPENDIX C - SELECTED PACM LOCATIONS PLANS
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APPENDIX E – SUMMARY TABLE OF PACM AND COST ESTIMATES

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at miscellaneous buildings located throughout Fort McClellan, Alabama. (See Appendix B for a complete list of buildings included in this document). Pursuant to the Contract, Reisz Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). Reisz Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e.g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, Reisz Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of asbestos-containing materials (ACM) in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e. g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing EPA to establish rules and regulations (40CFR Part 763) addressing ACM in schools. Specifically, the EPA was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling ACM in schools. AHERA requires

schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally

accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA's accredited personnel.

3.0 PROJECT CHARACTERISTICS

Reisz Engineering's accredited asbestos inspectors performed inspections of presumed asbestos containing material (PACM) buildings for the purpose of identifying building materials suspected to contain asbestos. Based on information provided by our observations and tests results it appears that all buildings referenced in this survey contain only non-friable materials. None of the buildings within this survey were found to have any friable ACM. Although, various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The three dominant flooring conditions existing in the PACM buildings are 1) ceramic tile, 2) 12x12-vinyl floor tile, and 3) cement. Other materials include wood flooring, carpet, and 9x9-vinyl floor tile.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. The suspect materials were identified and bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville (UAH). General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. A number on the plans in Appendix C represents each sample location. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for

Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 20 and were sent to a second accredited

laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos.

Surfacing

- None

Thermal System Insulation

- White insulation in building 1702
- Hot water tank insulation in building 1801 and 1802

Miscellaneous Material

- Vinyl surfaced sheet flooring
- Vinyl flooring mastics

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of six bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

None

NON FRIABLE ACM

Three types of non-friable ACM's were found in various buildings: 1) 12x12 inch vinyl floor tile, 2) 9x9 inch vinyl floor tile, and 3) vinyl floor tile mastic.

1) Presumed asbestos containing 12x12 inch vinyl floor tile and mastic is found in the following buildings:

   B1001 B1601 B1602 B1701 B1702 B1740 B1789 B1801 B1802 B1881 B1997 B2262 B2291 B2299

   Generally, the tiles were found to be in good condition.

2) Presumed asbestos containing 9x9-inch vinyl floor tile and mastic is found in the following buildings:

INACCESSIBLE MATERIAL

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release is likely under normal conditions. However, some of the asbestos containing materials, is subject to routine maintenance activities that could involve significant disturbance. As concluded by this survey, the buildings within this report were found to contain non-friable asbestos containing materials. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of the PACM Buildings during 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material, which were not visible on the surface, were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractor, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

347 Wilson Hall
Huntsville, Alabama 35899
Phone: (256) 890-6391
Fax: (256) 890-6376

Re, Bulk Asbestos Analysis
EPA 600/R-93/116

AIHA: 023601

Client : Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville,, AL 35801

Receipt Date: 07/24/98

Sample Date: 06/24/98

Microscopist: Safe-State
#102005

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B 1 702-01 /White insulation					10				90

Chry Chrysotile,
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
CaSO4 = Calcium Sulfate
Fbgl = Fiberglass

UAH

Environmental Laboratory
Kenneth E. Johnson Research Center

The University of Alabama in Huntsville

Huntsville, Alabama35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re Bulk Asbestos Analysis
EPA 600/R-93/116

Receipt Date: 06-22-98

AIHA: 023601

Sample Date: 06/18/98

Client : Reisz Engineering
Building 32 Suite. A2
3322 Memorial Parkway South
Huntsville, AL 35801

Microscopist : Tom Carrington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B1801-Ol/ H.W. Tank Insulation					15	65	15		5
B 1 801-02/ H.W. Tank Insulation					25	10	60		5
B 1801-03/ H.W. Tank Insulation					10	15	70		5

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose
Fbgl = Fiberglass

MW = Mineral Wool
CaSO4= Cadmium Sulfate

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Re Bulk Asbestos Analysis
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Building 32 Suite A2
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Huntsville, AL 35801

Receipt Date: 06-22/98

Sample Date: 06/18198

Microscopist: Tom Carrington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B 1 802-01 / H.W. Tank Insulation					2	60	18		20
B 1 802-02 / H.W. Tank Insulation						40	25		35

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
CaSO4= Calcium Sulfate
Fbgl = Fiberglass

APPENDIX B

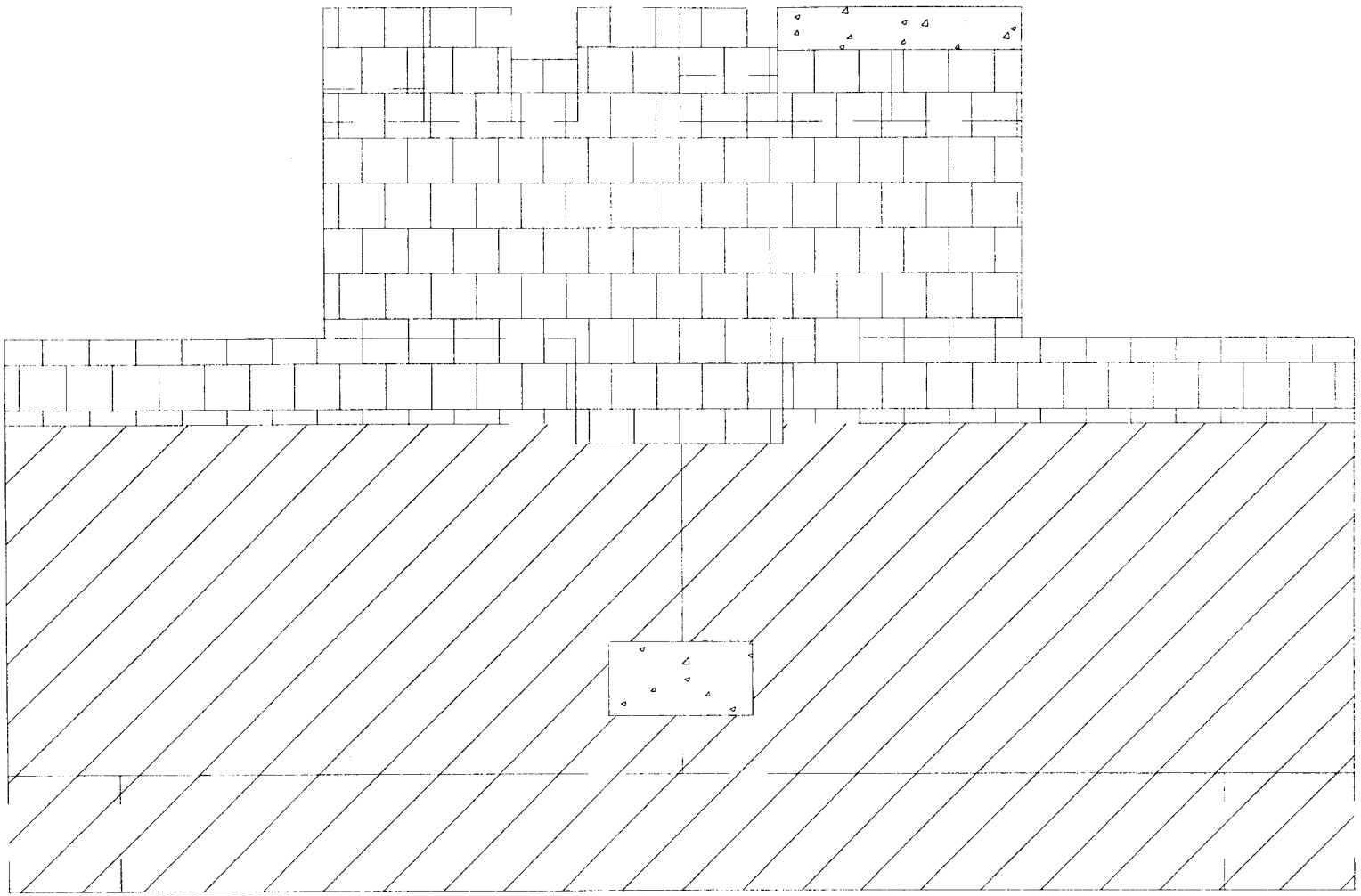
MISCELLANEOUS BUILDINGS WITH PACM

BUILDING NUMBERS

1001
1601
1602
1701
1702
1740
1789
1801
1802
1881
1898
1997
2262
2291
2299

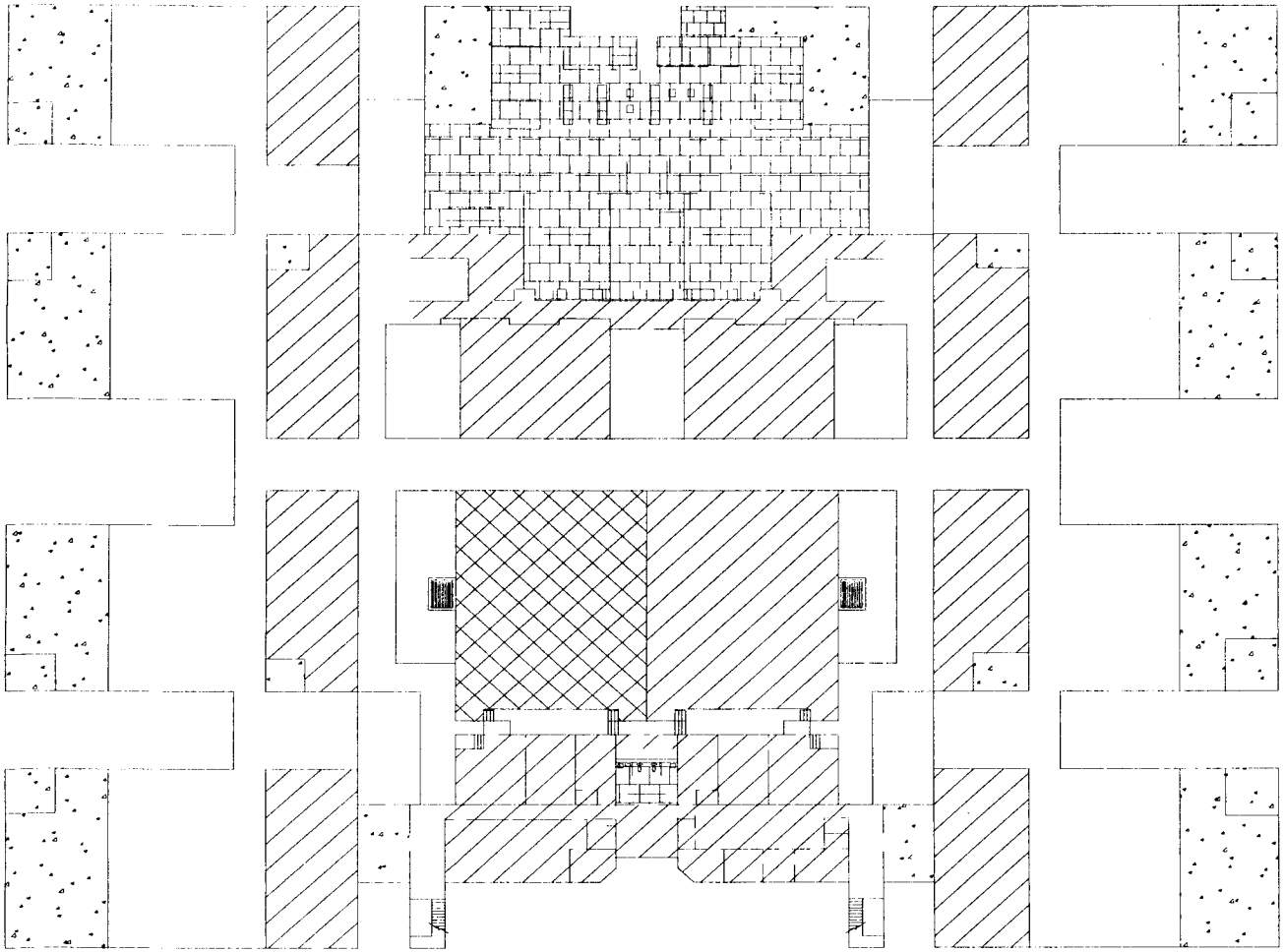
APPENDIX C

SELECTED ACM LOCATIONS PLANS



Cement Floors 12 x 12 Floor Tile Ceramic Floor Tile

BUILDING 1001	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



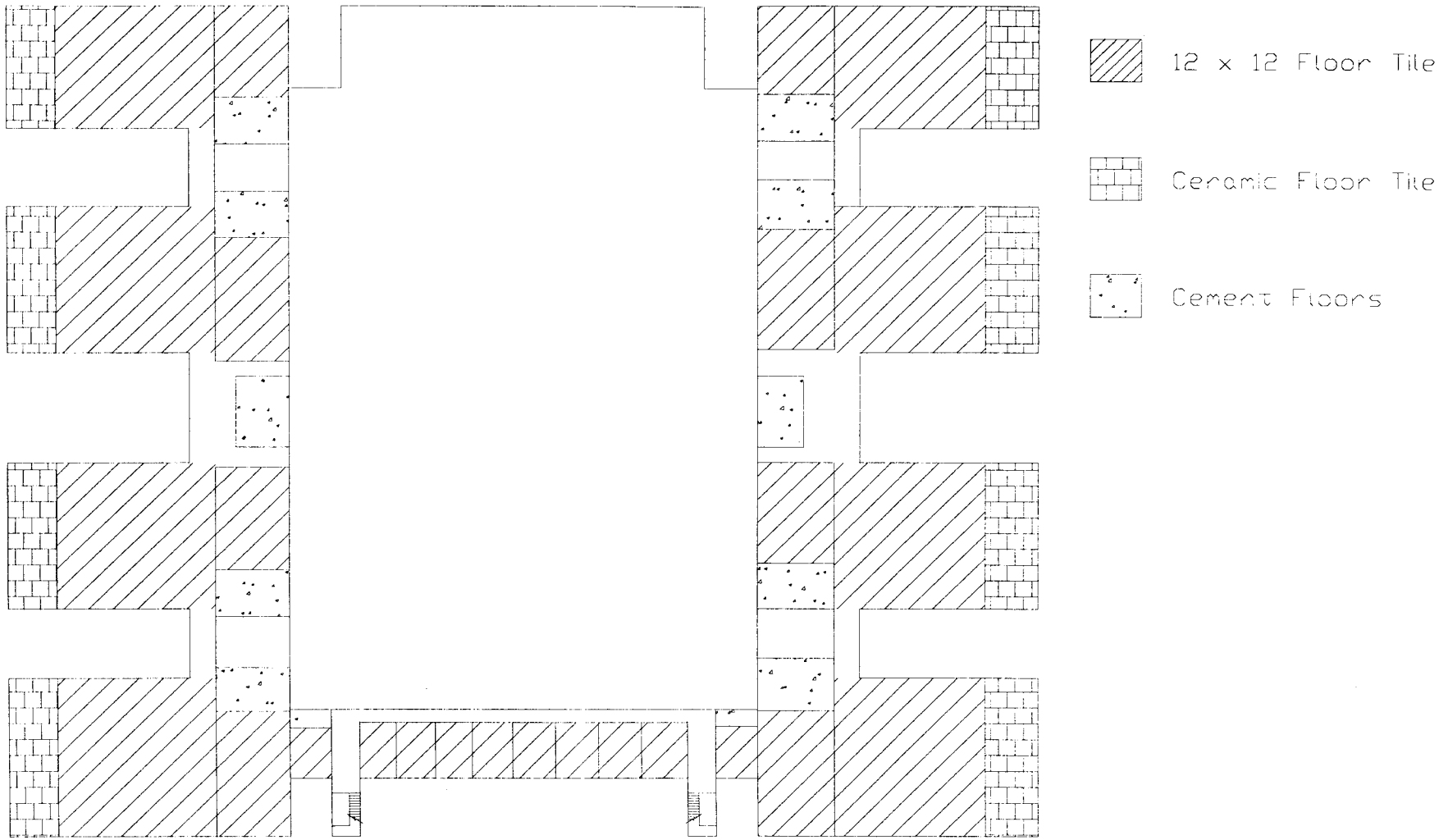
12 x 12 Floor Tile

Ceramic Floor Tile

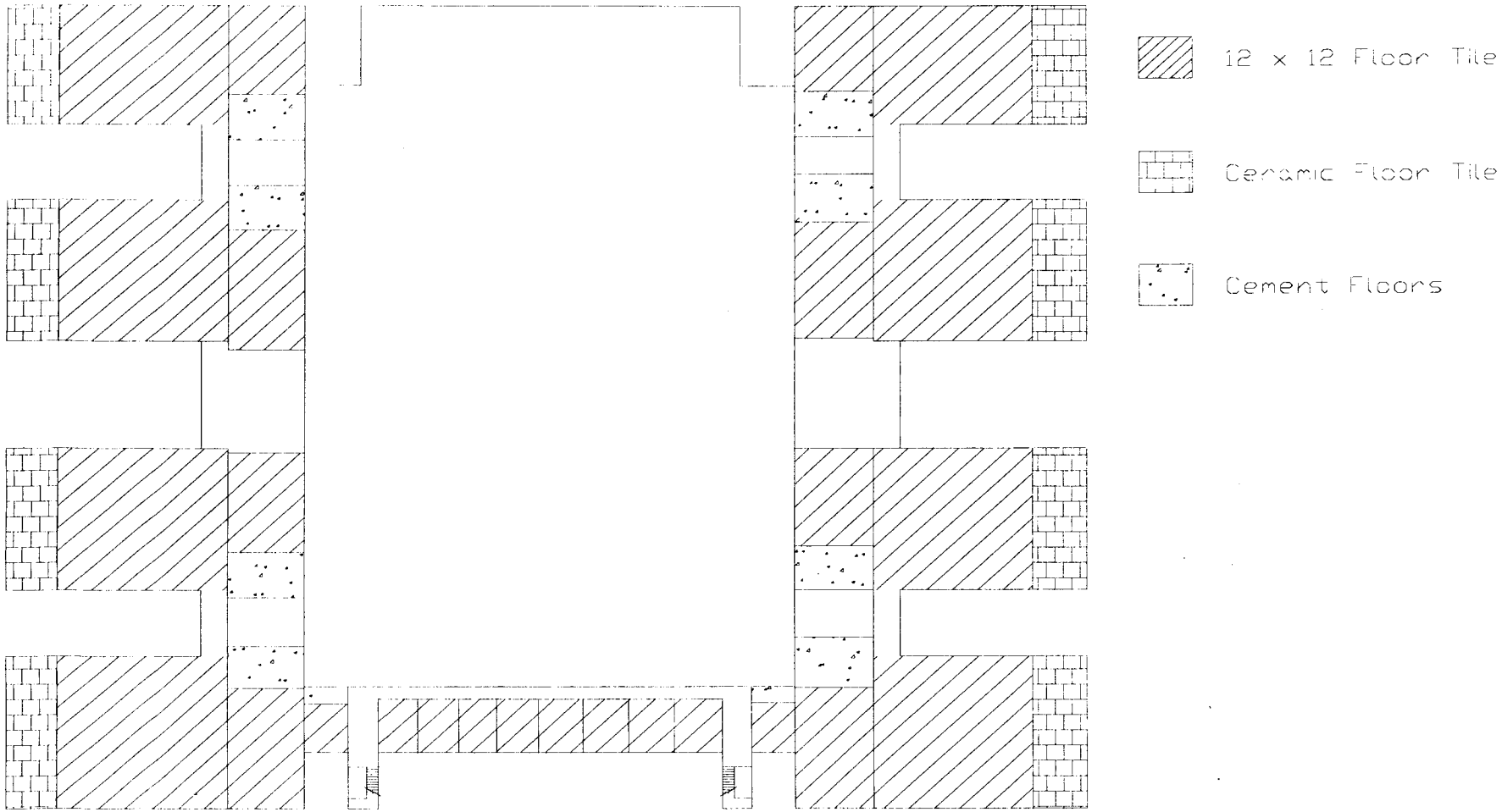
Cement Floors

Carpet Flooring

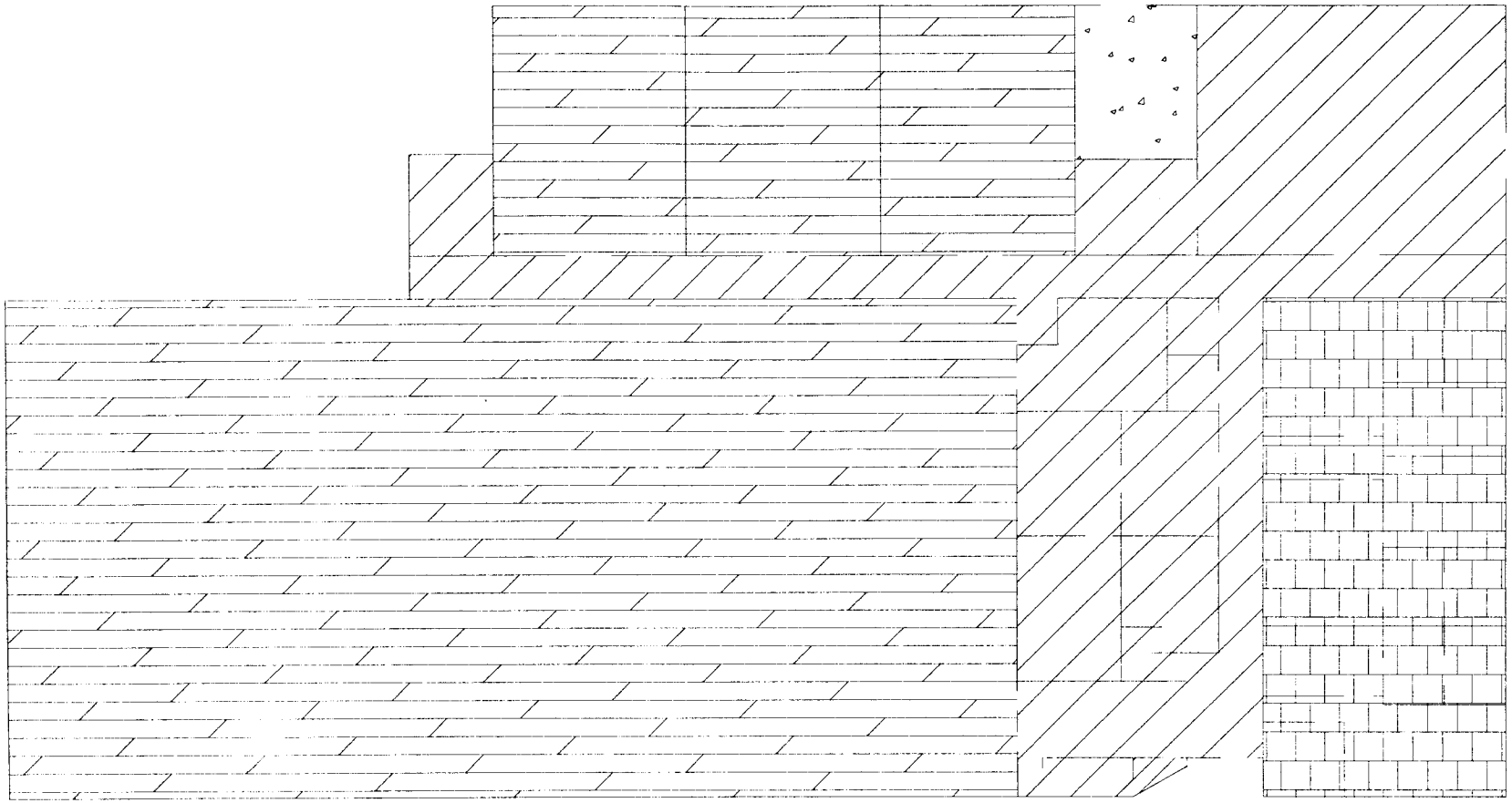
BUILDING: 1601, 1602	FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



BUILDING: 1601, 1602	SECOND FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



BUILDING 1601, 1602	THIRD FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



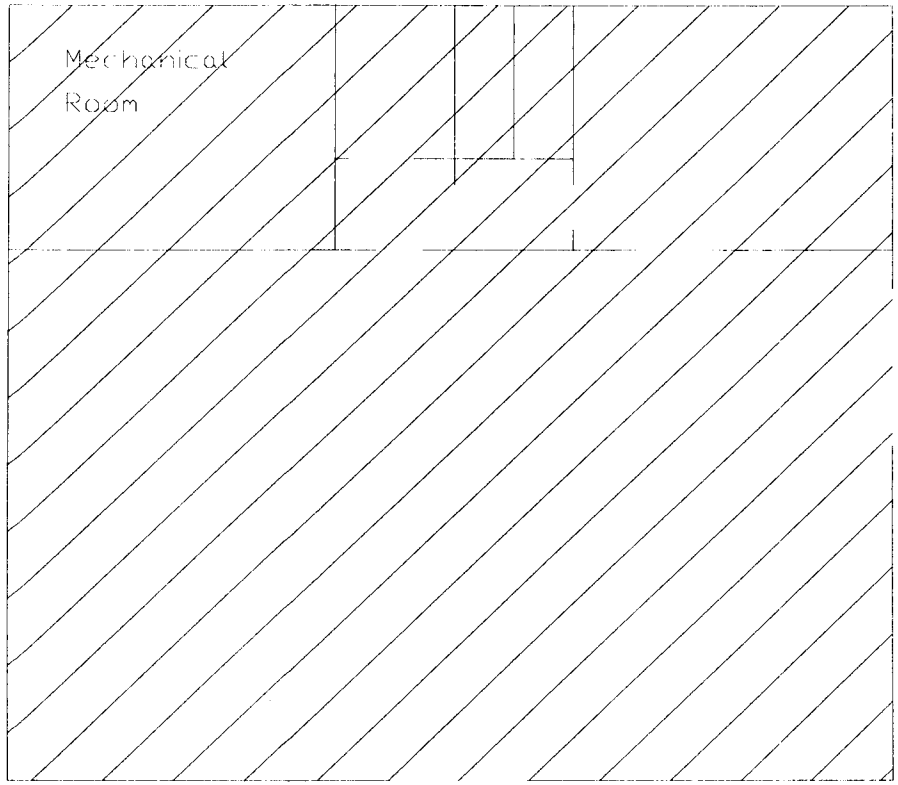
Wood Floors

Mechanical Room (cement floor)

12 x 12 Floor Tile

Ceramic Floor Tile

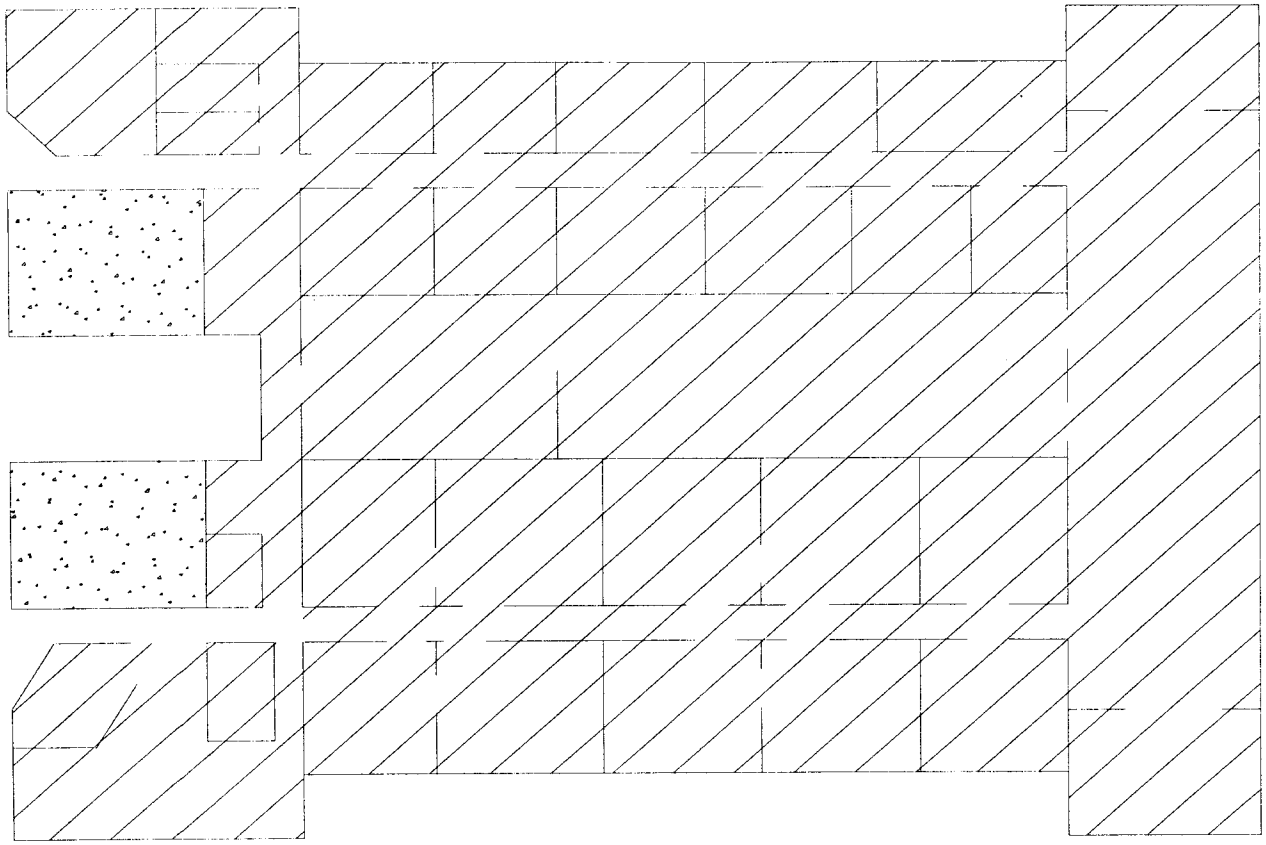
BUILDING: 1701,1702	FIG. 1 LAYOUT	ASBESTOS SURVEY DAB102-96-D-0005 FM833	**REISZ ENGINEERING**



9 x 9 Floor Tile

12 x 12 Floor Tile

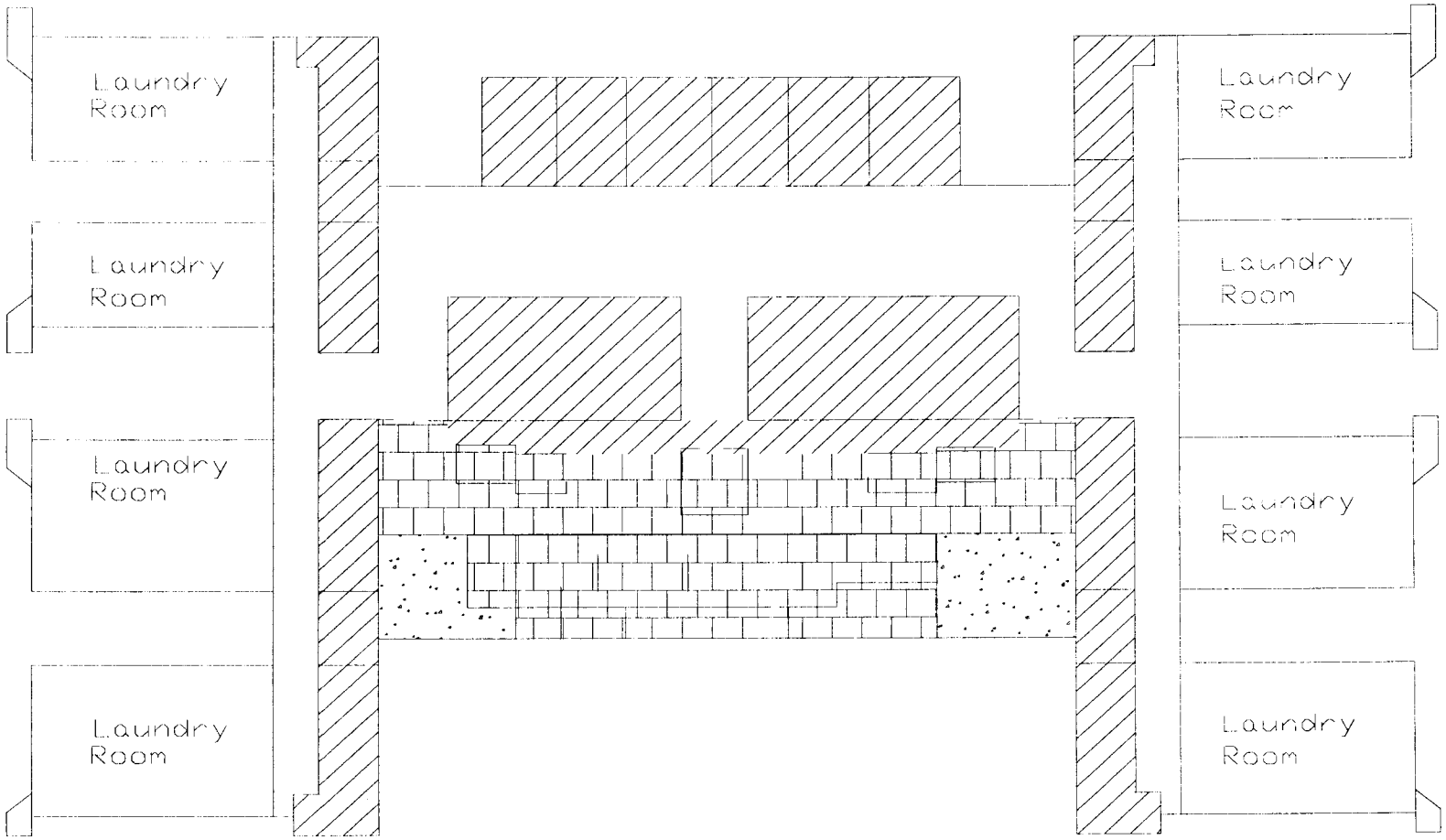
BUILDING 1740	FIG. 1 LAYOUT	ASBESTOS SURVEY DAB102-96-D-0005 FM833	**REISZ ENGINEERING**



12 x 12 Floor Tile

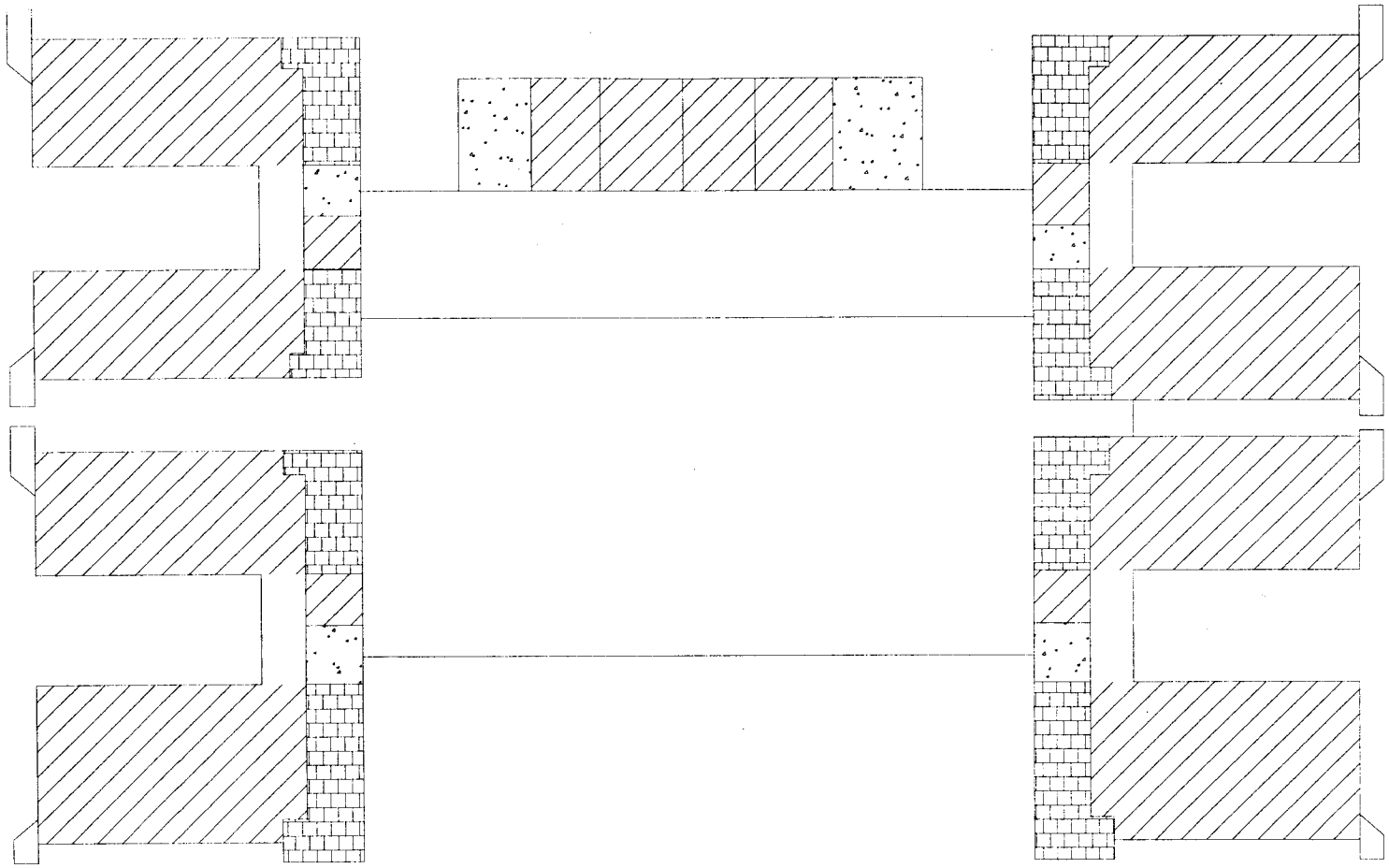
Mechanical Room (cement floors)

BUILDING 1789	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



12 x 12 Floor Tile
Ceramic Floor Tile
Mechanical Room (cement floor)

BUILDING 1801	FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**

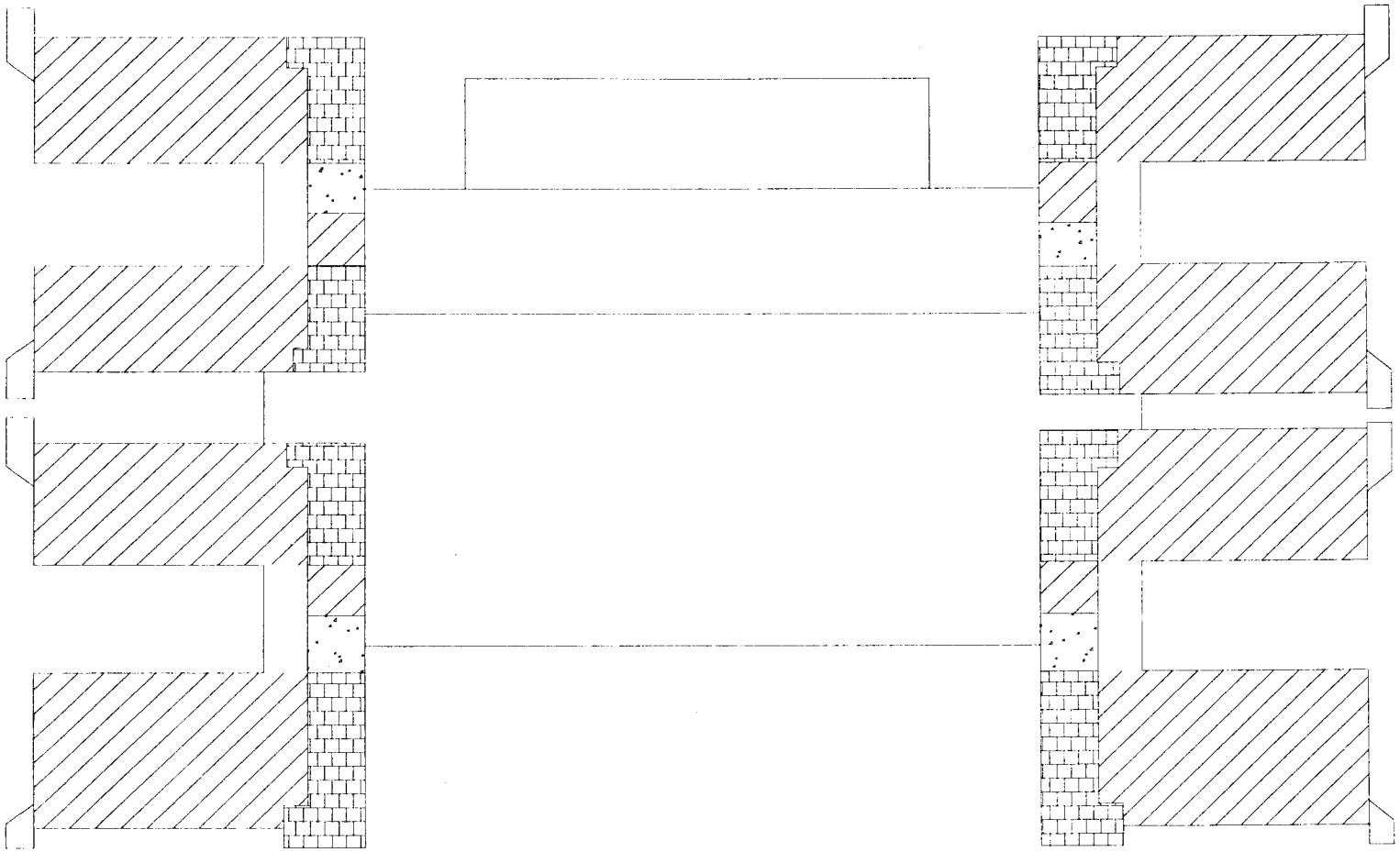


12 x 12 Floor Tile

Ceramic Floor Tile

Mechanical Room (cement floor)

BUILDING 1801	SECOND FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**

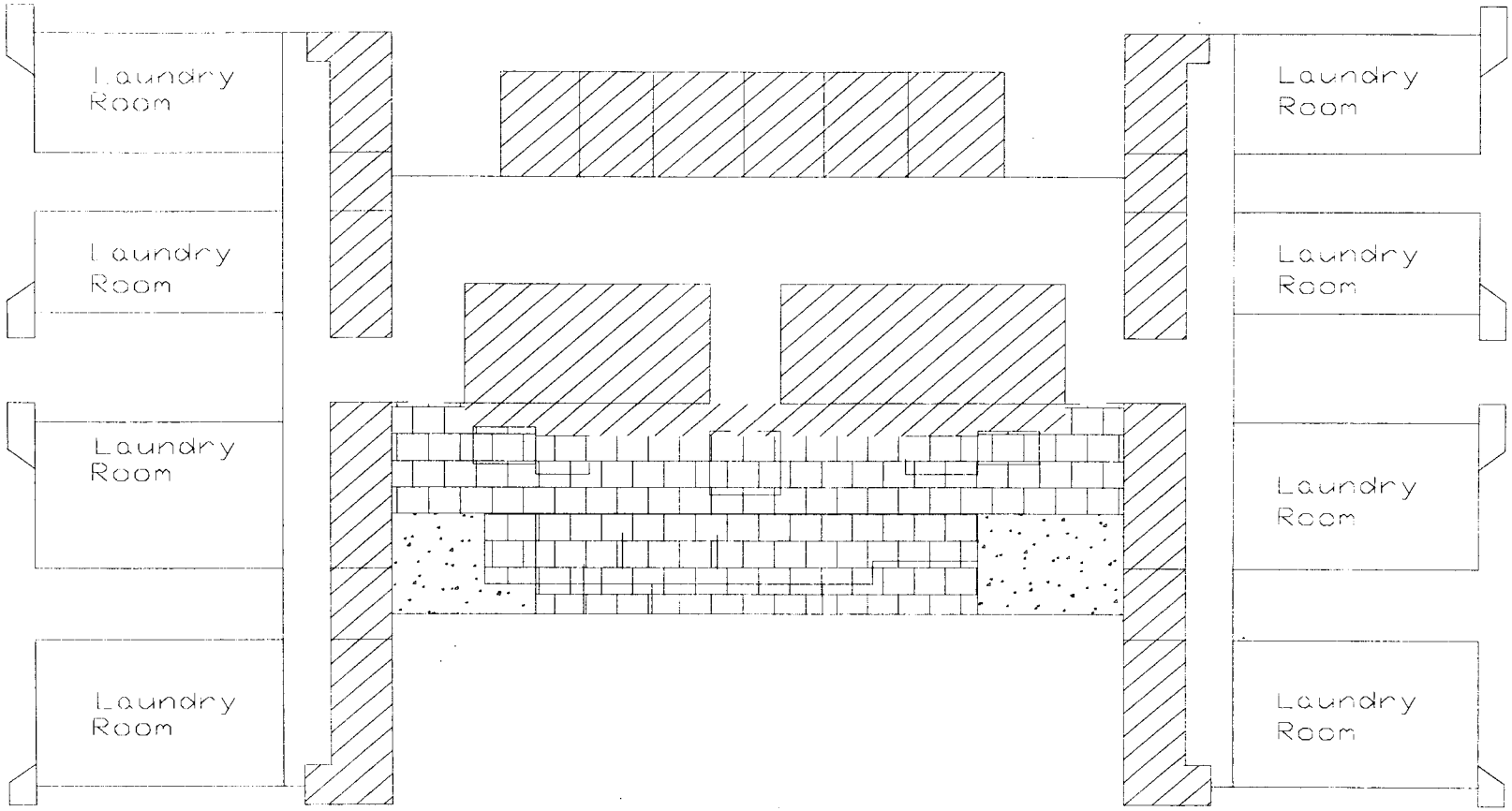


12 x 12 Floor Tile

Ceramic Floor Tile

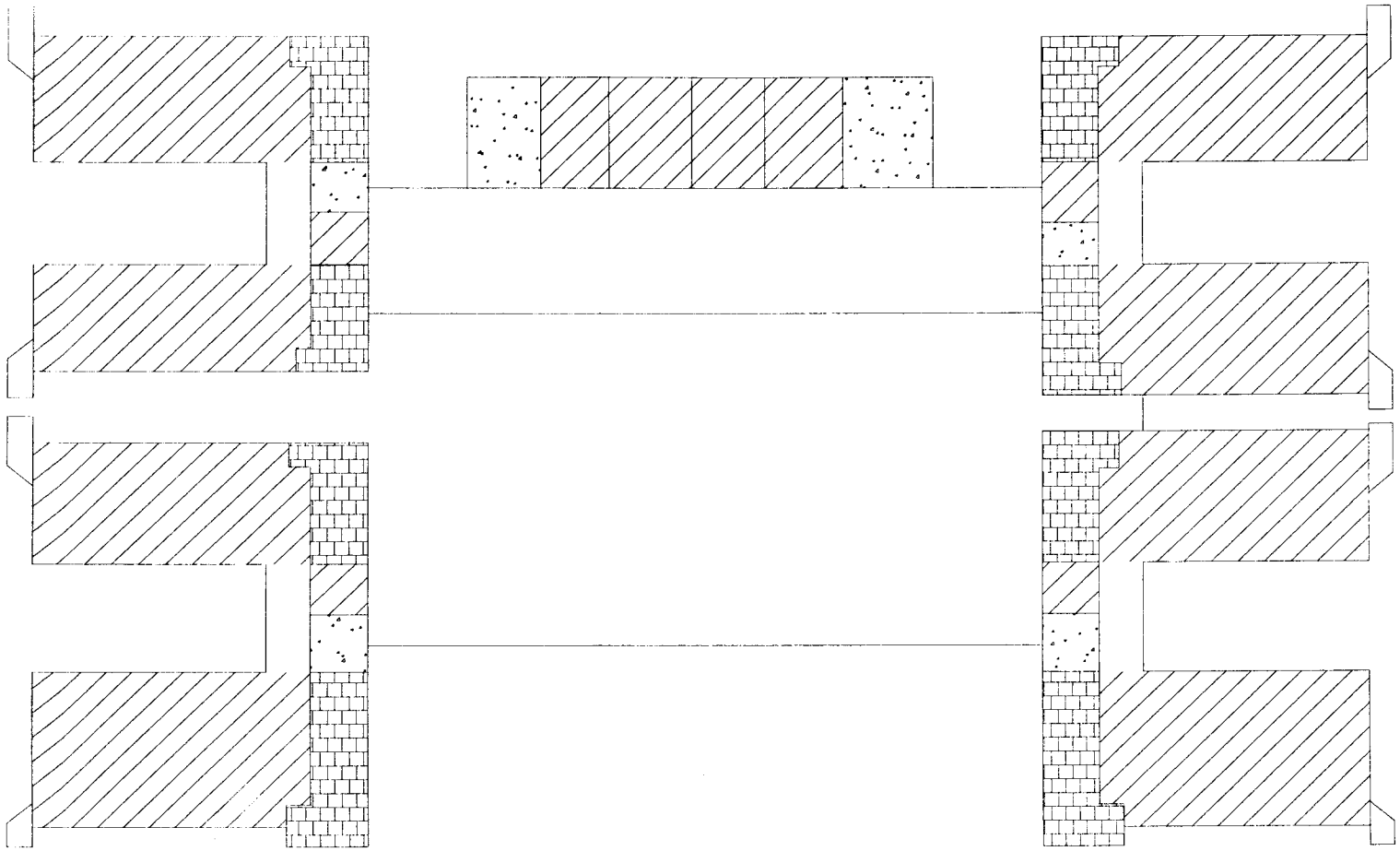
Mechanical Room (cement floor)

BUILDING 1801	THIRD FLOOR	ASBESTOS SURVEY DAB102-96-D-0005 FM833	**REISZ ENGINEERING**



12 x 12 Floor Tile
Ceramic Floor Tile
Mechanical Room (cement floor)

BUILDING: 1802	FIRST FLOOR	ASBESTOS SURVEY DAB102-96-D-0005 FM833	**REISZ ENGINEERING**

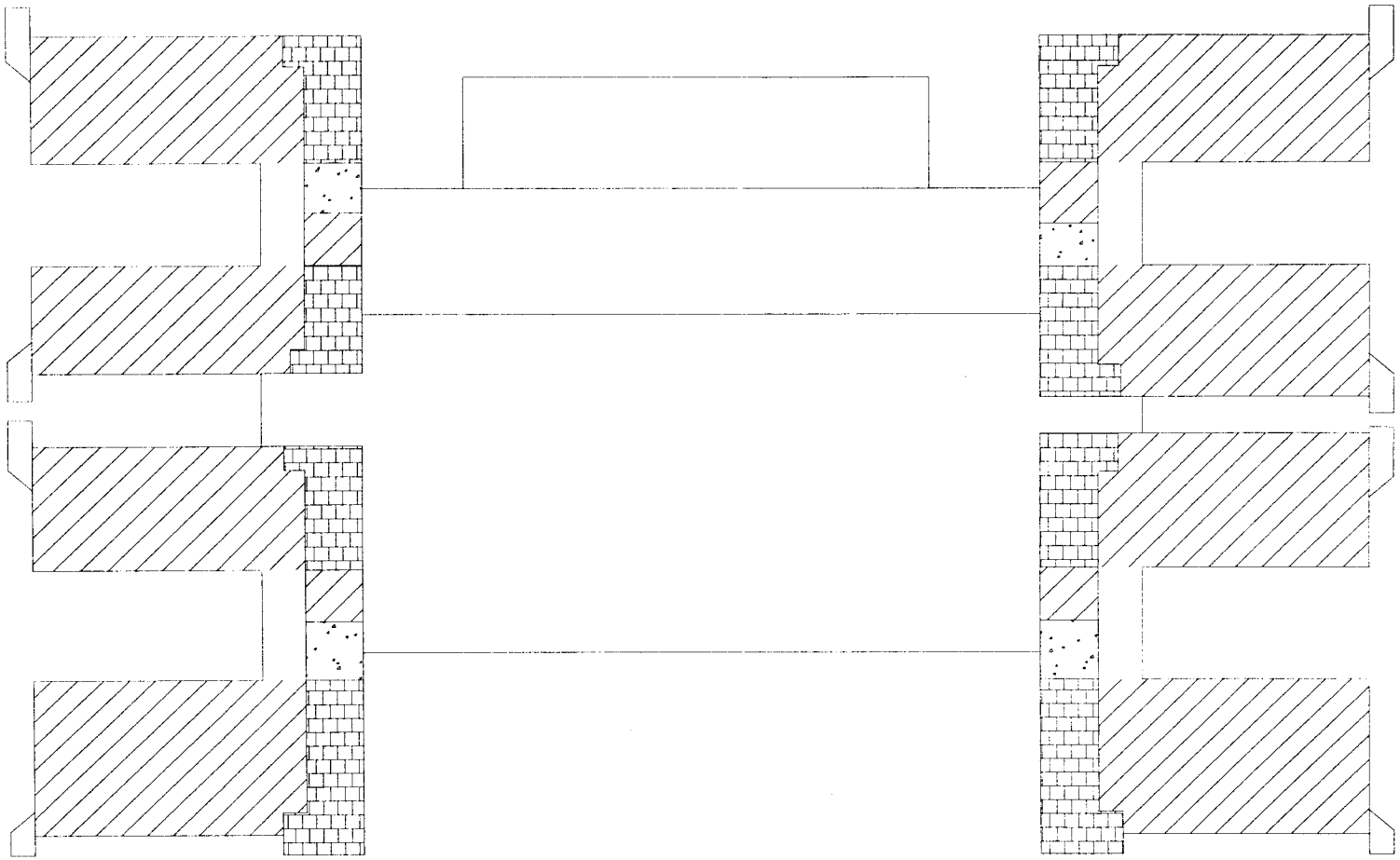


12 x 12 Floor Tile

Ceramic Floor Tile

Mechanical Room (cement floor)

BUILDING: 1802	SECOND FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**

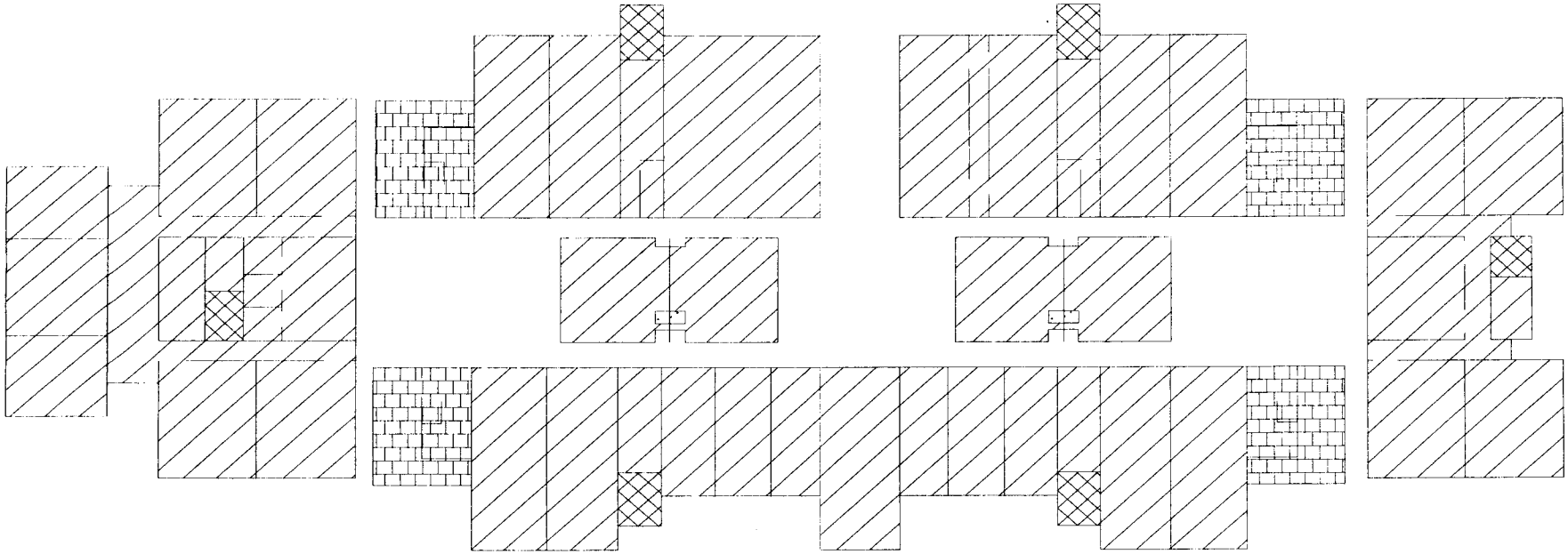


12 x 12 Floor Tile

Ceramic Floor Tile

Mecahnical Room (cement floor)

BUILDING 1802	THIRD FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



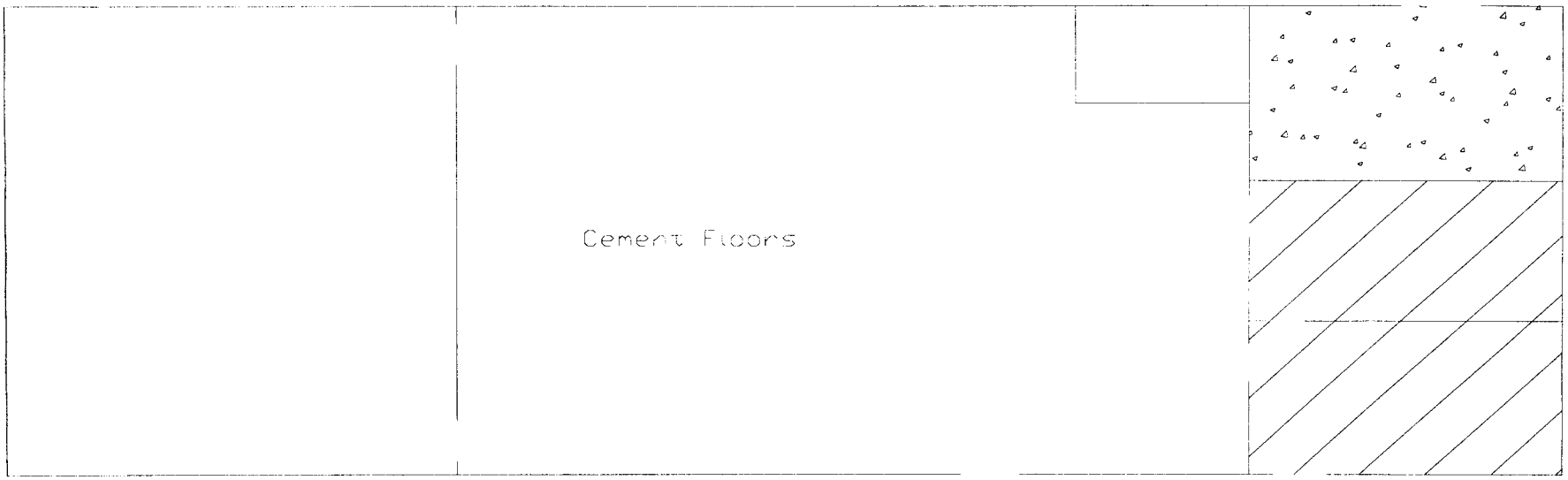
12 x 12 Floor Tile

Ceramic Floor Tile

Second Floor Mechanical Room

Mechanical Room (cement floor)

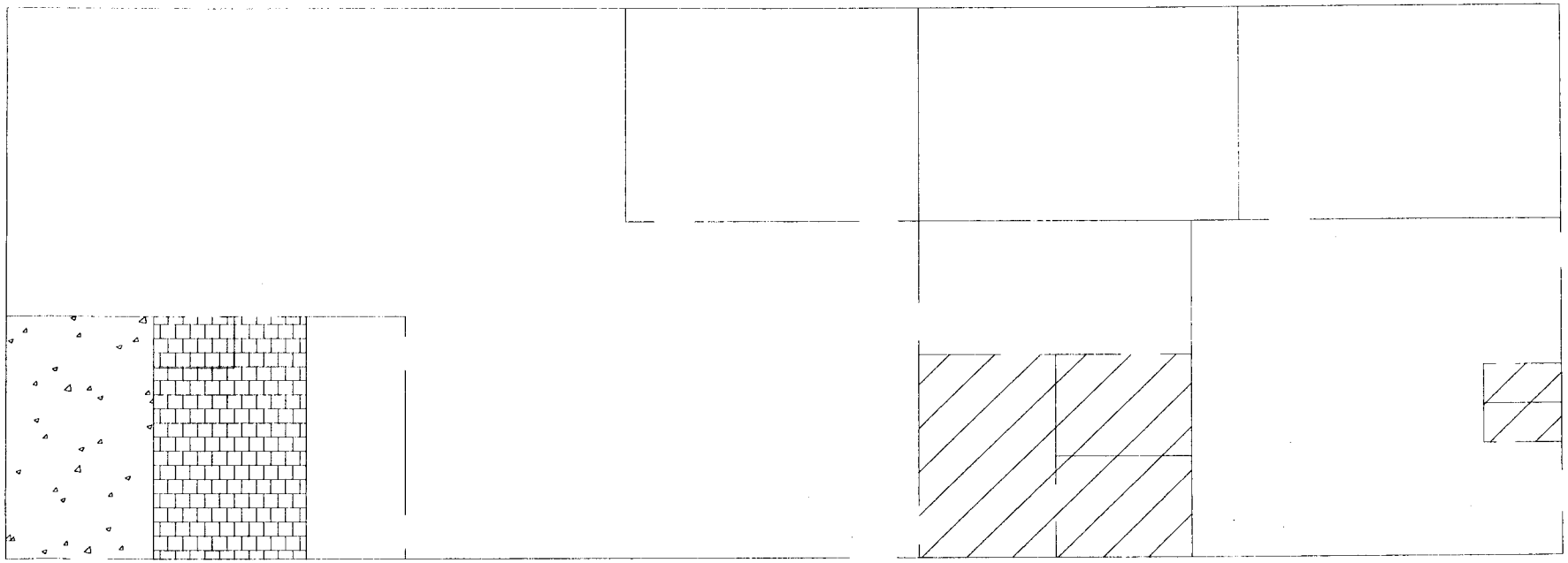
BUILDING 1881	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



9 x 9 Floor Tile

Mechanical Room (cement floor)

BUILDING 1898	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**

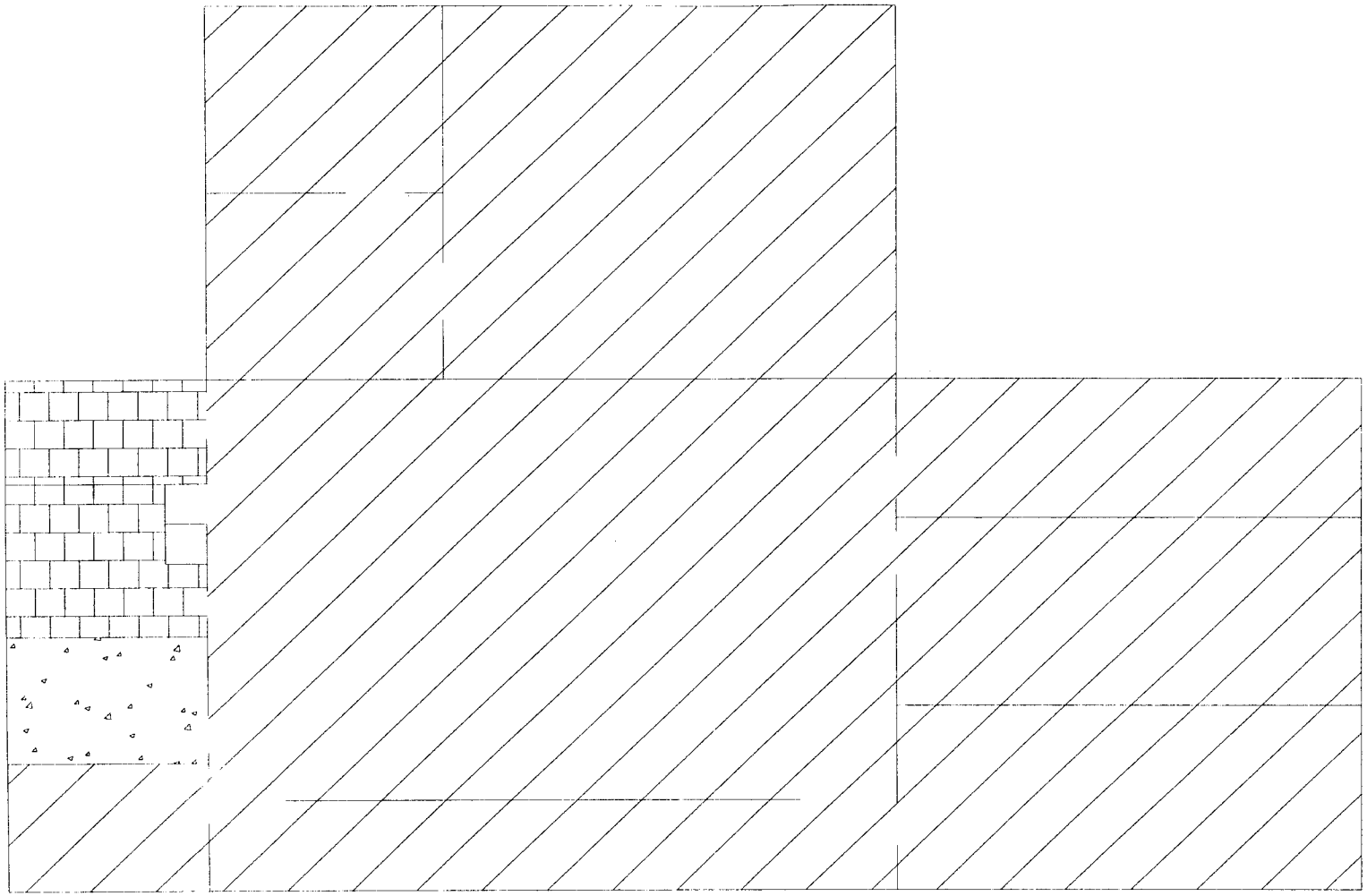


12 x 12 Floor Tile

Ceramic Floor Tile

Mechanical Room (cement floor)

BUILDING: 1997	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**

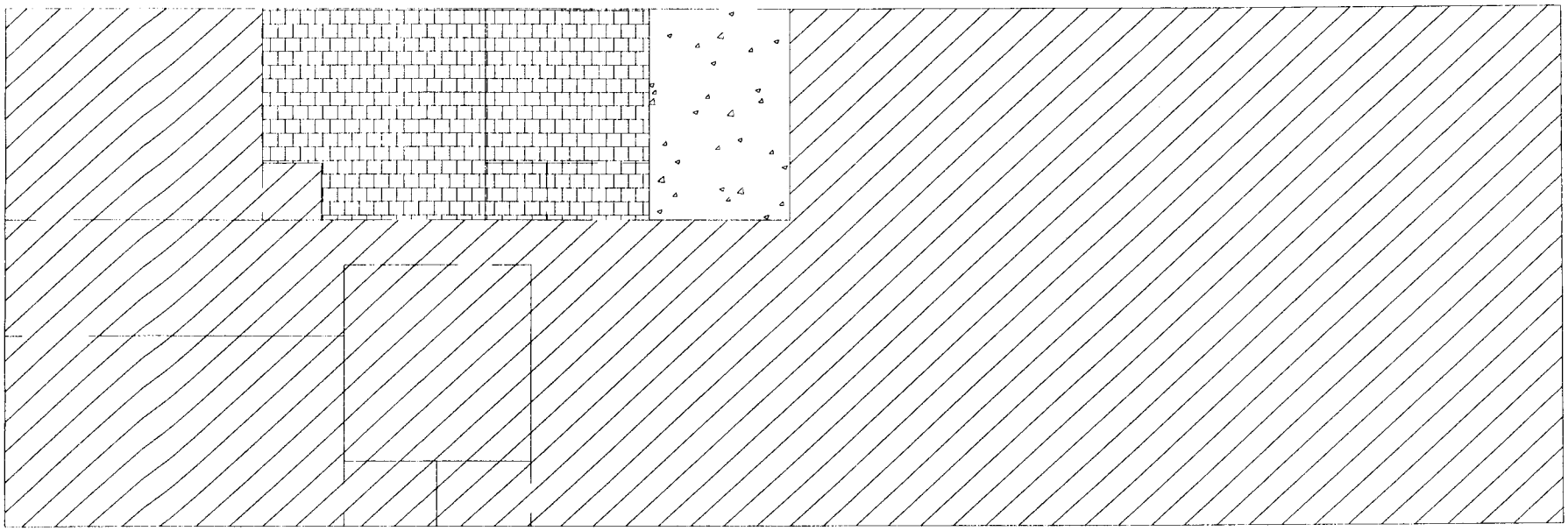


12 x 12 Floor Tile

Cement Floor

Ceramic Tile Floor

BUILDING 2262	FIG. 1 LAYOUT	ASBESTOS SURVEY DAB102-96-D-0005 FM833	**REISZ ENGINEERING**

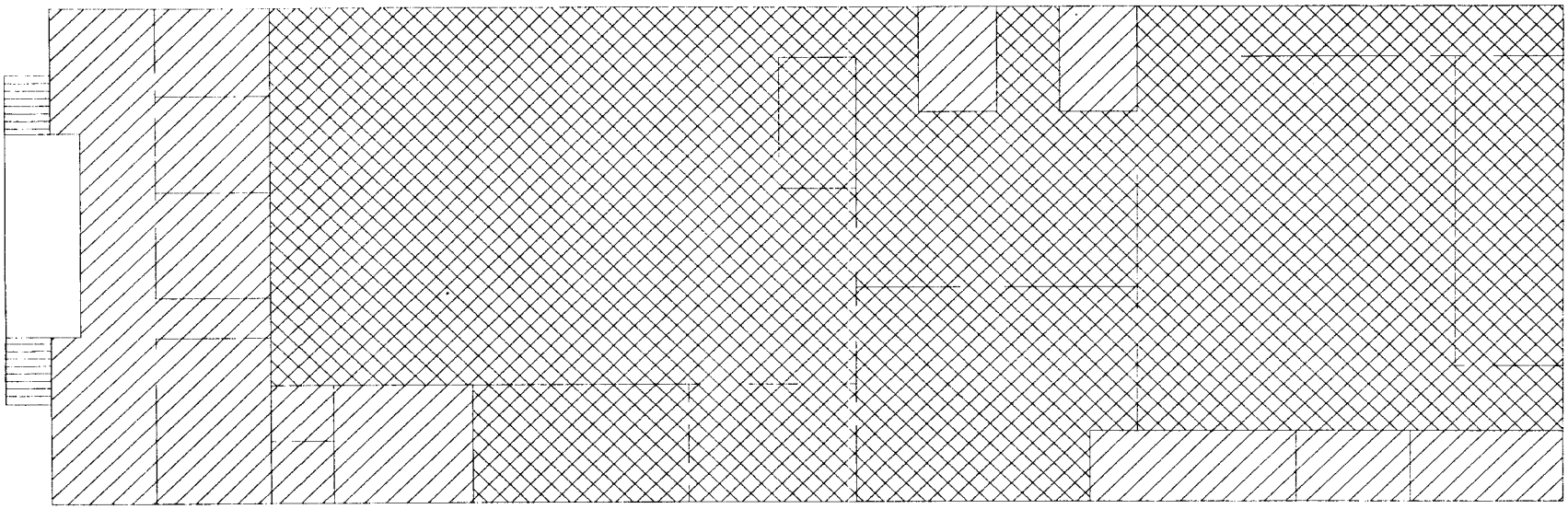


Mechanical Room (cement floor)

12 x 12 Floor Tile

Ceramic Floor Tile

BUILDING 2291	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



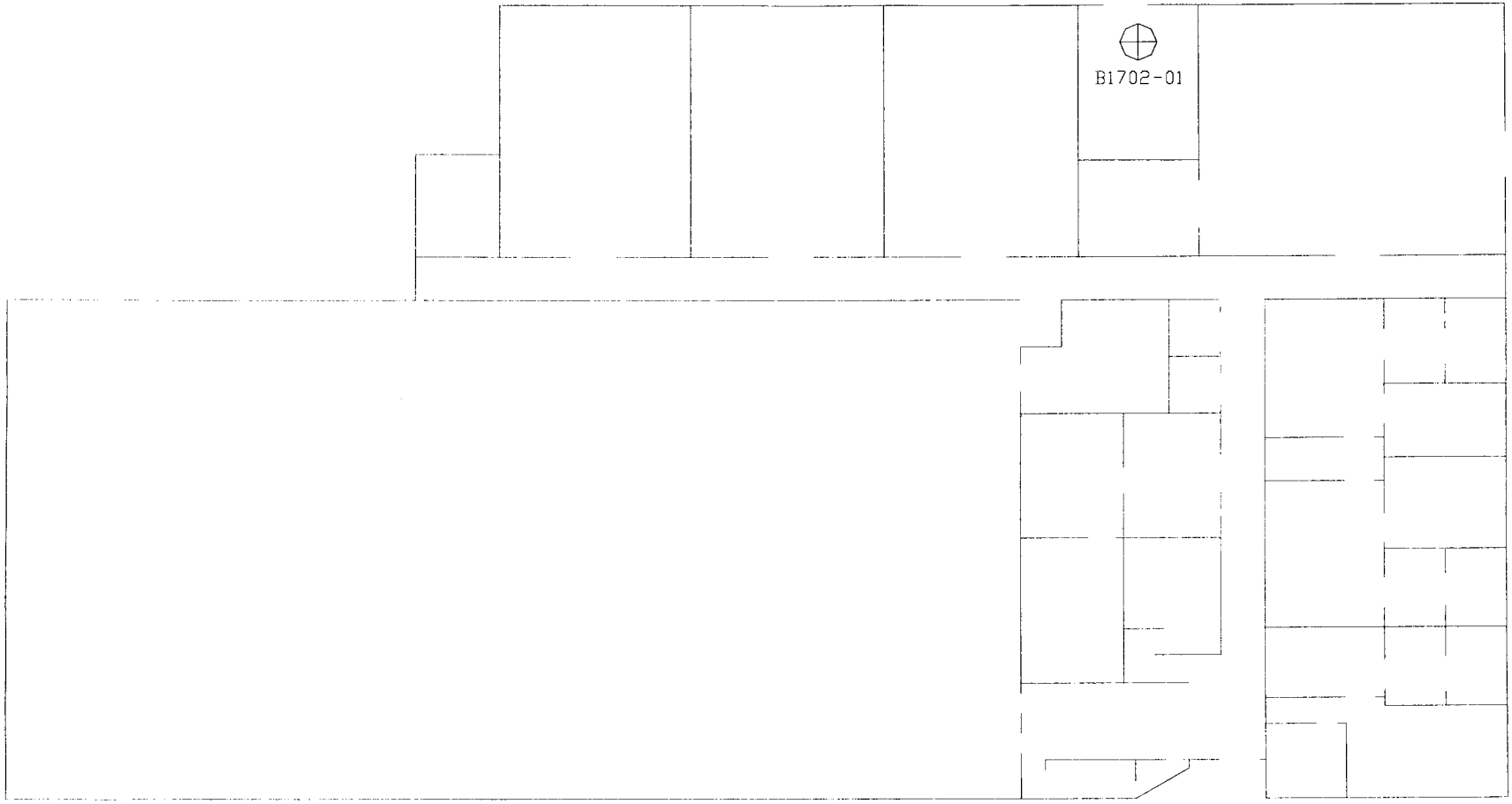
12 x 12 Floor Tile

Carpet Flooring Over 12x12 Tile (assumed)

BUILDING 2299	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**

APPENDIX D

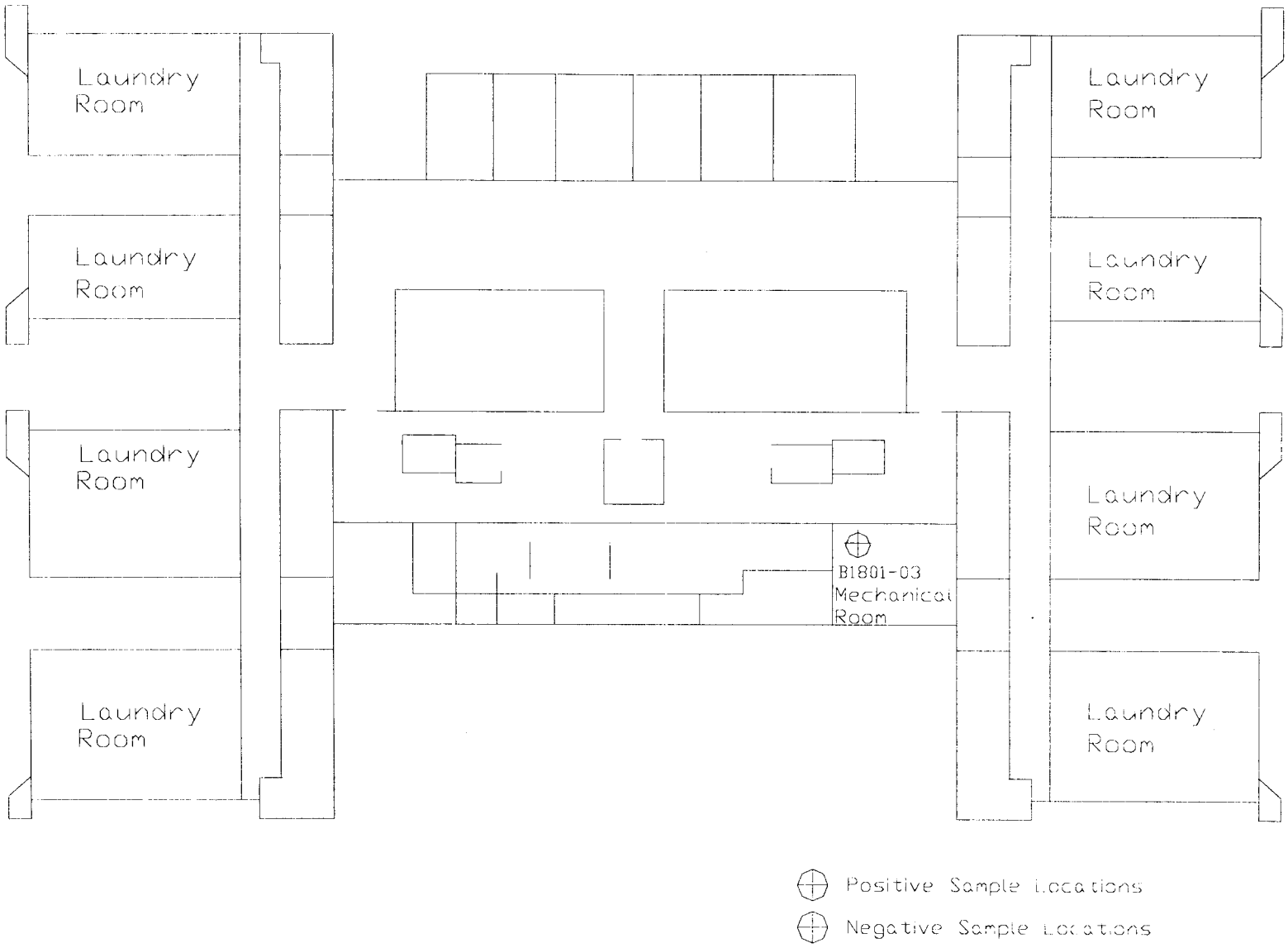
SAMPLE LOCATION PLANS



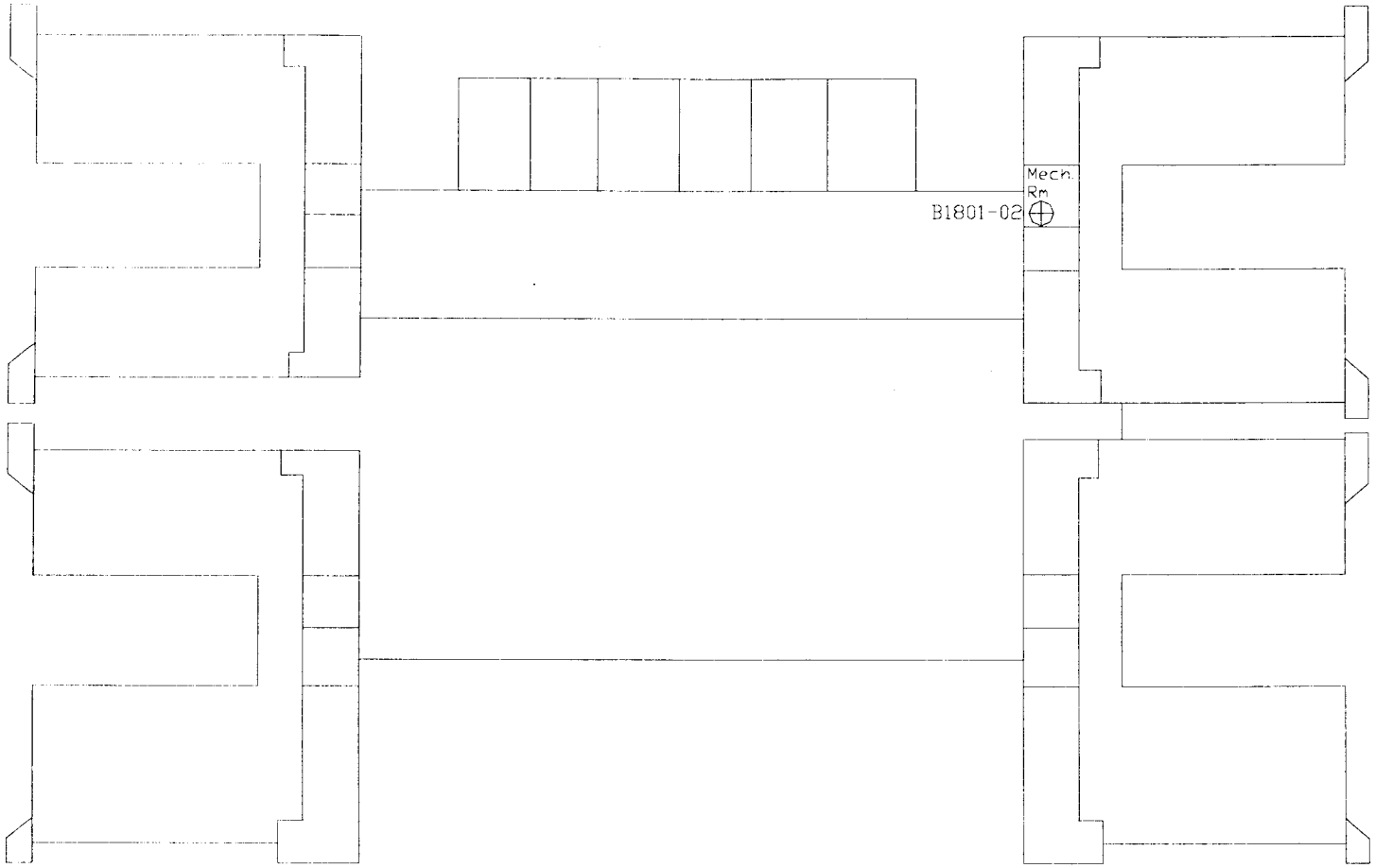
Positive Sample Locations

Negative Sample Locations

BUILDING 1702	FIG. 1 LAYOUT	ASBESTOS SURVEY DAB102-96-D-0005 FM833	**REISZ ENGINEERING**



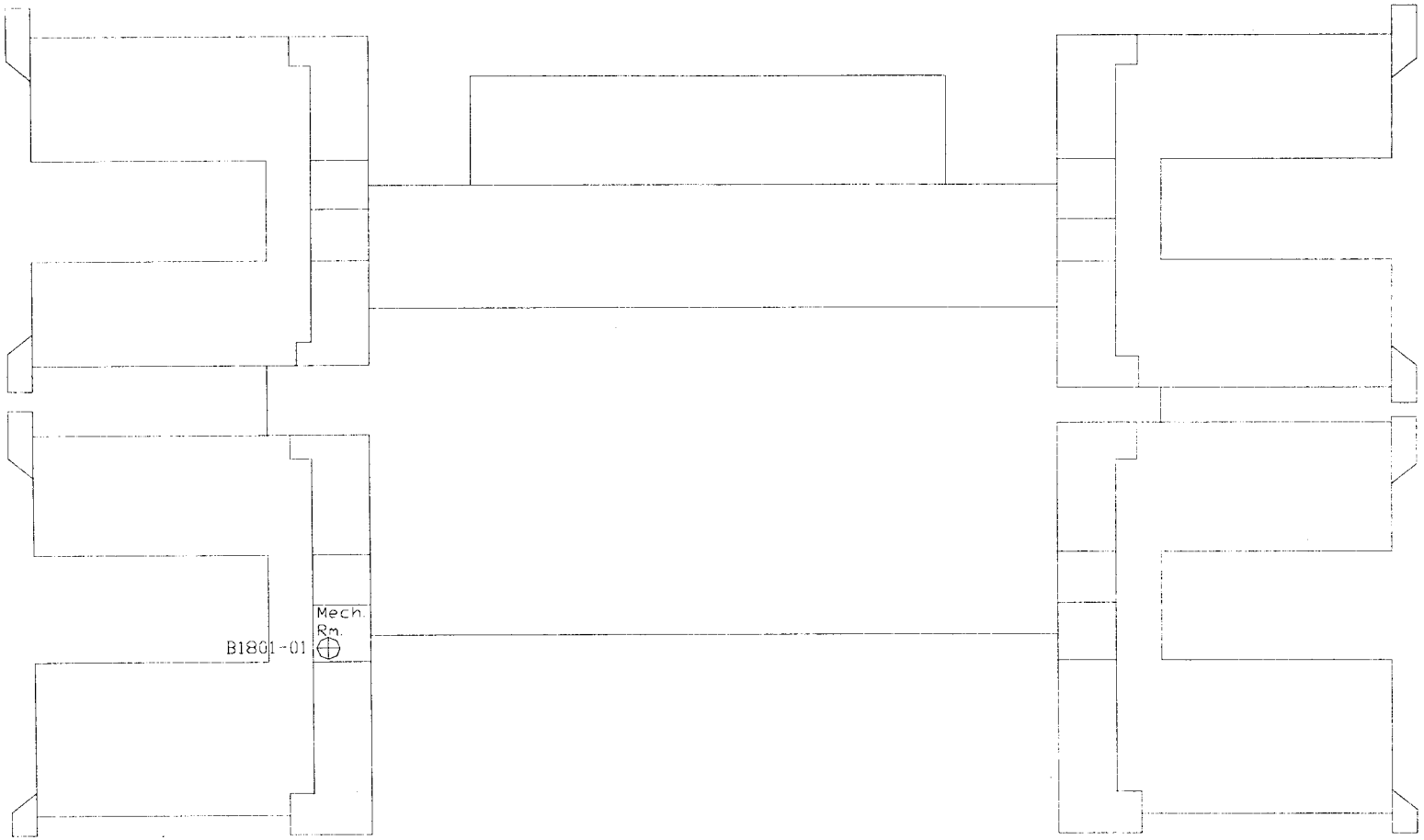
BUILDING: 1801	FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



Positive Sample Locations

Negative Sample Locations

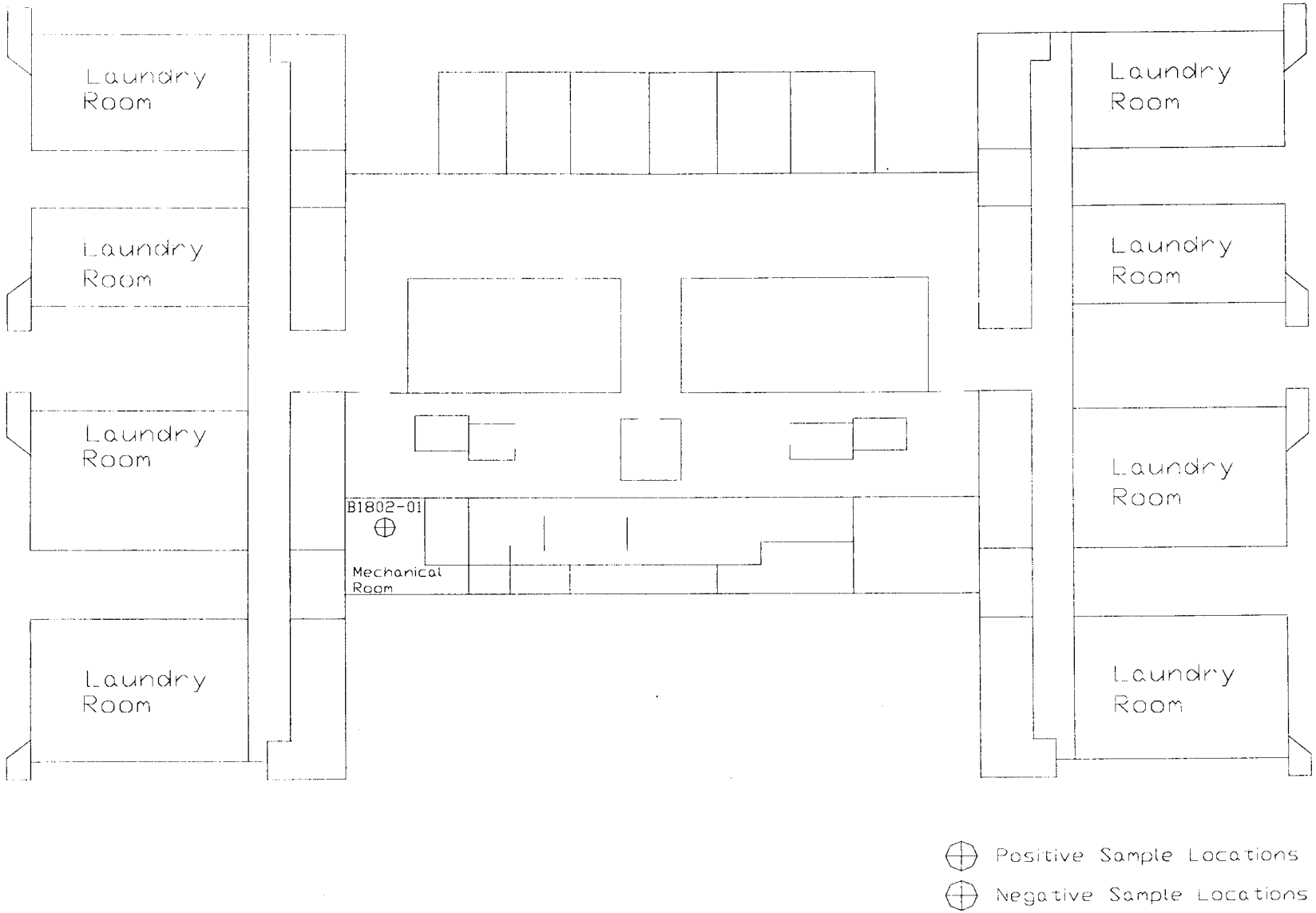
BUILDING: 1801	SECOND FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



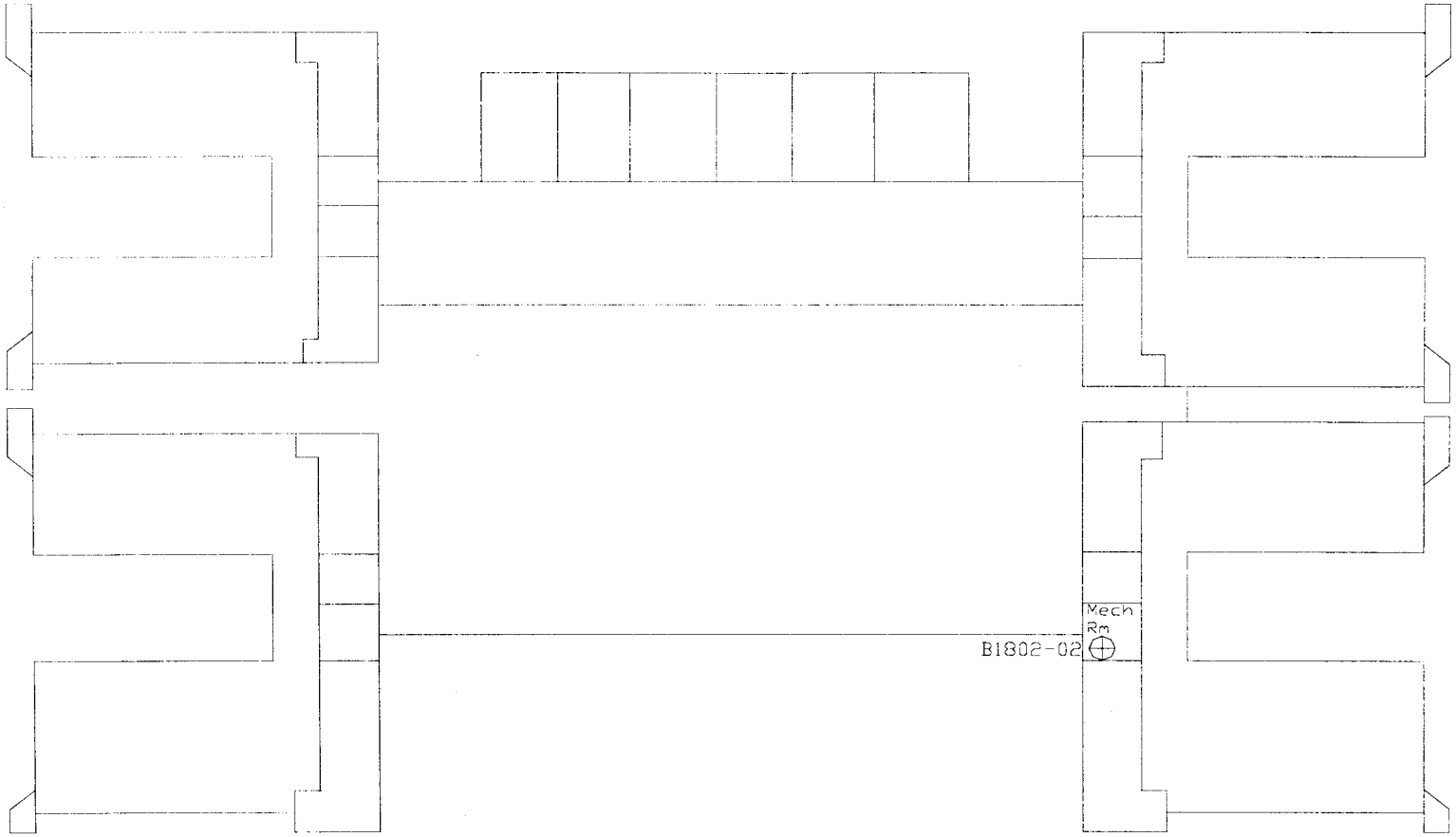
Positive Sample Locations

Negative Sample Locations

BUILDING 1801	THIRD FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**



BUILDING 1802	FIRST FLOOR	ASBESTOS SURVEY DAB102-96-D-0005 FM833	**REISZ ENGINEERING**



Positive Sample Locations

Negative Sample Locations

BUILDING 1802	SECOND FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM833	**REISZ ENGINEERING**

APPENDIX E

SUMMARY TABLE OF PACM AND COST ESTIMATES

Building Number	PACM Material	Approx. Quantity	Estimated Abatement Cost*
B1001	12x12 vinyl floor tile and mastic	7,900 ft^2	$18,170
		Total	**$18,170**
B1601	12x12 vinyl floor tile and mastic	120,000 ft^2	$276,000
		Total	**$276,000**
B1602	12x12 vinyl floor tile and mastic	120,000 ft^2	$276,000
		Total	**$276,000**
B1701	12x12 vinyl floor tile and mastic	5,350 ft^2	$12,305
		Total	**$12,305**
B1702	12x12 vinyl floor tile and mastic	5,350 ft^2	$12,305
		Total	**$12,305**
B1740	9x9 vinyl floor tile and mastic	1,680 ft^2	$3864
	12x12 vinyl floor tile and mastic	4,200 ft^2	$9660
		Total	**$13,524**
B1789	12x12 vinyl floor tile and mastic	7,000 ft^2	$16,100
		Total	**$16,100**
B1801	12x12 vinyl floor tile and mastic	135,000 ft^2	$310,500
		Total	**$310,500**
B1802	12x12 vinyl floor tile and mastic	135,000 ft^2	$310,500
		Total	**$310,500**
B1881	12x12 vinyl floor tile and mastic	80,000 ft^2	$184,000
		Total	**$184,000**
B1898	9x9 vinyl floor tile and mastic	288 ft^2	$770
		Total	**$770**
B1997	12x12 vinyl floor tile and mastic	920 ft^2	$2116
		Total	**$2116**
B2262	12x12 vinyl floor tile and mastic	3,500 ft^2	$8,050
		Total	**$8,050**
B2291	12x12 vinyl floor tile and mastic	6,800 ft^2	$15,640

		Total	**$15,640**

Building Number	PACM Material	Quantity	Estimated Abatement Cost*
B2299	12x12 vinyl floor tile and mastic	23,700 ft^2	$54,510
		Total	**$54,510**
		Grand Total	**$1,510,490**

*Includes all air monitoring and design fees

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS BUILDINGS
NO PACM

BUILDING(S): 57, 181, 197, 198, 2105, 3133, 3134, 3135, 3165, and 3192

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS BUILDINGS
PACM

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349
HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS BUILDINGS
PACM

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JOSEPH L. HILLERICH

Conducted and Prepared by:

REISZ ENGINEERING

P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

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APPENDICES

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APPENDIX B – LIST OF MISCELLANEOUS BUILDINGS WITH PACM
APPENDIX C - SELECTED PACM LOCATIONS PLANS
APPENDIX D – SUMMARY TABLE OF PACM AND COST ESTIMATES

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at miscellaneous buildings located throughout Fort McClellan, Alabama. (See Appendix B for a complete list of buildings included in this document). Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e.g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.
5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.

6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of asbestos-containing materials (ACM) in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e. g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing EPA to establish rules and regulations (40CFR Part 763) addressing ACM in schools. Specifically, the EPA was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling ACM in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey

Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA's accredited personnel.

3.0 PROJECT CHARACTERISTICS

Reisz Engineering's accredited asbestos inspectors performed inspections of presumed asbestos containing material (PACM) buildings for the purpose of identifying building materials suspected to contain asbestos. Based on information provided by our observations and tests results it appears that all buildings referenced in this survey contain only non-friable materials. None of the buildings within this survey were found to have any friable ACM. Although, various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

The three dominant flooring conditions existing in the PACM buildings are 1) carpet, 2) vinyl floor tile and 3) concrete. Other materials include ceramic and brick tile, wood flooring, cement, linoleum, and terrazzo. Also carpet has been installed over vinyl tiles in some locations of the buildings.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. The suspect materials were identified and bulk samples were obtained and placed into

individual vials for transportation to the University of Alabama in Huntsville (UAH). General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 20 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample

and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos.

Surfacing

- None

Thermal System Insulation

- Rear wall gas heater reflectors in building 4437

Miscellaneous Material

- Vinyl surfaced sheet flooring
- Vinyl flooring mastics
- Drywall joint compound
- Asbestos siding
- Transite siding
- Transite piping

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A total of three bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

FRIABLE ACM

None

NON FRIABLE ACM

Five types of non-friable ACM's were found in various buildings: 1) 12x12 inch vinyl floor tile, 2) 9x9 inch vinyl floor tile, 3) asbestos siding is located on the exterior of B793, 4) transite piping in B1920 and 5) thermal system insulation in B4437.

1) Presumed asbestos containing 12x12 inch vinyl floor tile and mastic is found in the following buildings:

   B66 B184 B698 B793 B888 B891 B900 B992 B1012 B1800 B1920 B1928 B2090 B2116 B2202 B3136 B3189 B3600 B4434

   Generally, the tiles were found to be in good condition.

2) Presumed asbestos containing 9x9-inch vinyl floor tile and mastic is found in the following buildings:

   B1108 B1919 B2020 B2115 B2116

3) Asbestos siding can be found on the exterior walls of the building:

   B793

4) The hot water heater vent pipe contains a transite pipe extending into the attic of the following building:

   B1920

5) Thermal system insulation is located in the gas heater reflectors and is assumed to contain possible ACM. The gas heater is located in the rear wall of the following building:

   B4437

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release is likely under normal conditions. However, some of the asbestos containing materials, is subject to routine maintenance activities that could involve significant disturbance. As concluded by this survey, the buildings within this report were found to contain non-friable asbestos containing materials. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions which were observed during the inspections of the PACM Buildings during 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material, which were not visible on the surface, were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that lay beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractor, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification

document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

UAH
The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (256) 890-6391 Fax: (256) 890-6376

: Bulk Asbestos Analysis
EPA 600/R-93/116

Receipt Date: 06-13-97

AIHA: 023601

Sample Date : 06/10/97

Client: Reisz Engineering
Building 32 Suite A2
3322 S. Memorial Parkway
Huntsville, AL 35801

Microscopist : Tom Carrington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	NIW	CaSO4	Othr
B 1928-01 / 12 x 12 floor tile brown rock-type					1				99

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO_4 = Calcium Sulfate
Fbgl = Fiberglass

UAH

Environmental Laboratory
Kenneth **E.** Johnson Research Center

Huntsville, Alabama 35899
Phone: (256) 890-6391
Fax: (256) 890-6376

Re : Bulk Asbestos Analysis EPA 600/R-93/116

AIHA: 023601

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Receipt Date : 06-20-97

Sample Date : 06/18/97

Microscopist: Tom Canington

Sample/Description	Asbestos Fibers (%) Chry	Amos	Croc	Othr	Non-Asbestos Material (%)			Cell
Fbgl MW CaSO4 Othr								
B3136-01 / run of TSI chalk-like insul					55	20		25
B3136-02 / elbow-putty material						40	60	

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = cellulose

MW = Mineral Wool
Ca SO4 = Calcium Sulfate
Fbgl = Fiberglass

A Space Grant College
An Affirmative Action / Equal Opportunity Institution

APPENDIX B

MISCELLANEOUS BUILDINGS WITH PACM

BUILDING NUMBERS

66
184
698
793
888
891
900
992
1012
1108
1800
1919
1920
1928
2020
2090
2115
2116
2202
3136
3189
3600
4434
4437

APPENDIX C

SELECTED ACM LOCATIONS PLANS

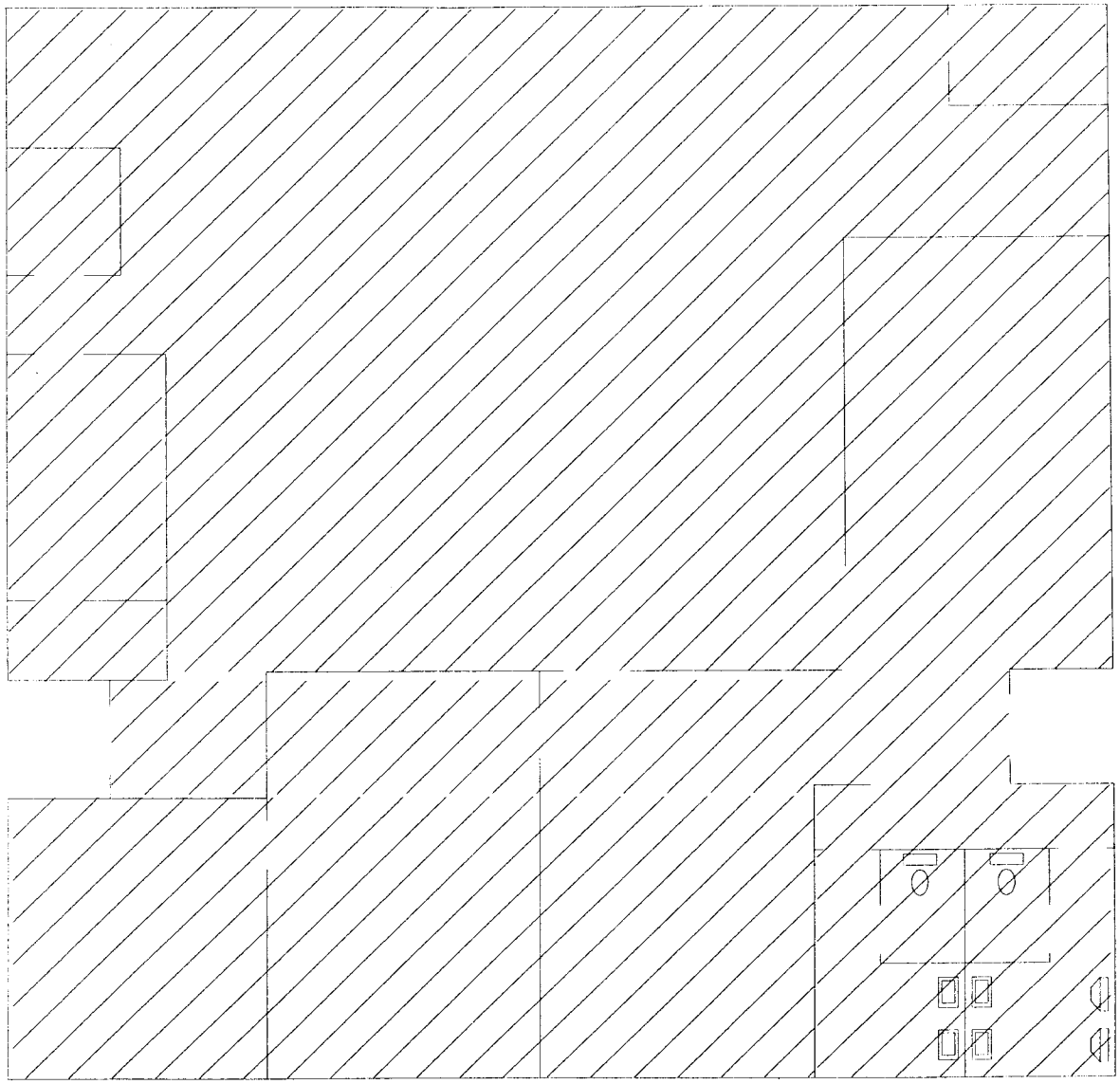
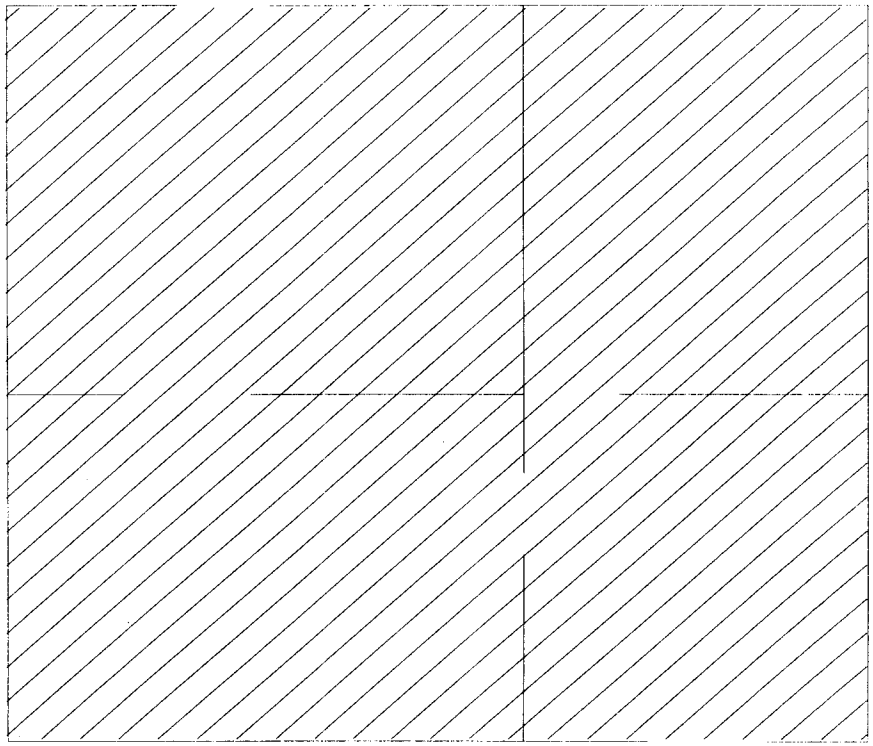


FIG. 1 LAYOUT PLAN SCALE: 1"=10'

12X12 TILE

CERAMIC TILE

BUILDING: 66	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



12X12 FLOOR TILE (CARPET LAID OVER IN MOST AREAS)

BUILDING: 184	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

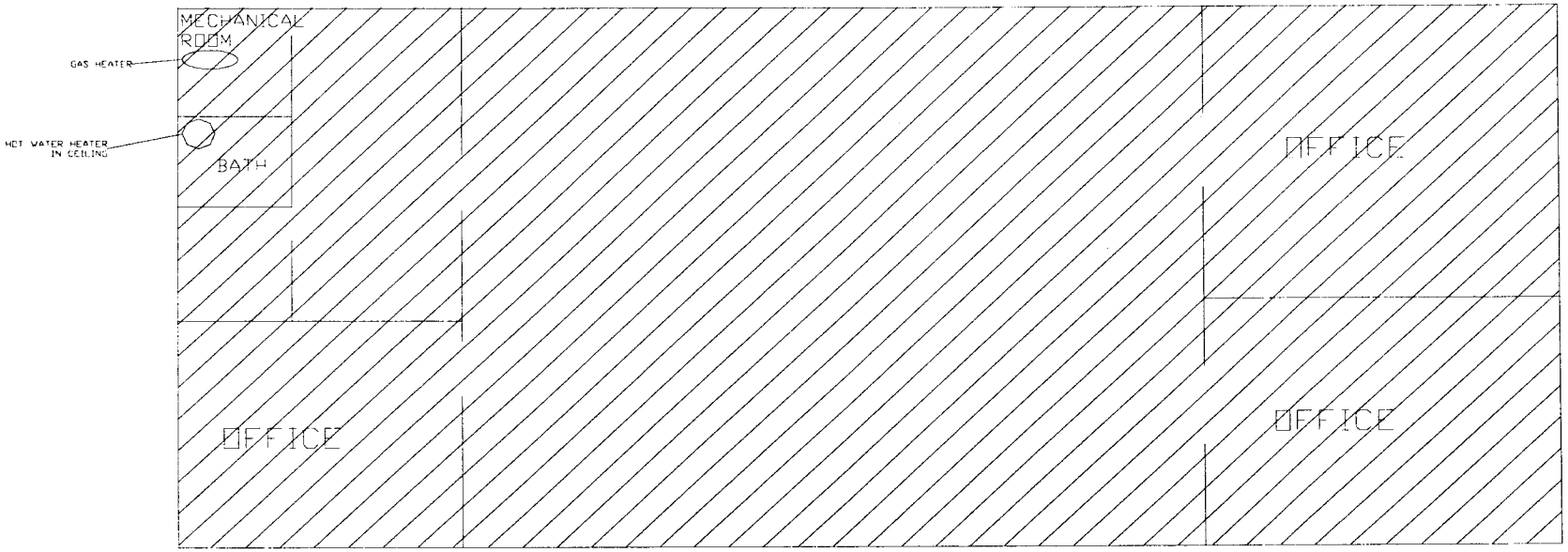


FIG. 1 LAYOUT PLAN SCALE: 1"=10'

12X12 TILE

BUILDING: 698	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

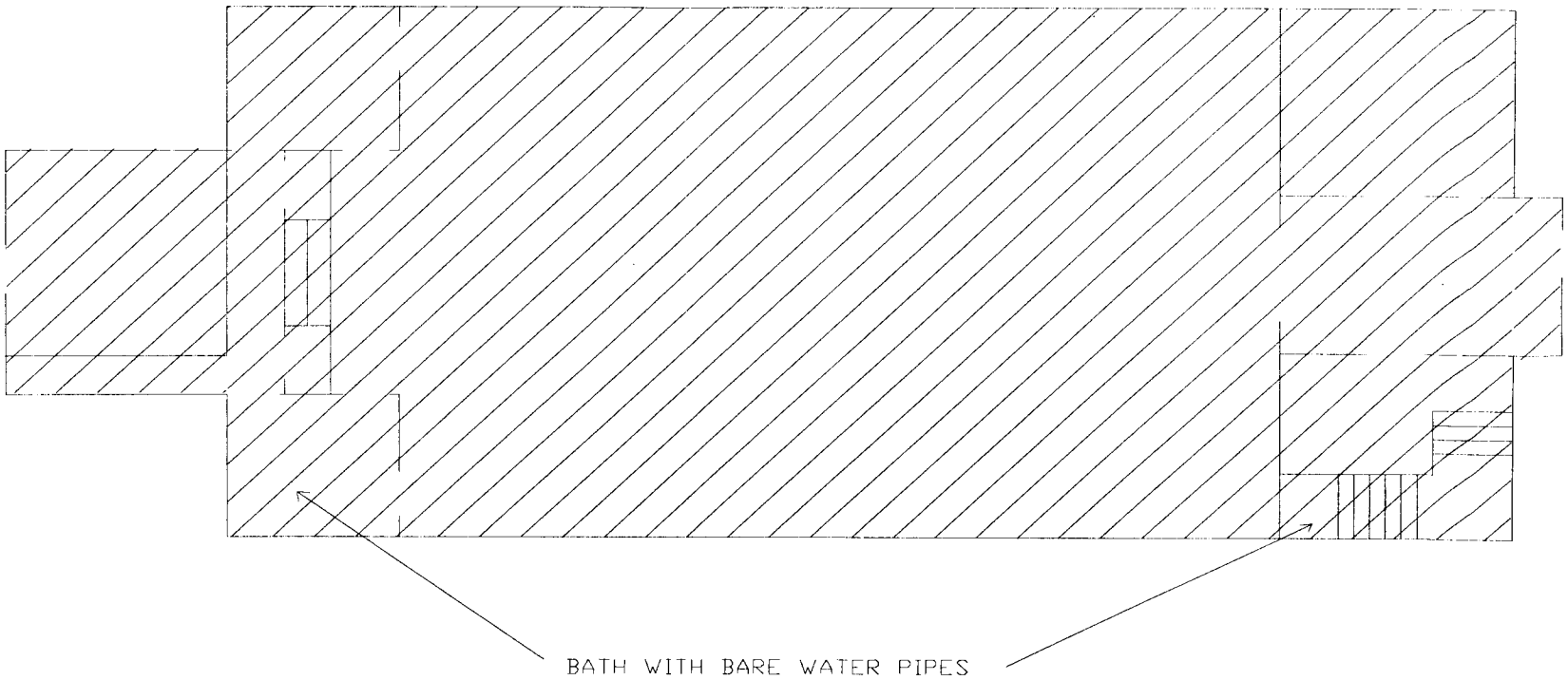


FIG. 1 LAYOUT PLAN SCALE: 1"=10'

ASBESTOS SIDING

12X12 TILE

BUILDING: 793	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

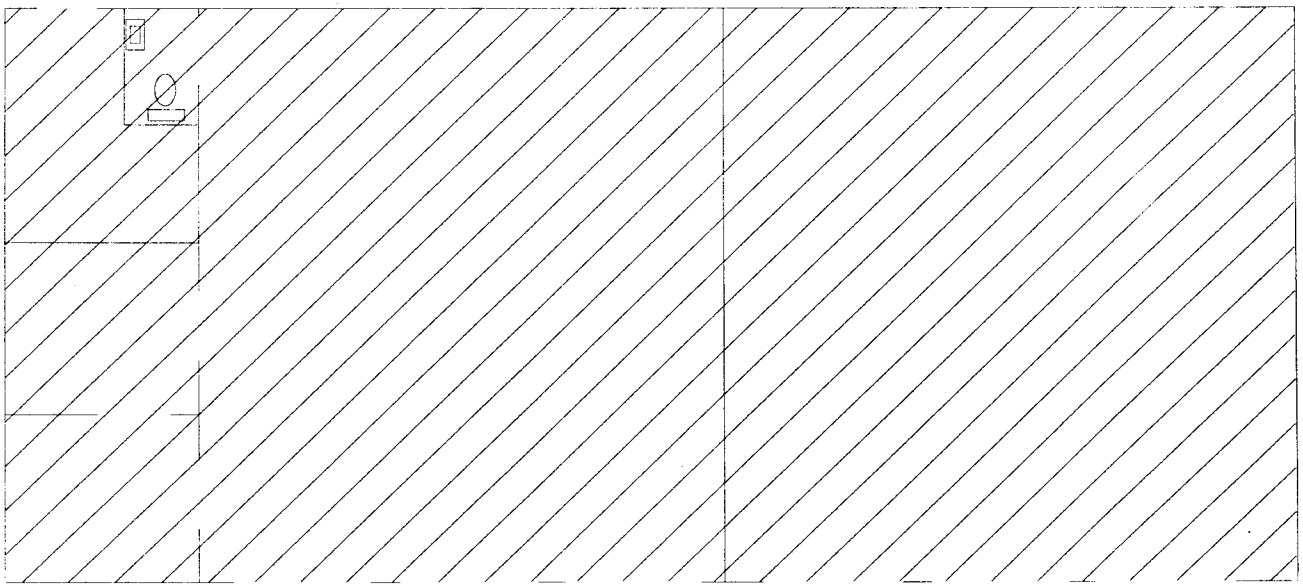


FIG. 1 LAYOUT PLAN

12X12 TILE

CONCRETE

BUILDING: 888	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

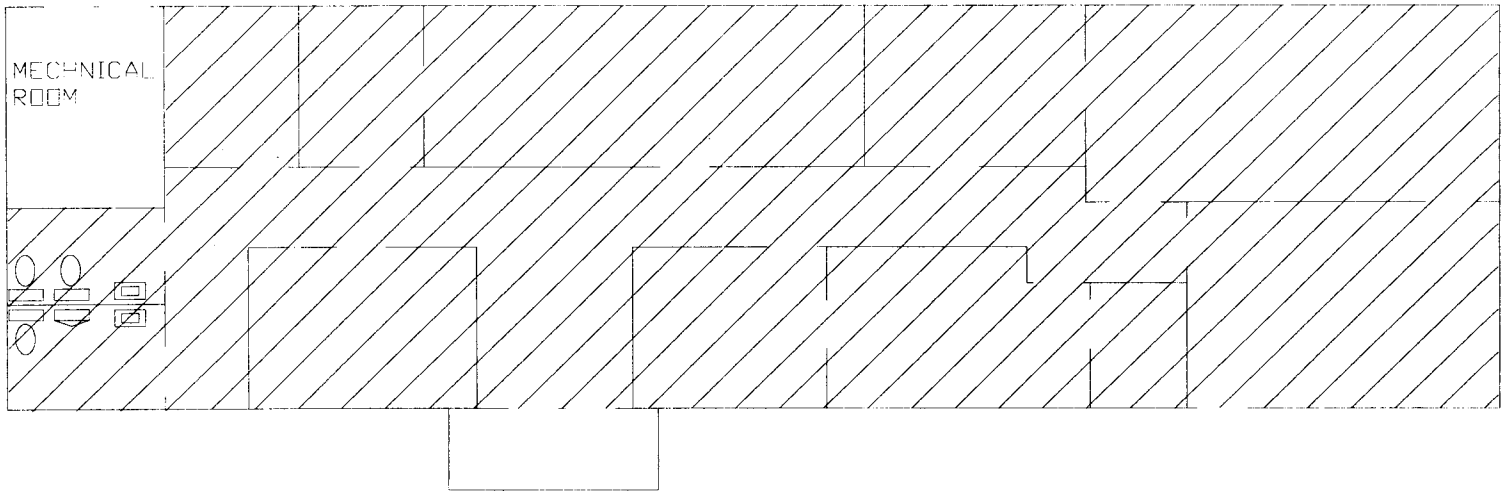


FIG 1 LAYOUT PLAN SCALE: 1" = 10'

12X12 TILE

CERAMIC TILE

BUILDING: 891	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

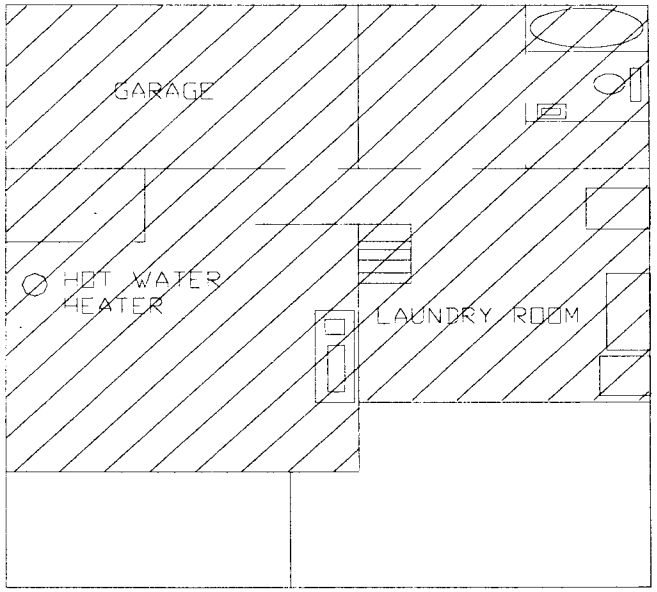


FIG 1 BASEMENT PLAN

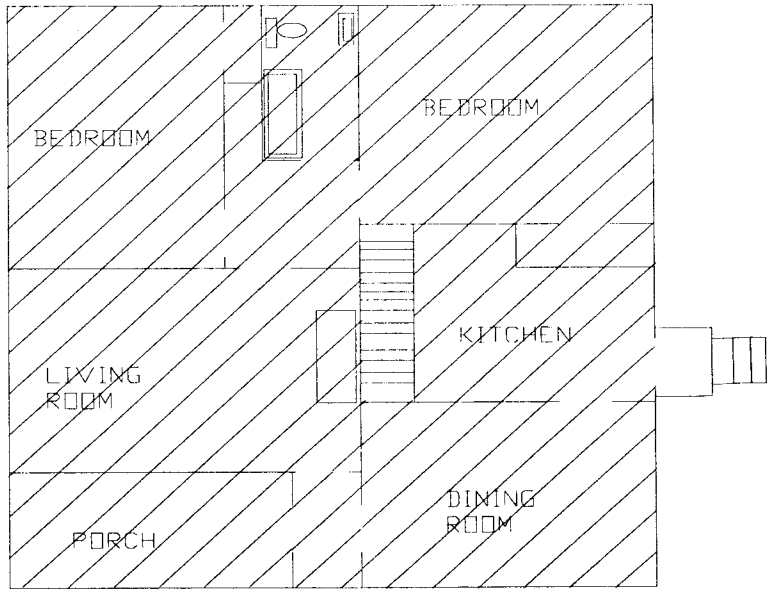


FIG. 2 FLOOR PLAN

SCALE: 1" = 10'

CONCRETE

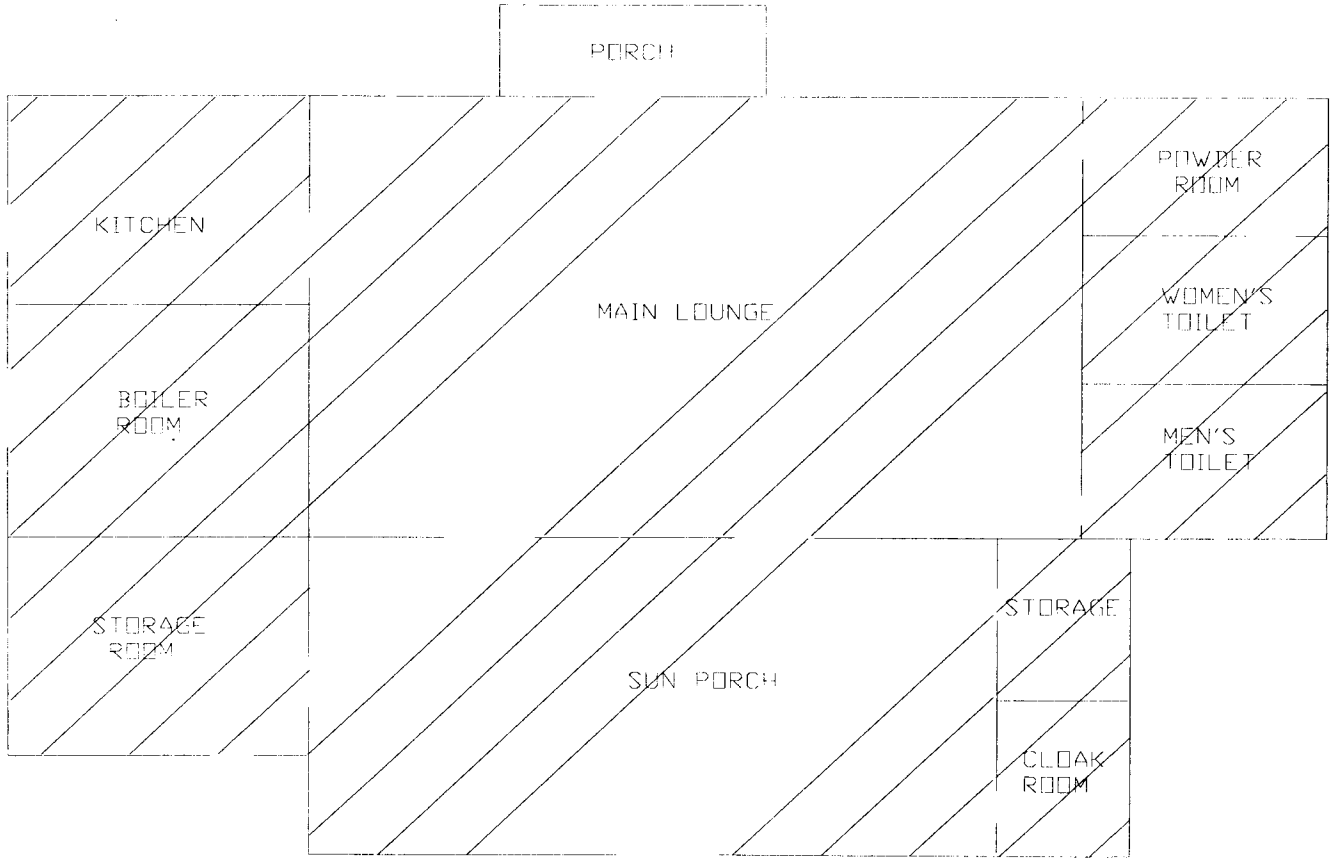
PAINTED CONCRETE

CARPET

12X12 TILE

CERAMIC TILE

BUILDING: 900	FIG. 1 BASEMENT FIG.2 FLOOR PLAN	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



WOOD FLOOR

CONCRETE FLOOR

12X12 FLOOR TILE

CERAMIC TILE

BUILDING: 992	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

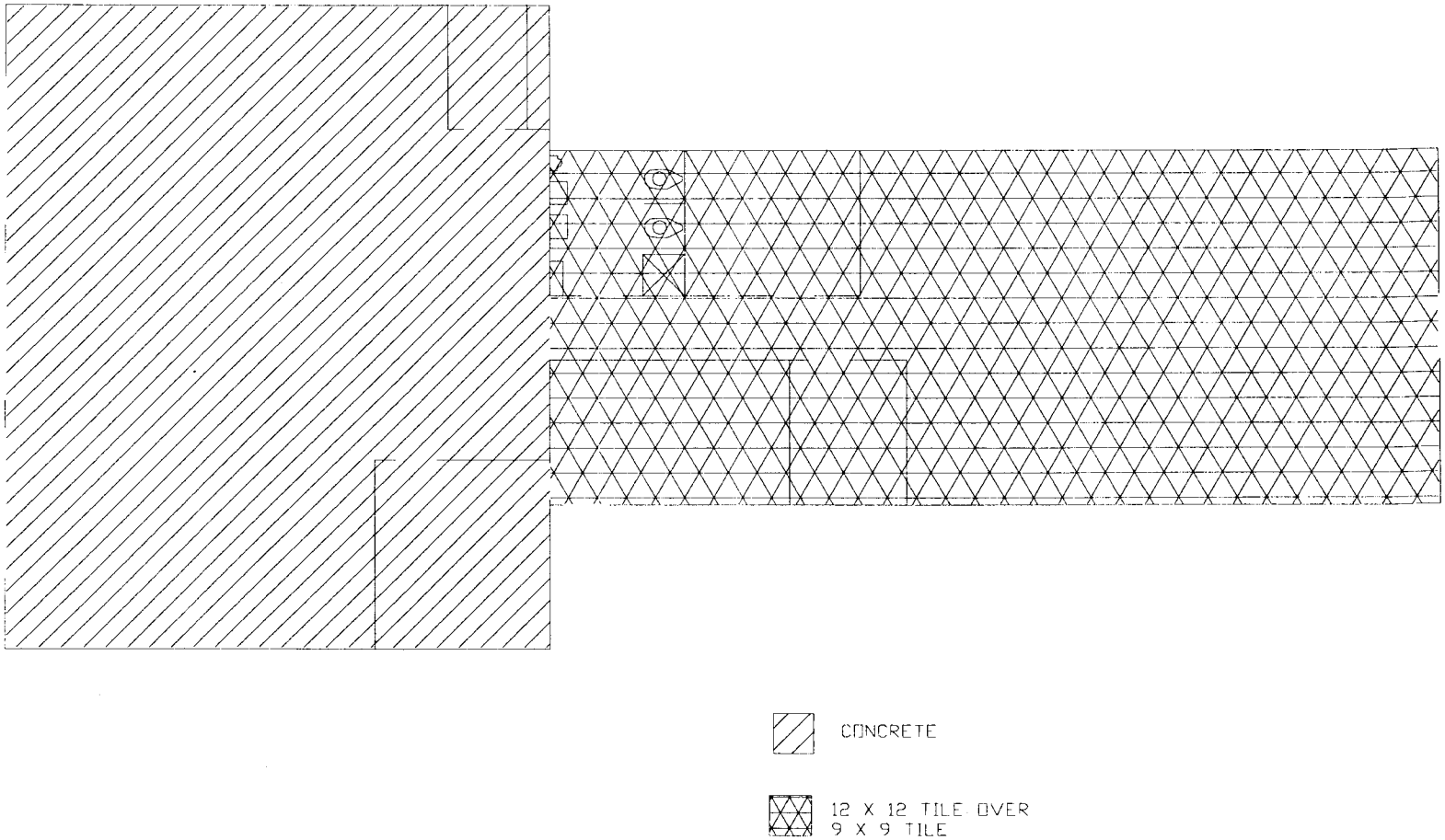


FIG. 1 LAYOUT PLAN SCALE: 1"=40'

BUILDING: 1108	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

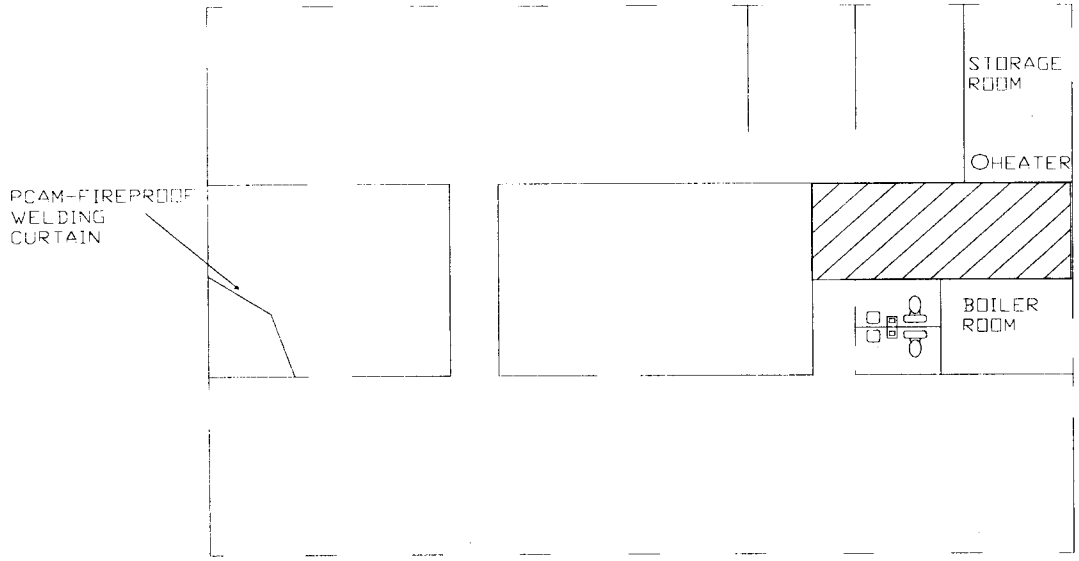
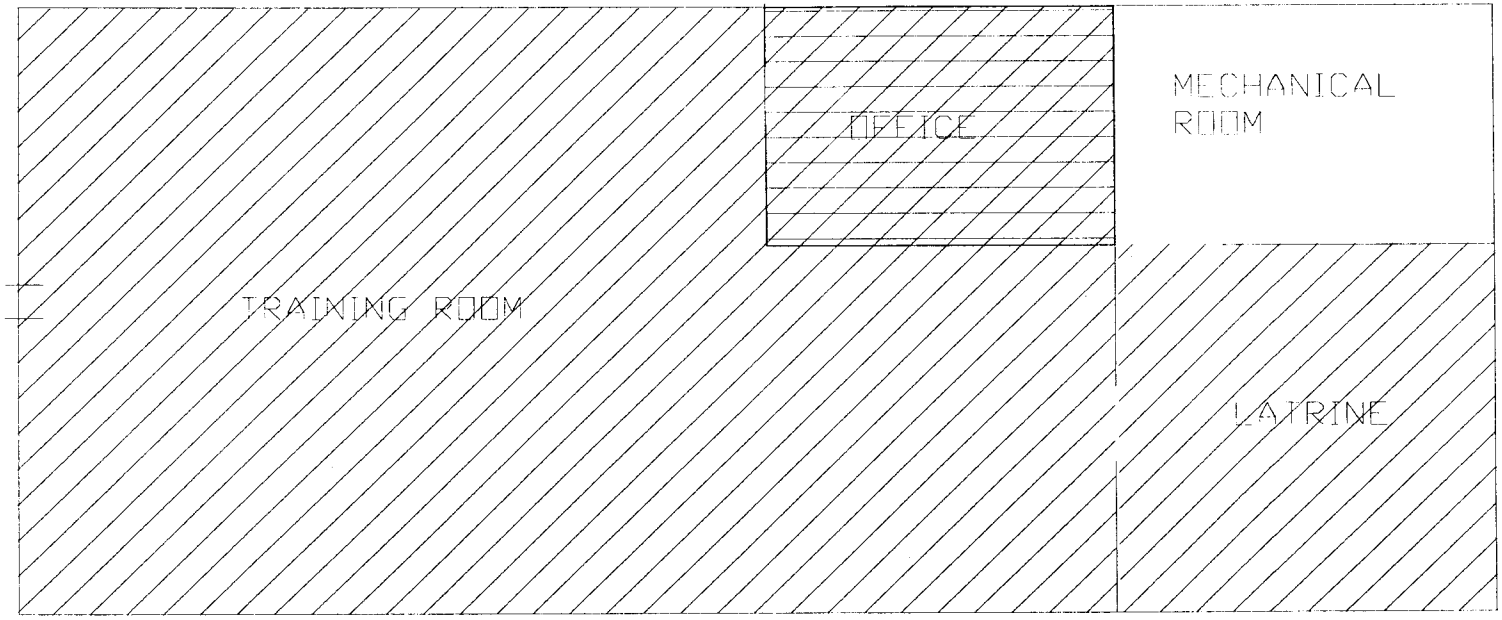


FIG. 1

LAYOUT PLAN

12X12 TILE

BUILDING: 1800	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

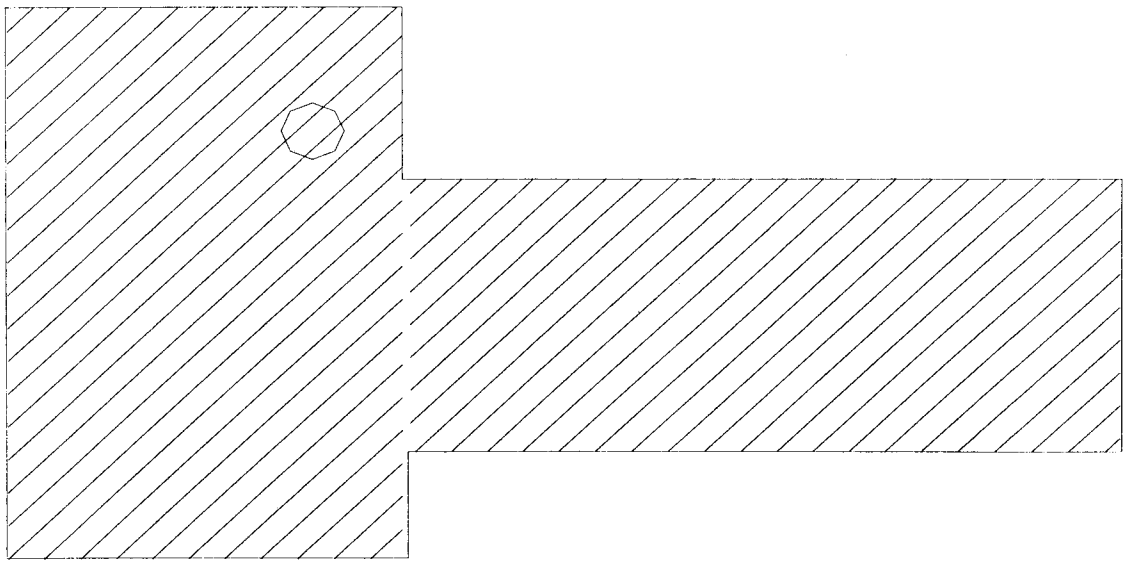


9X9 TILE

ACOUSTIC TILE ON CEILING

12X12 ACOUSTIC TILE

BUILDING: 1919	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



12X12 TILE

ACOUSTIC TILE ON CEILING AND WALLS THROUGHOUT

HOT WATER HEATER (HAS TRANSITE PIPE LEADING INTO THE ATTIC)

BUILDING: 1920	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

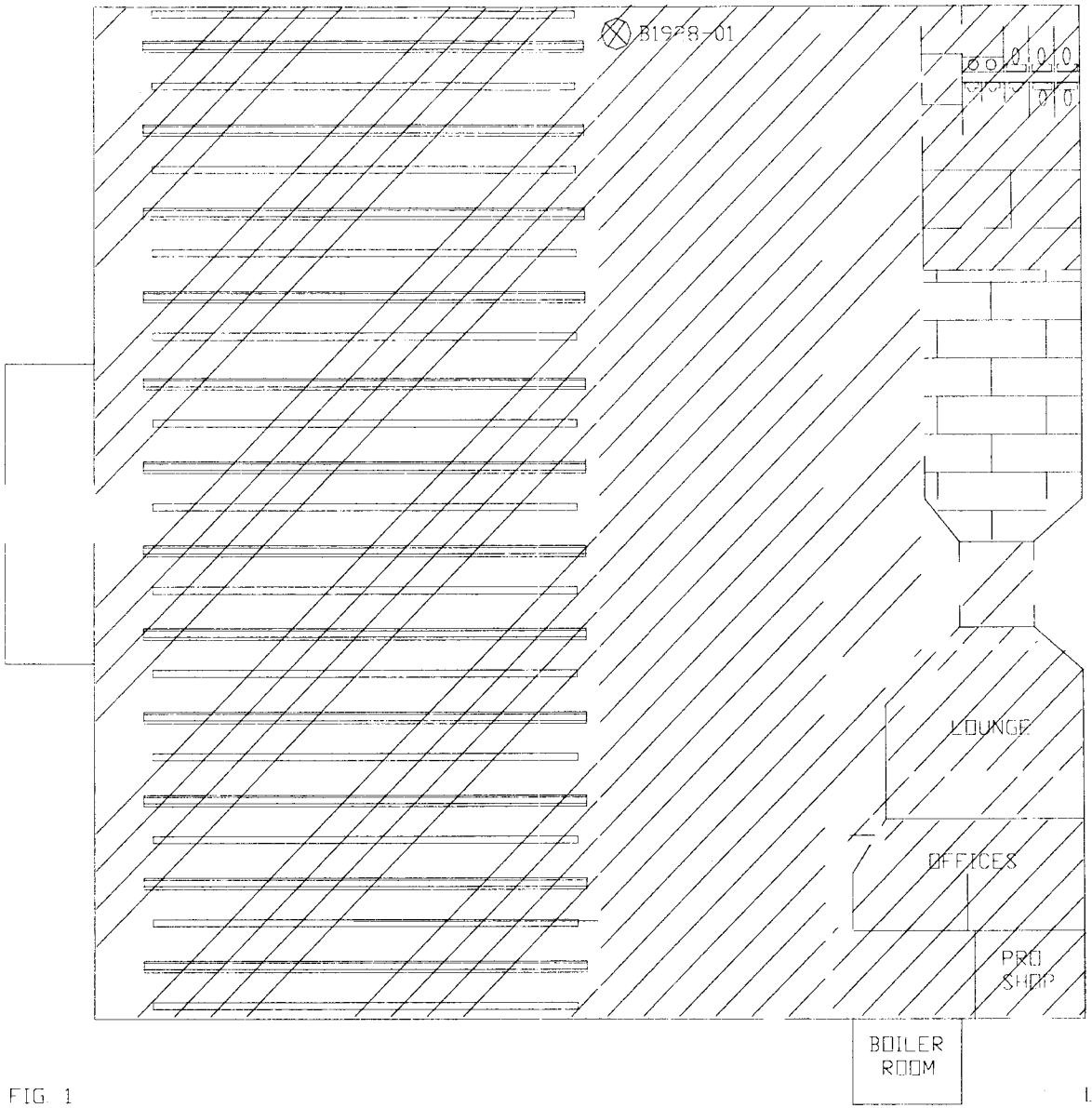


FIG. 1 LAYOUT PLAN

WOOD

REGULAR 12X12 TILE

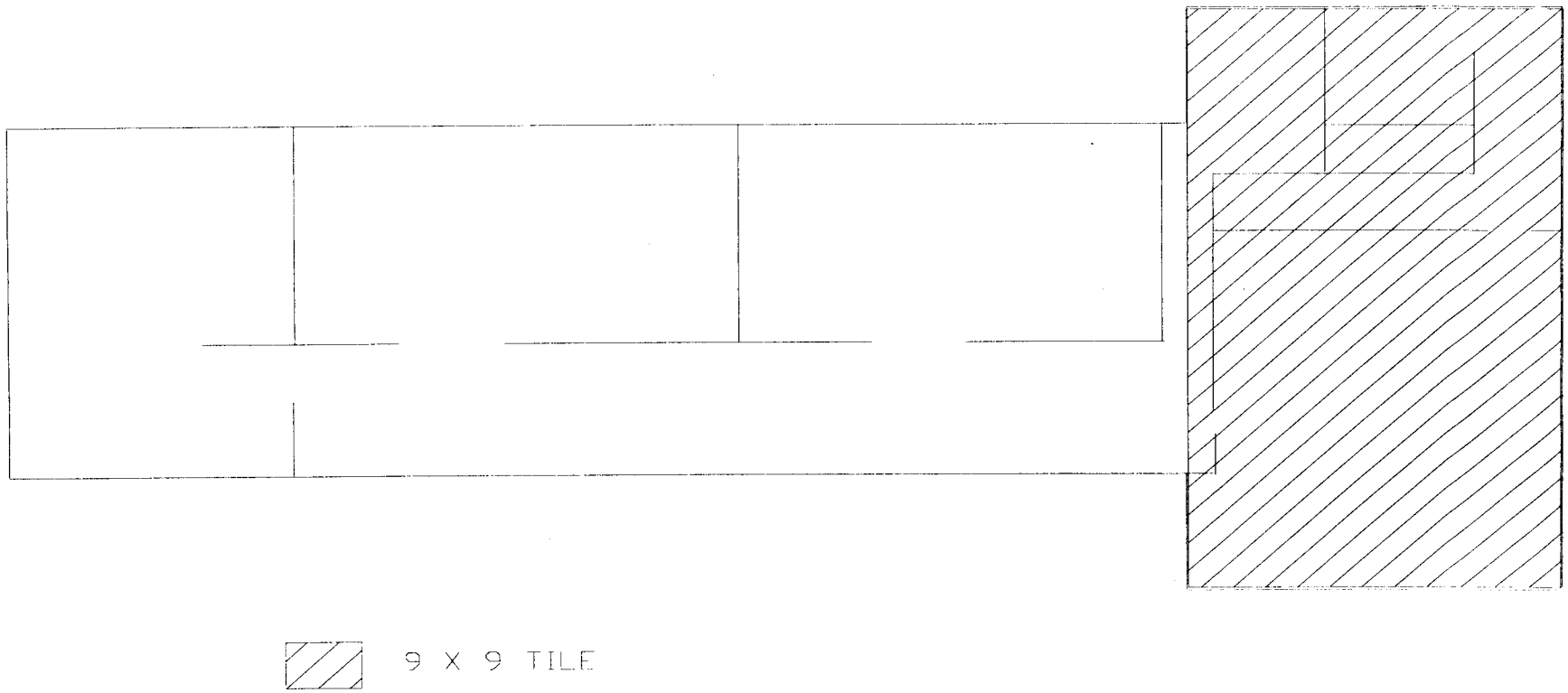
BROWN ROCK 12X12 TILE

CARPET

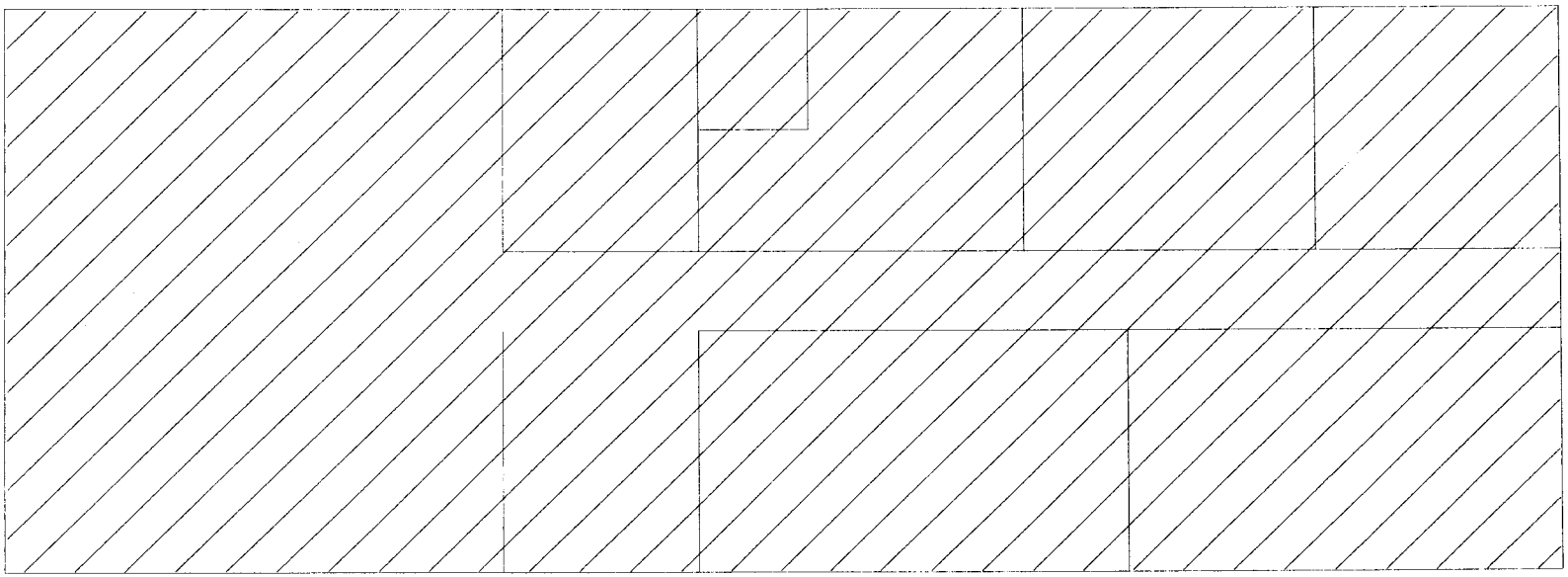
CERAMIC TILE

BRICK TILE

BUILDING: 1928	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



BUILDING: 2020	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



12X12 FLOOR TILE

BUILDING: 2090	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

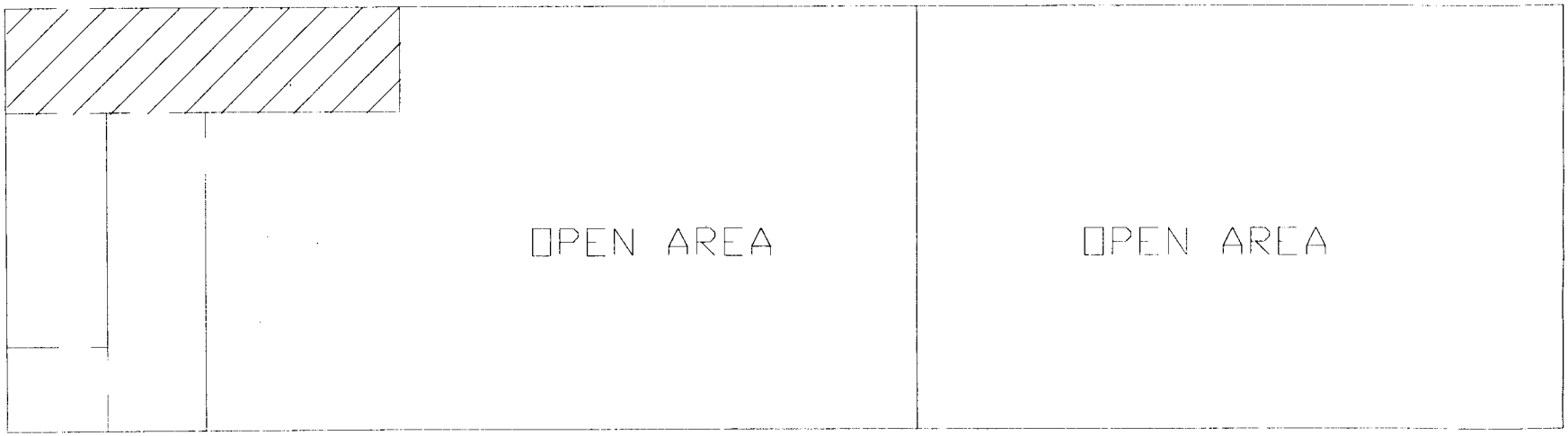
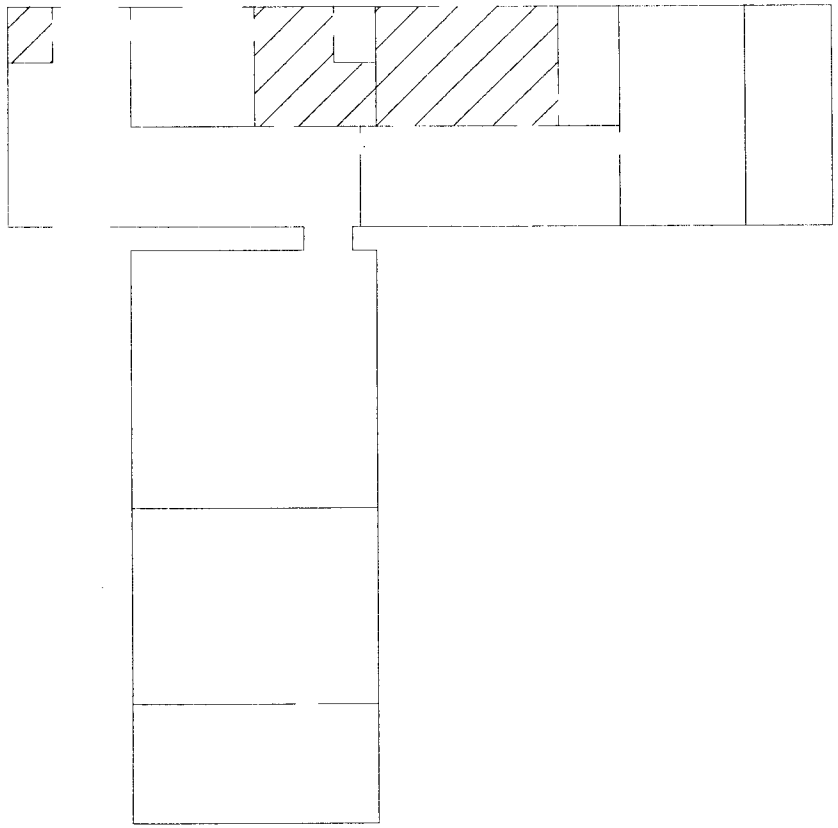


FIG 1 LAYOUT PLAN SCALE: 1"=40'

9X9 TILE

BUILDING: 2115	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

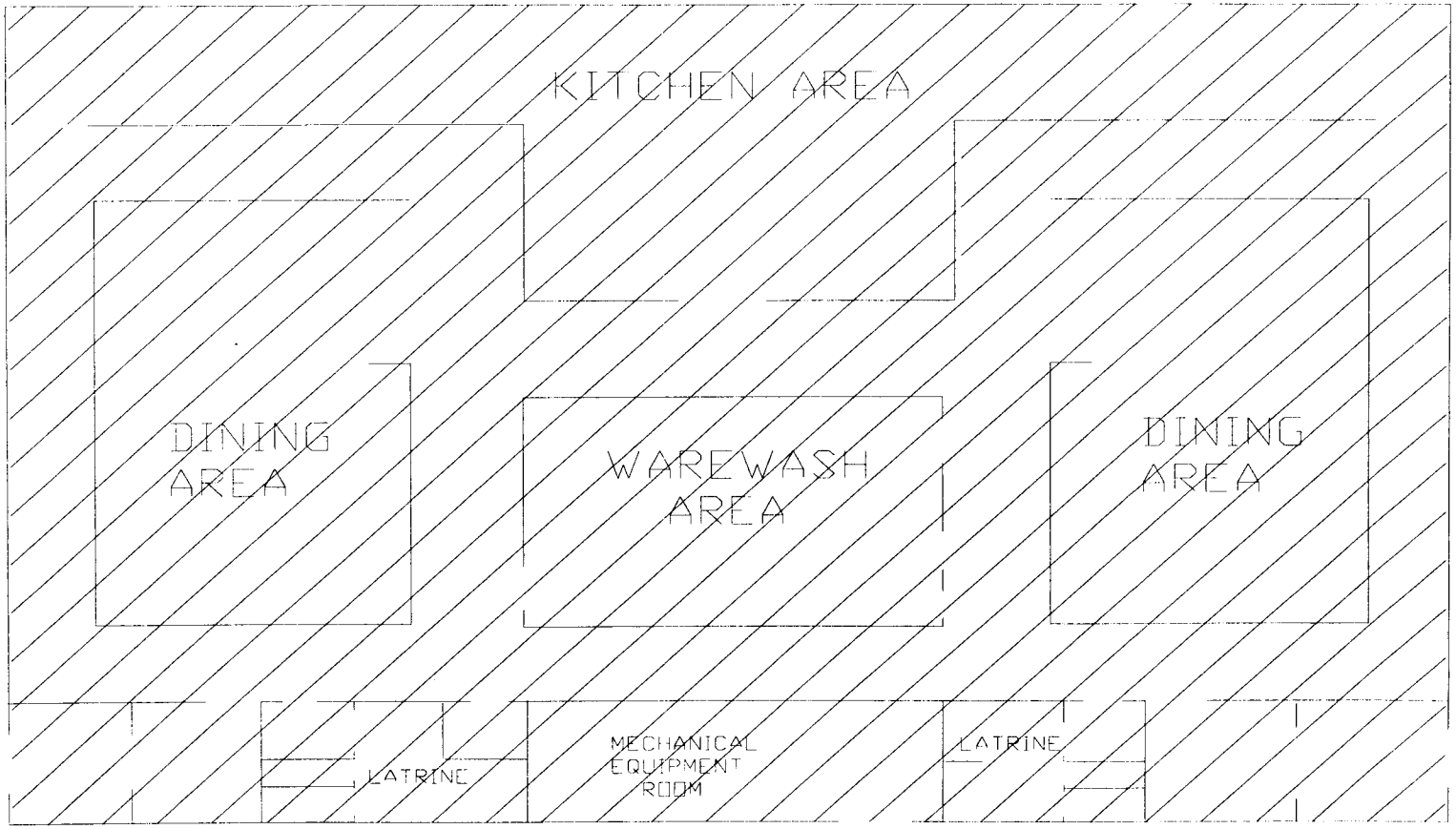


12X12 TILE

9X9 TILE

FIG. 1 LAYOUT PLAN

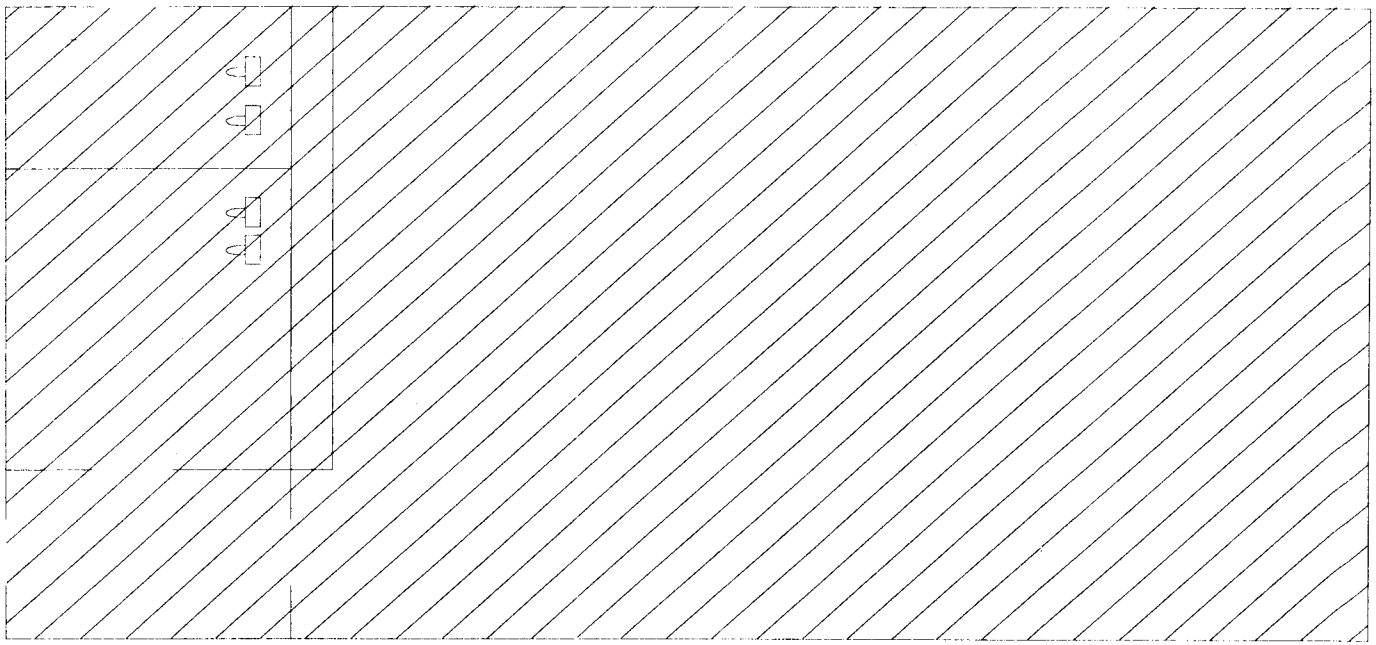
BUILDING: 2116	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D 0005 FM705	**REISZ ENGINEERING**



CERAMIC TILE

12X12 FLOOR TILE

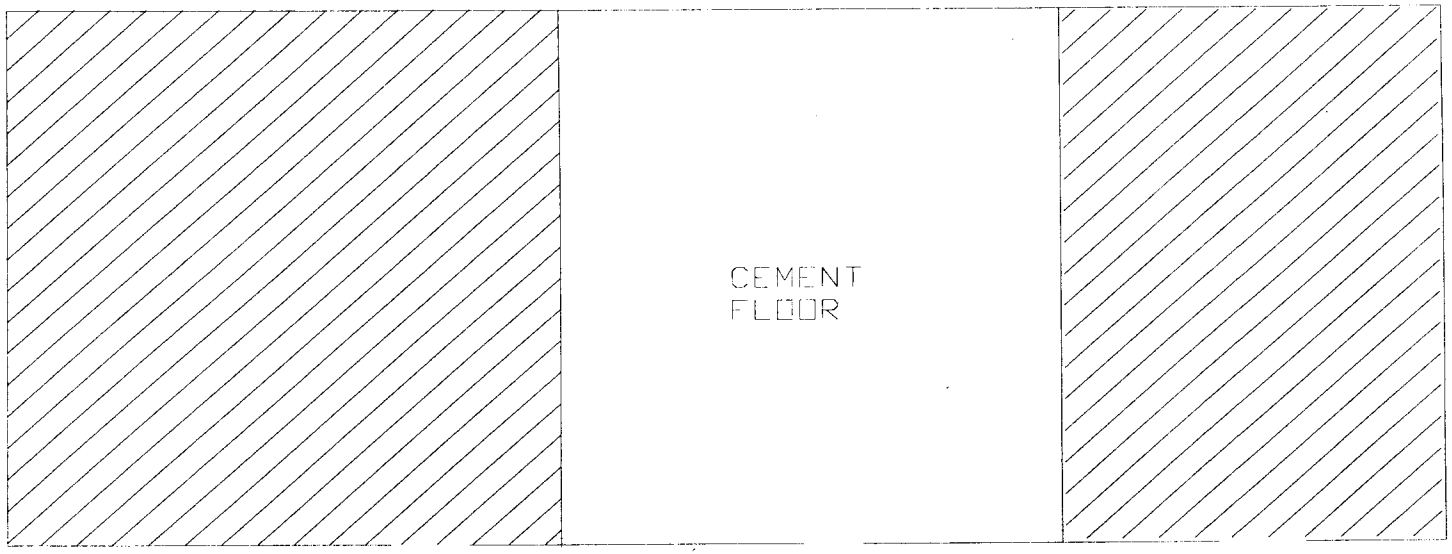
BUILDING: 2202	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



CONCRETE

12X12 TILE

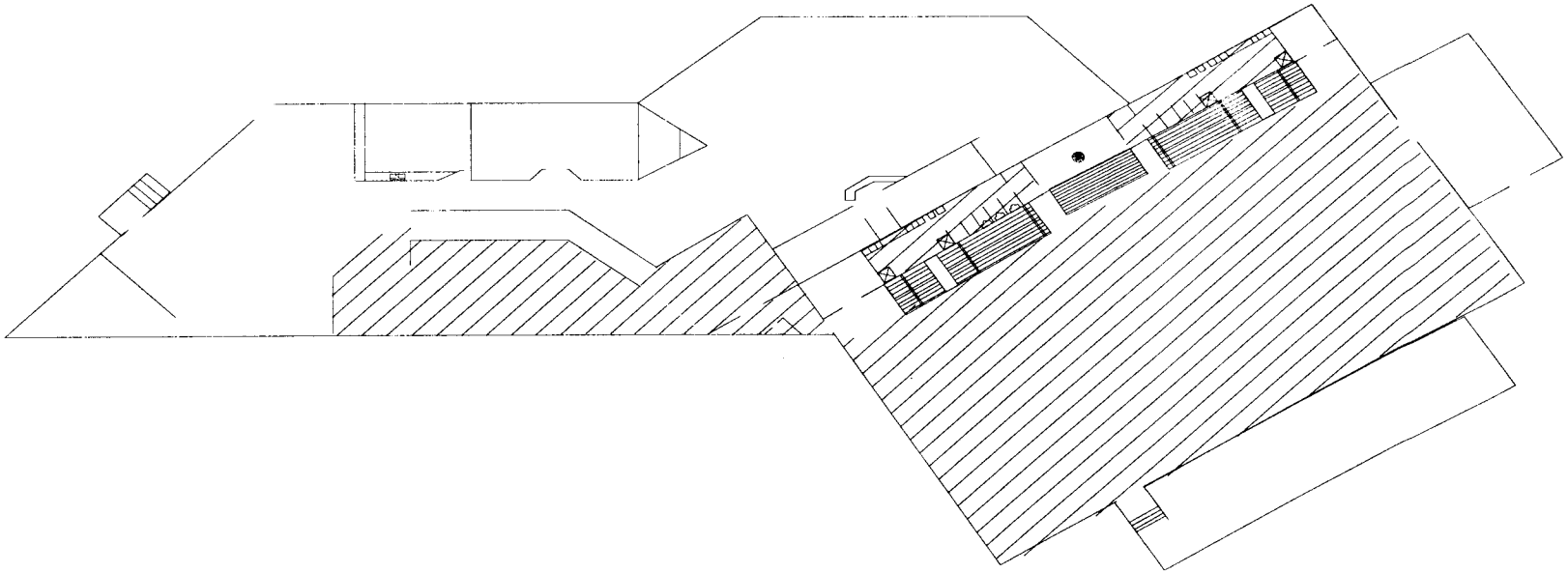
BUILDING: 3189		ASBESTOS SURVEY DAB-02-96-D-0005 FM705	**REISZ ENGINEERING**



12X12 TILE

9X9 TILE

BUILDING: 3297	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

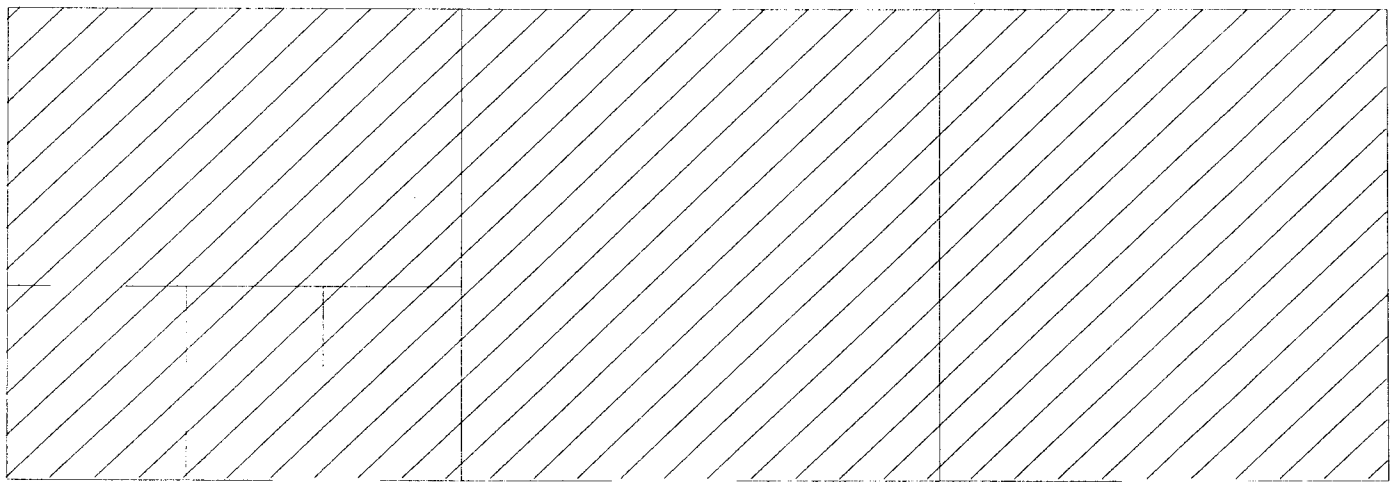


12 X 12 Floor Tile

Ceramic Tile

SCALE: 1"=30'

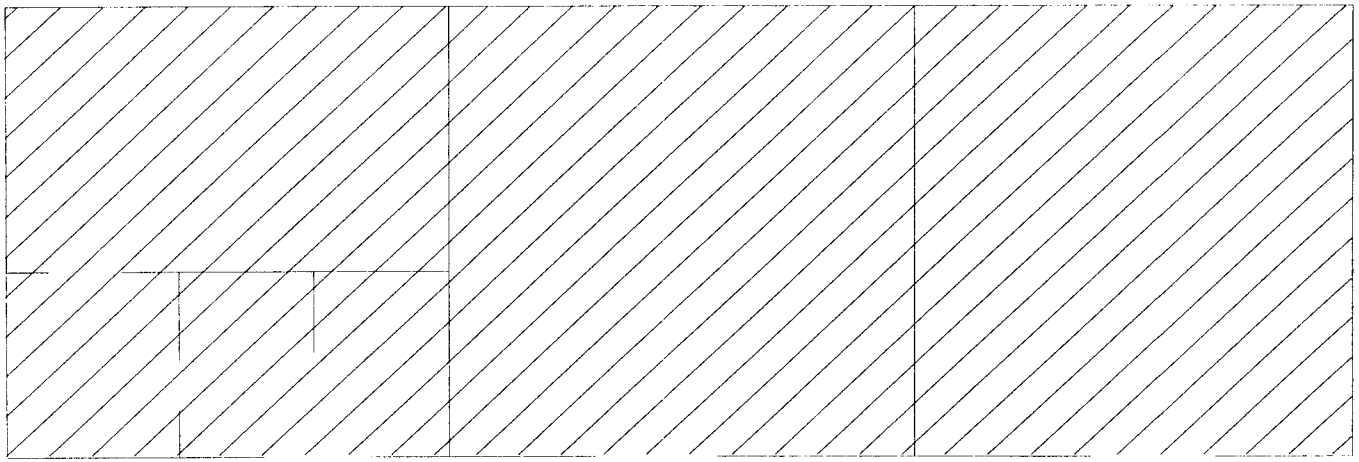
BUILDING: 3600		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



12X12 TILE

SCALE: 1"=30'

BUILDING: 4434		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



CEMENT

SCALE 1"=30'

BUILDING: 4437		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX D

SUMMARY TABLE OF PACM AND COST ESTIMATES

Building Number	PACM Material	Quantity	Estimated Abatement Cost*
B66	12x12 vinyl floor tile and mastic	6446 ft^2	$14,825.00
		Total	**$14,825.00**
B184	12x12 vinyl floor tile and mastic	576 ft^2	$1,400.00
		Total	**$1,400.00**
B698	12x12 vinyl floor tile and mastic	3108 ft^2	$7,150.00
		Total	**$7,150.00**
B793	12x12 vinyl floor tile and mastic	3,700 ft^2	$8,510.00
	Asbestos Siding	5890 ft	$10,315.00
		Total	**$18,825.00**
B888	12x12 vinyl floor tile and mastic	168 ft^2	$525.00
		Total	**$525.00**
B891	12x12 vinyl floor tile and mastic	2000 ft^2	$4,600.00
		Total	**$4,600.00**
B900	12x12 vinyl floor tile and mastic	216 ft^2	$650.00
		Total	**$650.00**
B992	12x12 vinyl floor tile and mastic	432 ft^2	$1,080.00
		Total	**$1,080.00**
B1012	12x12 vinyl floor tile and mastic	10,000 ft^2	$23,000.00
		Total	**$23,000.00**
B1108	9x9 vinyl floor tile and mastic	1420 ft^2	$3,550.00
		Total	**$3,550.00**
B1800	12x12 vinyl floor tile and mastic	240 ft^2	$725.00
		Total	**$725.00**
B1919	9x9 vinyl floor tile and mastic	1080 ft^2	$2,700.00
		Total	**$2,700.00**
B1920	12x12 vinyl floor tile and mastic	2136 ft^2	$4,925.00
	Transite pipe	10 ft	$100.00
		Total	**$5,025.00**
B1928	12x12 vinyl floor tile and mastic	1900 ft^2	$4,750.00
		Total	**$4,750.00**

Building Number	PACM Material	Quantity	Estimated Abatement Cost*
B2020	9x9 vinyl floor tile and mastic	651 ft^2	$1,650.00
		Total	**$1,650.00**
B2090	12x12 vinyl floor tile and mastic	1716 ft^2	$3,950.00
		Total	**$3,950.00**
B2115	9x9 vinyl floor tile and mastic	500 ft^2	$1,250.00
		Total	**$1,250.00**
B2116	12x12 vinyl floor tile and mastic	300 ft^2	$750.00
	9x9 vinyl floor tile and mastic	920 ft^2	$2,300.00
		Total	**$3,050.00**
B2202	12x12 vinyl floor tile and mastic	7800 ft^2	$17,940.00
		Total	**$17,940.00**
B3136	12x12 vinyl floor tile and mastic	675 ft^2	$1,690.00
		Total	**$1,690.00**
B3189	12x12 vinyl floor tile and mastic	200 ft^2	$600.00
		Total	**$600.00**
B3600	12x12 vinyl floor tile and mastic	300 ft^2	$750.00
		Total	**$750.00**
B4434	12x12 vinyl floor tile and mastic	800 ft^2	$2,000.00
		Total	**$2,000.00**
B4437	Thermal system insulation	6 ft^2	$75.00
		Total	**$75.00**
		Grand Total	**$184,790.00**

*Includes all air monitoring and design fees

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S):

4, 5, 12, 13, 24, 30A, 87, 3313B, 3314, 3323B, 3503A, 3507B, 3524C, 3534C , 3537A, 3619B, 3622B, 3643B, 3644A, 3700C, 3738A, and 3742B

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
HOUSING UNITS

CONTAINING NON-FRIABLE PACM

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
HOUSING UNITS

CONTAINING NON-FRIABLE PACM

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX C - ACM ANALYSIS REPORT

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at multiple housing buildings/units located at Fort McClellan, Alabama. (See Appendix B for a complete list of buildings included in this document). Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.
6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations (40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A.

was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

Reisz Engineering accredited Asbestos Inspectors performed inspections of these buildings for the purpose of identifying building materials suspected to contain asbestos. Some of the buildings referenced in this survey contain only non-friable ACM. Others contain friable, while some have no PACM. Refer to Appendix B for types and quantities of materials in individual buildings. These buildings serve as office, barracks and storage for the Alabama National Guard.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control

samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos in various buildings. A complete and more detailed description of these materials can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- None

Miscellaneous Material

- 12x12 vinyl floor tile in various buildings

- 9x9 vinyl floor tile in various buildings
- Vinyl flooring mastics
- Transite
- Black mastic coating on sinks

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

Details of all laboratory results can be found in Appendix C. A listing of all suspect materials, their corresponding sample numbers, general location, and approximate quantity are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey is given below.

FRIABLE ACM

None

NON FRIABLE ACM

Four types of non-friable presumed ACM were found in the buildings. 1) transite, 2) 9x9 floor tile, 3) 12x12 floor tile, and 4) mastics associated vinyl floor tile.

1) Presumed asbestos containing transite exhaust pipe is found in the following buildings:
3313B 3314 3323B 3619B 3622B 3643B 3644B 3644A 3738A 3742B

2) Presumed asbestos containing 9x9 inch floor tile and mastic is found in the following buildings:

Buckner Circle #4,#5,#13

3) Presumed asbestos containing 12x12 inch floor tile and mastic is found in the following buildings:

Buckner Circle #12 & 13 B24 30A B87 3503A 3507B 3524C 3534C 3537A 3700C

INACCESSIBLE MATERIAI,

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. The asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has written a Building Operations & Maintenance Plan for these buildings.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of these buildings during 1997.

Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

SUMMARY TABLE OF ACM AND COST ESTIMATES

Building Number	PACM Material	Quantity	Estimated abatement cost*
Buckner Circle #4 & #5	9x9 floor tile and mastic	320 sq. ft.	$800
Buckner Circle #12	12x12 floor tile and mastic	200 sq. ft.	$600
Buckner Circle #13	12x12 floor tile and mastic	220 sq. ft.	$660
	9x9 floor tile and mastic	100 sq. ft.	$250
B24	12x12 floor tile and mastic	1200 sq. ft.	$2,740
30A	12x12 floor tile and mastic	2,500 sq. ft.	$5,750
B87	12x12 floor tile and mastic	2,000	$4,600
3313B,3314,3323B 3619B,3622B,3643B, 3644B,3644A,3738A 3742B	Transite exhaust pipe	25 linear ft. per unit	$400 per unit
		TOTAL	$4,000
3503A,3507B,3524C 3534C,3537A,3700C	12x12 floor tile and mastic	1,000 sq. ft. per unit	$2,250 per unit
		TOTAL	$13,500

***Includes all air monitoring and design fees**

APPENDIX B

LIST OF BUILDINGS

BUILDING NUMBER

Buckner Circle #4
Buckner Circle #5
Buckner Circle #12
Buckner Circle #13
B24
30A
B87
3313B
3314
3323B
3401
3503A
3507B
3524C
3534C
3537A
3619B
3622B
3643B
3644A
3700C
3738A
3742B

APPENDIX C

ASBESTOS ANALYSIS RESULTS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 07/07/97

Sample Date : 06/30/97

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Microscopist: Tom Carrington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B3619b-01/ Black undercoating On sink					15				85

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate
Fbgl = Fiberglass

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Opportunity Institution

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY REPORT

BUILDING(S): 142, 1929, 2091, 2102 2109, 3160 and 3174

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
BUILDINGS

142, 256, 267, 337, 1929, 1966, 2051, 2091, 2098, 2102, 2109, 3160, 3174, 3213

CONTAINING NON-FRIABLE ACM
(TESTED)

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Fort McClellan

Staying Beautiful

Conducted and Prepared by:

REISZ ENGINEERING
P.O. BOX 1349
HUNTSVILLE, ALABAMA 35807

ASBESTOS CONTAINING BUILDING MATERIALS SURVEY
MISCELLANEOUS
BUILDINGS

142, 256, 267, 337, 1929, 1966, 2051, 2091, 2098, 2102, 2109, 3160, 3174, 3213

CONTAINING NON-FRIABLE ACM
(TESTED)

FORT McCLELLAN, ALABAMA

U.S. ARMY CONTRACT NO. DABT02-96-D-0005
DELIVERY ORDER 0005

Prepared For:

DIRECTORATE OF ENVIRONMENT
FORT McCLELLAN

APPROVED FOR TRANSMITTAL BY
JAMES R. WRIGHT

Conducted and Prepared by:

REISZ ENGINEERING

June, 1998

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APPENDIX E - SELECTED ACM LOCATION PLANS

1.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this survey was to locate and identify asbestos containing building materials at multiple buildings located at Fort McClellan, Alabama. (See Appendix C for a complete list of buildings included in this document). Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method
   EPA 600/M4-82-020.

4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.
5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.
6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

3.0 PROJECT CHARACTERISTICS

Reisz Engineering accredited Asbestos Inspectors performed inspections of these buildings for the purpose of identifying building materials suspected to contain asbestos. All of the buildings referenced in this survey contain only non-friable ACM. Refer to Appendix B for types and quantities of materials in individual buildings.

4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into

individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 6OO/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample

and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos in various buildings. A complete and more detailed description of these materials can be found in Appendix B.

Surfacing

- None

Thermal System Insulation

- Pipe fitting insulation

Miscellaneous Material

- 12x12 vinyl floor tile in various buildings
- 9x9 vinyl floor tile in various buildings

- Vinyl flooring mastics
- Transite

7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

A narrative description of all ACM identified by laboratory analysis during the survey is given below.

FRIABLE ACM

None

NON FRIABLE ACM

Four types of non-friable presumed ACM were found in the buildings. 1) transite, 2) 9x9 floor tile, 3) 12x12 floor tile, and 4) mastics associated vinyl floor tile.

1) Asbestos containing transite sheeting is found on the ceiling of one room in Building 337. A transite exhaust pipe is also located in this building.

2) Asbestos containing 9x9 inch floor tile and mastic is found in the following buildings: B256 B2102 B142 B267 B2098 B2091 B3213

3) Asbestos containing 12x12 inch floor tile and mastic is found in the following buildings: B1929 B1966 B3160 B3174 B2109 B337 B2051 B3213

INACCESSIBLE MATERIAL

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas should be assumed as "like" materials corresponding to materials sampled within the building.

8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. The asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos.

9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of these buildings during the period of this contract. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

APPENDIX A

REPORT OF LABORATORY ANALYSIS

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re
: Bulk Asbestos Analysis
EPA 600/R-93/116
AIHA: 023601

Receipt Date 07/26/97

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway
South Huntsville, AL
35801

Sample Date: 07/23-24/97

Microscopist Tom Carrington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B142-01/ ceiling tile above Drop ceiling					75				25
B142-02/ 9 X 9 tile	5								95
B142-03/ mastic	10				10		5		70
B142-04/ 12 X 12 floor tile					5				95
B142-05/ mastic					15				85
B256-01/ 9 X 9 floor tile	15								85
B256-02/ mastic from floor tile	10				10				80
B267-01/ 12 X 12 floor tile White									100
B267-02/ 9 X 9 floor tile Brown	10				5	2			83
B267-03/ 9 X 9 floor mastic	15				15				70
B267-04/ 9 X 9 floor tile black					5				95
B267-05/ 9 X 9 floor mastic	15				15				70
B267-06/ 9 X 9 floor tile Brown	15				5				80
B267-07/ 9 X 9 mastic	20				5				75
B337-01/ transite-like board On ceiling	30								70

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca SO4= Calcium Sulfate Fbgl = Fiberglass

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UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research
Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos
Analysis EPA
600/R-93/116
AIHA: 023601

Receipt Date: 06/20/97

Sample Date : 06/09/97

Microscopist: Tom Carrington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B1929-01A/ (a) Floor tile 12 X 12					10				90
(b) Mastic		20			15	1			64
B1929-02A/ (a) Floor tile 12 X 12					3				97
(b) Mastic		25			15	1			59
B1966-01A/ (a) Floor tile 12 X 12									100
(b) Mastic		15			10	1			74
B1966-02A/ (a) Floor tile 12 X 12					10				90
(b) Mastic		20			20	1			59
B1966-03A/ (a) Floor tile 12 X 12					3				97
(b) Mastic		18			10				72
B2051-01/ White powder around valve						5			95
B2051-02/ (a) Floor tile		10			15				75
(b) Mastic		25			15				60
B2051-03/ (a) Floor tile		10			5				85
(b) Mastic		10			25				65
B2091-01/ 9 X 9 floor tile		2			5				93
B2091-02/ ceiling tile					85				15

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04=** Calcium Sulfate
Fbgl = Fiberglass

A Space Grant College
An Affirmative Action / Equal
Opportunity Institution

UAH

The University of Alabama in Huntsville

Environmental Laboratory
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899
Phone: (205) 890-6391
Fax: (205) 890-6376

Re : Bulk Asbestos Analysis EPA 600/R-93/116
AIHA: 023601

Receipt Date: 06/20/97

Sample Date : 06/09/97

Microscopist: Tom Carrington

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway South
Huntsville, AL 35801

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B2098-01/ (a) 9 X 9 tile	15				15				70
B2098-01/ (b) Mastic					20				80
B2102-01/ 9 X 9 floor tile	15								85
[illegible]02-02/ insul. Covering									100
B2109-01/ (a) Floor tile					25				75
(b) Mastic	15				20				65
B2109-02/ (a) Floor tile					12				88
(b) Mastic	12				25				63
B2109-03/ (a) Floor tile					10				90
(b) Mastic	1				30				69
B3160-01/ (a) 12 X 12 tile	15				10	1			74
(b) Mastic					8				92
B3174-01 (a) 12 X 12 tile					3				97
(b) Mastic	12				5				83

[illegible]y = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04=** Calcium Sulfate
Fbgl = Fiberglass

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Kenneth **E.** Johnson
Research Center

The University of Alabama in Huntsville

Huntsville, Alabama **35899**
Phone: **(205) 890-6391**
Fax: **(205) 890-6376**

Re : Bulk Asbestos Analysis EPA 600/R-93/116

ReceiptDate :01/15/98

AIHA: 023601

Sample Date :01/12/98

Client: Reisz Engineering
Building 32 Suite, A2
3322 Memorial Parkway
South Huntsville, AL
35801

Microscopist : **Tom** Canington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)			
	Chry	Amos	Croc	Othr	Cell	Fbgl	NW	CaSO4	Othr
B3213-01/ (a) 9 x 9 ile				10				15	75
B3213-01/ (b) Mastic				30				10	60

Chry = Chrysotile
Amos = Amosite
Croc = Crocidolite

Othr = Other
Cell = Cellulose

MW = Mineral Wool
Ca **S04** = Calcium Sulfate Fbgl = Fiberglass

APPENDIX B

SUMMARY OF ACM AND COST ESTIMATES

Building Number	PACM Material	Quantity	Estimated abatement cost*
B142	9x9 floor tile and mastic	20000 sq. ft.	$46000
B256	9x9 floor tile and mastic	300 sq. ft.	$800
B267	9x9 under 12x12 floor tile and mastic	18000 sq. ft.	$51750* *increase due to multiple layers
B337	Transite board on ceiling	1600 sq. ft.	$3680
	Transite exhaust pipe (presumed)	8 ft. 12 inch dia.	$250
	12x12 floor tile and mastic	2750 sq. ft.	$6325 per bldg.
B1929	12x12 floor tile and mastic	8000 sq. ft.	$18400
B1966	12X12 floor tile and mastic	7200 sq. ft.	$16560
B2051	12x12 floor tile and mastic	17000 sq. ft.	$39100
B2091	9x9 f.t. & mastic	3800	$8740
B2098	9X9 floor tile and mastic	4400 sq. ft.	$10120
B2102	9x9 floor tile and mastic	7000 sq. ft.	$16100

B2109	12x12 floor tile and mastic	850 sq. ft.	$1955
B3160	12x12 floor tile and mastic	2000 sq. ft.	$4600
B3174	12x12 floor tile and mastic	1400 sq. ft.	$3200
B3213	12x12 floor tile and mastic	5500 sq. ft.	$12650
	9x9 floor tile and mastic	6500 sq. ft.	$14950

***Includes all air monitoring and design fees**

APPENDIX C

LIST OF BUILDINGS

BUILDING NUMBER

142
256
267
337
1929
1966
2051
2091
2098
2102
2109
3160
3174
3213

APPENDIX D

ACM SAMPLE LOCATION PLANS

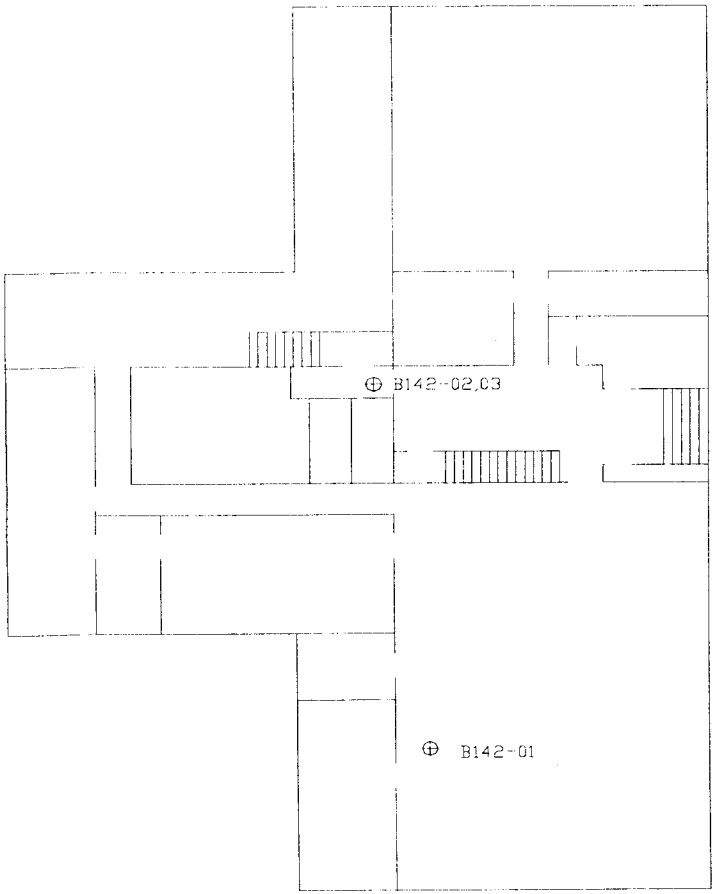


FIG. 2 FIRST FLOOR

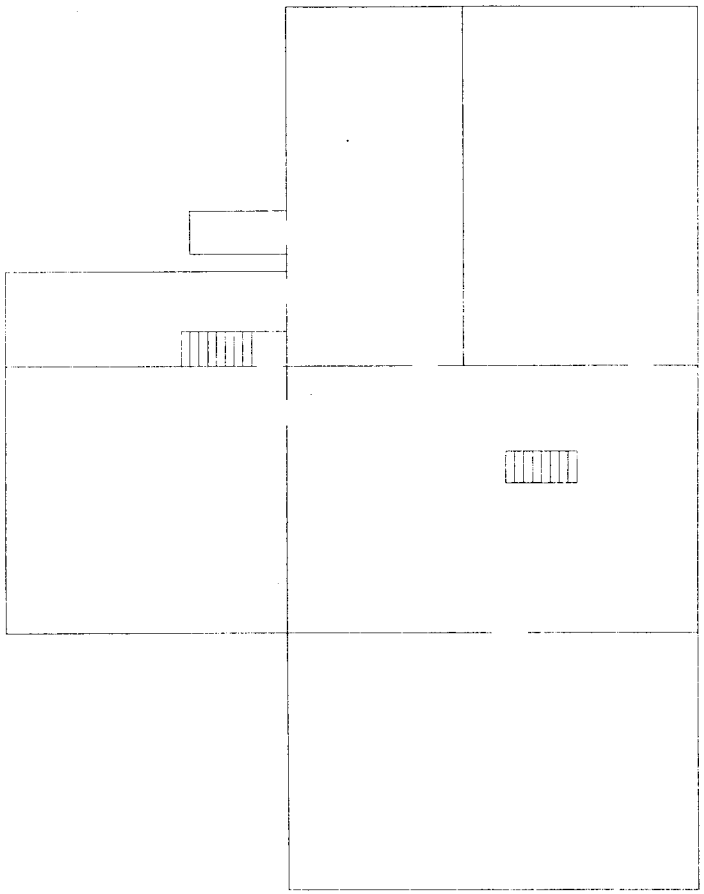


FIG. 1 BASEMET

⊕ Negative Sample Locations

⊕ Positive Sample Locations

BUILDING 142	FIG. 1 BASEMENT FIG. 2 FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

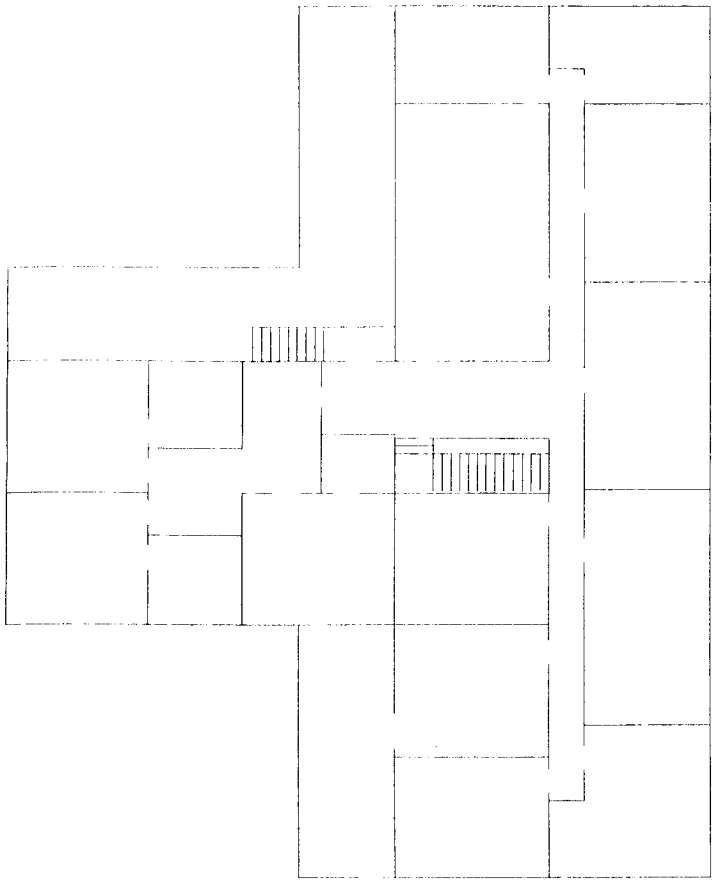


FIG 3 SECOND FLOOR

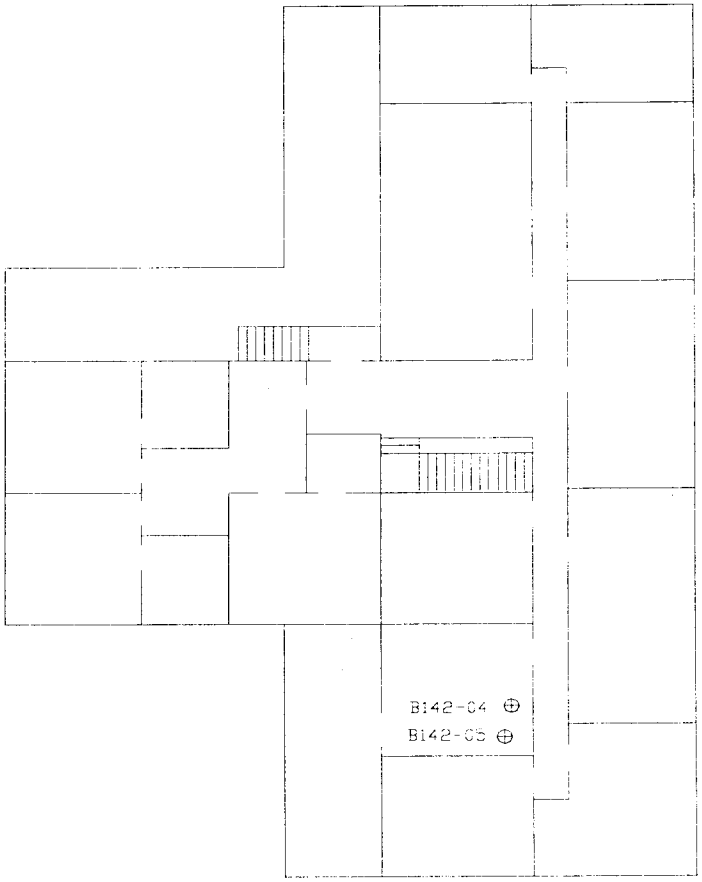
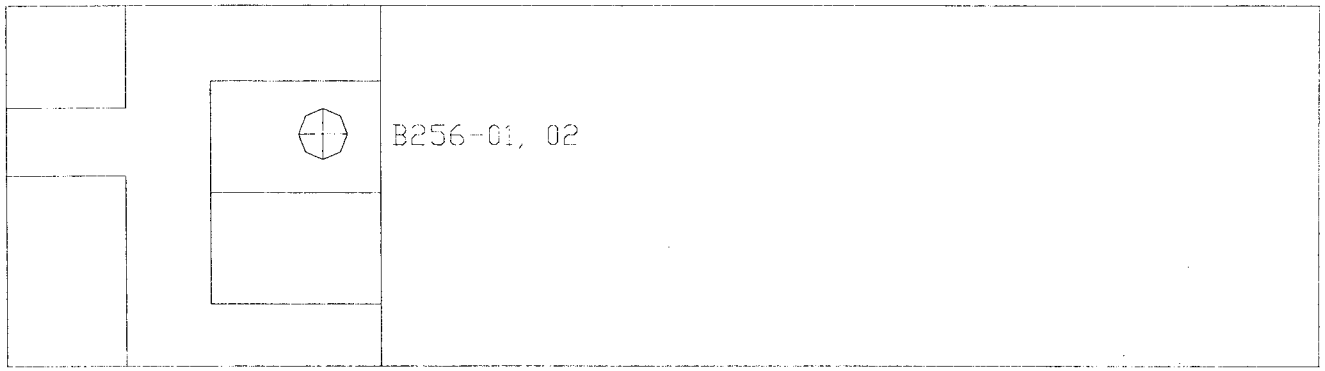


FIG 4 THIRD FLOOR

Negative Sample Locations

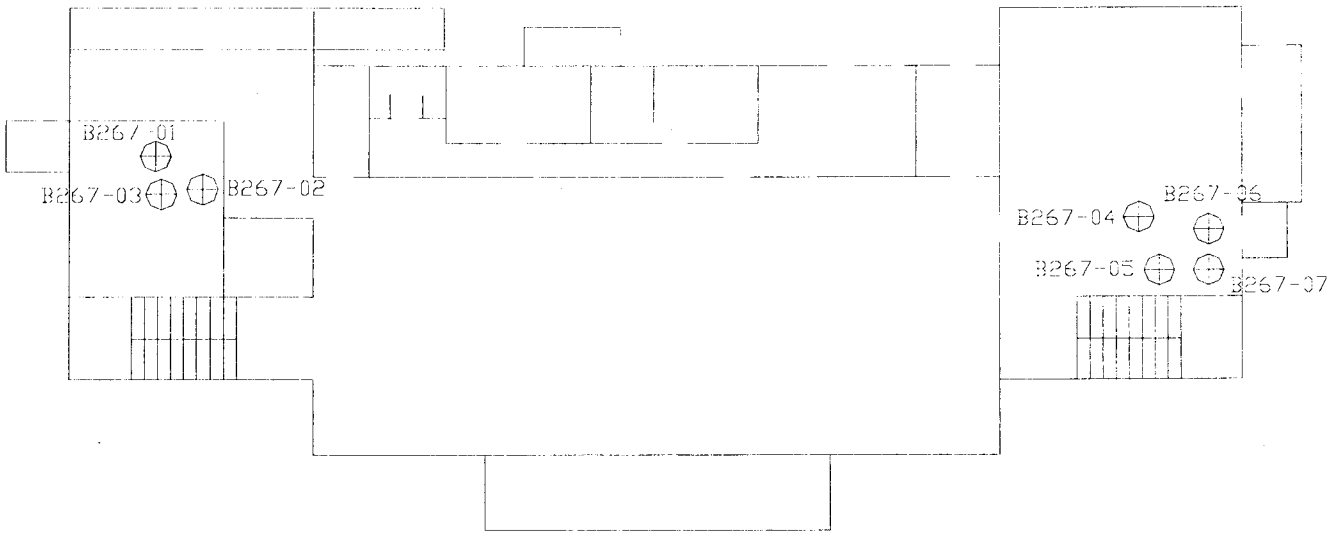
Positive Sample Locations

BUILDING 142	FIG 3 SECOND FLOOR FIG 4 THIRD FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



⊕ Positive Sample Locations

BUILDING: 256	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

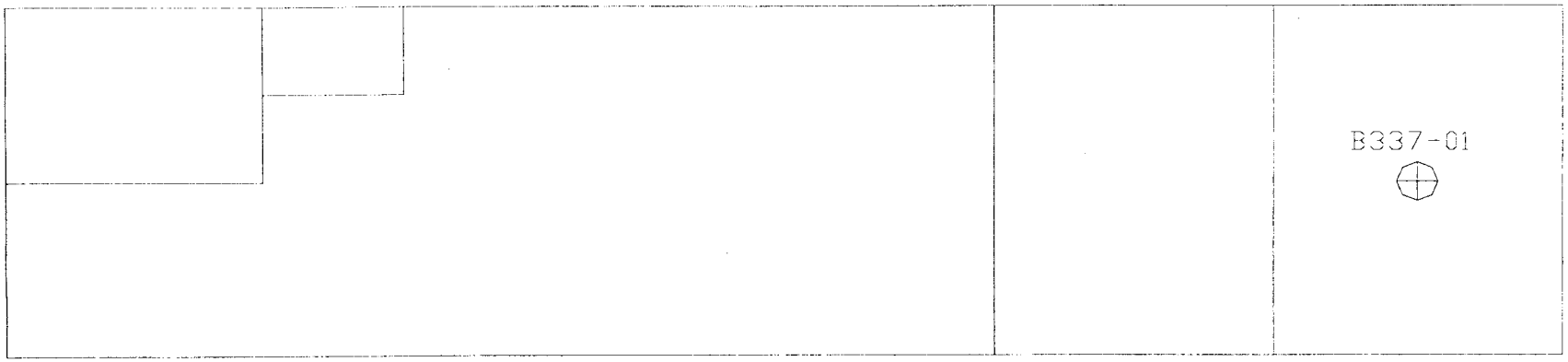


Negative Sample Locations

Positive Sample Locations

FIG. 1 LAYOUT PLAN

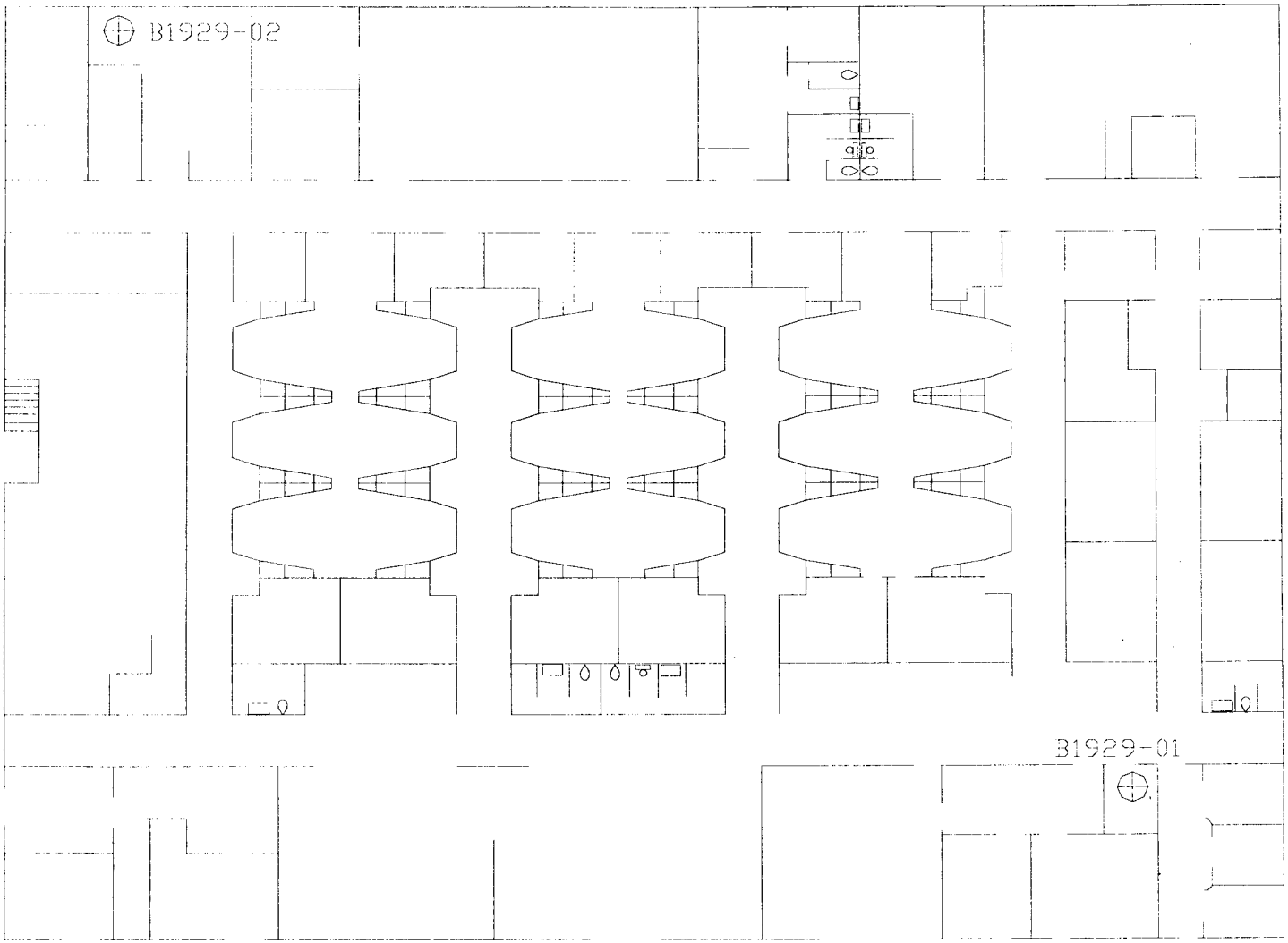
BUILDING 267	FIG. 1 FIRST FLOOR	ASBESTOS SURVEY DABT02-96-D-0005 FM/05	**REISZ ENGINEERING**



Positive Sample Locations

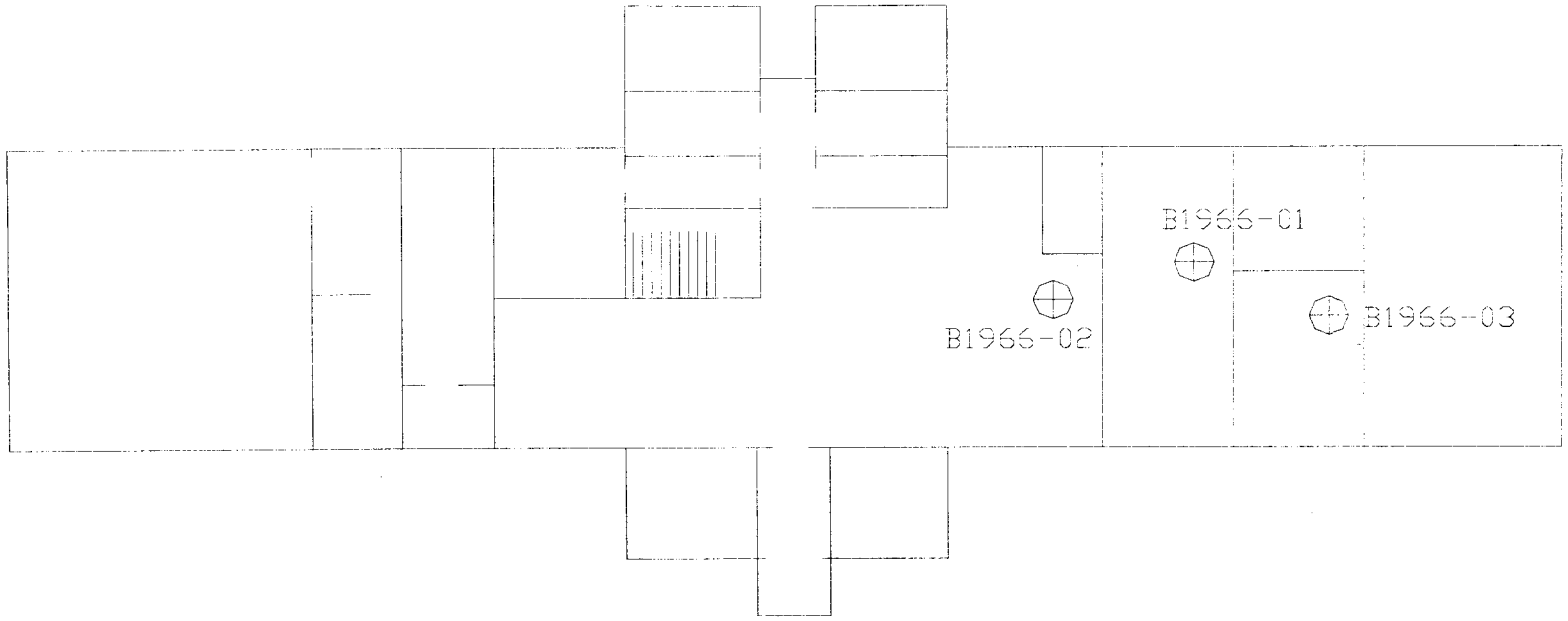
FIG. 1 LAYOUT PLAN

BUILDING: 337	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



Positive Sample Locations

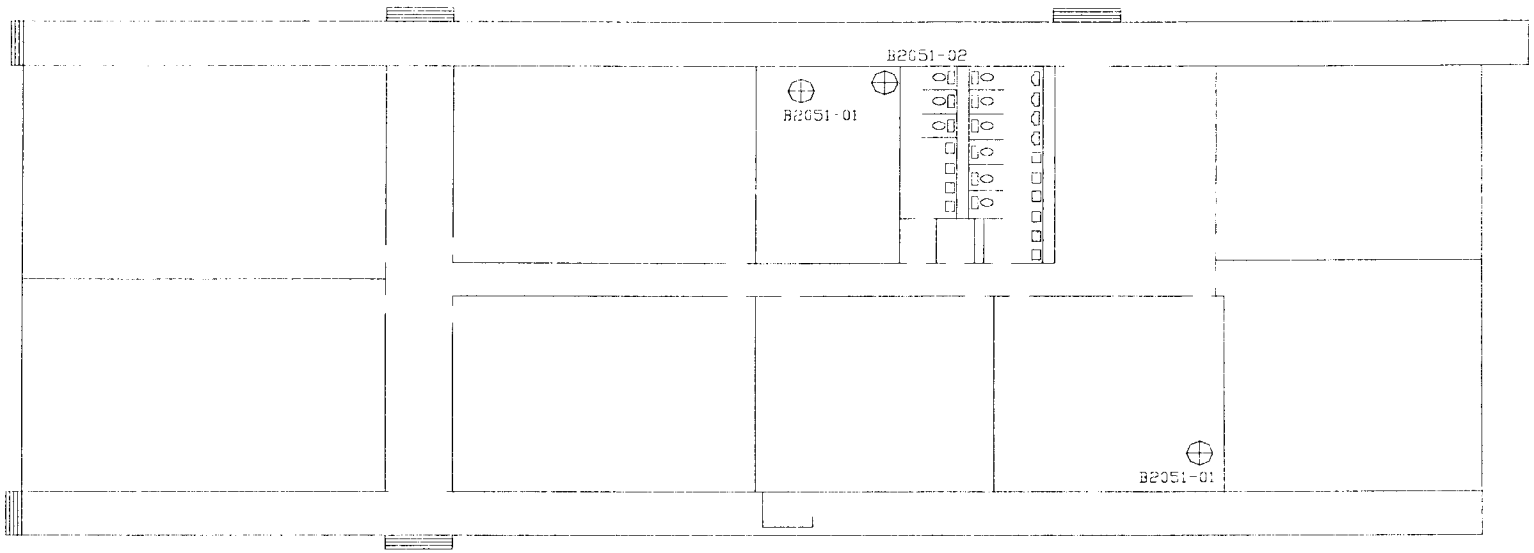
BUILDING 1929	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	REISZ ENGINEERING



Positive Sample Locations

FIG 1 LAYOUT PLAN

BUILDING 1966	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



Negative Sample Locations

Positive Sample Locations

FIG 1 LAYOUT PLAN

BUILDING 2051	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

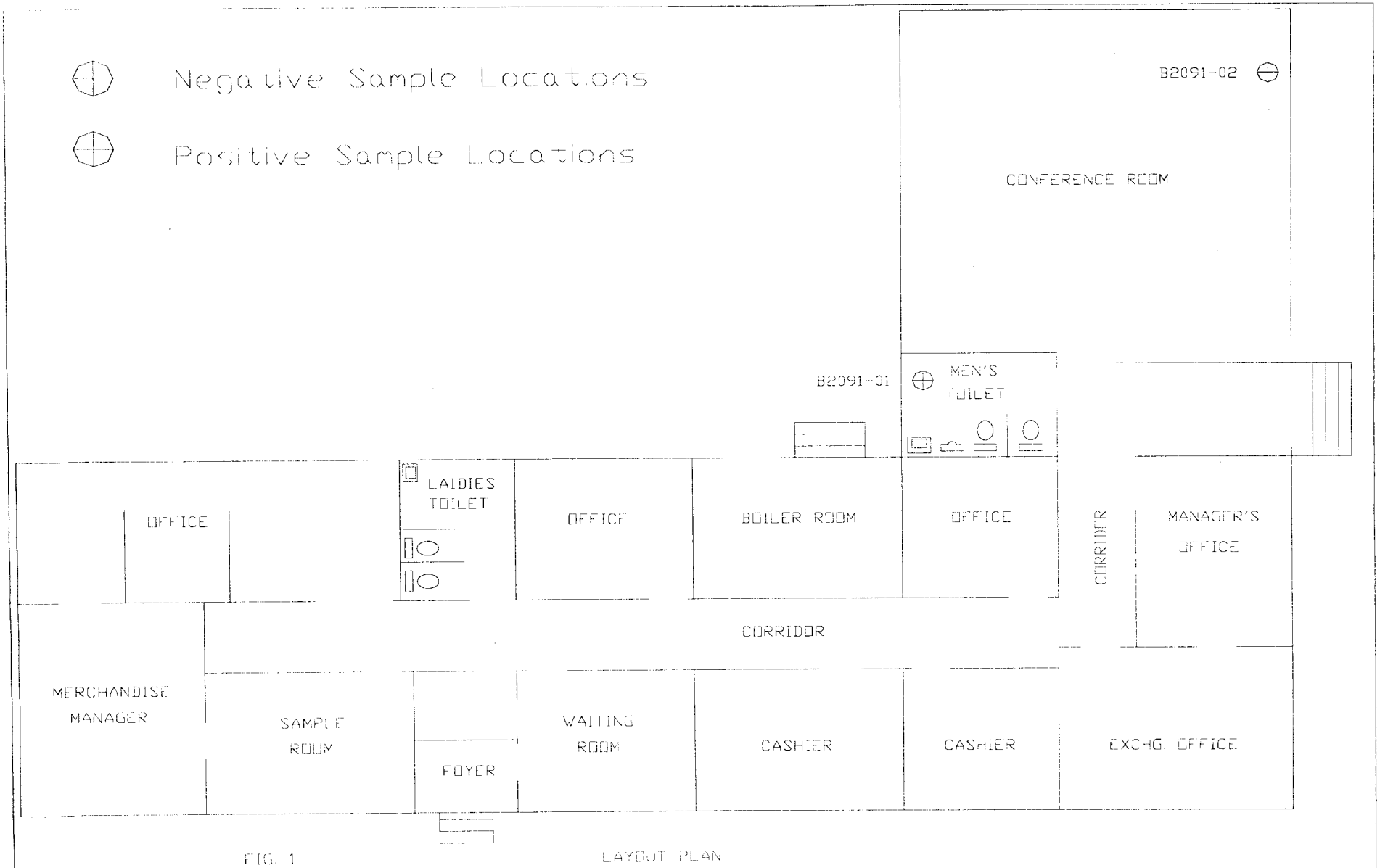
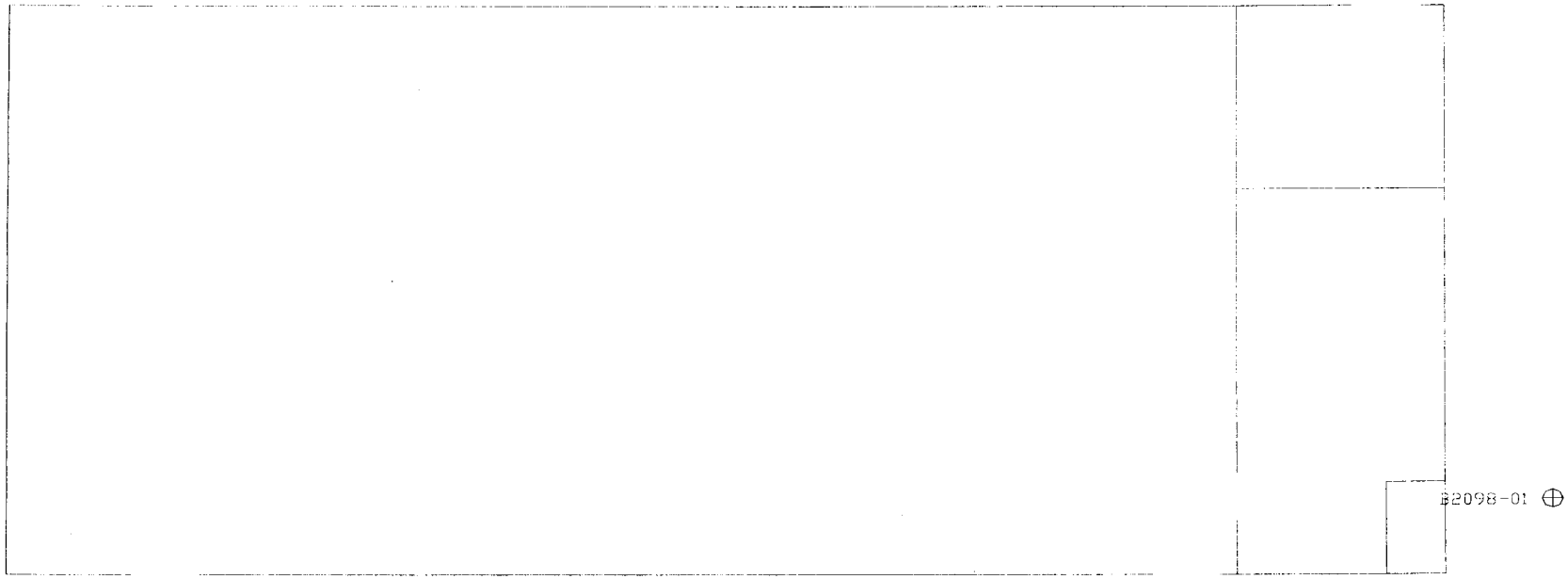


FIG. 1 LAYOUT PLAN

BUILDING 2091	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

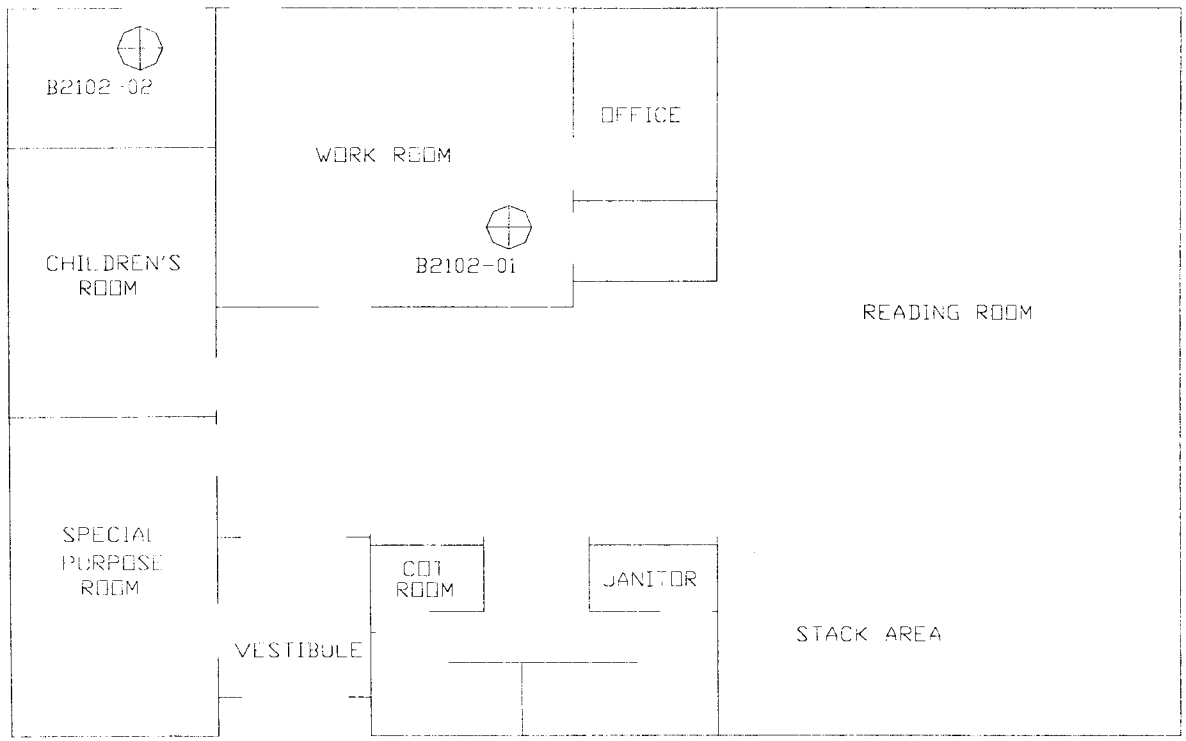


Negative Sample Locations

Positive Sample Locations

FIG 1 LAYOUT PLAN

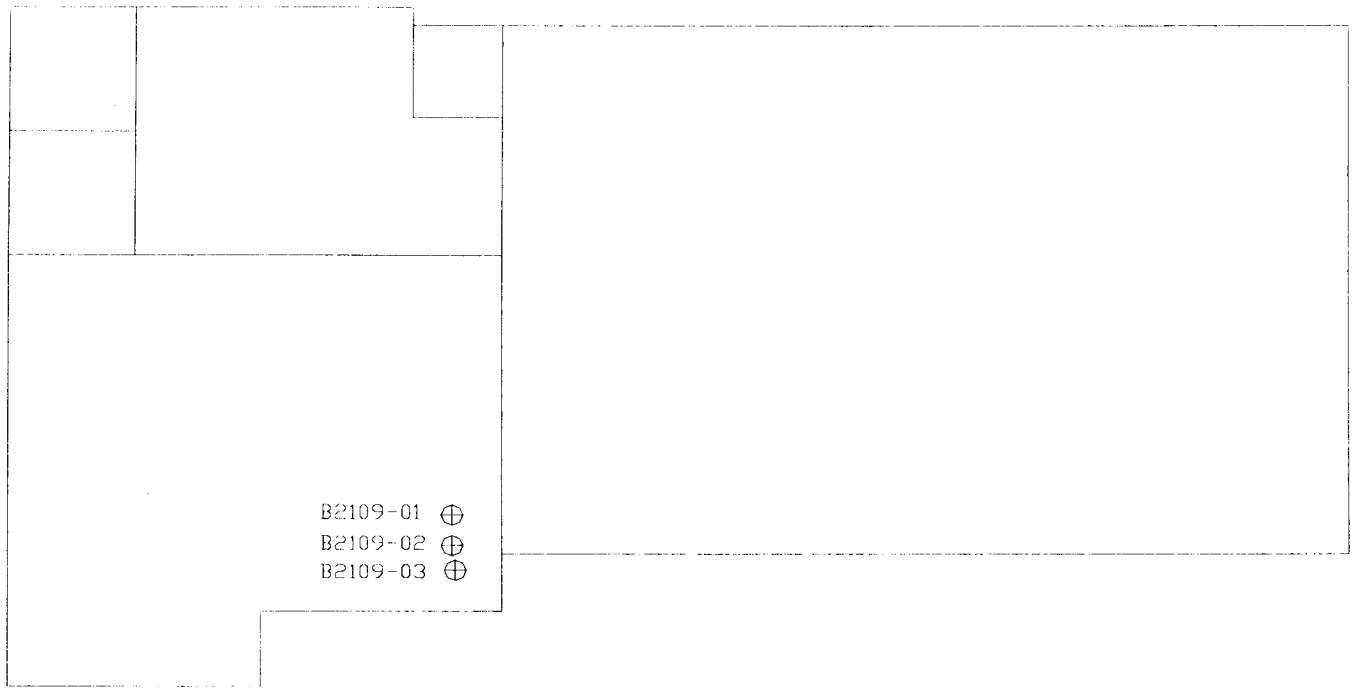
BUILDING 2098	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM735	**REISZ ENGINEERING**



Negative Sample Locations

Positive Sample Locations

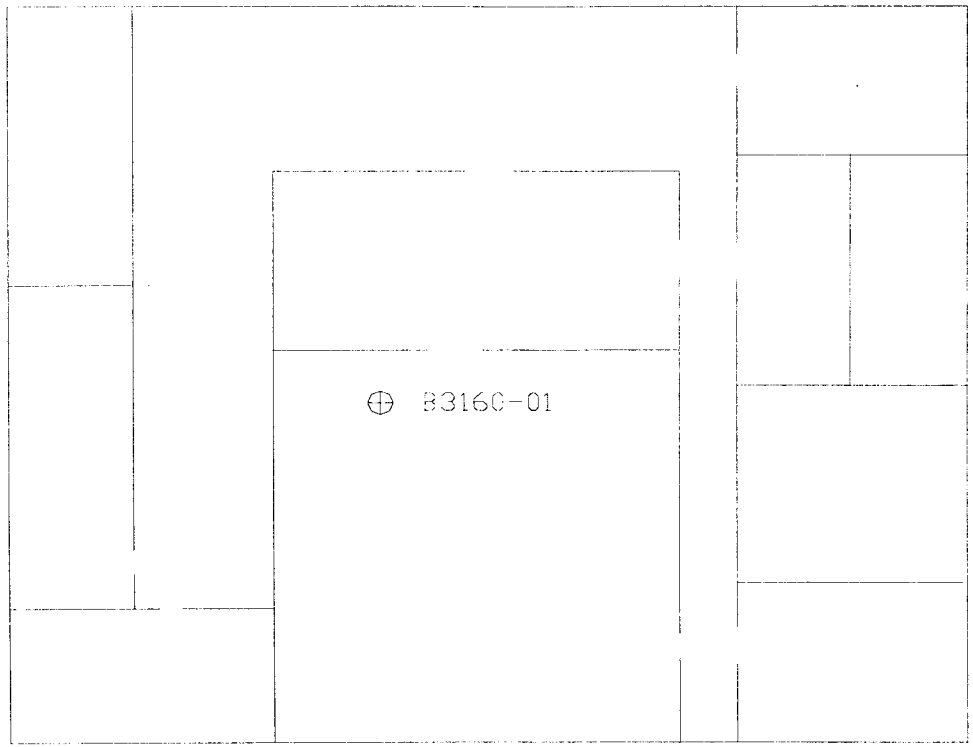
BUILDING 2102	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



⊕ Positive Sample Locations

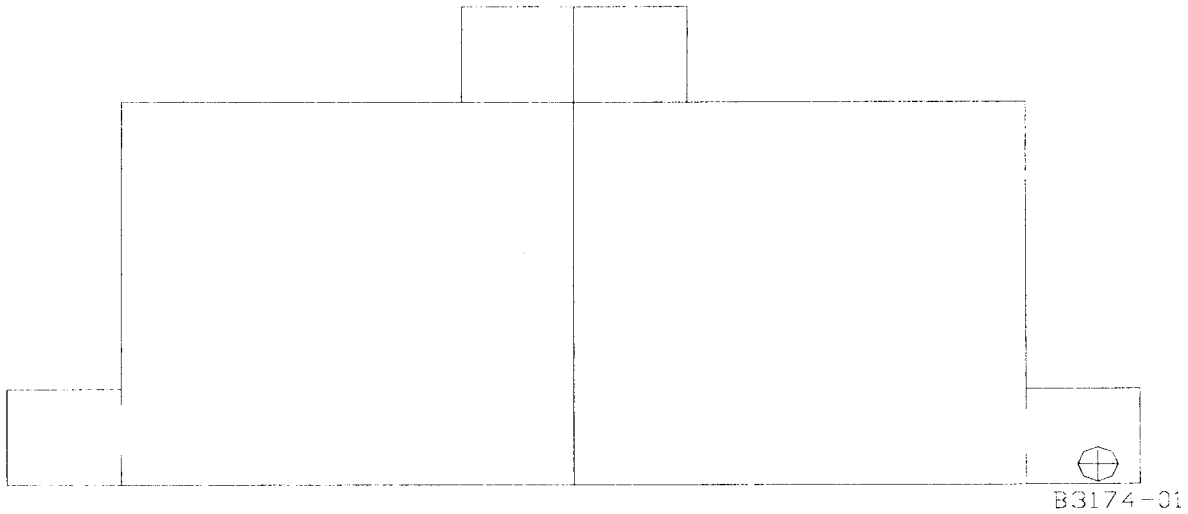
FIG. 1 LAYOUT PLAN

BUILDING: 2109	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



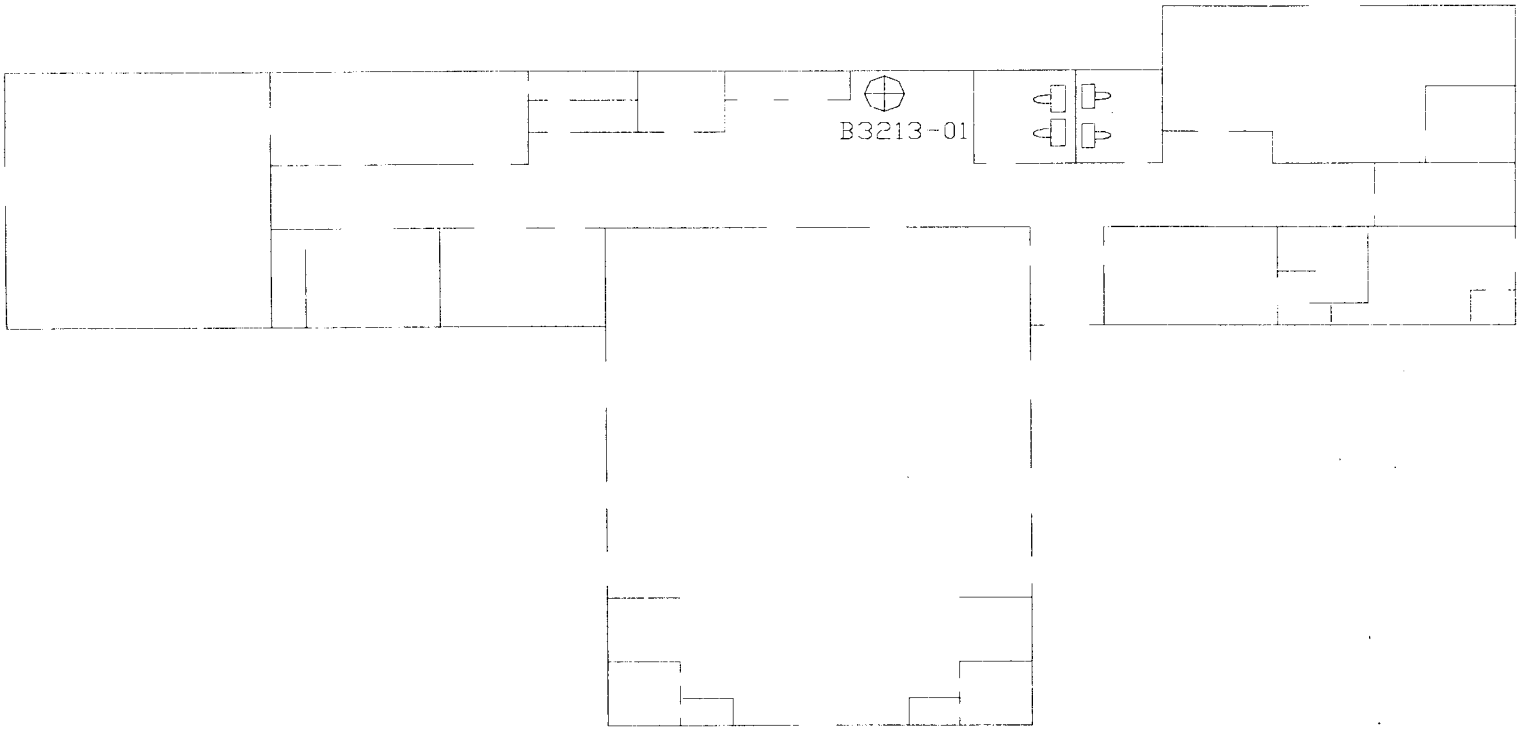
⊕ Positive Sample Locations

BUILDING 3160		ASBESTOS SURVEY DABT02-96-D-0005 FM/05	**REISZ ENGINEERING**



⊕ Positive Sample Locations

BUILDING 3174		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

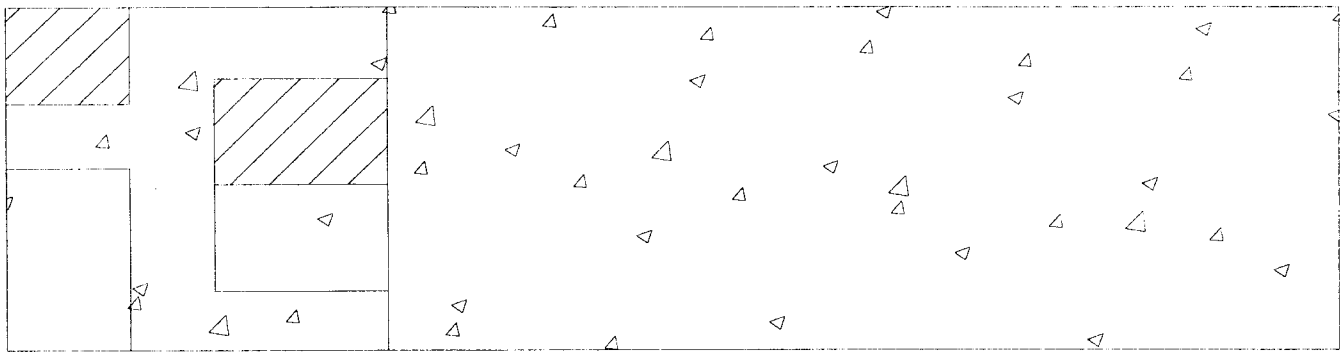


⊕ Positive Sample Locations

BUILDING 3213		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

APPENDIX E

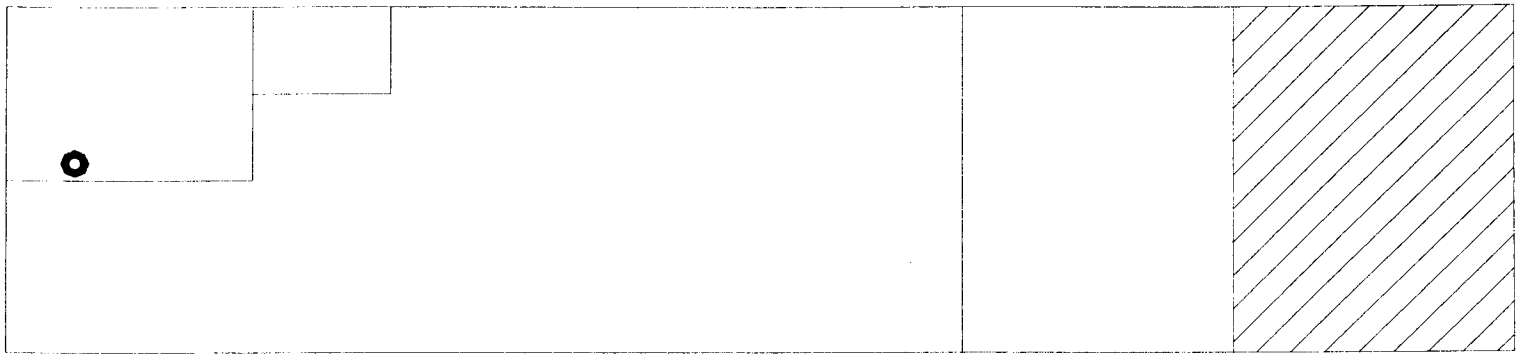
SELECTED ACM LOCATION PLANS



Cement Floors

9 x 9 Floor Tile

BUILDING 256	FIG 1 LAYOUT	ASBESTOS SURVEY DAB102-96-D-0005 FM705	**REISZ ENGINEERING**

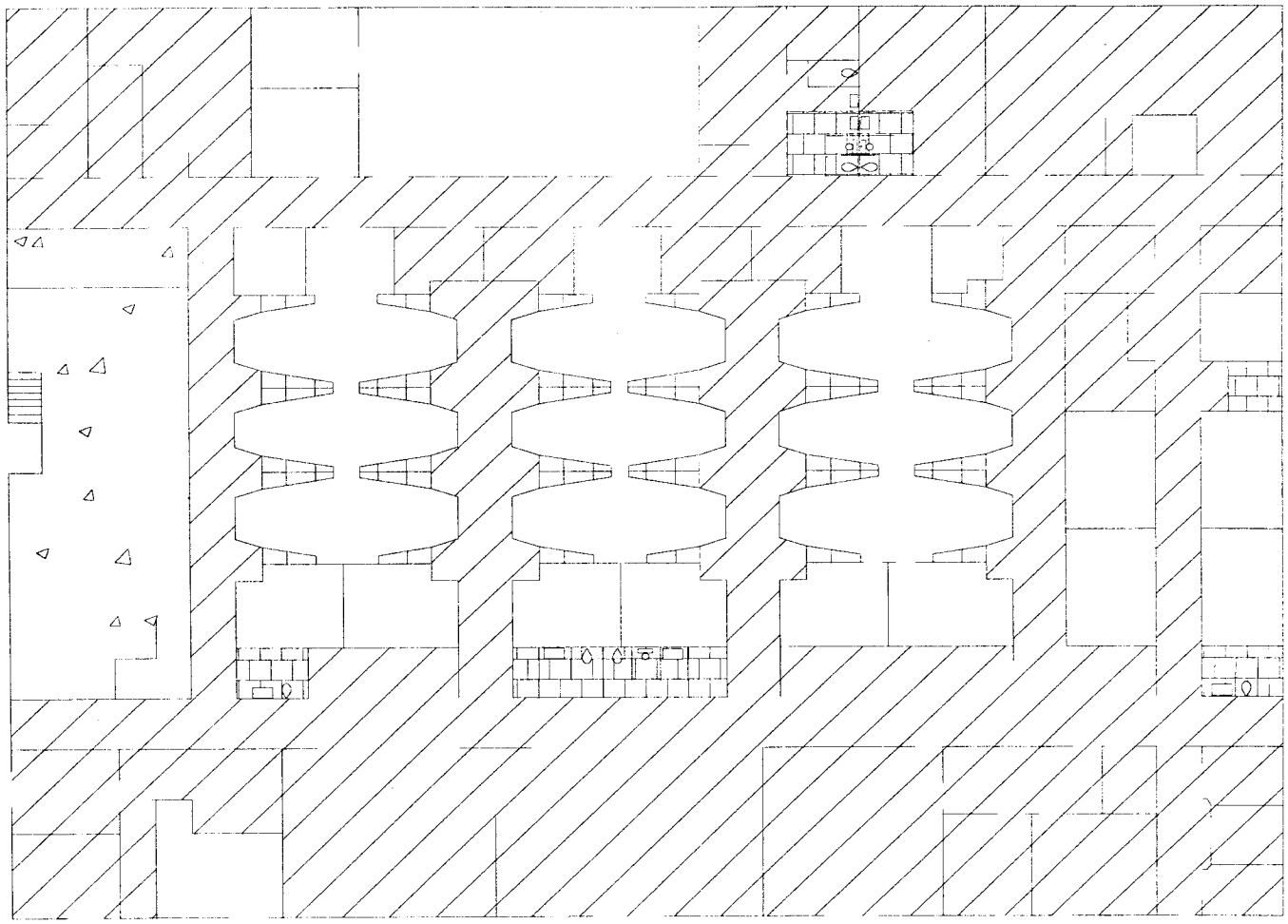


Transite Exhaust Pipe

Transite Ceiling Tile

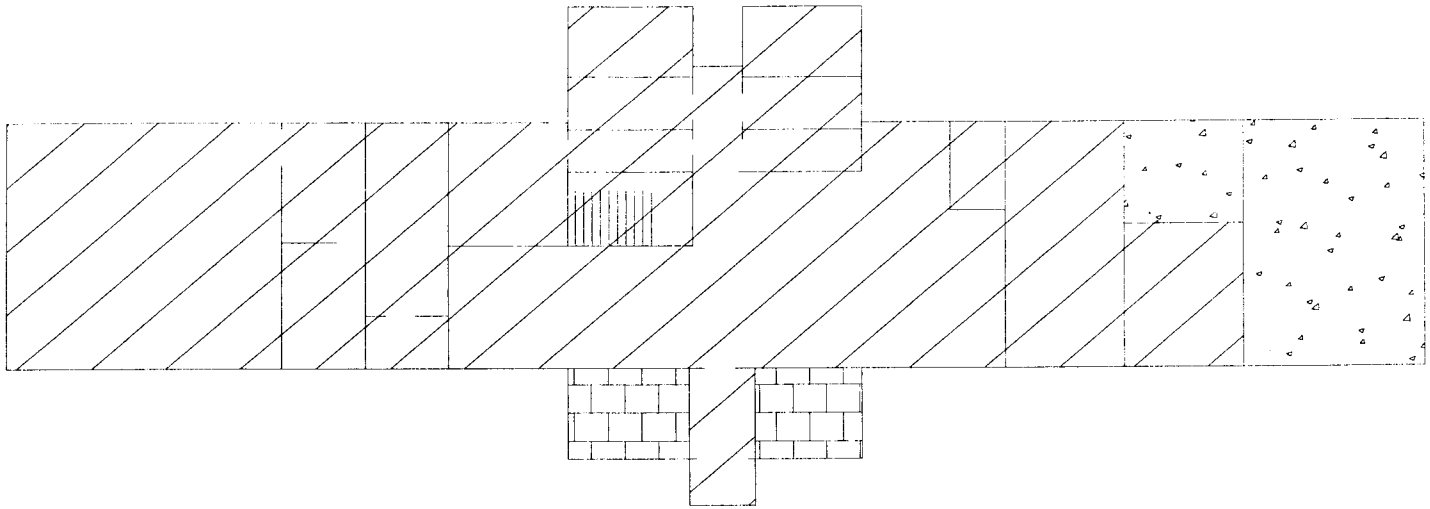
FIG. 1 LAYOUT PLAN SCALE: 1"=20'

BUILDING 337	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



12 x 12 Floor Tile Cement Floor Ceramic Tile Floor

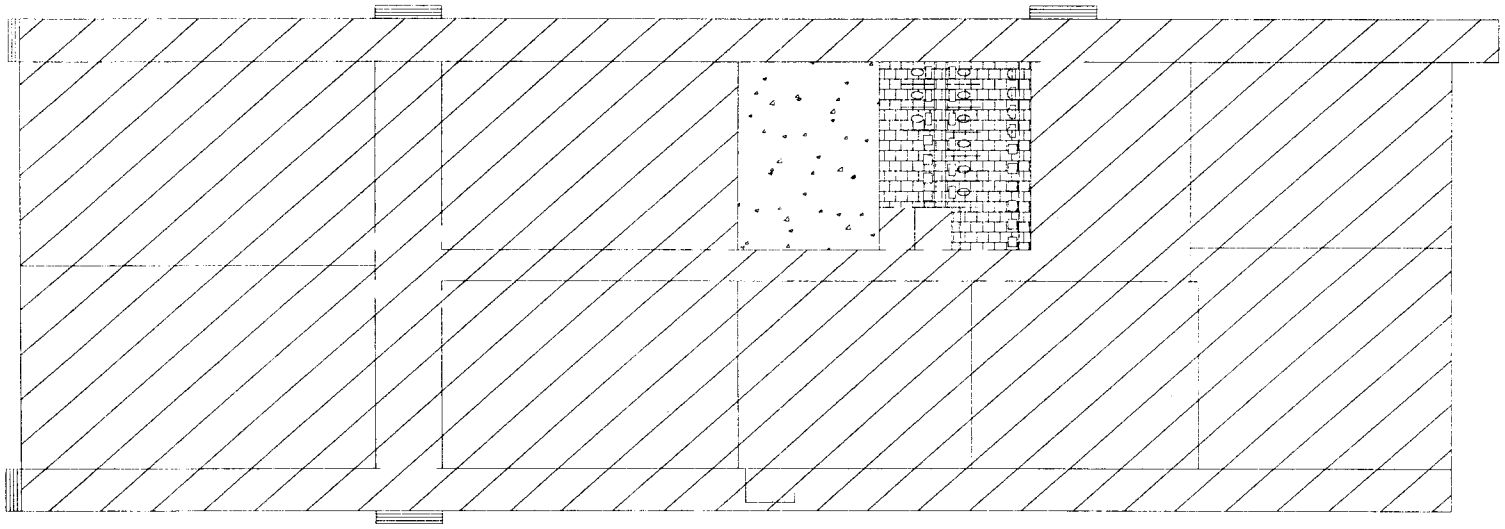
BUILDING: 1929	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



12 x 12 Floor Tile Cement Floor Ceramic Floor Tile

FIG 1 LAYOUT PLAN SCALE 1" = 10'

BUILDING: 1966	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



12 x 12 Floor Tile Ceramic Floor Tile Mechanical Room (cement floor)

FIG 1 LAYOUT PLAN SCALE 1" = 30'

BUILDING 2051	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

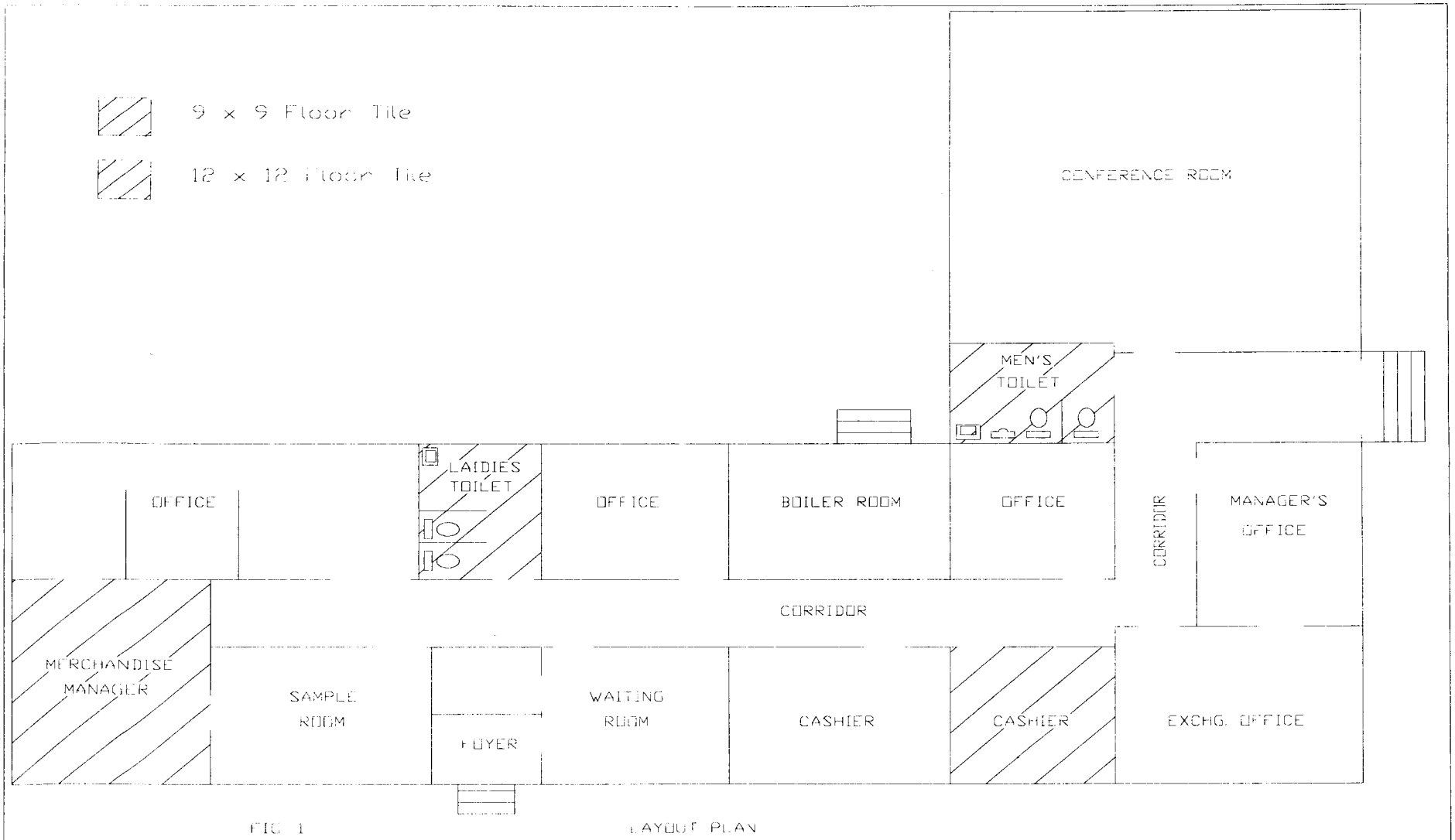
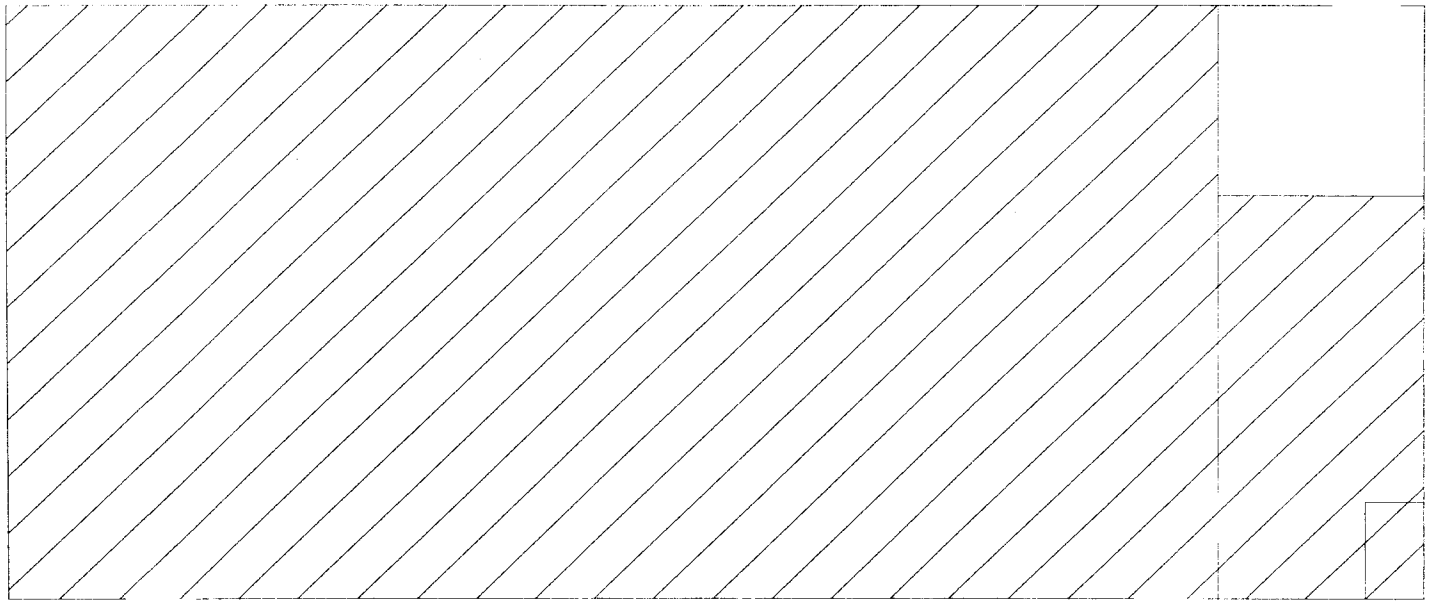


FIG 1 LAYOUT PLAN

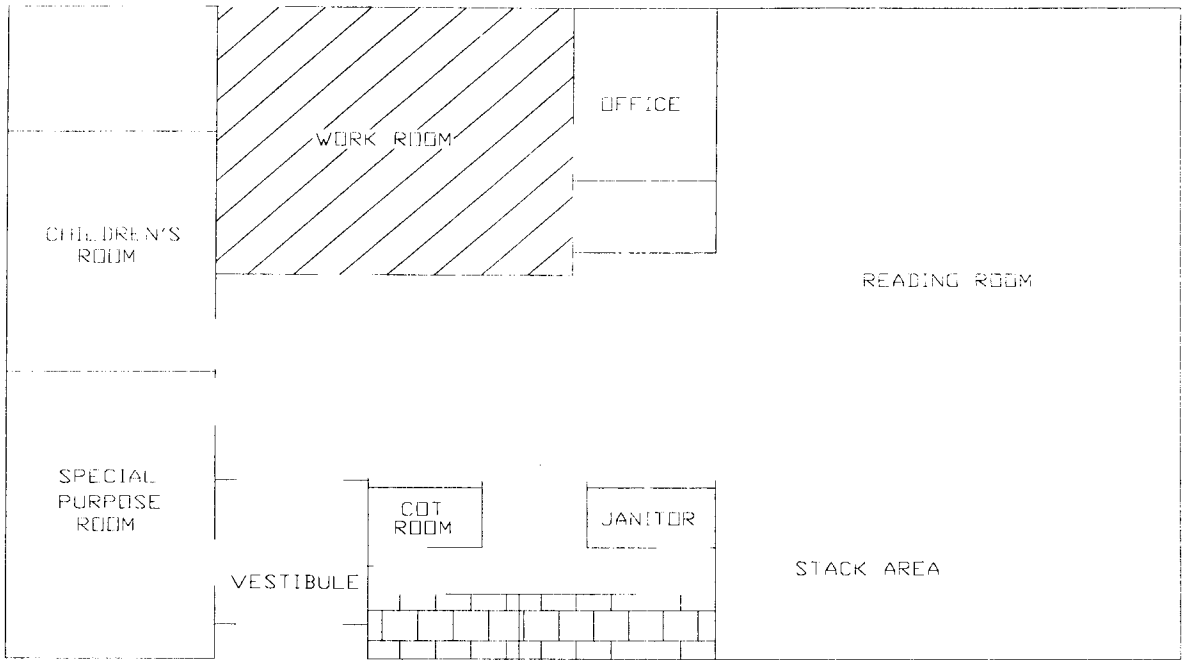
BUILDING 2091	FIG 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



9 x 9 Floor Tile

FIG. 1 LAYOUT PLAN SCALE: 1" = 10'

BUILDING: 2098	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**



9 x 9 Floor Tile

Ceramic Floor Tile

BUILDING 2102	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

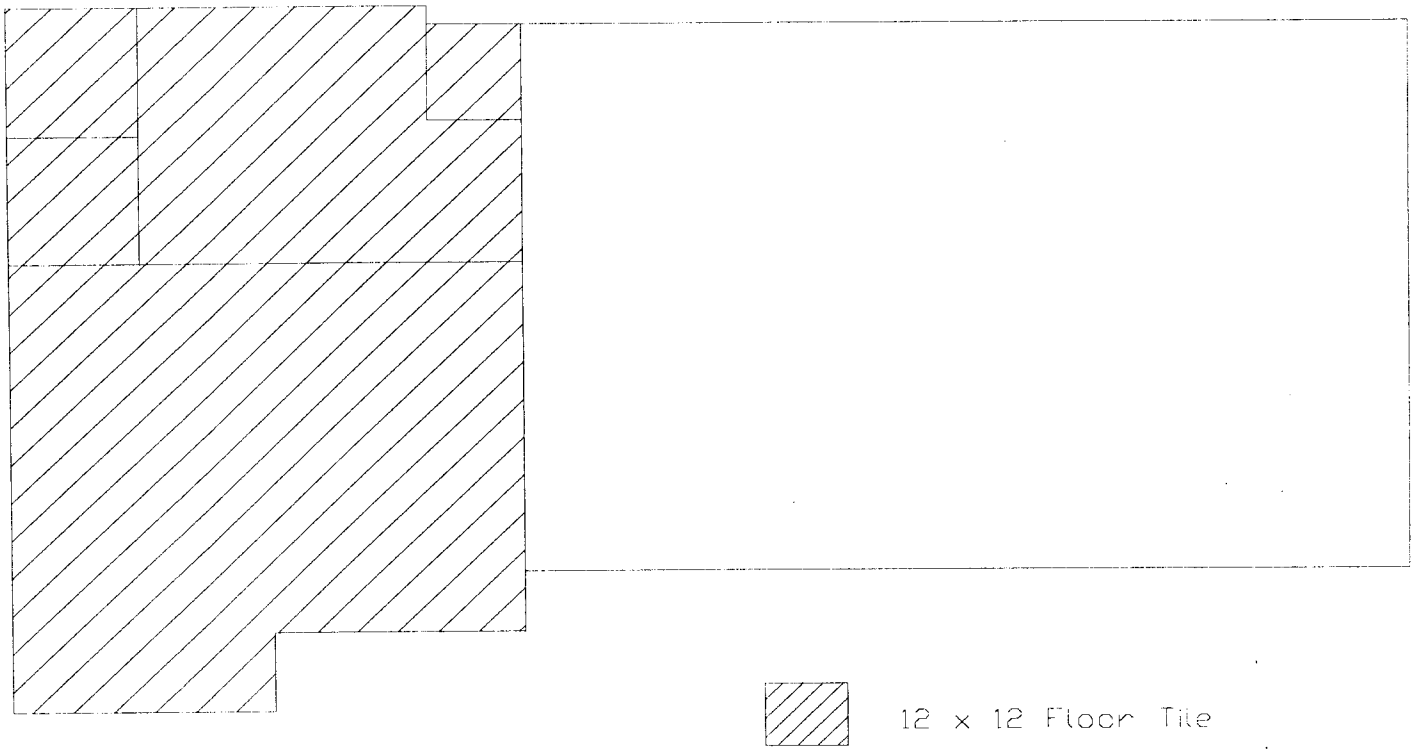
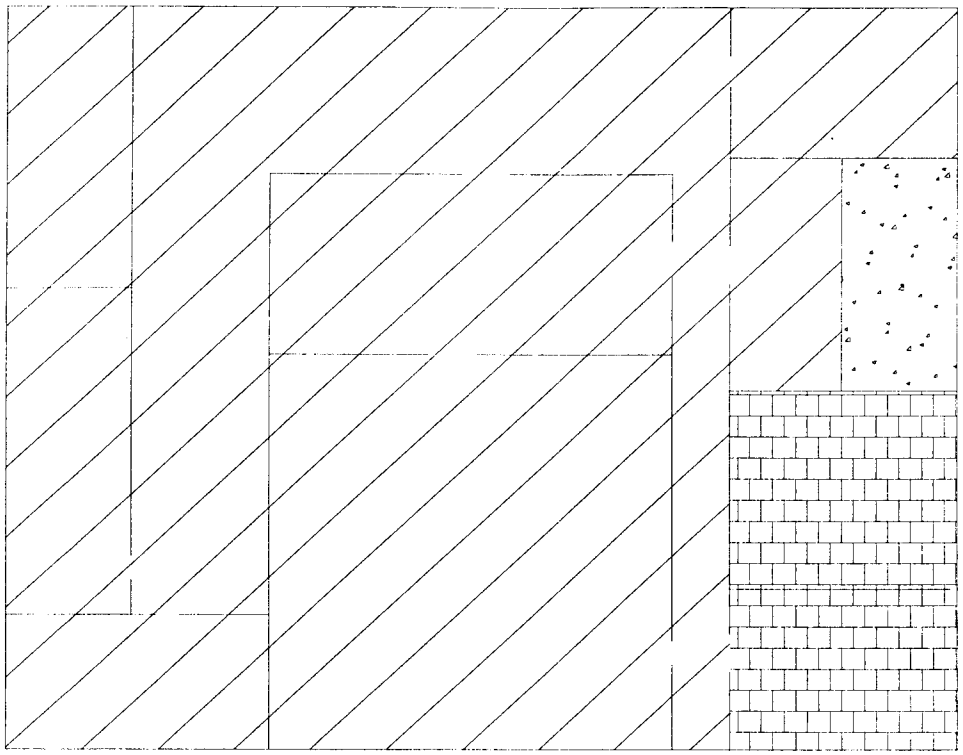


FIG. 1 LAYOUT PLAN

BUILDING: 2109	FIG. 1 LAYOUT	ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

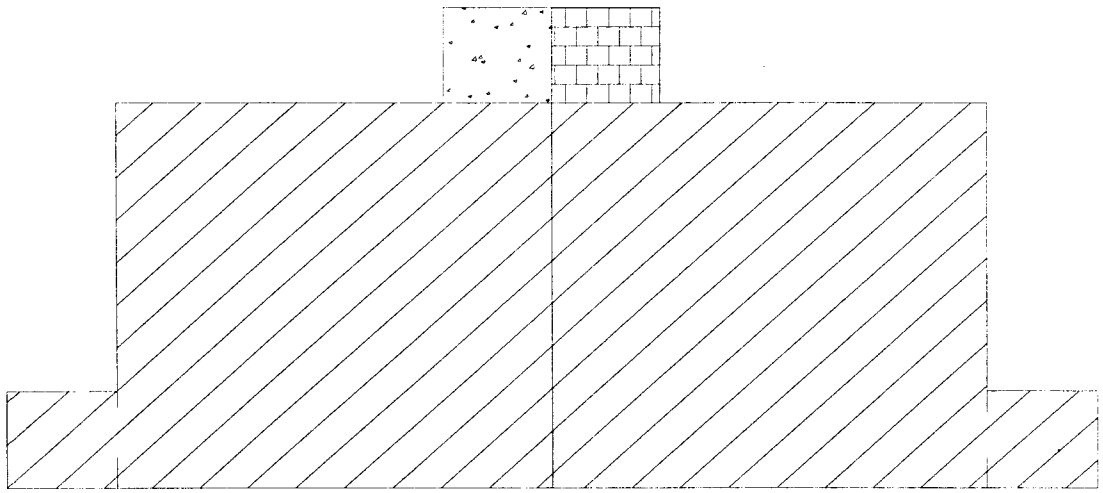


12 x 12 Floor Tile

Cement Floor

12 x 12 Floor Tile

BUILDING 3160		ASBESTOS SURVEY DAB102-96-D-0005 FM705	**REISZ ENGINEERING**

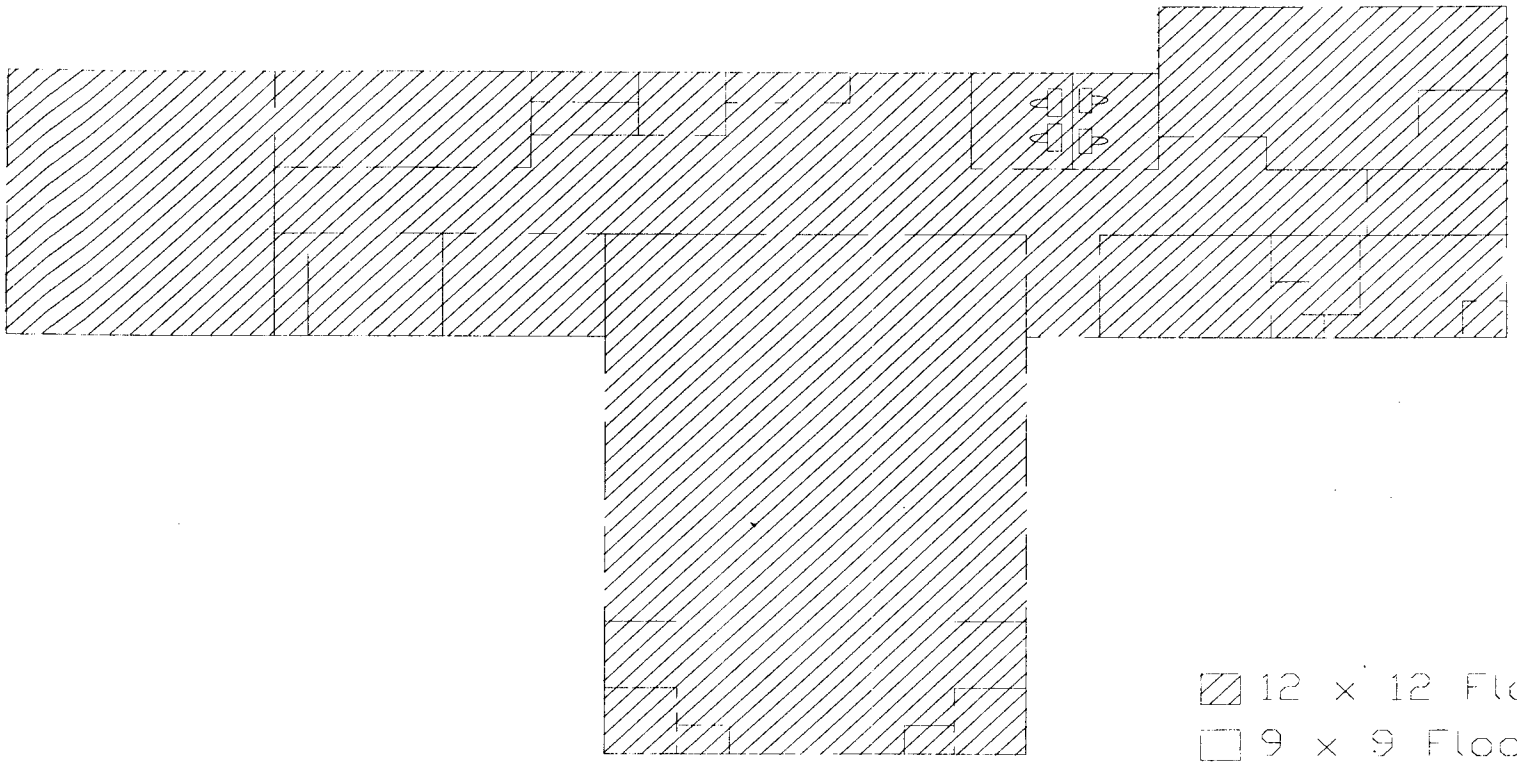


12 x 12 Floor Tile

Cement Floor

Ceramic Tile Floor

BUILDING 31/4		ASBESTOS SURVEY CABT02-96-D 0005 FM705	**REISZ ENGINEERING**



12 x 12 Floor Tile

9 x 9 Floor Tile

Ceramic Tile

BUILDING 3213		ASBESTOS SURVEY DABT02-96-D-0005 FM705	**REISZ ENGINEERING**

ATTACHMENT 3

LBP RISK ASSESSMENT AND SURVEY REPORTS

Lead-Based Paint
Risk Assessment Report

For:

Ft. McClellan, Alabama

By:

John W. Calvert, P.E., CIH
John Calvert Environmental, Inc.
7741 Kennington Lane
Jonesboro, Georgia 30236
404-471-5302

DATE:

July 17, 1995

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- B. Maintenance/Paint Condition Information 2
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- D. Building/Unit Selection Process 2
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US COE, SADL Soil Sample Data
US COE, SADL Quality Control Data for Ft. McClellan Soil Samples
Appendix E - Table, Summary of Lead-Based Paint Hazards
Appendix F - Part V: In-Place Management, US Dept. of Housing and Urban Develpoment, Lead-Based Paint Risk Assessment Protocol
Appendix G - HUD Standard Reevaluation Schedule
Appendix H -
-Table 6-1 Training Topics, TM5-6XX
-Cover Page and Table of Contents of National Institute of Building Sciences (NIBS), O & M Work Practices Manual for Homes and Buildings, May 1995
-Appendix B - Model Training Programs- EPA and SOEH, NIBS O & M Work Practices Manual
Appendix I -
- Quality Control for XRF Lead-Based Paint Surveys
- SADL Lead-Based Paint Survey Reports

SUMMARY

A lead-based paint (LBP) risk assessment was conducted for Ft. McClellan, AL by John W. Calvert, P.E., CIH, 7741 Kennington Lane, Jonesboro, GA 30236 (404-471-5302) and the US Army Corps of Engineers South Atlantic Division Laboratory (SADL) personnel, 611 South Cobb Drive, Marietta, GA 30060-3112 (404-919-5271). The risk assessment report was prepared by John Calvert based on field and laboratory data collected by SADL personnel.

Twenty-six individual buildings (including 2 family housing quarters) and 171 family housing units representing 12 groups and/or subgroups of building were surveyed. These buildings and units were selected by Ft. McClellan and SADL personnel. SADL personnel grouped together family housing units (buildings) based on similarities in construction, age, and paint history (based on XRF (X-Ray Fluorescence) spectrum analyzer LBP survey results).

LBP was found to some degree in most of the buildings surveyed. LBP hazards identified included LBP in deteriorated condition; LBP present on friction surfaces, impact surfaces, and surfaces accessible to mouthing or chewing by children; leaded dust; and isolated soil lead contamination.

LBP hazard control options have been presented. Ft. McClellan staff must decide which hazard control option is appropriate. Ongoing monitoring will be required. Reevaluation type and frequency will depend on options selected.

Staff and occupant education/training has been discussed and recommended training topics/issues provided.

LEAD-BASED PAINT RISK ASSESSMENT REPORT
for FT. McCLELLAN, AL

I. Introduction.

A. Identifying Information. This Lead-Based Paint (LBP) Risk Assessment report for Ft. McClellan, AL was prepared by John W. Calvert, P.E., CIH from field and laboratory data collected by US Army Corps of Engineers, South Atlantic Division Laboratory (SADL) personnel. The table in Appendix A is a list of the buildings or groups of buildings surveyed and their respective use or activity. This information was extracted from SADL survey reports. Twenty-six individual buildings (including 2 family housing quarters, #s 2242 & 2271) and 171 family housing units representing 12 groups and/or sub-groups of buildings were surveyed. These buildings and units were selected by Ft. McClellan and SADL personnel. SADL personnel grouped together family housing units (buildings) due to similarities in construction, age, and paint history (based on XRF (X-Ray Fluorescence) spectrum analyzer LBP survey results). Two site visits were made to observe the LBP surveys using the XRF instruments (spectrum analyzers) and to observe and instruct the surveyors in dust sampling techinques and procedures.

This risk assessment report was written following the guidance published in the Federal Register dated 29 June 1992, Department of Housing and Urban Development, "NOFA for Lead-Based Paint (LBP) Risk Assessment; Notice." Subsequent to the initiation of this project, the US Environmental Protection Agency published on July 14, 1994 a Memorandum, Subject: Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead-Contaminated Soil. This guidance serves as the updated standard of care and has been used in determining lead hazards from dust and soil.

B. Lead-Based Paint Health Hazards. Lead when swallowed or inhaled, can be harmful to human beings. It can be especially harmful to small children, pregnant women, men and women during their reproductive years, and people with hypertension.

The lead hazards in buildings come primarily from the past use of LBP. The mere presence of LBP, however, does not constitute a hazard. The risk of adverse human health effects depends on the paint's location and condition and on the way occupants use the building. If circumstances are such that people, especially children, may inhale or ingest lead, then a hazard is present, Public Law 102-550 (Federal "Title X") defines LBP hazard as "any condition that causes exposure to lead from lead-contaminated dust, lead-contaminated soil, lead-contaminated paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human effects as established by the appropriate federal agency." A surface is considered to be accessible for mouthing or chewing by children if it protrudes from the surrounding area to the extent that a child can chew the surface, and is within three feet of the floor or ground (e.g., window sills, railings, and the edges of stair tread). A friction surface is subject to abrasion or friction (e.g., window, floor, and stair surfaces). An impact surface is subject to damage from

repeated impacts (e.g., certain parts of door frames).

If LBP is in poor condition, hazards from dust and debris are more likely. Abrasive action on leaded paint surfaces can create lead-contaminated dust in a building. Lead in bare soil outside a building can increase the lead dust inside. Chips from exterior paint in poor condition often fall into the surrounding soil. This contaminated soil can then be brought indoors by foot traffic. Children frequently contact lead-contaminated dust and soil because they play indoors on the floor and outdoors on the ground.

II. Management, Maintenance, and Environmental Results Forms and Analyses.

A. Management Information. Not provided.

B. Maintenance/Paint Condition Information. Paint condition information for building components tested for LBP with the XRF spectrum analyzer is contained in the lead-based paint survey reports. Those reports are presented in Appendix I. Due to their size they were placed in the back of this report. Building interior and exterior paint conditions are presented in the table in Appendix E.

C. Building Condition. No specific information concerning building condition was provided.

D. Building/Unit Selection Process. The buildings and units were selected by Ft. McClellan and SADL personnel. SADL personnel grouped together family housing units (buildings) due to similarities in construction, age, and paint history (based on XRF (X-Ray Fluorescence) spectrum analyzer LBP survey results.

E. Paint, Dust, and Soil Sampling and Results.

1. Paint. The XRF and scrape sample results for paint and paint condition are contained in the SADL LBP survey reports presented in Appendix I, to the rear of this report. Also included in those survey reports are building descriptions and photos and generalized floor plan plates showing locations of positive LBP readings and/or samples.

The LBP survey was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990) and EPA standard operating procedures (EPA document EPA600/8-91/214) for this instrument. The survey was performed by certified surveyors using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (spectrum analyzer) XRF instrument.

Positive readings (detectable lead above the action level) with the XRF vary depending on the instrument mode selected. The "test" mode is normally used for routine readings. Readings testing "positive" according to the XRF instrument manufacturer in the test mode are those with a lead concentration greater than 1.3

milligrams per centimeter squared (mg/cm^2), whereas, "negative" refers to readings of 0.7 mg/cm^2 or less. According to the HUD guidelines, positive readings for this instrument are greater than 1.3 mg/cm^2. "Inconclusive" readings are those that fall between 0.7 mg/cm^2 and 1.3 mg/cm^2. Scrape (paint chip) samples were taken and analyzed in the laboratory to verify inconclusive readings.

The "action level" defined in the HUD Interim Guidelines is a lead concentration above 1.0 mg/cm^2. Lead concentrations in the survey reports are shown for both K-shell and L-shell. The L-shell XRF reading is essentially for the top 1 or 2 surface paint layers, whereas, the K-shell is total lead applicable for multi-layered paint surfaces. HUD Guidelines specify that the K-Shell results be used for evaluating XRF readings.

In the survey reports paint condition stated as "good" is defined as intact; "fair" as intact but worn (minor chips from wear and tear but no adhesion or substrate problems); "poor" as severely worn or no longer adhering or, substrate deterioration (e.g., peeling, flaking, cracking, etc.).

Quality control procedures for the SADL XRF LBP surveys is presented in the front of Appendix I. These procedures were being followed during the site visits. A random check of the survey reports indicates these procedures were followed. Following these procedures increases the confidence of the XRF data.

A list of buildings and components identified with LBP is presented in Appendix B, Table 1. For the individual buildings, components with LBP were identified from positive XRF readings and/or positive scrape sample analysis in SADL survey reports. For family housing groups, components with LBP were identified from component summary tables in SADL survey reports. The HUD Interim Guidelines set out decision rules depending on the percentages of components classified as positive. The rules are applied to each component separately, and depend on the type of XRF analyzer used. For the XRF spectrum analyzer, if more than 11% of a component are positive, lead is present, and either all such components should be abated, or all should be tested to determine which require abatement and which do not. This assumes the number of units inspected/sampled in each group is in proportion to the number of units in the respective group per the 29 June 1992 Federal Register, Department of Housing and Urban Development, "NOFA for Lead-Based Paint (LBP) Risk Assessment; Notice". Refer to the SADL survey reports for specific building component and paint information.

Table 2, Appendix B is a list by building/unit of interior and exterior components/surfaces with LBP in fair/poor condition.

XRF readings and scrape sample analyses indicate the presence of paint containing lead, other than lead-based paint. These paints contain lead at a concentration less that 0.5 % by weight or 1 mg/cm^2 and those in poor condition may present hazards from dust paint chips. Those in poor condition should be controlled just as the LBP in poor condition.

2. Dust. Dust sampling was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990). A LBP survey using a SCITEC MAP 3, XRF spectrum analyzer was performed prior to dust sampling. Therefore, dust samples were taken in areas where lead contaminated dust was more likely to exist. A copy of the SADL dust sampling results and quality control data for the dust sampling (Tables 3 & 4 of SADL Soil and Dust Sample Data Report, 24 September 1994) are presented in Appendix C.

The number of dust samples analyzed totalled 161. Quality control (QC) for the dust sampling and analyses included preparing and analyzing 21 field spike samples and 42 field blank samples. Also 37 laboratory reference standard samples were analyzed for instrument calibration and control. The number of these QC samples is within acceptable limits which is 5% for field spike and blank samples. The analytical results for these QC samples are also within acceptable limits (± 25% for matrix spikes and ± 20% for laboratory control samples).

A table of buildings/units and locations where dust sampling results exceeded the recommended clearance standards below is presented in Appendix C, prior to the SADL dust sampling results. Current HUD and EPA recommended clearance levels for lead dust are:

Location	Lead Loading
Uncarpeted Floors	100 $\mu g/ft^2$.
Interior Window Sills	500 $\mu g/ft^2$.
Window Wells	800 $\mu g/ft^2$.

3. Soil. Soil sampling was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990). A copy of the SADL soil sampling results and quality control data for the soil sampling (Tables 1 & 2 of SADL Soil and Dust Sample Data Report, 24 September 1994) is presented in Appendix D.

The number of soil samples analyzed totalled 159. Quality control (QC) for the dust sampling and analyses included preparing and analyzing 16 field spike samples and 22 field blank samples. Also 19 laboratory reference standard samples were analyzed for instrument calibration and control. The number of these QC samples is within acceptable limits which is 5% for field matrix spike and blank samples. With the exception of one field matrix spike sample, the analytical results for these QC samples are also within acceptable limits (± 25% for matrix spikes and ± 20% for laboratory control samples)..

A table of building areas where soil lead concentrations exceeded 400 ppm and a copy of the EPA Recommendations for Response Activities for Residential Lead-Contaminated Soil are presented in Appendix D prior to the SADL soil sampling results.

F. List of Location and Type of Actual or Suspected Lead Hazards. Appendix E is a lead hazards summary table listing by building number: interior and exterior paint condition; whether interior and exterior LBP is present; LBP in fair and poor condition; whether LBP is present on friction surfaces, impact surfaces, and surfaces accessible to mouthing or chewing by children; whether lead dust levels exceed clearance standards; and whether soil lead levels exceeded 400 ppm (mg/Kg). This table was compiled from SADL survey reports in Appendix I; Appendix B Table 1, Interior and Exterior Areas with LBP; Appendix B Table 2, Painted Building Components/Surfaces with LBP in Fair/Poor Condition; Appendix C, Buildings Where Lead Dust Sample Results Exceeded Clearance Levels; and Appendix D, Building Areas Where Soil Lead Concentrations Exceeded 400 mg/Kg (ppm). Refer to SADL survey reports for specific building component and condition.

1. Paint. LBP was identified on both interior and exterior surfaces and was found to some extent in/on most of the buildings surveyed. The majority of the LBP in fair and poor conditions was found on exterior surfaces. LBP on friction surfaces were predominately window sashes and were found in a few of the support/community type buildings and in family housing 2242 and Avery Group 1, 3600s, and 3700s Group C. LBP on surfaces mouthable or chewable by children were primarily window sills and possibly shelves, depending on the shelf heights. Closet shelves approximately 5 ft high pose no significant risk to mouthing and chewing by children. Interim and abatement control options for LBP are discussed later in this report.

2. Dust. Based on survey results, lead dust levels exceeding clearance standards appears to be isolated. Five floor, 1 window sill, and 12 window well samples exceeded clearance standards. Ten of the 12 window wells exceeding the standard were in the 3600 series family housing. Only 1 unit (3319A) from the 3310-3343, Avery Family Housing was sampled for dust. It had high dust levels on a bedroom floor and window sill and in a kitchen window well.

Family quarters 3319A has been grouped in Avery Family Housing Group 1 (3310-3331). Dust sampling was conducted only in unit 3319A which has high lead dust levels as mentioned above (bedroom floor and window sill and kitchen window well). All paint surveyed was judged to be in good condition. LBP was identified on window sashes in the kitchens and bedrooms and exterior window casings, sills, and aprons in this group. The lead dust is suspected to come from the friction surfaces surrounding the window sashes. Either more extensive dust sampling is needed to confirm this conclusion or assume all similar units (Avery Group 1) to have high dust levels. Frequent cleaning with a high phosphate detergent and treatment to reduce friction are recommended interim controls, which are discussed later in this report.

The 3600 Family Housing Group also had high dust levels in the window wells. Window components were identified as being painted with LBP judged to be good condition with a few in fair condition. Frequent cleaning with a high phosphate detergent and treatment to reduce friction are recommended interim controls.

Either more extensive dust sampling is needed in those buildings not sampled or assume that areas with LBP on friction and impact surfaces identified in the table in Appendix E would have high dust levels and perform the recommended interim controls.

3. Soil. Five soil samples (Bldgs: 129, 893, 1740, 2242, 2293) exceeded 400 mg/Kg (ppm), which requires control if children frequent the areas. One of the five samples, Bldg 893 (Chapel) exceeded 4000 ppm, which requires control in areas where contact by children is less likely or infrequent. None of the sampled areas had soil lead concentrations exceeding 5000 ppm which would require abatement.

For workshop building 129, all exterior wood components were considered positive for LBP which was judged to be in poor/fair condition. This is probably the source of the lead in the soil. Hazard controls for deteriorated LBP are discussed later. No dust sampling was performed in this building.

Building 893, Chapel, had the highest soil lead concentration. Its exterior paint is considered LBP and was judged to be in poor condition. This is the probable source of the lead.

Building 2242, family housing, also had extensive exterior LBP judged to be in poor condition. This is the probable source of the lead.

Building 2293, WAC Chapel, had exterior LBP judged to be in poor/fair condition. The lead concentration in the soil sample taken near the building (0-3 ft) was less than 400 ppm and in the sample taken 10-20 ft from the building was greater than 532. If children are not expected to frequent this location, the soil lead concentration does not pose a significant risk.

III. Lead Hazard Control Options.

A. Lead-Based Paint Policy Statement. Not provided in scope of this report.

B. Name of Individual in Charge of Lead-Based Paint Hazard Control Program. Not provided in scope of this report.

C. Recommended Changes to Work Order System and Property Management. Not provided in scope of this report.

D. Control Options. There are two basic approaches to managing LBP hazards in family housing and family support facilities; interim control (also referred to as in-place management) of LBP and LBP selective or full-scale abatement. Most often, a combination of the two approaches will best suit all parties involved in terms of lead hazard management effectiveness and cost effectiveness. Chapter 5, Technical Manual,TM 5-6XX, Managing Lead-Base Paint (LBP) in Family Housing and Family Support Facilities, Final Draft suggested issues to be considered in determining

specific substrate abatement/control decisions. Ft. McClellan personnel should consider these issues in deciding which hazard control option is appropriate. They are:

- Long- and -short-term objective of the plan.
- Future planned use of the structures.
- The degree of risk to exposure (occupants) to lead poisoning hazards.
- Availability of funding.
- ~~The estimated cost of interim controls versus LBP abatement.~~
- The condition of substrates on which hazards are identified.
- The amount of time that abate will take.
- Availability of alternative housing for displaced residents.
- The estimated cost to relocate occupants prior to and after abatement.
- The predicted amount of hazardous waste that may be generated.
- The amount of occupant training that will be necessary to perform limited interim controls versus the training of workers.
- The number of skilled and properly trained in-house workers or abatement contractors that are available.
- The amount of available equipment and materials.

E. Interim Control. Interim control techniques or in-place management techniques include the following:

- Training and education of occupants and maintenance personnel regarding the hazards of LBP and the appropriate maintenance practices on lead-containing surfaces. This training may be conducted at a formal training center or through installation personnel such as the Environmental Officer.

- Washing/cleaning with Trisodium Phosphate (TSP) or other high phosphate detergent designed to cleanup lead dust can be used to reduce lead dust exposure. This is an effective interim control technique.

- Stabilizing all LBP surfaces by removing defective paint and repainting.

- Repairing all defective and rotted substrates that could lead to rapid paint deterioration.

- Treating friction and impact surfaces, such as door, floors, steps, handrails, and windows, when there is concern that these objects are responsible for generating LBP chips or lead-bearing dust.

- Treating protruding, accessible surfaces where LBP may be present, such as window sills and shelves, that children might chew or mouth.

- Inspect periodically to ensure the continued integrity of LBP containing surfaces.

- Document all interim control actions.

- Conduct scheduled maintenance.

INTERIM CONTROL FOR LBP HAZARDS:

Hazard No. 1: Deteriorated LBP.

a. Stabilizing all LBP surfaces by removing defective paint and repainting with non-LBP on surfaces such as metal and wood using methods prescribed in Part V, In-Place Management, HUD Lead-Based Paint Risk Assessment Protocol, September 1992. A copy of Part V is provided in Appendix F.
b. Surfaces such as plaster may require encapsulation or enclosure.
c. Educate occupants and maintenance and custodial personnel of the presence of LBP.
d. Request occupants report deteriorating paint so that it can be repaired quickly and safely.
e. Inspect periodically.
f. Conduct scheduled maintenance.

Hazard No. 2: LBP on Friction and Impact Surfaces.

a. Educate occupants and maintenance and custodial personnel concerning the generation of lead dust from these surfaces and the proper cleaning technique.
b. Treat to reduce friction and impact and encapsulate with durable liquid encapsulant if possible.
c. Monitor for dust generation.
d. Inspect periodically.

Hazard No. 3: LBP on Surfaces Mouthable or Chewable by Children.

a. Educate occupants of the presence of LBP on these surfaces so adults can deter mouthing and chewing by children.
b. Treat surfaces.
c. Inspect periodically.

Hazard No. 4: Lead Dust.

a. Dust removal following procedures recommended in Appendix F and paint film stabilization.
b. Educate occupants and maintenance and custodial personnel.
c. Monitor for dust.
d. Inspect periodically.

Hazard No. 5: Lead in Soil.

Follow interim controls for EPA recommended response activities for lead-contaminated bare soil. These recommendations are presented in Appendix D.

F. Abatement. Abatement techniques found in Chapter 5, TM 5-6xx, Final Draft, include the following:

- Chemical Removal: caustic strippers, non-caustic strippers, on-site stripping, off-site stripping.

- Abrasive Removal: vacuum blasting, needle gun, HEPA sanding.

- Component Removal & Replacement.

- Heat Gun Removal.

- Encapsulation: flexible wall covering, elastomeric surface coating, epoxy coating, acrylic/stucco coating.

- Training: occupants and workers.

- Enclosure: gypsum wall board; plywood/paneling; prefabricated metal; wood, metal, vinyl siding.

- Periodic Inspections.

ABATEMENT OF LBP HAZARDS:

Hazard No. 1: Deteriorated LBP.

a. Replace doors.
b. Chemically remove paint from doors and repaint.
c. Replace windows and exterior trim.
d. Chemically remove paint from windows and trim and repaint.
e. Remove paint from trim using head guns.

Hazard No. 2: LBP on Friction and Impact Surfaces.

a. Component replacement for friction and/or impact surfaces.
b. Encapsulation for impact surfaces.

Hazard No. 3: LBP on Surfaces Mouthable or Chewable by Children.

a. Remove and replace component.
b. Encapsulate.

Hazard No. 4: Lead Dust.

Remove and replace windows.

Hazard No. 5: Lead in Soil.

Soil sampling and analysis did not identify any soil lead concentrations that would require abatement per EPA Recommendations for Response Activities for Residential Lead-Contaminated Bare Soil.

Note on cost for LBP Hazards - Approximate Costs of LBP Abatement Alternatives can be found in Table 5-3 of TM 5-6XX, Managing Lead-Based Paint (LBP) in Family Housing and Family Support Facilities, Final Draft. Costs for interim controls are not provided. An estimate and a full lead hazard control plan should be obtained from a certified lead-based paint abatement contractor.

G. Ongoing Monitoring. If LBP is not in a hazardous condition, no hazard is present and no active control measures are necessary. However, paint can

deteriorate through normal use and maintenance activity, thereby releasing dust and contaminating soil. Therefore, ongoing monitoring is necessary in all buildings in which LBP is known or suspected to be present. Reevaluations and annual visual inspections are necessary due to the potential for LBP hazards to develop since hazard control methods can fail, previously intact LBP can become deteriorated, and leaded dust can reaccumulate through friction, impact, or the introduction of exterior dust and soil.

A reevaluation, in general terms, is a risk assessment that includes more limited soil and dust sampling, and a detailed visual examination of paint films and any existing lead hazard controls (such as enclosures, encapsulants). Reevaluations are performed only in buildings where LBP hazards have been found to be nonexistent, either through a risk assessment, a risk assessment/inspection combination, or a clearance examination following abatement or interim control work. Reevaluation occurs at intervals recommended by the HUD Standard Reevaluation Schedule; a copy is provided in Appendix G.

Annual visual surveys are conducted by owner staff to confirm that:

- Painted surfaces with known or suspected LBP are not deteriorating.
- Control methods such as encapsulation and enclosure have not failed.
- Structural problems do not threaten the integrity of any remaining known or suspected LBP.

Visual surveys should also be conducted whenever complaints are received by occupants about potential lead hazards, the building becomes vacant, or significant damage occurs that could affect the integrity of control treatments.

Building should be maintained in good condition by following the maintenance and management practices such as:

- High-efficiency particulate air (HEPA) vacuuming, wet mopping, and cleaning floors, window troughs, and interior window sills at turnover.
- Providing LBP hazard information to new occupants.
- Maintaining ground cover.
- Encouraging occupants to report any signs of paint deterioration or failure of hazard control treatments as soon as they are detected.

IV. Site-Specific Lead Hazard Control Plan.

A. Lead Hazard Control Option To Be Implemented at Ft. McClellan. To be determined by Ft. McClellan staff.

B. Training Plan for Managers, Maintenance Supervisors and Workers. It is essential that Ft. McClellan staff and others directly involved with reducing LBP hazards have instruction provided by qualified trainers to make them aware of the hazards of lead, proper procedures and work practices, and the need for protective equipment and proper hygiene. Great care must be exercised to protect workers from excess lead exposures and to prevent them from taking lead dust home on their

clothing or belongings which could then poison their children. Recommended training topics can be found in TM 5-6XX, Table 6-1. A copy of this is presented in Appendix H. Also included in Appendix H is the table of contents from the National Institute of Building Sciences, Lead-Based Paint, Operations & Maintenance Work Practices Manual for Homes and Buildings, May 1995. The work practices in this document provide good information on safely working with LBP hazards. Appendix B - Model Training Programs - EPA and SOEH from this manual is also provided in Appendix H as an additional reference.

C. Occupant Education. Building occupants should be advised of the LBP hazards identified. Especially housing occupants with small children should be advised that parents have an important role to play in protecting their children from lead poisoning. The importance of wet mopping and wet wiping to control dust levels should be stressed and the importance of washing children's hands should be emphasized. Occupants should be encouraged to call to the attention of facility personnel (staff) any chipping or peeling paint. Informational brochures may be beneficial in educating occupants about what they can do to reduce exposure to the LBP hazards. EPA has such informational brochures, One is Lead-Based Paint, Protect Your Family, Docket No. OPPTS-62133, March 1994, draft; final expected fall 1994. Additional information may be obtained from the National Lead Information Center, call (800) LEAD-FYI.

D. Signature.

Respectfully submitted,
July 17, 1995

John W. Calvert

John W. Calvert, P.E., CIH

APPENDIX A

Appendix A

Building/Group Number and Use/Activity of Buildings Surveyed

Building or Group Number	Use/Activity
66	Child Development Center
67	Silver Chapel
128	Family Fitness Center
129	Workshop
130	Miller Gym
292	Hospital (portions)
893	Chapel (exterior only)
992	Recreation Center (exterior only)
1012	Truman Gymnasium
1077	W.A.C. Museum
1740	Soldier's Chapel
1928	Bowling Alley
1929	Dental Clinic
2101	Post Theater
2102	Library
2213	Child Development Center
2242	Family Housing
2271	Family Housing
2290	Preventive Medicine Bldg.
2293	W.A.C. Chapel

Building/Group Number and Use/Activity of Buildings Surveyed

Building or Group Number	Use/Activity
2299	Chemical Corps Museum
3182	Military Police Museum
3213	Army Community Service Center
3293	Chapel
3527	Scout Building
3681	Elementary School
Buchner Housing (Qtrs 9 & 13)	Family Housing, 2 units
Baltzell Housing (Qtrs 25B, 27A, 28A, 29A, 30A)	Family Housing, 5 units
Drennen Housing (Qtrs 81,83,85,87,89,90, 103,105,106,107)	Family Housing, 10 units
W.A.C. Circle (Qtrs 2235, 2236)	Family Housing, 2 units
Avery Housing Group (3310-3343)	Family Housing
Group 1 (3310-3331), (Qtrs 3311A, 3313A, 3314A, 3314B, 3316A, 3316B, 3317B, 3319A, 3319B, 3322B, 3324A, 3325A, 3327B, 3328B, 3330A, 3331A)	16 units
Group 2 (3334-3343), (Qtrs 3334A, 3336A, 3337A, 3337B, 3339A, 3340A, 3341B, 3343A, 3343B)	9 units
Littlebrant Housing Group (3400-3411) (Qtrs 3401, 3402B, 3403B, 3407, 3409B)	Family Housing 5 units

Building/Group Number and Use/Activity of Buildings Surveyed

Building or Group Number	Use/Activity
Morton, Church, and Baker Rd Housing Group (3500-3540) (Qtrs 3500A, 3500C, 3501A, 3502B, 3502D, 3503A, 3517B, 3519B, 3520E, 3524A, 3524C,3526B, 3528D, 3529B, 3530C, 3531B, 3531E, 3532D,3533C, 3533E, 3534B, 3534F, 3535B, 3535D, 3536A,3536E, 3536F, 3537A, 3538B, 3538F, 3540E)	Family Housing 31 units
Wirans, Church, & Morton Rds Housing (3600 Series, 3610-3673) (Qtrs 3610B, 3611A, 3612A, 3614B, 3615B, 3616A, 3616B, 3617A, 3617B, 3618A, 3619B, 3620B, 3622B, 3624B, 3626B, 3629B, 3632B, 3635B, 3637B, 3640B, 3643B, 3652A, 3659B, 3662A, 3664A, 3664B, 3665B, 3668B, 3670A, 3671B, 3672B, 3673B)	Family Housing 32 Units
Summerall Housing (3700's Group A) (3700-3718) (Qtrs 3700A, 3700B, 3700D, 3700G, 3702B, 3702E, 3704B, 3704F, 3706D, 3708C, 3710C, 3712B, 3712G, 3714B, 3716A, 3716B, 3718A, 3718D)	Family Housing 18 units
Summerall & Sharp Housing (3700's Group B) (3719-3731) (Qtrs 3719E, 3719H, 3720C, 3721B, 3722C, 3722D, 3724A, 3725A, 3725D, 3726B, 3727A, 3727F, 3728C, 3728H, 3729E, 3731A, 3731F, 3731G, 3732A, 3732E, 3732H)	Family Housing 21 units
Cooper, Bray, Littlebrant (3700's Group C) (3737-3770) (Qtrs 3737A, 3737B, 3738B, 3739A, 3740A, 3741A, 3742B, 3743B, 3744B, 3745B, 3746B, 3761A, 3763A, 3765A, 3766A, 3767A, 3767B, 3768B, 3769B, 3770B)	Family Housing 20units

APPENDIX B

TABLE 1
INTERIOR AND EXTERIOR AREAS WITH LEAD-BASED PAINT

Building No.: Use	Components Where Lead-Based Paint Was Identified, I-Interior, E-Exterior
66 Child Development Center	I-Door components, stall, bookcase, ceiling E-none detected
67 Silver Chapel	I-Doors & components, window components, coat rack, pipes & HVAC duct, railings,ladder E-Railings & basement door & components
128 Family Fitness Center	I-None detected E-Doors & components, awnings, fire hydrant
129 Workshop	I-Concrete walls, windows, wood doors, door components E-doors & components, upper trim, soffits, windows
130 Miller Gym	I- None detected E-Brown metal guide wire cover/yellow paint
292 Hospital	I-None detected in pediatric areas and waiting rooms E-Not tested
893 Chapel	I-not tested per base personnel E-Assume all paint
992 Recreation Center	I-not tested per base personnel E-Assume white painted wood porch components
1012 Truman Gym	I-Metal doors, lockers E-None detected
1077 WAC Museum	I-None detected E-None detected
1740 Soldier's Chapel	I-Concrete walls, doors & components, windows & components, rafters, beams E-Windows & components, doors & components, support pad
1928 Bowling Alley	I-None detected E-None detected
1929 Dental Clinic	I-None detected E-None detected

TABLE 1
INTERIOR AND EXTERIOR AREAS WITH LEAD-BASED PAINT

Building No.: Use	Components Where Lead-Based Paint Was Identified, I-Interior, E-Exterior
2101 Post Theater	I-None detected E-Metal doors & components, railings
2102 Library	I-None detected E-Metal guide wire cover
2213 Child Development Center	I-Wood door components E-Wood doors & components, downspouts, pipes, metal panels
2242 Family Housing	I-Window sash & well E-Consider all outside paint positive, except front porch floor, block foundation, and various trim
2271 Family Housing	I-Window components, doors & trim, baseboards, shelf supports, fireplace mantle E-Porch ceiling & beam, door
2290 Preventive Medicine	I-Screen doors @ entryways E-Doors & frames, support poles, window casings & frames, handrails, downspouts
2293 WAC Chapel	I-None detected E-Soffits, window trim, door and frames, metal pole, concrete threshold, apron & steps
2299 Chemical Corps Museum	I-Window & door components, roll-up door & casing E-Downspout & gutter
3182 MP Museum	I-Metal door & components & windows, metal shelf E-Metal doors & frames & windows, metal awnings
3213 Army Community Service Center	I-Block wall, lower trim E-Window sash & casing, metal pole, door, yellow concrete curb
3293 Chapel	I-Window headers E-Door & components, upper facia

TABLE 1
INTERIOR AND EXTERIOR AREAS WITH LEAD-BASED PAINT

Building No.: Use	Components Where Lead-Based Paint Was Identified, I-Interior, E-Exterior
3527 Scout Building	I-Door casing & jamb, window casing, sheetrock wall, wood column E-Window casing, upper trim, column, soffit, door & jamb
3681 Elementary School	I-Door jambs rear & side entryways E-Window, soffit, door frame
Buchner Family Housing, #'s 9 & 13	I-Doors & components, window components, beadboard wood ceilings, walls, baseboards & moldings, stairway components, bookcase, mantel Newell post E-Porch components & handrails, door components, soffits, rafters, cornerboards, downspout
Baltzell Family Housing, 25B, 27A, 28A, 29A, 30A	I-Doors & components, window components, baseboards, shelves & shelf supports E-Porch components, wood door components, soffits, rafters, cornerboards
Drennen Family Housing, 81, 83, 85, 87, 89 90, 103, 105, 106, 107	I-Window components, baseboards, crown & chair molding, door components, walls, stair components, shelves & supports E-Siding & walls, facia, soffits, cornerboards, door components,
WAC Circle Housing, 2235, 2236	I-Doors & components, plaster ceilings, baseboards, shelves & shelf supports E-Porch components, wood door components, soffits, rafters, cornerboards, screen trim
Avery Family Housing, Group 1, 3310-3331	I-Window sashes, shelves & shelf supports, baseboards, curtain molding, attic scuttles E-Porch components, window components, door components, fences, wood beneath vinyl siding
Avery Family Housing, Group 2, 3334-3343	I-Shelves, shelf supports, baseboards, curtain molding E-Porch ceiling, trim, column, support; wood rail, wood fences, concrete slab

TABLE 1
INTERIOR AND EXTERIOR AREAS WITH LEAD-BASED PAINT

Building No.: Use	Components Where Lead-Based Paint Was Identified, I-Interior, E-Exterior
Littlebrant Family Housing, 3400-3411	I-Baseboards, shelves & shelf supports, attic scuttles E-Porch components, fence components
Morton, Church, & Baker Rd Family Housing, 3500-3540	I-Stairs, risers, thread, handrails, posts E-Facia, soffits, cornerboards; porch frame, trim, floor
Wirans, Church, and Morton Rds Family Housing , 3610-3673	I-Window components, shelves & shelf supports E-Door components, fences; metal electrical conduits, guide wire sleeves, & vents; porch supports, wood porch components, window components
Summerall Family Housing, Group A, 3700-3718	I-Window sills, frames, casings; baseboards, crown & chair molding, shelves & supports; stair stringer, riser; cabinets E-Door headers, casings, frames; porch frame, trim, floor
Summerall/Sharp Family Housing, Group B, 3719-3732	I-Bathroom cabinets (2nd FL), baseboards, shelves & supports, stair risers & stringers E-Door components, window header plate; porch support pole, ceiling, upper trim, back fence
Cooper, Bray, & Littlebrant Family Housing, Group C, 3737-3770	I-Shelves & supports, window sash, frames, casings E-window sills, frames, casings; porch frame, trim, floor; fences, conduit

For the individual buildings, components with LBP were identified from positive XRF readings and/or positive scrape sample analysis in SADL survey reports. For family housing groups, components with LBP were identified from component summary tables in SADL survey reports. The HUD Interim Guidelines set out decision rules depending on the percentages of components classified as positive. The rules are applied to each component separately, and depend on the type of XRF analyzer used. For the XRF spectrum analyzer, if more than 11% of a component are positive, lead is present, and either all such components should be abated, or all should be tested to determine which require abatement and which do not.

TABLE 2
PAINTED BUILDING COMPONENTS/SURFACES
WITH LEAD-BASED PAINT IN FAIR/POOR CONDITION

Building or Unit #	Fair ("I-": Interior; "E-": Exterior)	Poor ("I-": Interior; "E-": Exterior)
66	I-Janitor's closet: Tan metal door jamb.	I-Janitor's closet: White wood ceiling (above dropped tile ceiling)
67	I-Stairwell: Brown metal railing	E-Brown metal railing
128	E-Metal doors & components, beige metal fire hydrant	
129	I-Rm 1: beige upper concrete wall, beige metal door jamb, beige wood door casing, brown wood door jamb, beige wood door, Rm2: Beige metal window frame, Rm 3: Beige wood door, beige metal door jamb, Rm 5: beige wood door E-Brown metal window frame, brown screened door	I-Rm 1: Beige upper concrete wall, Rm 4: Beige concrete wall, Rm 5: beige concrete wall, Rm 6: brown wood door E-Brown wood door
893	E-White wood door	E-White wood clapboard, green concrete foundation, white wood window sill, white wood cornerboard, white wood door, white wood window sash
992	E-White wood porch ceiling	E-White wood upper porch trim
1012	I-Steam room orange metal door	
1740	I-Rm 1: White metal rafter, Rm 2: white metal door & casing, Rm 3: tan concrete wall	I-Rm 1: White metal window sash, Rm 6: White metal window sash E-Brown concrete pad
2101	E-Pink metal door & casing, pink metal dock apron	E-Pink metal rail
2102		E-Brown telephone guide wire cover
2213	E-Tan metal downspout lower section, brown wood door	E- brown metal panel, brown/white metal pipe, brown wood basement door, green wood door jamb
2242	E-White wood door jamb	I-LR brown window sash E-White wood siding, green wood window casing, green wood door, white wood porch ceiling, white wood porch rafter, white wood door

TABLE 2
PAINTED BUILDING COMPONENTS/SURFACES
WITH LEAD-BASED PAINT IN FAIR/POOR CONDITION

Building or Unit #	Fair ("I-": Interior; "E-": Exterior)	Poor ("I-": Interior; "E-": Exterior)
2271	E-Green wood door	I-Rm 5 BR: White wood shelf support E-White wood porch ceiling
2290	E-Brown metal railing , brown wood door, tan metal downspout base, brown metal support pole	E-Tan metal downspout
2293	E-Brown metal pole, brown wood door & jamb	E- Brown wood window sash, white concrete threshold , apron, & steps, brown wood door
2299	I-Partition office grey door casing E-Brown rain gutter	I-Rm 6: Green metal door casing, green roll-up door E-Brown metal downspout
3182	I-Rm 3:Tan metal door, Rm 6:white metal shelf E-Brown metal door frames with metal doors, brown metal awnings	
3213	E-Brown metal window casing	E-Brown metal window sash, brown metal pole, yellow concrete curb
3293	E-Brown metal door	E-Brown wood door & header, brown upper facia
3527	I-Rm 1: White metal window casing	E-White wood window casing, white wood upper trim, white wood column, white wood soffit, white door & jamb
Buchner #13	I-Basement: white steel column, green wood screen door, green wood door, Newel post E-Brown wood soffit	E-Brown metal downspout catch
Baltzell, 28A	E-white porch railing, white metal porch support	
Baltzell, 29A	E-white porch rail	
Baltzell, 30A	E-White porch railing, white porch ceiling	

TABLE 2
PAINTED BUILDING COMPONENTS/SURFACES
WITH LEAD-BASED PAINT IN FAIR/POOR CONDITION

Building or Unit #	Fair ("I-": Interior; "E-": Exterior)	Poor ("I-": Interior; "E-": Exterior)
Drennen, 81	I-Kitchen plaster ceiling, basement: steel support beam, back door E-White wood door jamb	I-MBR wood baseboard, Basement: stairwell, stair riser E-Creme porch soffit, white window apron, front porch siding, white wood rear door
Drennen, 83	I-Basement:cross beam support, gray creme door E-Upper porch trim	I-Basement: steel support post
Drennen, 85	E-Creme wood siding	
Drennen, 90	I-Basement: gray stair rail & stringer	
WAC Circle, 2236	E-Tan metal post, tan wood screen door, tan wood door casing, tan wood screen trim	E-Tan wood eave
Avery, Group 1, 3314B	E-White metal porch support	
Avery, GP 1, 3325A	I-Rm 4: White wood shelf support E-White wood window apron, white wood window casing	E-White wood door casing
Avery, GP 1 3327B		E-White wood window apron
Avery, GP 1 3331A	E-White wood door casing, white wood window apron	E-White wood fence
Littlebrant, 3401	E-White metal porch support, white wood porch ceiling	E-White wood trim
Littlebrant, 3403B		E-Green metal fence support
Morton, Church, Baker, 3500A	E-White wood door overhang	E-White metal porch support
Morton, Church, Baker, 3503A		E-White wood window apron
Morton, Church, Baker, 3517B	E-White wood window casing, white wood window sill	E-White metal door casing

TABLE 2
PAINTED BUILDING COMPONENTS/SURFACES WITH LEAD-BASED PAINT IN FAIR/POOR CONDITION

Building or Unit #	Fair ("I-": Interior; "E-": Exterior)	Poor ("I-": Interior; "E-": Exterior)
Morton, Church, Baker, 3519B		E-White metal porch support, white door trim
Morton, Church, Baker, 3520E		E-White metal porch support
Morton, Church, Baker, 3524C		E-White wood window divider
Morton, Church, Baker, 3531B		E-White metal column
Morton, Church, Baker, 3532D	E-White metal porch support	
Morton, Church, Baker, 3533E		E-White metal porch support
Morton, Church, Baker, 3534F	E-White wood window casing	E-White wood porch support
Morton, Church, Baker, 3535D	E-White metal porch support, white wood upper trim	
Morton, Church, Baker, 3536A		E-White porch support, white wood window frame
Morton, Church, Baker, 3536F		E-White metal porch post
Morton, Church, Baker, 3537A	E-White wood window casings (2)	
Morton, Church, Baker, 3538B	E-White metal support post	
Morton, Church, Baker, 3540E	E-White metal porch	
Wirans, Church, Morton Rds, 3600s, 3610B	I-Kitchen: white wood window well; MB: white wood window well, child's BR: white wood window well	
Wirans, Church, Morton Rds, 3600s, 3611A	E-White metal porch post	E-White porch ceiling, white wood window sills (2)

TABLE 2
PAINTED BUILDING COMPONENTS/SURFACES
WITH LEAD-BASED PAINT IN FAIR/POOR CONDITION

Building or Unit #	Fair ("I-": Interior; "E-": Exterior)	Poor ("I-": Interior; "E-": Exterior)
Wirans, Church, Morton Rds, 3600s, 3614B	E-White wood porch ceiling, white wood window casing (2), white metal porch support	
Wirans, Church, Morton Rds, 3600s, 3615B	E-White metal porch support, white wood upper trim	E-White wood window sill
Wirans, Church, Morton Rds, 3600s, 3616A	E-White wood porch trim	E-white wood window apron, white metal porch support, white wood porch ceiling
Wirans, Church, Morton Rds, 3600s, 3616B	I-Kitchen: white wood window well E-White wood door header, white wood window apron	E-Red wood fence
Wirans, Church, Morton Rds, 3600s, 3617B	I-Kitchen: white wood window well	I-Child's BR: white wood window well
Wirans, Church, Morton Rds, 3600s, 3618A	E-White metal porch support	E-White wood porch ceiling, white wood window casing, brown wood fence, white wood window sill
Wirans, Church, Morton Rds, 3600s, 3619B	E-White metal porch support	I-MBR: white wood window well, RM 4 BR: white wood window well E-White wood window apron, white wood porch ceiling
Wirans, Church, Morton Rds, 3600s, 3620B		E-White wood window apron, white wood porch ceiling, white wood fence
Wirans, Church, Morton Rds, 3600s, 3622B	I-Rm 1: white wood window well E-White wood upper trim, white wood window casing, white metal conduit, white wood door casing,	E-White metal porch support, white wood window sill, white wood fence
Wirans, Church, Morton Rds, 3600s, 3624B	E-White wood porch ceiling	
Wirans, Church, Morton Rds, 3600s, 3626B	I-Child's BR: white wood window well E-Whie wood window casing, white wood window sill, white metal porch post	

TABLE 2
PAINTED BUILDING COMPONENTS/SURFACES WITH LEAD-BASED PAINT IN FAIR/POOR CONDITION

Building or Unit #	Fair ("I-": Interior; "E-": Exterior)	Poor ("I-": Interior; "E-": Exterior)
Wirans, Church, Morton Rds, 3600s, 3629B	E-White wood fence, white wood door casing, white wood porch ceiling, white wood window apron	
Wirans, Church, Morton Rds, 3600s, 3632B	I-Kitchen: white wood window well E-White wood window casing, white metal porch support	E-White wood fence
Wirans, Church, Morton Rds, 3600s, 3637B	I-Kitchen: white wood window well, child's BR: white wood window well E-White wood window casing, white wood porch ceiling, white wood window sill	E-White wood fence
Wirans, Church, Morton Rds, 3600s, 3643B	E-White wood porch ceiling, white wood window sill, white metal porch support	
Wirans, Church, Morton Rds, 3600s, 3659B	I-MBR: white window well E-White wood window sill	E-white metal porch support
Wirans, Church, Morton Rds, 3600s, 3664A	I-Rm 2: white wood window well, white wood window sash E-White wood porch ceiling, white wood window casing	E-Green wood fence, white wood upper trim
Wirans, Church, Morton Rds, 3600s, 3664B	E-White wood porch ceiling, white wood door casing, white window apron	E-Green wood privacy fence
Wirans, Church, Morton Rds, 3600s, 3665B	I-Kitchen: white wood window well	E-White wood window casing
Wirans, Church, Morton Rds, 3600s, 3670A	I-Rm 2: White wood window well E-white electric conduit, white wood window sill, white metal porch support, white wood upper porch trim, white wood fence, white wood window casing	
Wirans, Church, Morton Rds, 3600s, 3671B	E-White metal porch support	E-white wood fence

TABLE 2
PAINTED BUILDING COMPONENTS/SURFACES
WITH LEAD-BASED PAINT IN FAIR/POOR CONDITION

Building or Unit #	Fair ("I-": Interior; "E-": Exterior)	Poor ("I-": Interior; "E-": Exterior)
Wirans, Church, Morton Rds, 3600s, **36172B**	E-White wood window casing (2), tan guide wire sleeve	E-White metal porch support, tan wood fence
Summerall, 3700s, Group A, **3700A**	E-White metal porch support	
Summerall, 3700s, Group A, **3700G**	E-White metal porch support	
Summerall, 3700s, Group A, **3706D**		E-White metal porch support
Summerall, 3700s, Group A, **3708C**	E-White metal porch support	
Summerall & Sharp, 3700s, Group B, **3719E**	E-White metal porch support, white metal window header, white wood porch ceiling, white wood door casing, white wood fence	
Summerall & Sharp, 3700s, Group B, **3719H**	E-White metal porch support	
Summerall & Sharp, 3700s, Group B, **3721B**	E-White wood door casing, white wood fence	
Summerall & Sharp, 3700s, Group B, **3722D**	E-White metal porch post	
Summerall & Sharp, 3700s, Group B, **3724A**	E-White metal porch post	
Summerall & Sharp, 3700s, Group B, **3725A**	E-White metal porch post	

TABLE 2
PAINTED BUILDING COMPONENTS/SURFACES
WITH LEAD-BASED PAINT IN FAIR/POOR CONDITION

Building or Unit #	Fair ("I-": Interior; "E-": Exterior)	Poor ("I-": Interior; "E-": Exterior)
Summerall & Sharp, 3700s, Group B, **3725D**	E-White metal porch post, white wood door casing	
Summerall & Sharp, 3700s, Group B, **3727F**	E-White metal porch post, white wood door jamb, white wood fence, white metal door casing	
Summerall & Sharp, 3700s, Group B, **3729E**	E-White metal porch facia trim, white metal porch post, white metal door header, white wood fence	E-White wood porch ceiling
Summerall & Sharp, 3700s, Group B, **3731A**	E-White wood door casing	E-White metal porch post, white metal door header
Summerall & Sharp, 3700s, Group B, **3732A**	E-White metal porch post, white metal window header, white wood fence, white wood door casing	
Summerall & Sharp, 3700s, Group B, 3732E	E-White metal porch support, white wood fence	
Cooper, Bray, Littlebrant, 3700s, Group C, **3740A**	E-White wood porch ceiling, white wood window casing, white metal porch support, white wood porch trim	E-White wood fence
Cooper, Bray, Littlebrant, 3700s, Group C, **3742B**	E-White metal porch support	E-White wood window sill

APPENDIX C

BUILDINGS/UNITS WHERE LEAD DUST SAMPLE RESULTS EXCEEDED CLEARANCE LEVELS

Building/Unit #	Floor	Window Sill (WS)	Window Well (WW)	Comment
67	134			Stairwell Floor
2299	445			Enrty Area Floor
3319A (3310-3343)	933	4600	7632	BR Floor, Kit WW, BR WS
3530C (3500-3542)	198			Kit Floor
3610B (3610-3673)			1242 1193	DR Bathroom
3626B (3610-3673)			1076 824	Kitchen Child's BR
3640B (3610-3673)			2044 3841	BR Teenager's BR
3659B (3610-3673)			936	Master BR
3664B (3610-3673)			892	Bathroom
3665B (3610-3673)			934 2093	Kitchen BR
3708C (3700-3818)	125			BR
3731H (3719-3732)	109			Stairwell
3737B (3737-3770)			1789	Master BR

Recommended Clearance Levels:

Location	Lead Loading
Uncarpeted Floors	100 $\mu g/ft^2$.
Interior Window Sills	500 $\mu g/ft^2$.
Window Wells	800 $\mu g/ft^2$.

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/421-5271 FAX 404/421-4977

24 September 1994

SOIL AND DUST SAMPLE DATA FOR
LEAD RISK ASSESSMENT
FORT McCLELLAN AND ANNISTON ARMY DEPOT
ALABAMA

1. Enclosed are the sample results and quality control data for soil and dust (wipe) samples taken for lead risk assessment at Ft. McClellan and Anniston Army Depot Alabama.

2. Soil and dust sampling was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990). A lead-based paint (LBP) survey using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (XRF spectrum analyzer) was performed just prior to dust sampling. Therefore, dust samples were taken in areas where lead contaminated dust was more likely to exist.

3. The data is grouped according to the type of sample (soil or dust) and area sampled. Each building is treated as a separate area. Family housing is divided into areas similar in; type and time of construction, location and LBP survey results. For example, Units 25 - 30 on Baltzell Rd. were built in the mid 1950's and have similar floorplans and LBP survey results.

4. This report consists of:

Table 1: Soil Sample Data for Ft. McClellan
Table 2: Laboratory Quality Control Data for Ft. McClellan Soil Samples
Table 3: Dust Sample Data for Ft. McClellan
Table 4: Laboratory Quality Control Data for Ft. McClellan Dust Samples
Table 5: Soil, Dust and Quality Control Data for Anniston Army Depot

Prepared By: Keith Bates
Keith Bates
Geologist

Reviewed By:
Ray Willingham
Geologist

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Table 3
FORT McCLELLAN DUST DATA
Buildings and Family Housing Groups

Field ID	Sample Date	Sample Time	Lab #	Result	Units	Location of Wipe Sample
				BUILDINGS		
				Building 67 (Silver Chapel)		
7094.67.1D	94/02/02	850	18876	58.1	ug/Ft^2	Kitchen - Window Sill
7094.67.2D	94/02/02	850	18877	44.6	ug/Ft^2	Basement Entry Area - Floor
7094.67.3D	94/02/02	850	18878	235.0	ug/Ft^2	Basement Entry Area - Top of HVAC Duct
7094.67.4D	94/02/02	850	18879	33.6	ug/Ft^2	Chapel - Floor
7094.67.5D	94/02/02	850	18880	37.6	ug/Ft^2	Chapel - Top of Wall Paneling near Podium
7094.67.6D	94/02/02	850	18881	134.0	ug/Ft^2	Stairwell - Landing Floor
7094.67.7D	94/02/02	850	18882	89.3	ug/Ft^2	Basement Office - Floor
				Building 1740 (Soldier's Chapel)		
7094.1740.2D	94/02/25	1715	19468	78.9	ug/Ft^2	Main Chapel - Window Sill
7094.1740.3D	94/02/25	1720	19469	< 25.0	ug/Ft^2	Main Chapel - Floor
7094.1740.4D	94/02/25	1722	19470	156.0	ug/Ft^2	Large Storage Room - Window Sill
7094.1740.5D	94/02/25	1725	19471	41.7	ug/Ft^2	Large Storage Room - Floor
				Building 2299 (Chemical Museum)		
7094.2299.2D	94/03/15	1545	19533	445.0	ug/Ft^2	Entry Area - Floor
7094.2299.3D	94/03/15	1550	19534	15.3	ug/Ft^2	Office Area - Window Sill
7094.2299.4D	94/03/15	1555	19535	30.0	ug/Ft^2	Office Area - Floor
7094.2299.5D	94/03/15	1600	19536	< 33.8	ug/Ft^2	Artifact Storage - Window Sill
7094.2299.7D	94/03/15	1610	19538	23.8	ug/Ft^2	Artifact Storage - Window Sill
7094.2299.8D	94/03/15	1615	19539	< 19.8	ug/Ft^2	Artifact Storage - Window Sill
				Building 3213 (Army Community Service Center)		
7094.3213.2D	94/02/10	1605	18860	38.8	ug/Ft^2	Children's Playroom - Floor
7094.3213.3D	94/02/10	1606	18861	37.0	ug/Ft^2	Children's Playroom - Floor
7094.3213.4D	94/02/10	1612	18862	27.0	ug/Ft^2	Hallway - Floor
7094.3213.5D	94/02/10	1615	18863	< 25.6	ug/Ft^2	Front Entry - Floor
				Building 3293 (Chapel)		
7094.3293.1D	94/02/03	1030	18870	< 40.3	ug/Ft^2	Activity Room - Window Sill
7094.3293.2D	94/02/03	1036	18871	44.6	ug/Ft^2	Activity Room - Floor
7094.3293.4D	94/02/03	1040	18873	29.2	ug/Ft^2	Chapel - Window Sill
7094.3293.5D	94/02/03	1045	18874	44.6	ug/Ft^2	Chapel - Floor
				Building 3527 (Scout Building)		
7094.3527.1D	94/02/24	1635	19572	17.3	ug/Ft^2	Large Activity Room - Floor
7094.3527.3D	94/02/24	1640	19574	< 18.5	ug/Ft^2	Large Activity Room - Window Sill
7094.3527.4D	94/02/24	1642	19575	21.2	ug/Ft^2	Small Activity Room - Window Sill
7094.3527.5D	94/02/24	1645	19576	29.2	ug/Ft^2	Kitchen - Floor
				Building 3681 (Dependent School)		
7094.3681.1D	94/02/05	1410	18865	48.5	ug/Ft^2	Entry - Floor by North Exit Door
7094.3681.2D	94/02/05	1415	18866	74.1	ug/Ft^2	Entry - Floor by West Exit Door
7094.3681.3D	94/02/05	1417	18867	32.5	ug/Ft^2	Entry - Floor by East Exit Door

Table 3 (continued)
FORT McCLELLAN DUST DATA
Buildings and Family Housing Groups

Field ID	Sample Date	Sample Time	Lab #		Result	Units	Location of Wipe Sample
			FAMILY HOUSING GROUPS				
			Baltzell Rd. (Units 25 - 30)				
7094.25B.1D	94/02/02	1010	18912	<	56.8	ug/Ft^2	Kitchen - Window Sill
7094.25B.3D	94/02/02	1020	18914		50.0	ug/Ft^2	Living Room - Floor
			Drennen (Units 81 - 107)				
7094.106.5.1D	94/02/09	1030	18907	<	64.1	ug/Ft^2	Bedroom - Floor
7094.106.5.2D	94/02/09	1030	18908	<	58.8	ug/Ft^2	Bedroom - Window Sill
7094.106.5.4D	94/02/09	1035	18910	<	56.8	ug/Ft^2	Bedroom - Floor
7094.106.5.5D	94/02/09	1040	18911		54.9	ug/Ft^2	Kitchen - Window Well
			WAC Circle (Units 2235 - 2240)				
7094.2235.2D	94/03/17	917	19437	<	32.9	ug/Ft^2	Bedroom - Floor
7094.2235.3D	94/03/17	920	19438	<	26.9	ug/Ft^2	Kitchen - Window Sill
			Avery (Units 3310 - 3343)				
7094.3319A.2.4D	94/02/09	0	18885		7632.0	ug/Ft^2	Kitchen - Window Well
7094.3319A.3.1D	94/02/09	1131	18887	<	40.0	ug/Ft^2	Living Room - Floor
7094.3319A.4.7D	94/02/09	1139	18893	<	50.0	ug/Ft^2	Master Bath - Floor
7094.3319A.4D	94/02/09	1138	18890		147.0	ug/Ft^2	Master Bath - Window Well
7094.3319A.5.2D	94/02/09	1144	18892	<	100.0	ug/Ft^2	Bedroom - Window Sill
7094.3319A.5D	94/02/09	1142	18891	<	41.0	ug/Ft^2	Bedroom - Closet Floor
7094.3319A.6.3D	94/02/09	1135	18889		933.0	ug/Ft^2	Bedroom - Floor
7094.3319A.6.4D	94/02/09	1134	18888		4600.0	ug/Ft^2	Bedroom - Window Sill
			Morton/Church/Baker (Units 3500 - 3542)				
7094.3519B.1D	94/02/22	1627	19427	<	26.0	ug/Ft^2	Kitchen - Window Well
7094.3519B.2D	94/02/22	1632	19428	<	25.0	ug/Ft^2	Kitchen - Floor
7094.3519B.3D	94/02/22	1633	19429	<	25.0	ug/Ft^2	Living Room - Floor
7094.3519B.5D	94/02/22	1642	19431	<	29.1	ug/Ft^2	Living Room - Window Well
7094.3519B.6D	94/02/22	1645	19432	<	25.0	ug/Ft^2	Baby Bedroom - Floor
7094.3519B.7D	94/02/22	1647	19433	<	28.4	ug/Ft^2	Baby Bedroom - Window Well
7094.3519B.8D	94/02/22	1650	19434	<	25.0	ug/Ft^2	Child's Bedroom - Floor
7094.3519B.9D	94/02/22	1655	19435	<	28.4	ug/Ft^2	Child's Bedroom - Window Well
7094.3520E.1D	94/02/23	1147	19299	<	12.4	ug/Ft^2	Kitchen - Floor
7094.3520E.2D	94/02/23	1150	19300	<	19.1	ug/Ft^2	Kitchen - Door
7094.3520E.4D	94/02/23	1153	19302		15.2	ug/Ft^2	Stairwell - Railing Support
7094.3526B.2D	94/02/24	930	19313	<	25.0	ug/Ft^2	Laundry Room - Floor
7094.3530C.2D	94/02/25	1005	19346		198.0	ug/Ft^2	Kitchen - Floor
7094.3530C.3D	94/02/25	1010	19347	<	59.5	ug/Ft^2	Stairwell - Tread
7094.3533E.1D	94/02/26	1215	19356	<	17.6	ug/Ft^2	Floyer - Floor
7094.3533E.2D	94/02/26	1216	19357	<	15.2	ug/Ft^2	Stairwell - Railing Support
7094.3533E.3D	94/02/26	1217	19358	<	28.4	ug/Ft^2	Kitchen - Window Well
7094.3534B.2D	94/02/28	1002	19342	<	59.5	ug/Ft^2	Kitchen - Floor
7094.3534B.3D	94/02/28	1004	19343	<	71.4	ug/Ft^2	Stairwell - Floor

Table 3 (continued)
FORT McCLELLAN DUST DATA
Buildings and Family Housing Groups

Field ID	Sample Date	Sample Time	Lab #		Result	Units	Location of Wipe Sample
							FAMILY HOUSING GROUPS (continued)
							Wirans/Church/Morton (Units 3610 - 3673) (continued)
7094.3664B.2D	94/03/07	922	19417		26.3	ug/Ft^2	Kitchen - Window Well
7094.3664B.3D	94/03/07	925	19418	<	36.2	ug/Ft^2	Kitchen - Floor
7094.3664B.4D	94/03/07	927	19419		120.0	ug/Ft^2	Living Room - Window Sill
7094.3664B.5D	94/03/07	930	19420	<	36.2	ug/Ft^2	Living Room - Floor
7094.3664B.6D	94/03/07	935	19421		60.0	ug/Ft^2	Bedroom - Window Sill
7094.3664B.8D	94/03/07	940	19423	<	40.3	ug/Ft^2	Bedroom - Floor
7094.3664B.9D	94/03/07	942	19424		892.0	ug/Ft^2	Bathroom - Window Well
7094.3664B.10D	94/03/07	945	19425	<	40.3	ug/Ft^2	Bathroom - Floor
7094.3665B.1D	94/03/07	1046	19489		941.0	ug/Ft^2	Kitchen - Window Well
7094.3665B.2D	94/03/07	1047	19490	<	25.0	ug/Ft^2	Kitchen - Floor
7094.3665B.3D	94/03/07	1050	19491		196.0	ug/Ft^2	Living Room - Window Well
7094.3665B.4D	94/03/07	1052	19492	<	24.0	ug/Ft^2	Living Room - Floor
7094.3665B.6D	94/03/07	1056	19494		613.0	ug/Ft^2	Child's Bedroom - Window Well
7094.3665B.7D	94/03/07	1058	19495	<	15.2	ug/Ft^2	Child's Bedroom - Floor
7094.3665B.8D	94/03/07	1102	19496		2093.0	ug/Ft^2	Bedroom - Window Well
7094.3665B.9D	94/03/07	1104	19497	<	13.7	ug/Ft^2	Bedroom - Floor
							Summerall (Units 3700- 3718)
7094.3700A.2D	94/03/08	1001	19379	<	18.1	ug/Ft^2	Kitchen - Window Sill
7094.3700A.3D	94/03/08	1005	19380	<	36.2	ug/Ft^2	Dining Room - Floor
7094.3700A.4D	94/03/08	1007	19381	<	56.8	ug/Ft^2	Stairwell - Tread
7094.3700A.5D	94/03/08	1010	19382	<	36.2	ug/Ft^2	Bedroom - Floor
7094.3700A.6D	94/03/08	1011	19383	<	45.4	ug/Ft^2	Bathroom - Window Sill
7094.3700D.1D	94/03/08	1022	19475	<	17.4	ug/Ft^2	Kitchen - Floor
7094.3700D.2D	94/03/08	1025	19476	<	17.1	ug/Ft^2	Kitchen - Window Sill
7094.3700D.3D	94/03/08	1030	19477		20.3	ug/Ft^2	Living Room - Window Well
7094.3700D.4D	94/03/08	1035	19478	<	25.0	ug/Ft^2	Dining Room - Floor
7094.3700D.5D	94/03/08	1118	19479		29.8	ug/Ft^2	Child's Bedroom - Window Well
7094.3700D.6D	94/03/08	1120	19480		32.8	ug/Ft^2	Child's Bedroom - Floor
7094.3700D.7D	94/03/08	1126	19481		20.5	ug/Ft^2	Child's Bedroom - Floor
7094.3700D.8D	94/03/08	1130	19482		25.2	ug/Ft^2	Bathroom - Floor
7094.3706D.1D	94/03/09	932	19513		22.9	ug/Ft^2	Kitchen - Window Well
7094.3706D.2D	94/03/09	935	19514	<	17.2	ug/Ft^2	Kitchen - Floor
7094.3706D.3D	94/03/09	936	19515	<	18.9	ug/Ft^2	Dining Room - Window Sill
7094.3706D.4D	94/03/09	938	19516	<	25.0	ug/Ft^2	Dining Room - Floor
7094.3706D.5D	94/03/09	942	19517	<	13.6	ug/Ft^2	Bedroom - Floor
7094.3706D.6D	94/03/09	945	19518	<	14.9	ug/Ft^2	Child's Bedroom - Closet Floor
7094.3708C.2D	94/03/09	940	19450	<	17.6	ug/Ft^2	Kitchen - Window Sill
7094.3708C.3D	94/03/09	942	19451	<	40.3	ug/Ft^2	Living Room - Floor
7094.3708C.4D	94/03/09	945	19452	<	67.6	ug/Ft^2	Stairwell - Tread
7094.3708C.5D	94/03/09	947	19453		125.0	ug/Ft^2	Bedroom - Floor
7094.3708C.6D	94/03/09	950	19454	<	28.4	ug/Ft^2	Bedroom - Window Well
7094.3718A.2D	94/03/10	900	19562	<	20.3	ug/Ft^2	Kitchen - Window Sill
7094.3718A.3D	94/03/10	902	19563	<	24.0	ug/Ft^2	Kitchen - Floor
7094.3718A.4D	94/03/10	904	19564	<	16.9	ug/Ft^2	Living Room - Window Sill
7094.3718A.5D	94/03/10	904	19565	<	25.0	ug/Ft^2	Living Room - Floor
7094.3718A.6D	94/03/10	908	19566		23.3	ug/Ft^2	Child's Bedroom - Closet Floor
7094.3718A.7D	94/03/10	911	19567	<	21.2	ug/Ft^2	Bathroom - Floor
7094.3718A.8D	94/03/10	914	19568	<	10.7	ug/Ft^2	Child's Bedroom - Floor

APPENDIX D

Table 4
QUALITY CONTROL DATA FOR FORT McCLELLAN DUST SAMPLES
Buildings and Family Housing Groups

Spike Field ID (1000 ug/Sample Spike)	Sample Date	Sample Time	Lab #	Result	Units	Spike Percent Recovery
7094.106.5.3D	94/02/09	1035	18909	900.0	ug/Sample	90.0 %
7094.3319A.2.D	94/02/09	0	18886	850.0	ug/Sample	85.0 %
7094.3519B.4D	94/02/22	1640	19430	1020.0	ug/Sample	102.0 %
7094.3520E.3D	94/02/23	1153	19301	1010.0	ug/Sample	101.0 %
7094.3610B.6D	94/03/02	1055	19390	985.0	ug/Sample	98.5 %
7094.3616B.1D	94/03/03	932	19621	1010.0	ug/Sample	101.0 %
7094.3626B.5D	94/03/04	1128	19445	970.0	ug/Sample	97.0 %
7094.3640B.1D	94/03/04	1536	19612	965.0	ug/Sample	96.5 %
7094.3652A.6D	94/03/05	935	19400	975.0	ug/Sample	97.5 %
7094.3659B.9D	94/03/05	1054	19415	1005.0	ug/Sample	100.5 %
7094.3664B.7D	94/03/07	937	19422	1005.0	ug/Sample	100.5 %
7094.3665B.5D	94/03/07	1054	19493	1000.0	ug/Sample	100.0 %
7094.3700A.7D	94/03/08	1015	19384	930.0	ug/Sample	93.0 %
7094.3708C.7D	94/03/09	953	19455	935.0	ug/Sample	93.5 %
7094.3718A.1D	94/03/10	858	19561	925.0	ug/Sample	92.5 %
7094.3742B.2D	94/03/15	1034	19596	970.0	ug/Sample	97.0 %
7094.3766A.1D	94/03/16	1022	19605	995.0	ug/Sample	99.5 %
7094.1740.1D	94/02/25	1712	19467	840.0	ug/Sample	84.0 %
7094.3213.1D	94/02/10	1600	18859	900.0	ug/Sample	90.0 %
7094.3293.3D	94/02/03	1038	18872	900.0	ug/Sample	90.0 %
7094.3527.2D	94/02/24	1638	19573	1010.0	ug/Sample	101.0 %

Field Blank ID	Sample Date	Sample Time	Lab #	Result	Units
7094.25B.2D.BLANK	94/02/02	1015	18913	< 50.0	ug/Sample
7094-D1 BLANK	94/02/02	850	18883	< 50.0	ug/Sample
7094.106.BLANK	94/02/09	1020	18906	< 50.0	ug/Sample
7094.2235.1D BLANK	94/03/17	915	19436	< 25.0	ug/Sample
7094.3319A.BLANK	94/02/09	1020	18884	< 50.0	ug/Sample
7094.3519B.BLANK	94/02/22	1625	19426	< 25.0	ug/Sample
7094.3520E.BLANK	94/02/23	1145	19298	< 25.0	ug/Sample
7094.3526B.1D.BLANK	94/02/24	925	19312	< 25.0	ug/Sample
7094.3530C.1D BLANK	94/02/25	1002	19345	< 25.0	ug/Sample
7094.3533E.BLANK	94/02/26	1210	19355	< 25.0	ug/Sample
7094.3534B.1D BLANK	94/02/28	1000	19341	< 25.0	ug/Sample
7094.3536A.D2.BLANK	94/02/01	1440	18895	< 50.0	ug/Sample
7094.3536A.D8.BLANK	94/02/01	0	18901	< 50.0	ug/Sample
7094.3610B.1D BLANK	94/03/02	1030	19385	< 25.0	ug/Sample
7094.3616B.BLANK	94/03/03	930	19620	< 25.0	ug/Sample
7094.3626B.BLANK	94/03/04	1115	19440	< 25.0	ug/Sample
7094.3640B.BLANK	94/03/04	1535	19611	< 25.0	ug/Sample
7094.3652A.1D BLANK	94/03/05	920	19395	< 25.0	ug/Sample
7094.3659B.BLANK	94/03/05	1035	19406	< 25.0	ug/Sample
7094.3664B.1D BLANK	94/03/07	920	19416	< 25.0	ug/Sample
7094.3665B.BLANK	94/03/07	1045	19488	< 25.0	ug/Sample
7094.3700A.1D BLANK	94/03/08	1000	19378	< 25.0	ug/Sample
7094.3700D.9D BLANK	94/03/08	1132	19483	< 25.0	ug/Sample
7094.3700D.BLANK	94/03/08	1020	19474	< 25.0	ug/Sample
7094.3706D.BLANK	94/03/09	930	19512	< 25.0	ug/Sample
7094.3708C.1D BLANK	94/03/09	937	19449	< 25.0	ug/Sample
7094.3718A.BLANK	94/03/10	855	19560	< 25.0	ug/Sample
7094.3718D.1D BLANK	94/03/10	918	19328	< 25.0	ug/Sample
7094.3725A.1D BLANK	94/03/11	930	19499	< 25.0	ug/Sample
7094.3725D.1D BLANK	94/03/11	1045	19485	< 25.0	ug/Sample
7094.3725D.BLANK	94/03/11	1045	19484	< 25.0	ug/Sample
7094.3732H.1D BLANK	94/03/14	1105	19349	< 25.0	ug/Sample
7094.3737B.BLANK	94/03/14	1405	19626	< 25.0	ug/Sample
7094.3742B.BLANK	94/03/15	1030	19594	< 25.0	ug/Sample
7094.3743B.1D BLANK	94/03/15	1045	19367	< 25.0	ug/Sample
7094.3766A.BLANK	94/03/16	1020	19604	< 25.0	ug/Sample
7094.1740.BLANK	94/02/25	1710	19466	< 25.0	ug/Sample
7094.2299.1D BLANK	94/03/15	1545	19532	< 25.0	ug/Sample
7094.3213.BLANK	94/02/10	1600	18858	< 50.0	ug/Sample
7094.3293.BLANK	94/02/03	1025	18869	< 50.0	ug/Sample
7094.3527.BLANK	94/02/24	1632	19571	< 25.0	ug/Sample
7094.3681.BLANK	94/02/05	1410	18864	< 50.0	ug/Sample

Appendix D

BUILDING AREAS WHERE SOIL LEAD CONCENTRATIONS EXCEED 400 mg/Kg (ppm)

Building/Unit #, Use	Soil Lead Concentration mg/KG (ppm)	Comment
129, Workshop	1810	within 3 ft of Bldg
893, Chapel	4158	within 3 ft of Bldg, interim controls
1740, Soldier's Chapel	1590	within 3 ft of Bldg
2242, Family Housing	2472	within 3 ft of Bldg
2293, WAC Chapel	532	12 - 20 ft from Bldg

Table 1--EPA Recommendations for Response Activities for Residential Lead-Contaminated Bare Soil		
Area of Concern	Bare Soil Lead Concentration (ppm)	Recommended Response Activities
Areas expected to be used by children, including: ▸ residential backyards, ▸ daycare and school yards, ▸ playgrounds, ▸ public parks, and ▸ other areas where children gather.	400 - 5000	Interim controls to change use patterns and establish barriers between children and contaminated soil, including: ▸ planting ground cover or shrubbery to reduce exposure to bare soil, ▸ moving play equipment away from contaminated bare soil, ▸ restricting access through posting, fencing, or other actions, and ▸ control further contamination of area. Monitor condition of interim controls. Public notice of contaminated common areas by local agency.
	> 5000	Abatement of soil, including: ▸ removal and replacement of contaminated soil, and ▸ permanent barriers. Public notice of contaminated common areas by local agency.
Areas where contact by children is less likely or infrequent	2000 - 5000	Interim controls to change use patterns and establish barriers between children and contaminated soil, including: ▸ planting ground cover or shrubbery to reduce exposure to bare soil, ▸ moving play equipment away from contaminated bare soil, ▸ restricting access through posting, fencing, or other actions, and ▸ control further contamination of area. Monitor condition of interim controls. Public notice of contaminated common areas by local agency.
	> 5000	Abatement of soil, including: ▸ removal and replacement of contaminated soil, and ▸ permanent barriers. Public notice of contaminated common areas by local agency.

Table 1
FORT McCLELLAN SOIL SAMPLE DATA
Buildings and Family Housing Groups

Field ID	Sample Date	Sample Time	SAD Lab #	Result	Units	Location of Composite Sample
				BUILDINGS		
				Building 66 (Child Development Center)		
66.1	94/03/30	1617	19707	125.0	mg/Kg	0 -3' From Building
66.2	94/03/30	1617	19708	127.0	mg/Kg	10' - 20' From Building
66.3	94/03/30	1620	19709	82.8	mg/Kg	Parking Lot
				Building 67 (Silver Chapel)		
67.1	94/03/30	1600	19794	87.5	mg/Kg	0 - 3' From Building
67.2	94/03/30	1600	19795	37.8	mg/Kg	10' - 20' From Building
				Building 128 (Family Fitness Center)		
128.1	94/03/30	1445	19721	77.3	mg/Kg	0 - 3' From Building
128.2	94/03/30	1450	19722	52.5	mg/Kg	10' - 20' From Building
				Building 129 (Workshop)		
129.1	94/03/30	1452	19796	1810.0	mg/Kg	0 - 3' From Building
129.2	94/03/30	1455	19797	109.0	mg/Kg	10' - 20' From Building
				Building 130 (Miller Gym)		
130.1	94/03/30	1455	19855	219.0	mg/Kg	0 - 3' From Building
130.2	94/03/30	1500	19856	113.0	mg/Kg	10' - 20' From Building
130.3	94/03/30	1505	19857	68.3	mg/Kg	Parking Lot
				Building 292 (Noble Army Hospital)		
292.1	94/03/31	1005	19850	< 25.0	mg/Kg	0 - 3' From Building
292.2	94/03/31	1005	19851	46.9	mg/Kg	10' - 20' From Building
292.3	94/03/31	1005	19852	88.7	mg/Kg	Parking Lots - West Side
				Building 893 (Chapel)		
893.1	94/03/31	945	19830	4158.0	mg/Kg	0 - 3' From Building
893.2	94/03/31	945	19831	215.0	mg/Kg	10' - 20' From Building
				Building 992 (Recreation Center)		
992.1	94/03/31	945	19832	166.0	mg/Kg	0 - 3' From Building
992.2	94/03/31	945	19833	111.0	mg/Kg	10' - 20' From Building
				Building 1740 (Soldier's Chapel)		
1740.1	94/03/31	950	19820	1590.0	mg/Kg	0 - 3' From Building
1740.2	94/03/31	950	19821	90.1	mg/Kg	10' - 20' From Building
				Building 2101 (Post Theater)		
2101.1	94/03/30	1506	19792	142.0	mg/Kg	0 - 3' From Building
2101.2	94/03/30	1510	19793	30.2	mg/Kg	Playground - Near pond
				Building 2102 (Library)		
2102.1	94/03/30	1515	19842	193.0	mg/Kg	Beneath Guide Wire Cover

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/421-5271 FAX 404/421-4977

24 September 1994

SOIL AND DUST SAMPLE DATA FOR
~~LEAD RISK ASSESSMENT~~
FORT McCLELLAN AND ANNISTON ARMY DEPOT
ALABAMA

1. Enclosed are the sample results and quality control data for soil and dust (wipe) samples taken for lead risk assessment at Ft. McClellan and Anniston Army Depot Alabama.

2. Soil and dust sampling was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990). A lead-based paint (LBP) survey using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (XRF spectrum analyzer) was performed just prior to dust sampling. Therefore, dust samples were taken in areas where lead contaminated dust was more likely to exist.

3. The data is grouped according to the type of sample (soil or dust) and area sampled. Each building is treated as a separate area. Family housing is divided into areas similar in; type and time of construction, location and LBP survey results. For example, Units 25 - 30 on Baltzell Rd. were built in the mid 1950's and have similar floorplans and LBP survey results.

4. This report consists of:

- √ Table 1: Soil Sample Data for Ft. McClellan
- √ Table 2: Laboratory Quality Control Data for Ft. McClellan Soil Samples
- Table 3: Dust Sample Data for Ft. McClellan
- Table 4: Laboratory Quality Control Data for Ft. McClellan Dust Samples
- Table 5: Soil, Dust and Quality Control Data for Anniston Army Depot

Prepared By: Keith Bates
Keith Bates
Geologist

Reviewed By: RW
Ray Willingham
Geologist

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Table 1 (continued)
FORT McCLELLAN SOIL SAMPLE DATA
Buildings and Family Housing Groups

Field ID	Sample Date	Sample Time	SAD Lab #	Result	Units	Location of Composite Sample
				BUILDINGS (continued)		
				Building 2213 (Child Development Center)		
2213.1	94/03/31	850	19843	168.0	mg/Kg	0 - 3' From Building
2213.2	94/03/31	850	19844	95.6	mg/Kg	10' - 20' From Building
2213.3	94/03/31	850	19845	55.5	mg/Kg	Parking Lot
2213.4	94/03/31	850	19846	31.7	mg/Kg	Playground
				Building 2290 (Preventative Medicine)		
2290.1	94/03/31	800	19847	142.0	mg/Kg	0 - 3' From Building
2290.2	94/03/31	800	19848	41.4	mg/Kg	10' - 20' From Building
2290.3	94/03/31	800	19849	106.0	mg/Kg	Parking Lot
				Building 2293 (WAC Chapel)		
2293.1	94/03/31	800	19853	260.0	mg/Kg	0 - 3' From Building
2293.2	94/03/31	800	19854	532.0	mg/Kg	10' - 20' From Building
				Building 2299 (Chemical Museum)		
2299.1	94/03/31	835	19840	117.0	mg/Kg	0 - 3' From Building
2299.2	94/03/31	835	19841	58.1	mg/Kg	10' - 20' From Building
				Building 3182 (MP Museum)		
3182.1	94/03/31	912	19785	76.0	mg/Kg	0 - 3' From Building
3182.2	94/03/31	912	19786	54.1	mg/Kg	10' - 20' From Building
				Building 3213 (Army Community Service Center)		
3213.1	94/03/30	1530	19751	84.2	mg/Kg	0 - 3' From Building
3213.2	94/03/30	1535	19752	< 25.0	mg/Kg	10' - 20' From Building
				Building 3293 (Chapel)		
3293.1	94/03/30	1540	19838	33.1	mg/Kg	0 - 3' From Building
3293.2	94/03/30	1540	19839	31.3	mg/Kg	10' - 20' From Building
				Building 3527 (Scout Building)		
3527.1	94/03/30	1035	19723	190.0	mg/Kg	0 - 3' From Building
3527.2	94/03/30	1038	19724	57.3	mg/Kg	10' - 20' From Building
				Building 3681 (Dependent School)		
3681.1	94/03/30	1120	19725	58.6	mg/Kg	0 - 3' From Building
3681.2	94/03/30	1120	19726	35.8	mg/Kg	10' - 20' From Building
3681.3	94/03/30	1120	19727	31.0	mg/Kg	Playground - Behind Main Building
3681.4	94/03/30	1120	19728	< 25.0	mg/Kg	Ballfield
3681.5	94/03/30	1120	19729	31.2	mg/Kg	Playground - Behind Trailers
3681.6	94/03/30	1120	19730	80.8	mg/Kg	Parking Lot

Table 1 (continued)
FORT McCLELLAN SOIL SAMPLE DATA
Buildings and Family Housing Groups

Field ID	Sample Date	Sample Time	SAD Lab #	Result	Units	Location of Composite Sample
			FAMILY HOUSING GROUPS			
			Buchner Circle (Units 9 and 13)			
9.1	94/03/31	900	19834	78.2	mg/Kg	0 - 3' From Building
9.2	94/03/31	900	19835	76.2	mg/Kg	10' - 20' From Building
13.1	94/03/31	900	19836	68.0	mg/Kg	0 - 3' From Building
13.2	94/03/31	900	19837	55.6	mg/Kg	10' - 20' From Building
			Baltzell Rd. (Units 25 - 30)			
25.1	94/03/30	1615	19753	57.7	mg/Kg	0 - 3' From Building
25.2	94/03/30	1615	19754	75.0	mg/Kg	10' - 20' From Building
27.1	94/03/30	1620	19755	106.0	mg/Kg	0 - 3' From Building
27.2	94/03/30	1620	19756	78.8	mg/Kg	10' - 20' From Building
28.1	94/03/30	1625	19757	47.0	mg/Kg	0 - 3' From Building
28.2	94/03/30	1625	19758	151.0	mg/Kg	10' - 20' From Building
29.1	94/03/30	1630	19759	57.5	mg/Kg	0 - 3' From Building
29.2	94/03/30	1630	19760	< 25.0	mg/Kg	10' - 20' From Building
30.1	94/03/30	1635	19761	37.2	mg/Kg	0 - 3' From Building
30.2	94/03/30	1635	19762	31.1	mg/Kg	10' - 20' From Building
			Drennen (Units 81 - 107)			
81.1	94/03/30	1550	19798	156.0	mg/Kg	0 - 3' From Building
81.2	94/03/30	1555	19799	52.9	mg/Kg	10' - 20' From Building
89.1	94/03/30	1611	19804	94.7	mg/Kg	0 - 3' From Building
89.2	94/03/30	1612	19805	86.6	mg/Kg	10' - 20' From Building
102.1	94/03/30	1604	19800	44.0	mg/Kg	0 - 3' From Building
102.2	94/03/30	1607	19801	32.3	mg/Kg	10' - 20' From Building
104.1	94/03/30	1608	19802	40.1	mg/Kg	0 - 3' From Building
104.2	94/03/30	1610	19803	28.5	mg/Kg	10' - 20' From Building
107.1	94/03/30	1614	19806	73.9	mg/Kg	0 - 3' From Building
107.2	94/03/30	1615	19807	62.3	mg/Kg	10' - 20' From Building
			WAC Circle (Units 2235 - 2240)			
2235.1	94/03/31	820	19824	182.0	mg/Kg	0 - 3' From Building
2235.2	94/03/31	820	19825	65.9	mg/Kg	10' - 20' From Building
2236.1	94/03/31	820	19826	468.0	mg/Kg	0 - 3' From Building
2236.2	94/03/31	820	19827	66.1	mg/Kg	10' - 20' From Building
			Unit 2242			
2242.1	94/03/31	822	19828	2472.0	mg/Kg	0 - 3' From Building
2242.2	94/03/31	822	19829	87.1	mg/Kg	10' - 20' From Building

Table 1 (continued)
FORT McCLELLAN SOIL SAMPLE DATA
Buildings and Family Housing Groups

Field ID	Sample Date	Sample Time	SAD Lab #	Result	Units	Location of Composite Sample
			FAMILY HOUSING GROUPS (continued)			
			Unit 2271			
2271.1	94/03/31	830	19822	197.0	mg/Kg	0 - 3' From Building
2271.2	94/03/31	830	19823	39.9	mg/Kg	10' - 20' From Building
			Avery (Units 3310 - 3343)			
33.1	94/03/30	1225	19710	39.4	mg/Kg	Playground - Near # 3335
3314.1	94/03/30	1215	19719	45.1	mg/Kg	0 - 3' From Building
3314.2	94/03/30	1220	19720	69.9	mg/Kg	10' - 20' From Building
3327.1	94/03/30	1206	19717	75.6	mg/Kg	0 - 3' From Building
3327.2	94/03/30	1208	19718	49.1	mg/Kg	10' - 20' From Building
3328.1	94/03/30	1200	19715	270.0	mg/Kg	0 - 3' From Building
3328.2	94/03/30	1205	19716	65.9	mg/Kg	10' - 20' From Building
3338.1	94/03/30	1150	19713	357.0	mg/Kg	0 - 3' From Building
3338.2	94/03/30	1155	19714	< 25.0	mg/Kg	10' - 20' From Building
3341.1	94/03/30	1140	19711	97.3	mg/Kg	0 - 3' From Building
3341.2	94/03/30	1145	19712	< 25.0	mg/Kg	10' - 20' From Building
			Littlebrant (Units 3400 - 3411)			
3401.1	94/03/30	1140	19731	< 25.0	mg/Kg	0 - 3' From Building
3401.2	94/03/30	1140	19732	32.5	mg/Kg	10' - 20' From Building
3402.1	94/03/30	1155	19733	54.5	mg/Kg	0 - 3' From Building
3402.2	94/03/30	1155	19734	42.2	mg/Kg	10' - 20' From Building
3403.1	94/03/30	1145	19735	113.2	mg/Kg	0 - 3' From Building
3403.2	94/03/30	1145	19736	< 25.0	mg/Kg	10' - 20' From Building
3407.1	94/03/30	1200	19737	25.8	mg/Kg	0 - 3' From Building
3407.2	94/03/30	1200	19738	< 25.0	mg/Kg	10' - 20' From Building
3409.1	94/03/30	1205	19739	205.0	mg/Kg	0 - 3' From Building
3409.2	94/03/30	1205	19740	37.9	mg/Kg	10' - 20' From Building
			Morton/Church/Baker (Units 3500 - 3542)			
35.1	94/03/30	955	19901	113.8	mg/Kg	Parking Lot/Roadway In front of # 3540
35.2	94/03/30	1010	19904	< 25.0	mg/Kg	Large Playground
35.3	94/03/30	1020	19905	83.3	mg/Kg	Roadway - Near playground
3503.1	94/03/30	1050	19910	246.0	mg/Kg	0 - 3' From Building
3503.2	94/03/30	1055	19911	36.9	mg/Kg	10' - 20' From Building
3519.1	94/03/30	1025	19906	153.0	mg/Kg	0 - 3' From Building
3519.2	94/03/30	1030	19907	< 25.0	mg/Kg	10' - 20' From Building
3530.1	94/03/30	1040	19908	119.0	mg/Kg	0 - 3' From Building
3530.2	94/03/30	1045	19909	47.9	mg/Kg	10' - 20' From Building

Table 1 (continued)
FORT McCLELLAN SOIL SAMPLE DATA
Buildings and Family Housing Groups

Field ID	Sample Date	Sample Time	SAD Lab #	Result	Units	Location of Composite Sample
FAMILY HOUSING GROUPS (continued)						
Morton/Church/Baker (Units 3500 - 3542) (continued)						
3533.1	94/03/30	1000	19902	254.0	mg/Kg	0 - 3' From Building
3533.2	94/03/30	1005	19903	41.5	mg/Kg	10' - 20' From Building
3540.1	94/03/30	945	19899	65.9	mg/Kg	0 - 3' From Building
3540.2	94/03/30	950	19900	76.2	mg/Kg	10' - 20' From Building
Wirans/Church/Morton (Units 3610 - 3673)						
3615.1	94/03/30	945	19741	64.3	mg/Kg	0 - 3' From Building
3615.2	94/03/30	945	19742	55.2	mg/Kg	10' - 20' From Building
3626.1	94/03/30	1000	19743	52.0	mg/Kg	0 - 3' From Building
3626.2	94/03/30	1000	19744	37.4	mg/Kg	10' - 20' From Building
3629.1	94/03/30	1005	19745	98.6	mg/Kg	0 - 3' From Building
3629.2	94/03/30	1005	19746	50.3	mg/Kg	10' - 20' From Building
3635.1	94/03/30	1020	19747	77.5	mg/Kg	0 - 3' From Building
3635.2	94/03/30	1020	19748	36.1	mg/Kg	10' - 20' From Building
3671.1	94/03/30	1030	19749	57.1	mg/Kg	0 - 3' From Building
3671.2	94/03/30	1030	19750	73.4	mg/Kg	10' - 20' From Building
Summerall (Units 3700- 3718)						
37A.1	94/03/30	1445	19808	58.6	mg/Kg	Playground - Near # 3712
37A.2	94/03/30	1445	19809	88.4	mg/Kg	Parking Lot - Near # 3708
3700.1	94/03/30	1520	19818	106.0	mg/Kg	0 - 3' From Building
3700.2	94/03/30	1520	19819	93.7	mg/Kg	10' - 20' From Building
3704.1	94/03/30	1510	19816	230.0	mg/Kg	0 - 3' From Building
3704.2	94/03/30	1510	19817	45.9	mg/Kg	10' - 20' From Building
3708.1	94/03/30	1505	19814	63.3	mg/Kg	0 - 3' From Building
3708.2	94/03/30	1505	19815	40.5	mg/Kg	10' - 20' From Building
3714.1	94/03/30	1500	19812	119.0	mg/Kg	0 - 3' From Building
3714.2	94/03/30	1500	19813	50.2	mg/Kg	10' - 20' From Building
3718.1	94/03/30	1450	19810	195.0	mg/Kg	0 - 3' From Building
3718.2	94/03/30	1450	19811	61.9	mg/Kg	10' - 20' From Building
Sharp/Summerall (Units 3719 - 3732)						
37B.1	94/03/30	1352	19767	152.0	mg/Kg	Playground - Behind # 3729
3720.1	94/03/30	1400	19768	182.0	mg/Kg	0 - 3' From Building
3720.2	94/03/30	1405	19769	< 25.0	mg/Kg	10' - 20' From Building
3722.1	94/03/30	1410	19770	71.2	mg/Kg	0 - 3' From Building
3722.2	94/03/30	1415	19771	< 25.0	mg/Kg	10' - 20' From Building
3725.1	94/03/30	1415	19772	83.2	mg/Kg	0 - 3' From Building
3725.2	94/03/30	1420	19773	65.8	mg/Kg	10' - 20' From Building

Table 1 (continued)
FORT McCLELLAN SOIL SAMPLE DATA
Buildings and Family Housing Groups

Field ID	Sample Date	Sample Time	SAD Lab #	Result	Units	Location of Composite Sample
				FAMILY HOUSING GROUPS (continued)		
				Sharp/Summerall (Units 3719 - 3732) (continued)		
3729.1	94/03/30	1348	19765	188.0	mg/Kg	0 - 3' From Building
3729.2	94/03/30	1350	19766	47.4	mg/Kg	10' - 20' From Building
3732.1	94/03/30	1337	19763	206.0	mg/Kg	0 - 3' From Building
3732.2	94/03/30	1340	19764	29.5	mg/Kg	10' - 20' From Building
				Cooper/Turner/Bray/Littlebrant (Units 3737 - 3770)		
37C.1	94/03/30	1400	19778	< 25.0	mg/Kg	Playground - Behind # 3767
3737.1	94/03/30	1415	19783	128.0	mg/Kg	0 - 3' From Building
3737.2	94/03/30	1415	19784	102.0	mg/Kg	10' - 20' From Building
3744.1	94/03/30	1410	19781	39.8	mg/Kg	0 - 3' From Building
3744.2	94/03/30	1410	19782	104.0	mg/Kg	10' - 20' From Building
3745.1	94/03/30	1405	19779	56.1	mg/Kg	0 - 3' From Building
3745.2	94/03/30	1405	19780	74.7	mg/Kg	10' - 20' From Building
3768.1	94/03/30	1345	19774	66.7	mg/Kg	0 - 3' From Building
3768.2	94/03/30	1345	19775	41.4	mg/Kg	10' - 20' From Building
3769.1	94/03/30	1355	19776	114.0	mg/Kg	0 - 3' From Building
3769.2	94/03/30	1355	19777	< 25.0	mg/Kg	10' - 20' From Building

Table 2
QUALITY CONTROL DATA FOR FORT McCLELLAN SOIL SAMPLES
Buildings and Family Housing Groups

Field ID	SAD Lab #	Result	Duplicate Result	Units	Spike Percent Recovery
3341.2	19712	< 25.0	32.0	mg/Kg	172.0 %
128.2	19722	52.5	42.9	mg/Kg	103.5 %
3401.2	19732	32.5	47.2	mg/kg	109.0 %
3615.2	19742	55.2	60.7	mg/Kg	109.0 %
3213.2	19752	< 25.0	< 25.0	mg/Kg	112.0 %
30.2	19762	31.1	< 25.0	mg/Kg	104.5 %
3725.1	19772	83.2	60.2	mg/Kg	92.0 %
3744.2	19782	104	188	mg/Kg	92.0 %
129.2	19797	109	56.0	mg/Kg	96.5 %
107.2	19807	94.7	86.6	mg/Kg	103.5 %
3704.2	19817	45.9	38.7	mg/Kg	93.5 %
2236.2	19827	66.1	71.7	mg/Kg	101.5 %
13.2	19837	55.6	90.4	mg/Kg	98.5 %
2290.1	19847	142	139	mg/Kg	94.5 %
130.3	19857	68.3	77.2	mg/Kg	101.5 %
3530.2	19908	119	95.9	mg/Kg	100.0 %

Standard Reference Material Manufacturer	Lot Number	Certified True Value (ug/L)	Run Number	Observed Value (ug/L)	Percent Recovery
Environmental Resource Associates	9947	500	1	500	100.0 %
"	"	"	2	555	111.0 %
"	"	"	3	592	118.5 %
"	"	"	4	482	96.5 %
"	"	"	5	488	97.5 %
"	"	"	6	478	95.5 %
"	"	"	7	570	114.0 %
"	"	"	8	480	96.0 %
"	"	"	9	512	102.5 %
"	"	"	10	572	114.5 %
"	"	"	11	510	102.0 %
"	"	"	12	538	107.5 %
"	"	"	13	545	109.0 %
"	"	"	14	500	100.0 %
"	"	"	15	595	119.0 %
"	"	"	16	550	110.0 %
"	"	"	17	530	106.0 %
"	"	"	18	500	100.0 %
"	"	"	19	500	100.0 %

Blank Run Number	Result	Units
1	< 500	ug/L
2	< 500	ug/L
3	< 500	ug/L
4	< 500	ug/L
5	< 500	ug/L
6	< 500	ug/L
7	< 500	ug/L
8	< 500	ug/L
9	< 500	ug/L
10	< 500	ug/L
11	< 500	ug/L
12	< 500	ug/L
13	< 500	ug/L
14	< 500	ug/L
15	< 500	ug/L
16	< 500	ug/L
17	< 500	ug/L
18	< 500	ug/L
19	< 500	ug/L
20	< 500	ug/L
21	< 500	ug/L
22	< 500	ug/L

APPENDIX E

Appendix E

TABLE SUMMARY OF LEAD-BASED PAINT HAZARDS

Building No.	Interior Paint Cond.	Exterior Paint Cond.	LBP Present	LBP Fair Cond.	LBP Poor Cond.	LBP on Friction Surfaces	LBP on Impact Surfaces	LBP on Surface Accessible to mouthing by Children	Lead Dust Exceed Std	Soil Lead Exceed 400 ppm
66 Child Dev. Center	Good Fair Poor	Fair	I-Yes E-ND	I-Yes	I-Yes		Door Jamb, Stall?		NT	NONE
67 Silver Chapel	Good Fair Poor	Good Fair Poor	I-Yes E-Yes	I-Yes	I-Yes		Door & Jamb		Stairwell Floor	NONE
128 Family Fitness Center	Good	Good Fair	I-ND E-Yes	E-Yes			Door & comps.		NT	NONE
129 Workshop	Good Fair Poor	Good Fair Poor	I-Yes E-Yes	I-Yes E-Yes	I-Yes E-Yes		Doors & comp.		NT	0 - 3 ft of Bldg
130 Miller Gym	Good	Good	I-ND E-Yes						NT	NONE
292 Hospital	Good	Good	I-ND E-Not Tested						NT	NONE
893 Chapel	No Obser-vation	Poor	I-Not tested E-Yes	E-Yes	E-Yes	E-Window Sash	Door		NT	0 - 3 ft of Bldg
992 Rec. Center	No Obser-vation	Good Fair Poor	I-Not tested E-Yes	E-Yes	E-Yes				NT	NONE

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TABLE SUMMARY OF LEAD-BASED PAINT HAZARDS

Building No.	Interior Paint Cond.	Exterior Paint Cond.	LBP Present	LBP Fair Cond.	LBP Poor Cond.	LBP on Friction Surfaces	LBP on Impact Surfaces	LBP on Surface Accessible to mouthing by Children	Lead Dust Exceed Std	Soil Lead Exceed 400 ppm
1012 Truman Gym	Good Fair Poor	Good	I-Yes E-ND	I-Yes			Orange Metal Doors		NT	NT
1077 WAC Museum	Good	Good	I-ND E-ND						NT	NT
1740 Soldier's Chapel	Good Fair Poor	Good Fair Poor	I-Yes E-Yes	I-Yes	I-Yes E-Yes	Window Sash	Door & Comp.		NONE	10 - 20 ft of Bldg, if children freq.
1928 Bowling Alley	Good to Poor	Fair to Good	I-ND E-ND						NT	NT
1929 Dental Clinic	Good Fair Poor	Fair Poor	I-ND E-ND						NT	NT
2101 Post Theater	Good	Poor to Fair	I-ND E-Yes	E-Yes	E-Yes		Door & comp.		NT	NONE
2102 Library	Good	Good Poor	I-ND E-Yes		E-Yes				NT	NONE
2213 Child Dev. Center	Good to Fair, minor Poor	Good Fair Poor	I-Yes E-Yes	E-Yes	E-Yes		Door & Comp.		NT	NONE

Appendix E

TABLE SUMMARY OF LEAD-BASED PAINT HAZARDS

Building No.	Interior Paint Cond.	Exterior Paint Cond.	LBP Present	LBP Fair Cond.	LBP Poor Cond.	LBP on Friction Surfaces	LBP on Impact Surfaces	LBP on Surface Accessible to mouthing by Children	Lead Dust Exceed Std	Soil Lead Exceed 400 ppm
2242 Family Housing	Good Poor	Good Fair Poor	I-Yes E-Yes	E-Yes	I-Yes E-Yes	Window Sash, etc	Doors		NT	0 - 3 ft of Bldg
2271 Family Housing	Good Fair	Good Fair Poor	I-Yes E-Yes	E-Yes	I-Yes E-Yes		Door & Comp.	Window Sill	NT	NONE
2290 Preventive Medicine	Good Fair Poor	Good Fair Poor	I-Yes E-Yes	E-Yes	E-Yes		Screen Doors, Door & Frame		NT	NONE
2293 WAC Chapel	Good to Fair	Good Fair Poor	I-ND E-Yes	E-Yes	E-Yes	E-Window Sash	Door & Jamb		NT	10 - 20 ft of Bldg, if children frequent
2299 Chemical Corps Museum	Good Fair Poor	Good Fair Poor	I-Yes E-Yes	I-Yes E-Yes	I-Yes E-Yes		Roll-up door		Entry Floor Area	NONE
3182 MP Museum	Good Fair	Good Fair	I-Yes E-Yes	I-Yes E-Yes		Window Sash	Door & Jamb		NT	NONE
3213 Army Comm. Svc Cntr	Good to Fair	Good Fair Poor	I-Yes E-Yes	E-Yes	E-Yes	E-Window Sash	E-Door		NONE	NONE

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TABLE SUMMARY OF LEAD-BASED PAINT HAZARDS

Building No.	Interior Paint Cond.	Exterior Paint Cond.	LBP Present	LBP Fair Cond.	LBP Poor Cond.	LBP on Friction Surfaces	LBP on Impact Surfaces	LBP on Surface Accessible to mouthing by Children	Lead Dust Exceed Std	Soil Lead Exceed 400 ppm
3293 Chapel	Good to Fair	Good Fair Poor	I-Yes E-Yes	E-Yes	E-Yes		E-Door & Comp.		NONE	NONE
3527 Scout Building	Good Fair Poor	Fair Poor	I-Yes E-Yes	I-Yes	E-Yes		E-Door & Jamb		NONE	NONE
3681 Elem. School	Good Fair Poor	Good	I-Yes E-Yes				Door Jambs, rear & side entry		NONE	NONE
Buchner Family Housing, 9, 13	Good	Good Fair Poor	I-Yes E-Yes	I-Yes E-Yes 1/2 units	E-Yes 1/2 units		Door & Comp	Book-Shelves? Window Sill	NT	NONE
Baltzell Family Housing	Good Fair Poor	Good Fair Poor	I-Yes E-Yes	E-Yes 3/5 units			Doors & comp	Window Sill Shelf? Height?	NONE	NONE
Drennen Family Housing	Good Fair Poor	Good Fair Poor	I-Yes E-Yes	I-Yes 3/10 E-Yes 3/10 units	I-Yes 2/10 E-Yes 1/10 units		Door & Comp	Chair Molding? Window Sills	NONE	NONE

Appendix E

TABLE SUMMARY OF LEAD-BASED PAINT HAZARDS

Building No.	Interior Paint Cond.	Exterior Paint Cond.	LBP Present	LBP Fair Cond.	LBP Poor Cond.	LBP on Friction Surfaces	LBP on Impact Surfaces	LBP on Surface Accessible to mouthing by Children	Lead Dust Exceed Std	Soil Lead Exceed 400 ppm
WAC Circle Housing	Good	Good Fair Poor	I-Yes E-Yes	E-Yes 1/2 units	E-Yes 1/2 units		Door & Comp		NONE	NONE
Avery Family Housing, Group 1, 3310-3331	overall good, some fair, little poor	overall good, some fair, little poor	I-Yes E-Yes	I-Yes 1/16 units E-Yes 3/16 units	E-Yes 3/16 units	Window Sash	E-Door Casing		1 FL 1 WW 1WS Unit 3319 1 unit tested	NONE
Avery Family Housing, Group 2, 3334-3343	Good	Good	I-Yes E-Yes				Door Comp, only in 3340A	Shelves? Height? Curtain Molding?	NT	NONE
Littlebrant Family Housing, 3400-3411	Good	Good Fair Poor	I-Yes E-Yes	E-Yes 1/5 units	E-Yes 2/5 units			Shelves? Height?	NT	NONE
Morton, Church, & Baker Rd Family Housing, 3500-3540	Good to fair	Good Fair Poor	I-Yes E-Yes	E-Yes 8/31 units	E-Yes 11/31 units				1 FL Unit 3530C 8 units tested	NONE

Appendix E

TABLE SUMMARY OF LEAD-BASED PAINT HAZARDS

Building No.	Interior Paint Cond.	Exterior Paint Cond.	LBP Present	LBP Fair Cond.	LBP Poor Cond.	LBP on Friction Surfaces	LBP on Impact Surfaces	LBP on Surface Accessible to mouthing by Children	Lead Dust Exceed Std	Soil Lead Exceed 400 ppm
Wirans, Church, and Morton Rds Family Housing , 3610-3673	Good Fair	Good Fair Poor	I-Yes E-Yes	I-Yes 11/32 units E-Yes 20/32 units	I-Yes 2/32 units E-Yes 16/32	Window Sash	E-Door Comp.	Shelf? Height?	10 WW in 6 units 8 units tested	NONE
Summerall Family Housing, Group A, 3700-3718	Good	Good Fair Poor	I-Yes E-Yes	E-Yes 3/18 units	E-Yes 1/18 units		Door & Comp	Window Sill Shelf? Height?	1 FL Unit 3708C 6 units tested	NONE
Summerall /Sharp Family Housing, Group B, 3719-3732	Good Fair Poor	Good Fair Poor	I-Yes E-Yes	E-Yes 12/21 units	E-Yes 2/21 units		Door & Comp.	Shelf? Height?	1 FL Unit 3731H 3 units tested	NONE
Cooper, Bray, & Littlebrant Family Housing, Group C, 3737-3770	Good	Good Fair Poor	I-Yes E-Yes	E-Yes 2/20 units	E-Yes 2/20 units	Window Sash		Shelf? Height?	1WW Unit 3737B 4 units tested	NONE

ND - None Detected; NT - Not Tested; I - Interior; E - Exterior; WW - Window Well; Comp. - Component/s; WS - Window Sill; FL - Floor

LEAD BASED PAINT
SURVEY REPORT

BUILDING(S): 9 and 13

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/421-5271 FAX 404/421-4977

29 September 1994

LEAD-BASED PAINT SURVEY REPORTS FOR BUCHNER FAMILY HOUSING UNITS FORT McCLELLAN, ALABAMA

Introduction

1. This is the Lead-Based Paint (LBP) field survey report for the Buchner Family Housing Units (Officer's Quarters) located at Fort McClellan, Alabama. This report documents the LBP field results for Quarters No. 9 and 13 from the Buchner area. A map, showing the locations of the units surveyed for LBP, appears as Plate 1.

2. The LBP survey was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990) and EPA standard operating procedures (EPA document EPA600/8-91/214) for this instrument. The surveys were performed by certified surveyors using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (spectrum analyzer) XRF instrument.

3. The LBP survey results for the two housing units tested appears in numerical order (by Unit No.) in the Appendix. A brief summary of the areas testing positive for LBP and a photograph of the buildings are provided. The actual field XRF readings follow the summary. The unit floorplans, showing the locations where positive XRF readings occurred, appear in the appendix.

4. Positive readings (detectable lead above the action level) with the XRF vary depending on the instrument mode selected. The "test" [1] mode is normally used for routine readings. Readings testing "positive"[2] according to the XRF instrument manufacturer in the test mode are those with a lead concentration greater than 1.3 milligrams per centimeter squared (mg/cm^2), whereas, "negative" refers to readings of 0.7 mg/cm^2 or less. According to the HUD guidelines, positive readings for this instrument are greater than 1.3 mg/cm^2. "Inconclusive" readings are those that fall between 0.7 mg/cm^2 and 1.3 mg/cm^2.

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[1] The XRF instrument "test" mode is a reading of approximately 60 seconds duration. Test of longer duration increases precision.

(2) **Inconclusive Range For XRF Spectrum Analyzer**

Instrument Mode	Range	Units
Screen	0.4 - 1.6	mg/cm^2
Test	0.7 - 1.3	mg/cm^2
Confirm	0.85 - 1.15	mg/cm^2

5. The "action level" defined in the HUD Interim Guidelines is a lead concentration above 1.0 mg/cm^2. Lead concentrations in this report are shown for both K-shell and L-shell in Table 1. The L-shell XRF reading is essentially for the top 1 or 2 surface paint layers, whereas, the K-shell is total lead applicable for multi-layered paint surfaces. HUD Guidelines specify that the K-Shell XRF reading be used for assigning positive determination.

6. In this report paint condition stated as "good" is defined as intact; "fair" as intact but worn (minor chips from wear and tear but no adhesion or substrate problems); "poor" as severely worn or no longer adhering or, substrate deterioration (e.g., peeling, flaking, cracking, etc.).

Discussion

7. The Buchner Family Housing units are two story structures with a full basement. They are of concrete construction with wood frame windows and aluminum storm windows. All exterior trim is painted wood and the doors are a factory finished metal. The interior walls and ceilings are plaster and all trim components are wood. These units were reportedly built in 1930.

8. A total of one-hundred and thirty-six (136) XRF measurements were made at the two Buchner Housing units surveyed. Sixty-six (66) of those readings were determined to be positive for lead-based paint. Six (16) of the eighteen (18) exterior readings were positive for LBP and sixty (60) of the one-hundred and eighteen (118) interior readings were positive. The XRF results are summarized in Table 1. It lists the number of similar surfaces and components tested in separate catagories. It also includes the number of positive XRF readings and percentages of positive tests in each category.

Interior Summary

9. Based on the XRF readings from both units (Quarters No. 9 and 13), it is reasonable to assume that all interior paint contains positive levels of lead. The floors and ceilings are the only exceptions. The doors and door components, baseboards and moldings, shelves and shelf supports, beadboard ceilings, and stairway components all tested positive for lead-based paint. There are visual age differences in some of the window components. The ones that appeared older, tested positive for LBP. A lot of inconclusive readings were obtained on plaster walls and ceilings. Scrape sample analysis of the paint chips taken on these walls has determined that positive levels of lead-based paint is present. All plaster walls are considered positive for LBP.

Exterior Summary

10. All soffits and eaves, porch components, handrails, and exterior door components tested positive for lead-based paint. All windows, doors and exterior walls tested negative.

Paint Condition

11. All interior paint in Quarters No. 9 and 13 was in good condition. The LBP on the downspouts on Quarters No. 13 was the only exterior paint in poor condition.

Prepared By: _____

Larry Martin
Civil Engineering Tech.

Reviewed By: _____

Ray Willingham
Geologist

Table 1

Summary Listing Components Tested At Quarter Nos. 9 and 13

COMPONENT	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE
Exterior Components			
Porch Components and Handrails	5	2	40
Window Components	3	0	0
Door Components	3	2	67
Stucco and Concrete Walls	2	0	0

Doors	1	0	0
Trim (soffits, rafters, cornerboards)	1	1	100
Miscellaneous	2	1	50
Interior Components			
Doors	12	11	92
Door Components	14	11	79
Window Components	21	8	38
Plaster & Sheetrock Ceilings	11	0	0
Beadboard Wood Ceilings	4	3	75
Walls	21	17	81
Trim (baseboards, moldings)	9	6	67
Shelves and Shelf Supports	7	4	57
Floors (wood & concrete)	3	0	0
Stairway Components	11	5	45
Miscellaneous	6	1	17
TOTALS	136	72	53

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Buchner Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 9

Type Quarters: Three Bedrooms, Two Stories (approx. 4250 sq. ft.)
Date Constructed: 1930

Type Construction: Concrete with wood trim

Survey Summary:

1. Quarters No. 9 is a three bedroom, three bathroom, two story house with a full basement.

2. Positive levels of lead-based paint were detected throughout the interior of this house on all surfaces and components. On exterior surfaces, porch components and some trim tested positive for LBP.

3. A photograph of Quarters No. 9 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred at Quarters No. 9, follows the XRF field readings.

Field XRF Readings for Quarters 9
Ft. McClellan, AL

Note: Due to equipment problems in downloading field data from XRF instrument into computer, the following K-Shell and L-Shell values were lost. It is the practice of the survey teams to keep pencil copy notes of all positive and negative XRF measurements for this reason. For this unit (Quarters No. 9) the (+) represents positive values of lead-based paint and the (-) indicates a negative measurement.

Date Surveyed: 01 March 1994
Surveyors: BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030194125002	0.6	0.6	103	N/A	Calibration Check
7094030194125002	0.5	0.6	103	N/A	Calibration Check
7094030194125002	0.3	0.6	103	N/A	Calibration Check
7094030194125002	0.5	0.6	103	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Dining Room)

9.1.1	+		Good	White Plaster Wall
9.1.2	+		Good	White Wood Window Casing
9.1.3	-		Good	White Window Sill
9.1.4	-		Good	White Wood Window Sash
9.1.5	+		Good	White Wood Window Apron
9.1.6	-		Good	White Wood Window Well
9.1.7	-		Good	White Wood Valence
9.1.8	+		Good	White Wood Baseboard
9.1.9	-		Good	Stained Wood Floor
9.1.10	-		Good	White Plaster Ceiling
9.1.11	-		Good	White Wood Crown Molding
9.1.12	+		Good	White Wood Door
9.1.13	+		Good	White Wood Door Casing

9.1.14	+			Good	White Wood Door Jamb

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 9
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen)					
9.2.1	+			Good	White Wood Window Casing
9.2.2	-			Good	White Wood Window Apron
9.2.3	**inc**			Good	White Plaster Wall (Inconclusive-See Sample 9.1.1)
9.2.4	+			Good	White Wood Door Jamb
9.2.5	-			Good	White Wood Cabinet
9.2.6	-			Good	White Sheetrock Ceiling
9.2.7	-			Good	White Wood Crown Molding
9.2.8	-			Good	White Wood Window Sill
9.2.9	+			Good	White Wood Door Casing
Room 3 (Hallway)					
9.3.1	-			Good	White Plaster Ceiling
9.3.2	**inc**			Good	White Plaster Wall (Inconclusive-See Sample 9.1.1)
9.3.3	+			Good	White Wood Door
9.3.4	+			Good	White Wood Door

					Jamb
	9.3.5	+		Good	White Wood Stair Stringer
	9.3.6	+		Good	White Wood Stair Riser

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 9
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 3 (Continued)		
9.3.7	+			Good	White Wood Newell Post
9.3.8	-			Good	Black Wood Handrail
9.3.9	-			Good	White Wood Door Header
9.3.10	**inc**			Good	White Wood Shelf Support (Inconclusive- See Sample 9.6.4)
9.3.11	-			Good	White Wood Shelf
9.3.12	+			Good	White Wood Baseboard
			Room 4 (Living Room)		
9.4.1	**inc**			Good	White Plaster Wall

				(Inconclusive-See Sample 9.1.1)
9.4.2	+		Good	White Wood Bookshelf
9.4.3	-		Good	White Plaster Ceiling
9.4.4	+		Good	White Wood Window Sill
9.4.5	+		Good	White Wood Mantel

Room 5 (Den)

9.5.1	+		Good	Black Concrete Step
9.5.2	-		Good	White Wood Window Casing
9.5.3	+		Good	White Beadboard Ceiling
9.5.4	+		Good	White Plaster Wall

Positive XRF Readings appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 9
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Bedroom)					
9.6.1	**inc**			Good	White Plaster Wall
					(Inconclusive-See Sample 9.1.1)
9.6.2	-			Good	White Wood Window Sash
9.6.3	+			Good	White Wood Baseboard

9.6.4	+	Good	White Wood Shelf Support
9.6.5	-	Good	White Wood Crown Molding
9.6.6	+	Good	White Wood Door

Room 7 (Bedroom and Bathroom)

9.7.1	+	Good	White Wood Window Frame
9.7.2	-	Good	White Wood Shelf
9.7.3	+	Good	White Wood Door Casing
9.7.4	+	Good	White Wood Door Jamb
9.7.5	-	Good	White Plaster Wall
9.7.6	-	Good	White Plaster Ceiling
9.7.7	-	Good	White Wood Wall

Room 8 (Den)

9.8.1	+	Good	White Beadboard Ceiling
9.8.2	-	Good	White Wood Window Sill
9.8.3	-	Good	Black Concrete Step
9.8.4	+	Good	White Wood Crown Molding

Positive XRF Readings appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 9
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 9 (Bedroom)			
9.9.1	**inc**	Good	White Plaster Wall (Inconclusive-See Sample 9.1.1)
9.9.2	+	Good	White Wood Window Casing
9.9.3	-	Good	White Plaster Ceiling
9.9.4	-	Good	White Wood Curtain Valence
9.9.5	+	Good	White Wood Door
Room 10 (Hallway and Bathroom)			
9.10.1	+	Good	White Wood Baseboard
9.10.2	-	Good	White Wood Attic Scuttle
9.10.3	+	Good	White Wood Door Jamb
9.10.4	+	Good	White Wood Door Casing
9.10.5	-	Good	White Plaster Wall
Room 11 (Basement)			
9.11.1	+	Good	Brown Wood Wall
9.11.2	+	Good	Brown Wood Door Casing
9.11.3	+	Good	Green Wood Door
9.11.4	-	Good	White Concrete Wall
9.11.5	-	Good	White Concrete Floor
9.11.6	-	Good	Gray Stair Stringer
9.11.7	+	Good	White Wood Wall

Positive XRF Readings appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as

per HUD guidelines.

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Field XRF Readings for Quarters 9
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
EXTERIOR XRF READINGS					
9.1	-			Good	White Stucco Wall
9.2	-			Good	White Wood Door Jamb
9.3	+			Good	Brown Metal Handrail
9.4	-			Good	White Wood Window Frame
9.5	-			Good	Brown Metal Door
9.6	+			Good	Brown Wood Eave

Positive XRF Readings appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Buchner Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 13

Type Quarters: Three Bedrooms, Two Stories (approx. 4250 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim

Survey Summary:

1. Quarters No. 13 is a three bedroom, three bathroom, two story house with a full basement.

2. Positive levels of lead-based paint were detected throughout the interior of this house on all surfaces and components. On exterior surfaces, porch components, soffits, trim and door components tested positive for LBP.

3. A photograph of Quarters No. 13 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred at Quarters No. 13, follows the XRF field readings.

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Field XRF Readings for Quarters 13
Ft. McClellan, AL

Date Surveyed: 01 March 1994
Surveyors: LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030194070001	1.3	1.3	88	N/A	Calibration Check
7094030194070001	1.3	1.3	88	N/A	Calibration Check
7094030194070001	1.1	1.3	88	N/A	Calibration Check
7094030194070001	1.2	1.3	88	N/A	Calibration Check
7094030194070001	1.2	1.3	88	N/A	Calibration Check
0000	-0.0	-0.1	88	N/A	Blank
1.63	1.4	1.5	88	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Dining Room)

13.1.1	**1.5**	0.1	88	Good	White Wood Window Sill

13.1.2	**1.4**	0.1	88	Good	White Wood Window Apron
13.1.3	0.1	-0.1	22	Good	White Wood Window Sash
13.1.4	0.2	-0.0	22	Good	White Wood Window Casing
13.1.5	1.1(1)	0.1	352	Good	White Plaster Wall (Inconclusive-Scrape Sample Taken)
13.1.6	**1.5**	0.1	88	Good	White Wood Baseboard
13.1.7	0.9(2)	0.1	352	Good	White Door Jamb (Inconclusive-Scrape Sample Taken)

(1) Lab Analysis: Sample ID# 13.1.5 **negative** (Result = 0.13% Lead, Action Level ≥ 0.5% Lead)

(2) Lab Analysis: Sample ID# 13.1.7 **negative** (Result = 0.46% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 13
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 1 (Continued)					
13.1.8	**1.1**(3)	0.0	88	Good	White Wood Door (Inconclusive-Scrape Sample Taken)
13.1.9	0.2	-0.1	22	Good	White Plaster Ceilin

13.1.10	0.6	0.1	88	Good	White Wood Crown Molding

Room 2 (Living Room)

13.2.1	-0.1	0.1	22	Good	White Wood Shelf
13.2.2	**1.4**	0.1	88	Good	White Wood Window Casing
13.2.3	**1.6**	0.1	88	Good	White Wood Door Jamb
13.2.4	0.8	0.1	88	Good	White Plaster Wall
		(Inconclusive-See Scrape Sample Data 13.1.5)			
13.2.5	0.3	0.0	22	Good	White Wood Fireplace Mantel
13.2.6	0.6	0.1	88	Good	White Wood Fireplace Trim

Room 3 (Sunroom)

13.3.1	1.1(4)	-0.0	88	Good	White Beadboard Ceiling
		(Inconclusive- Scrape Sample Taken)			
13.3.2	-0.2	-0.0	88	Good	White Wood Window Sill

(3) Lab Analysis: Sample ID# 13.1.8 **positive** (Result = 0.71% Lead, Action Level ≥ 0.5% Lead)

(4) Lab Analysis: Sample ID# 13.3.1 **negative** (Result = 0.46% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 13
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 3 (Continued)		
13.3.3	**1.3**	0.1	115	Good	White Plaster Wall
13.3.4	0.6	0.7	88	Good	Black Concrete Threshold
			Room 4 (Kitchen/Pantry)		
13.4.1	**1.2**	0.1	88	Good	White Wood Door Jamb (Inconclusive-See Sample 13.2.3)
13.4.2	-0.1	-0.1	22	Good	White Wood Cabinet
13.4.3	**0.9**	0.0	88	Good	White Wood Door (Inconclusive-See Scrape Sample 13.1.8)
13.4.4	0.0	-0.1	22	Good	White Plaster Ceiling
13.4.5	0.1	0.0	22	Good	White Wood Shelf
13.4.6	1.1	0.1	88	Good	White Plaster Wall (Inconclusive-See Scrape Sample Data 13.1.5)
13.4.7	-0.1	-0.1	22	Good	White Wood Door Header
			Room 5 (Maid's Room)		
13.5.1	**1.1**	0.1	88	Good	White Wood Door (Inconclusive-See Scrape Sample 13.1.8)
13.5.2	0.0	0.0	88	Good	White Plaster Ceiling

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 13
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 6 (Basement)			
13.6.1	0.5	0.5	88	Good	White Wood Wall
13.6.2	**2.1**	1.6	22	Fair	White Steel Column
13.6.3	-1.0	-0.2	22	Good	White Concrete Wall
13.6.4	**3.5**	2.2	22	Fair	Green Wood Screen Door
13.6.5	**1.4**	0.6	88	Fair	Green Wood Door
13.6.6	0.3	0.3	88	Fair	Grey Wood Stair Tread
13.6.7	**1.7**	0.9	88	Fair	White Wood Newel Post
		Room 7 (Hall/Stairwell)			
13.7.1	-0.5	0.0	22	Good	Black Wood Newel Post
13.7.2	0.4	0.0	88	Good	White Wood Newel Post
		Room 8 (Bedroom)			
13.8.1	0.2	-0.2	88	Good	White Wood Window Sill
13.8.2	**0.8**	0.0	88	Good	White Wood Door (Inconclusive-See Sample 13.1.8)
13.8.3	0.9	0.1	88	Good	White Plaster Wall (Inconclusive-See Sample 13.1.5)
		Room 9 (Bedroom)			
13.9.1	**1.4**	0.1	88	Good	White Plaster Wall

13.9.2	**1.4**	0.1	88	Good	White Wood Door

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 13
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 10 (Bedroom)			
13.10.1	**0.8**	0.1	88	Good (Inconclusive-See Sample 13.9.1)	White Plaster Wall
13.10.2	**1.4**	0.1	88	Good	White Wood Door
13.10.3	0.5	0.1	22	Good	White Plaster Ceiling
13.10.4	**1.7**	0.0	88	Good	White Beadboard Ceiling
7094030194124501	1.1	1.2	88	N/A	Calibration Check
		EXTERIOR XRF READINGS			
13.1	-2.1	-0.2	22	Good	White Porch Column
13.2	**4.7**	2.4	88	Good	Brown Metal Handrail
13.3	**3.9**	0.0	22	Good	White Wood Door Jamb
13.4	**3.0**	-0.0	22	Good	White Wood Door Header
13.5	-1.1	-0.2	22	Good	White Porch Ceiling
13.6	-2.3	-0.1	22	Good	Creme Concrete Wall
13.7	-1.1	-0.1	22	Good	Creme Concrete Window Sill

13.8	0.3	-0.0	88	Fair	White Wood Window Casing
13.9	**2.2**	0.7	22	Poor	Brown Metal Downspout Catch
13.10	-0.0	-0.1	22	Good	Brown Metal Handrail
13.11	0.2	0.1	22	Good	Brown Basement Hatch Door
13.12	**17.2**	2.8	22	Fair	Brown Wood Soffit

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 29 September 1994

APPENDIX

SUMMARY REPORTS FOR FAMILY HOUSING UNITS:

Quarters No. 9

Quarters No. 13

LEAD BASED PAINT
SURVEY REPORT

BUILDING(S): 25B, 27A, 28A, 29A and 30A

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/421-5271 FAX 404/421-4977

27 September 1994

LEAD-BASED PAINT SURVEY REPORTS FOR BALTZELL FAMILY HOUSING UNITS FORT McCLELLAN, ALABAMA

Introduction

1. This is the Lead-Based Paint (LBP) field survey report for the Baltzell Family Housing units located at Fort McClellan, Alabama. This report documents the LBP field results for these five quarters (quarters no. 25B, 27A, 28A, 29A, 30A). A map, showing the locations of the units surveyed for LBP, appears as Plate 1.

2. The LBP survey was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990) and EPA standard operating procedures (EPA document EPA600/8-91/214) for this instrument. The surveys were performed by certified surveyors using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (spectrum analyzer) XRF instrument.

3. The LBP survey results for the five housing units tested appears in numerical order (by unit no.) in the Appendix. A brief summary of the areas testing positive for LBP and a photograph of the buildings are provided. The actual field XRF readings follow the summary. The unit floorplans, showing the locations where positive XRF readings occurred, appear in the appendix.

4. Positive readings (detectable lead above the action level) with the XRF vary depending on the instrument mode selected. The "test" [1] mode is normally used for routine readings. Readings testing "positive"[2] according to the XRF instrument manufacturer in the test mode are those with a lead concentration greater than 1.3 milligrams per centimeter squared (mg/cm^2), whereas, "negative" refers to readings of 0.7 mg/cm^2 or less. According to the HUD guidelines, positive readings for this instrument are greater than 1.3 mg/cm^2. "Inconclusive" readings are those that fall between 0.7 mg/cm^2 and 1.3 mg/cm^2.

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[1] The XRF instrument "test" mode is a reading of approximately 60

seconds duration. Test of longer duration increases precision.

(2) **Inconclusive Range For XRF Spectrum Analyzer**

Instrument Mode	Range	Units
Screen	0.4 - 1.6	mg/cm^2
Test	0.7 - 1.3	mg/cm^2
Confirm	0.85 - 1.15	mg/cm^2

5. The "action level" defined in the HUD Interim Guidelines is a lead concentration above 1.0 mg/cm^2. Lead concentrations in this report are shown for both K-shell and L-shell in Table 1. The L-shell XRF reading is essentially for the top 1 or 2 surface paint layers, whereas, the K-shell is total lead applicable for multi-layered paint surfaces. HUD Guidelines specify that the K-Shell XRF reading be used for assigning positive determination.

6. In this report paint condition stated as "good" is defined as intact; "fair" as intact but worn (minor chips from wear and tear but no adhesion or substrate problems); "poor" as severely worn or no longer adhering or, substrate deterioration (e.g., peeling, flaking, cracking, etc.).

Discussion

7. The Baltzell Family Housing units are one story, three bedroom, duplexes reportedly built in 1957. They are of brick construction with wood frame windows and aluminum storm windows. Portions of the exteriors are covered with vinyl siding. The exterior trim is wood and vinyl.

8. A total of two-hundred and forty (240) XRF measurements were made at the five Baltzell Housing units surveyed. Seventy (70) of those readings were determined to be positive for lead-based paint. Sixteen (16) of the thirty-six (36) exterior readings were

9. Based on the XRF readings, it is reasonable to assume that all baseboards, shelves and shelf supports contain positive levels of lead-based paint. In addition, many windows and door components tested positive. There are visual age differences in some of the window components and doors in all of these units. The ones that appeared older, tested positive for LBP, whereas, the newer components were negative.

Exterior Summary

10. All exposed paint on the exterior porch surfaces and components (ceilings, railings, posts, and upper trim) tested positive for lead-based paint. Soffits, rafters, and cornerboards beneath the aluminum or vinyl siding, should be considered positive for LBP.

Paint Condition

11. The interior paint at the Baltzell housing units was in generally good condition. There was some paint considered to be in fair to poor condition on exterior surfaces (see appendices).

Prepared By: _____

Larry Martin
Civil Engineering Tech.

Reviewed By: _____

Ray Willingham
Geologist

Table 1
Summary Listing Components Tested At Baltzell

COMPONENT	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE
Exterior Components			
Porch Components	12	11	92
Window Components	8	0	0
Metal Doors	3	0	0
Metal Door Components	1	0	0

Wood Door Components	3	1	33
Trim (e.g., soffits, rafters, cornerboards)	5	4	80
Wood Fences	2	0	0
Vinyl Siding	2	0	0
Interior Components			
Wood Doors	23	8	35
Metal Doors	8	2	25
Metal Sliding Doors & Tracks	4	1	25
Metal Door Components	17	2	12
Wood Door Components	6	0	0
Window Components	35	5	14
Plaster Ceilings	25	0	0
Sheetrock Ceilings	1	0	0
Plaster Walls	21	0	0
White Concrete Block Walls	6	0	0
Baseboards	32	24	75
Kitchen Cabinets	5	0	0
Shelves & Shelf Supports	19	12	63
Miscellaneous	2	0	0
TOTALS	240	70	29

APPENDIX

SUMMARY REPORTS FOR FAMILY HOUSING UNITS:

Quarters No. 25B
Quarters No. 27A
Quarters No. 28A
Quarters No. 29A
Quarters No. 30A

CESAD-EN-FL 27 September 1994

Baltzell Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 25 B

Type Quarters: Three Bedroom, Duplex (approx. 1500 sq. ft.)
Date Constructed: 1957
Type Construction: Brick

Survey Summary:

1. Quarters No. 25B is a three bedroom, two bathroom unit which is half of a two family duplex.

2. Positive levels of lead-based paint were detected on the porch components and upper trim on the exterior. In the interior, positive XRF readings were obtained on doors, baseboards and shelves.

3. A photograph of Quarters No. 25B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, showing the specific locations in which positive readings occurred at Quarters No. 25B, follows the XRF field readings.

CESAD-EN-FL

27 September 1994

Field XRF Readings for Quarters 25B
Ft. McClellan, Alabama

Date Surveyed: 02 February 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020294072501	0.5	0.6	95	N/A	Calibration Check
7094020294072501	0.6	0.6	95	N/A	Calibration Check
7094020294072501	0.6	0.6	95	N/A	Calibration Check
7094020294072501	0.6	0.6	95	N/A	Calibration Check
7094020294072501	0.6	0.6	95	N/A	Calibration Check
0000	-0.1	-0.2	95	N/A	Blank
1.02	0.9	1.2	95	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Living Room)

25B.1.1	0.2	0.1	95	Good	White Metal Door
25B.1.2	0.4	-0.1	95	Good	White Wood Door Casing
25B.1.3	0.0	-0.1	95	Good	White Wood Window Sill
25B.1.4	-0.0	-0.1	23	Fair	White Plaster Wall
25B.1.5	0.2	-0.1	95	Good	White Plaster Ceiling
25B.1.6	0.0	-0.2	23	Good	White Concrete Block Wall
25B.1.7	**4.0**	0.2	23	Good	White Wood Baseboard
25B.1.8	0.6	-0.1	95	Good	White Metal Door Jamb

25B.1.9	**2.4**	0.3	23	Good	White Wood Baseboard
25B.1.10	**4.2**	0.4	23	Good	White Wood Door
25B.1.11	0.4	-0.1	95	Poor	White Heat Duct

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 25B
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 2 (Kitchen)			
25B.2.1	**2.7**	0.3	23	Good	White Wood Baseboard
25B.2.2	**4.1**	0.4	23	Good	White Wood Door
25B.2.3	0.6	-0.1	95	Good	White Metal Door Casing
25B.2.4	0.2	-0.0	23	Fair	White Wood Cabinet
25B.2.5	**1.9**	0.3	23	Good	White Wood Window Sill
25B.2.6	0.2	-0.1	23	Good	White Plaster Ceiling
25B.2.7	**3.6**	0.4	23	Good	White Wood Door
		Room 3 (Hallway)			
25B.3.1	0.4	-0.1	95	Good	White Metal Door Track
25B.3.2	**2.2**	0.3	23	Good	White Wood Shelf

25B.3.3	**1.9**	0.1	23	Good	White Wood Shelf Support
25B.3.4	**2.5**	0.2	23	Good	White Wood Door
25B.3.5	**3.2**	0.2	23	Good	White Wood Baseboard
25B.3.6	-0.0	-0.1	95	Good	White Plaster Wall
25B.3.7	-0.0	-0.2	23	Good	White Wood Shelf
25B.3.8	0.2	-0.1	23	Good	White Plaster Ceiling
25B.3.9	**3.2**	0.4	23	Good	White Wood Door
25B.3.10	0.2	-0.2	23	Good	White Plaster Ceiling
		Room 4 (Bedroom)			
25B.4.1	**2.4**	0.3	23	Good	White Wood Shelf
25B.4.1	**2.4**	0.3	23	Good	Duplicate
7094020294093001	0.4	0.6	95	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 25B
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Continued)			
25B.4.2	**2.7**	0.2	23	Good	White Metal Sliding Doors
25B.4.3	**3.3**	0.4	23	Good	White Wood Baseboard
25B.4.4	0.1	-0.2	23	Good	White Plaster Wall
25B.4.5	-0.1	-0.2	23	Good	White Plaster Ceiling

25B.4.6	-0.0	-0.1	23	Good	White Wood Window Casing
25B.4.7	0.2	-0.1	23	Good	White Wood Window Apron
25B.4.8	**3.7**	0.4	23	Good	White Wood Door
		Room 5 (Bedroom)			
25B.5.1	0.5	-0.1	95	Good	White Metal Door Jamb
25B.5.2	-0.4	-0.1	23	Good	White Plaster Wall
25B.5.3	-0.1	-0.1	23	Good	White Wood Window Sill
25B.5.4	-0.0	-0.1	23	Good	White Wood Window Apron
25B.5.5	-0.2	-0.2	23	Good	White Plaster Ceiling
25B.5.6	**3.0**	0.3	23	Good	White Wood Baseboard
		Room 6 (Bedroom and ½ Bathroom)			
25B.6.1	**3.2**	0.3	23	Good	White Wood Door
25B.6.2	-0.1	-0.1	23	Good	White Wood Window Sill
25B.6.3	0.2	-0.1	23	Good	White Wood Door Jamb
25B.6.4	0.1	-0.1	23	Good	White Plaster Ceiling
25B.6.5	-0.3	-0.1	23	Good	White Wood Baseboard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 25B
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

EXTERIOR XRF READINGS

25B.1	**5.6**	0.7	95	Good	White Metal Porch Support
25B.2	**7.7**	0.7	23	Good	White Porch Railing
25B.3	**4.8**	0.4	23	Good	White Wood Porch Ceiling
25B.4	**7.0**	0.3	23	Good	White Wood Trim
25B.5	0.3	0.3	95	Good	Creme Metal Door
25B.6	0.3	-0.2	23	Good	Creme Door Casing
25B.7	0.1	-0.0	23	Good	White Wood Window Frame
25B.8	-0.4	-0.1	23	Good	White Wood Window Frame
25B.9	-0.1	-0.1	23	Good	Red Fence
25B.9	-0.0	-0.2	23	Good	Duplicate
7094020294105001	0.5	0.5	95	N/A	Calibration Check
25B.10	-0.1	-0.1	95	Good	Vinyl Siding
25B.11	0.2	0.2	95	Good	White Metal Door
7094020294133002	0.4	0.6	95	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings a

per HUD guidelines.

CESAD-EN-FL 27 September 1994

Baltzell Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 27 A

Type Quarters: Three Bedroom, Duplex (approx. 1500 sq. ft.)
Date Constructed: 1957
Type Construction: Brick

Survey Summary:

1. Quarters No. 27 A is a three bedroom, two bathroom unit which is half of a two family duplex.

2. Positive levels of lead-based paint were detected on the porch components and upper trim on the exterior. In the interior, positive XRF readings were obtained on doors, baseboards, shelves and original window components.

3. A photograph of Quarters No. 27 A appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, showing the specific locations in which positive readings occurred, follows the XRF field readings.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 27A
Ft. McClellan, AL

Date Surveyed: 02 February 1994
Surveyors: LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020294133002	0.4	0.6	95	N/A	Calibration Check
		INTERIOR XRF READINGS			
		Room 1 (Living Room)			
27A.1.1	-0.6	-0.2	23	Good	White Concrete Block Wall
27A.1.2	-0.3	-0.2	23	Good	White Wood Baseboard
27A.1.3	0.2	0.1	95	Good	White Metal Door
27A.1.4	-0.2	-0.1	23	Good	White Wood Window Casing
27A.1.5	0.4	-0.1	23	Good	White Plaster Ceiling
27A.1.6	-0.0	-0.1	23	Good	White Plaster Wall
27A.1.7	0.1	-0.1	23	Good	White Wood Baseboard
27A.1.8	**4.2**	0.5	23	Good	White Wood Baseboard
27A.1.9	-0.1	-0.1	23	Good	White Wood Door
27A.1.10	0.5	-0.1	60	Good	White Metal Door Jamb
		Room 2 (Kitchen)			
27A.2.1	**4.4**	0.5	23	Good	White Wood Window Sill
27A.2.2	-0.1	-0.1	23	Good	White Wood Cabinet

27A.2.3	0.0	-0.1	23	Good	White Wood Door
27A.2.4	0.1	-0.1	23	Good	White Plaster Ceiling
27A.2.5	**2.5**	0.3	23	Good	White Wood Baseboard
27A.2.6	-0.1	-0.1	23	Good	White Wood Door

Room 3 (Hallway)

27A.3.1	0.0	-0.1	23	Good	White Wood Door Casing
27A.3.2	0.0	-0.1	23	Good	White Plaster Wall

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 27A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Continued)					
27A.3.3	**3.3**	0.6	23	Good	White Wood Baseboard
27A.3.4	0.2	-0.1	51	Good	White Wood Door
27A.3.5	-0.1	-0.1	23	Good	White Plaster Wall
27A.3.5	-0.0	-0.1	23	Good	Duplicate
7094020294141502	0.3	0.5	95	Good	Calibration Check
27A.3.6	0.5	-0.1	71	Good	White Metal Door Jamb
27A.3.7	0.3	-0.1	23	Good	White Plaster Ceiling
Room 4 (Bedroom)					
27A.4.1	0.1	-0.1	23	Good	White Plaster Wall
27A.4.2	0.0	0.1	23	Good	White Wood Window

					Sill
27A.4.3	-0.0	-0.1	23	Good	White Wood Window Apron
27A.4.4	**2.2**	0.4	23	Good	White Wood Baseboard
27A.4.5	0.3	-0.1	23	Good	White Wood Door

Room 5 (Bedroom)

27A.5.1	0.2	-0.1	95	Good	White Wood Window Frame
27A.5.2	**1.7**	0.6	23	Good	White Wood Shelf
27A.5.3	-0.1	-0.1	23	Good	White Plaster Ceiling
27A.5.4	-0.1	0.0	23	Good	White Wood Shelf Support

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 27A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 6 (Bedroom)

27A.6.1	-0.2	-0.1	23	Good	White Wood Window Sill
27A.6.2	-0.6	-0.3	23	Good	White Wood Baseboard
27A.6.3	0.3	-0.1	95	Good	White Wood Door

EXTERIOR XRF READINGS

27A.1	-0.3	-0.3	23	Good	White Porch Railing
27A.2	**3.7**	0.4	23	Good	White Wood Porch Ceiling
27A.3	**7.3**	0.9	23	Good	White Wood Trim
27A.4	**1.3**	-0.1	95	Good	White Wood Door Casing
27A.5	0.3	-0.0	23	Good	White Wood Window Frame
27A.6	0.2	-0.1	59	Good	Vinyl Siding
7094020294151001	0.5	0.5	95	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Baltzell Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 28 A

Type Quarters: Three Bedroom, Duplex (approx. 1500 sq. ft.)
Date Constructed: 1957
Type Construction: Brick

Survey Summary:

1. Quarters No. 28 A is a three bedroom, two bathroom unit which is half of a two family duplex.

2. Positive levels of lead-based paint were detected on the porch components and upper trim on the exterior. In the interior, positive XRF readings were obtained on doors, baseboards, shelves and original window components. One metal door jamb also tested positive for LBP (see floorplan for exact location).

3. A photograph of Quarters No. 28 A appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, showing the specific locations in which positive readings occurred, follows the XRF field readings.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 28A
Ft. McClellan, AL

Date Surveyed: 02 February 1994
Surveyors: LM,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020294151001	0.5	0.5	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Living Room)

28A.1.1	0.2	-0.1	23	Good	White Concrete Block Wall
28A.1.2	0.1	-0.2	23	Good	White Wood Window Sill
28A.1.3	0.5	-0.1	95	Good	White Metal Door Casing
28A.1.4	0.1	-0.1	23	Good	White Plaster Ceiling
28A.1.5	0.2	-0.1	23	Poor	White Plaster Wall
28A.1.6	**4.6**	0.3	23	Good	White Wood Baseboard
28A.1.7	0.2	-0.1	23	Good	White Wood Door
28A.1.8	0.6	-0.1	95	Good	White Metal Door Frame

Room 2 (Kitchen)

28A.2.1	**2.7**	0.2	23	Good	White Wood Baseboard
28A.2.2	**1.8**	0.2	23	Good	White Wood Window Sill
28A.2.3	0.3	-0.1	23	Good	White Wood Cabinet Door
28A.2.4	-0.4	-0.1	23	Good	White Wood Shelf
28A.2.5	0.0	-0.1	23	Good	White Plaster Ceiling

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 28A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 3 (Bedroom)		
28A.3.1	0.2	-0.1	95	Good	Window Apron
28A.3.2	**3.8**	0.4	20	Good	White Wood Baseboard
28A.3.3	-0.4	-0.2	23	Good	White Wood Window Sill
28A.3.4	-0.3	-0.1	20	Good	White Plaster Wall
28A.3.5	0.1	-0.1	23	Good	White Plaster Ceiling
28A.3.6	**4.3**	0.4	20	Good	White Metal Door
28A.3.7	**2.5**	0.1	81	Good	White Wood Shelf
28A.3.8	0.4	-0.1	95	Good	White Metal Door Jamb
			Room 4 (Bedroom)		
28A.4.1	-0.0	-0.1	20	Good	White Wood Window Sill
28A.4.2	-0.1	-0.1	20	Good	White Wood Window Sash
28A.4.3	0.0	-0.1	20	Good	White Wood Window Casing
28A.4.4	0.2	-0.1	20	Good	White Plaster Wall
28A.4.5	**3.2**	0.1	20	Good	White Wood Shelf Support
28A.4.6	-0.1	-0.1	20	Good	White Plaster Ceilin
28A.4.7	**2.9**	0.2	20	Good	White Wood Baseboard

28A.4.8	0.4	-0.0	81	Good	White Metal Door Jamb
28A.4.9	0.0	-0.1	20	Good	White Wood Door
28A.4.9	0.2	-0.1	20	Good	Duplicate
7094020294162001	1.2	1.3	81	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 28A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 5 (Bedroom)					
28A.5.1	-0.5	-0.1	20	Good	White Plaster Wall
28A.5.2	0.2	-0.1	20	Good	White Wood Window Apron
28A.5.3	-0.1	-0.1	20	Good	White Wood Window Casing
28A.5.4	**1.4**	-0.0	81	Good	White Wood Door
28A.5.5	**1.8**	0.3	20	Good	White Wood Shelf
28A.5.6	-0.3	-0.1	20	Fair	White Wood Attic Scuttle
28A.5.7	-0.1	-0.1	20	Fair	White Sheetrock Ceiling
28A.5.8	**1.4**	0.0	81	Good	White Metal Door Jamb
28A.5.9	-0.3	-0.1	20	Good	White Wood Baseboard
28A.5.10	0.2	-0.1	20	Good	White Plaster Ceiling

28A.5.11	-0.4	-0.1	20	Good	White Wood Door Jamb
28A.5.12	0.1	-0.1	20	Good	White Wood Door

Room 6 (Hallway and Bathroom)

28A.6.1	**1.9**	0.4	23	Good	White Wood Shelf
28A.6.2	-0.1	-0.1	23	Good	White Wood Door Casing
28A.6.3	-0.8	-0.1	23	Good	White Plaster Wall
28A.6.3	-0.1	-0.1	23	Good	Duplicate
7094020294161001	0.5	0.5	95	N/A	Calibration Check
28A.6.4	**2.5**	0.2	23	Good	White Wood Baseboard
28A.6.5	0.4	-0.1	95	Good	White Metal Door Jamb
28A.6.6	0.1	-0.1	23	Good	White Plaster Ceiling
28A.6.7	0.3	-0.1	23	Fair	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 28A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020294152502	1.2	1.3	81	N/A	Calibration Check
7094020294162001	1.1	1.2	81	N/A	Calibration Check
1.63	1.0	1.4	81	N/A	NIST Standard
7094020294163501	0.3	0.6	95	N/A	Calibration Check
1.02	0.9	1.1	95	N/A	NIST Standard

EXTERIOR READINGS

28A.1	**5.5**	0.7	23	Fair	White Porch Railing

28A.2	**7.1**	0.3	23	Good	White Wood Trim
28A.3	**5.5**	0.6	23	Good	White Wood Porch Ceiling
28A.4	0.4	-0.2	95	Good	White Wood Door Casing
28A.5	**7.7**	0.6	95	Fair	White Metal Porch Support
28A.6	-0.0	-0.0	23	Fair	White Wood Window Frame
28A.7	0.1	0.1	95	Good	Metal Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Baltzell Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 29 A

Type Quarters: Three Bedroom, Duplex (approx. 1500 sq. ft.)
Date Constructed: 1957
Type Construction: Brick

Survey Summary:

1. Quarters No. 29 A is a three bedroom, two bathroom unit which is half of a two family duplex.

2. Positive levels of lead-based paint were detected on all porch components and upper trim on the exterior. In the interior, positive XRF readings were obtained on doors, baseboards, shelves and original window components.

3. A photograph of Quarters No. 29 A appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred, follows the XRF field readings.

CESAD-EN-FL

27 September 1994

Field XRF Readings for Quarters 29A
Ft. McClellan, AL

Date Surveyed: 03 February 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020394072001	0.4	0.6	95	N/A	Calibration Check
7094020394072001	0.4	0.6	95	N/A	Calibration Check
7094020394072001	0.4	0.6	95	N/A	Calibration Check
7094020394072001	0.4	0.6	95	N/A	Calibration Check
7094020394072001	0.7	0.6	95	N/A	Calibration Check
0000	-0.1	-0.1	95	N/A	Blank
1.02	0.9	1.1	95	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Kitchen)

29A.1.1	0.3	-0.1	23	Good	White Plaster Ceiling
29A.1.2	-0.0	-0.1	23	Good	White Wood Cabinet
29A.1.3	**2.8**	0.3	23	Good	White Window Sill
29A.1.4	0.1	-0.1	23	Good	White Plaster Wall
29A.1.5	**3.4**	0.3	23	Good	White Wood Baseboard
29A.1.6	0.1	-0.1	23	Good	White Wood Door
29A.1.7	0.6	-0.1	95	Good	White Metal Door Jamb

Room 2 (Living Room)

29A.2.1	0.2	-0.2	23	Good	White Wood Baseboard
29A.2.2	**4.1**	0.2	23	Good	White Wood Baseboard
29A.2.3	0.1	-0.2	95	Good	White Block Wall
29A.2.4	0.3	0.1	95	Good	White Metal Door
29A.2.5	-0.0	-0.1	23	Good	White Plaster Ceiling
29A.2.6	0.3	-0.1	23	Good	White Plaster Wall
29A.2.7	0.1	-0.1	23	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 29A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 3 (Hallway)		
29A.3.1	0.1	-0.1	95	Good	White Metal Sliding Doors
29A.3.2	**1.7**	0.3	23	Good	White Wood Shelf
29A.3.3	0.3	-0.1	95	Good	White Wood Door Casing
29A.3.4	0.4	-0.1	95	Good	White Metal Door Jamb
29A.3.5	-0.4	-0.1	23	Good	White Plaster Ceiling
29A.3.6	**1.7**	0.1	23	Good	White Wood Door
29A.3.6	**1.9**	0.1	23	Good	Duplicate
7094020394084501	0.3	0.6	95	N/A	Calibration Check
29A.3.7	-0.5	-0.1	23	Good	White Wall
			Room 4 (Bedroom)		
29A.4.1	**2.1**	0.2	23	Good	White Wood Baseboard
29A.4.2	0.0	-0.1	23	Good	White Wood Window Apron
29A.4.3	**2.1**	0.2	23	Good	White Wood Shelf Support
29A.4.4	0.4	-0.1	95	Good	White Metal Door

					Track
29A.4.5	0.2	-0.1	23	Good	White Wood Door

Room 5 (Bedroom)

29A.5.1	-0.2	-0.1	23	Good	White Plaster Wall
29A.5.2	**2.0**	0.2	23	Good	White Wood Baseboard
29A.5.3	0.0	-0.1	23	Good	White Wood Window Frame

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 29A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 5 (Continued)

29A.5.4	-0.2	-0.1	23	Good	White Plaster Ceiling
29A.5.5	0.3	-0.1	95	Good	White Wood Window Apron
29A.5.6	**2.2**	0.5	23	Good	White Wood Closet Shelf
29A.5.7	0.3	-0.1	95	Good	White Metal Door

Room 6 (Bedroom)

29A.6.1	0.1	-0.1	23	Good	White Wood Door
29A.6.2	-0.3	-0.2	23	Good	White Plaster Ceiling
29A.6.3	0.1	-0.1	23	Good	White Wood Door Casing
29A.6.4	0.3	-0.1	23	Good	White Wood Baseboard
29A.6.5	0.6	-0.1	95	Good	White Metal Door

					Jamb
29A.6.6	0.2	-0.1	23	Good	White Wood Shelf

EXTERIOR XRF READINGS

29A.1	**6.8**(1)	0.7	23	Fair	White Porch Rail
29A.2	**6.2**	0.8	23	Good	White Upper Trim
29A.3	1.1(2)	-0.1	95	Good	White Wood Door Casing (Inconclusive-Scrape Sample Taken)

(1) Lab Analysis: **positive** (Result = 3.65% Lead, Action Level ≥ 0.5% Lead)

(2) Lab Analysis: **negative** (Result = 0.33% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 29A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

EXTERIOR XRF READINGS (Continued)

29A.4	**5.9**	0.9	23	Good	White Porch Ceiling
29A.5	-0.2	-0.1	95	Good	White Wood Window Frame
29A.6	-0.6	-0.2	23	Fair	White Wood Window

					Sill
29A.7	0.1	0.2	95	Good	White Metal Door
29A.8	0.2	-0.2	23	Fair	Red Divider Fence

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Quarters No. 30 A

Type Quarters: Three Bedroom, Duplex (approx. 1500 sq. ft.)
Date Constructed: 1957
Type Construction: Brick

Survey Summary:

1. Quarters No. 30 A is a three bedroom, two bathroom unit which is half of a two family duplex.

2. Positive levels of lead-based paint were detected on all porch components and upper trim on the exterior. In the interior, positive XRF readings were obtained on metal doors, baseboards, shelves and original window components.

3. A photograph of Quarters No. 30 A appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred, follows the XRF field readings.

CESAD-EN-FL

27 September 1994

Field XRF Readings for Quarters 30A
Ft. McClellan, AL

Date Surveyed: 03 February 1994
Surveyors: LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020394100001	0.5	0.5	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Living Room)

30A.1.1	-0.1	-0.1	23	Good	White Plaster Wall
30A.1.2	-0.1	-0.1	23	Good	White Wood Window Sill
30A.1.3	0.0	-0.1	95	Good	White Wood Window Casing
30A.1.4	**5.1**	0.4	23	Good	White Wood Baseboard
30A.1.5	0.1	-0.2	95	Good	White Concrete Block Wall
30A.1.6	-0.3	-0.1	23	Good	White Plaster Ceiling
30A.1.7	0.1	-0.1	23	Good	White Wood Door

Room 2 (Kitchen)

30A.2.1	**1.7**	0.2	95	Good	White Wood Window Sill
30A.2.2	-0.2	-0.1	23	Good	White Wood Cabinet
30A.2.3	0.1	-0.1	23	Good	White Plaster Wall
30A.2.4	**2.8**	0.4	23	Good	White Wood Baseboard
30A.2.5	0.5	-0.1	95	Good	White Metal Door Jamb

Room 3 (Hallway and Bathroom)

30A.3.1	**1.8**	0.2	23	Good	White Wood Shelf
30A.3.2	0.3	-0.1	95	Good	White Metal Door
30A.3.3	-0.2	-0.1	23	Good	White Plaster Wall

30A.3.3	0.0	-0.1	23	Good	Duplicate

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 September 1994

Field XRF Readings for Quarters 30A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020394110502	0.4	0.6	95	N/A	Calibration Check
Room 4 (Bedroom and ½ Bathroom)					
30A.4.1	**3.8**	0.3	23	Good	White Wood Baseboard
30A.4.2	0.1	-0.1	23	Good	White Wood Door Jamb
310.4.3	-0.1	-0.1	23	Good	White Plaster Ceiling
30A.4.4	0.3	-0.1	23	Good	White Wood Door
30A.4.5	0.0	-0.1	23	Good	White Wood Shelf
30A.4.6	0.1	-0.1	23	Good	White Wood Window Casing
Room 5 (Bedroom)					
30A.5.1	**2.9**	0.3	23	Good	White Wood Baseboard
30A.5.2	-0.1	-0.1	23	Good	White Plaster Ceiling
30A.5.3	0.3	-0.1	23	Good	White Wood Window Sill
30A.5.4	-0.2	-0.1	23	Good	White Wood Window Frame
30A.5.5	**1.9**	0.2	23	Good	White Wood Shelf
30A.5.6	**2.1**	0.1	95	Good	White Metal Door
30A.5.7	0.3	-0.1	23	Good	White Plaster Wall
Room 6 (Bedroom)					

30A.6.1	-0.5	-0.3	23	Good	White Wood Baseboard
30A.6.2	-0.0	-0.1	23	Good	White Wood Window Apron
30A.6.3	**3.7**	0.6	23	Good	White Wood Baseboard
30A.6.4	**1.7**	0.5	23	Good	White Wood Shelf
30A.6.5	0.2	-0.1	95	Good	White Metal Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 27 Septmeber 1994

Field XRF Readings for Quarters 30A
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		EXTERIOR READINGS			
30A.1	**4.7**	0.5	23	Good	White Wood Trim
30A.2	**4.7**	1.0	23	Fair	White Porch Railing
30A.3	**5.5**	0.4	23	Fair	White Wood Porch Ceiling
30A.4	-0.0	-0.0	23	Good	White Wood Window Frame
30A.5	-0.1	-0.1	23	Good	White Wood Window Frame
7094020394115502	0.7	0.6	95	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

LEAD BASED PAINT
SURVEY REPORT

BUILDING(S):

81, 83, 85, 87, 89, 90, 103, 105, 106, 107

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/421-5271 FAX 404/421-4977

11 October 1994

LEAD-BASED PAINT SURVEY
REPORTS FOR DRENNEN FAMILY HOUSING UNITS
FORT McCLELLAN, ALABAMA

Introduction

1. This is the Lead-Based Paint (LBP) field survey report for the Drennen Family Housing Units located at Fort McClellan, Alabama. This report documents the LBP field results for the ten units surveyed (Quarters No. 81, 83, 85, 87, 89, 90, 103, 105, 106, 107). A map, showing the locations of the units surveyed for LBP, appears as Plate 1.

2. The LBP survey was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990) and EPA standard operating procedures (EPA document EPA600/8-91/214) for this instrument. The surveys were performed by certified surveyors using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (spectrum analyzer) XRF instrument.

3. The LBP survey results for the ten housing units tested appears in numerical order (by unit no.) in the appendix. A brief summary of the areas testing positive for LBP and a photograph of the buildings are provided. The actual field XRF readings and the unit floorplan, showing the locations where positive XRF readings occurred, also appears in the appendix.

4. Positive readings (detectable lead above the action level) with the XRF vary depending on the instrument mode selected. The "test" [1] mode is normally used for routine readings. Readings testing "positive"[2] according to the XRF instrument manufacturer in the test mode are those with a lead concentration greater than 1.3 milligrams per centimeter squared (mg/cm^2), whereas, "negative" refers to readings of 0.7 mg/cm^2 or less. According to the HUD guidelines, positive readings for this instrument are greater than 1.3 mg/cm^2. "Inconclusive" readings are those that fall between 0.7 mg/cm^2 and 1.3 mg/cm^2.

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[1] The XRF instrument "test" mode is a reading of approximately 60

seconds duration. Test of longer duration increases precision.

(2) **Inconclusive Range For XRF Spectrum Analyzer**

Instrument Mode	Range	Units
Screen	0.4 - 1.6	mg/cm^2
Test	0.7 - 1.3	mg/cm^2
Confirm	0.85 - 1.15	mg/cm^2

5. The "action level" defined in the HUD Interim Guidelines is a lead concentration above 1.0 mg/cm^2. Lead concentrations in this report are shown for both K-shell and L-shell in the field XRF data. The L-shell XRF reading is essentially for the top 1 or 2 surface paint layers, whereas, the K-shell is total lead applicable for multi-layered paint surfaces. HUD Guidelines specify that the K-Shell XRF reading be used for assigning positive determination.

6. In this report paint condition stated as "good" is defined as intact; "fair" as intact but worn (minor chips from wear and tear but no adhesion or substrate problems); "poor" as severely worn or no longer adhering or, substrate deterioration (e.g., peeling, flaking, cracking, etc.).

Discussion

7. The Drennen Family Housing units are built of identical construction materials, however, they have two different floorplans (three bedroom and four bedroom plans). They are all one story concrete structures with a full basement. They have wood frame windows, wood upper trim and aluminum storm windows. The interior walls and ceilings are plaster and all trim components are wood. These units were reportedly built in 1930.

8. A total of seven-hundred and eleven (711) XRF measurements were made at the ten Drennen Housing units surveyed. One-hundred and sixty-three (163) of those readings were determined to be positive for lead-based paint. Thirteen (13) of the one-hundred and seventeen (117) exterior readings were positive for LBP. One-hundred and fifty (150) of the five-hundred and ninety-four (594) interior readings were positive. The XRF results are summarized in Table 1. It lists the number of similar surfaces and components tested in separate categories. It also includes the number of positive XRF readings and percentages of positives tests in each

category.

Interior Summary

9. The interior construction of the Drennen Housing units is similar. Judging by the XRF measurements, there seems to be two different painting histories in the ten houses surveyed. There is a distinctive difference in the readings obtained in units 81, 83, 85, and 87, as compared to those of 89, 90, 103, 105, 106, and 107. In the appendix, the individual summaries for each unit will clarify this issue. Refer to each unit floorplan for specific locations where positive XRF readings occurred.

Exterior Summary

10. The painted exterior surfaces of the Drennen Housing units also seem to have two different painting histories. Unit Nos. 81, 83, 85, and 87 all had positive levels of leaded paint on the upper trim, siding above the front porch, and some of the door components. No lead-based paint was detected on the exterior surfaces of Units 89, 90, 103, 105, 106, and 107.

Paint Condition

11. The interior paint in the Drennen houses was generally in good condition. Poor leaded paint conditions were noted on the exterior trim and siding of units 81, 83, and 87.

Prepared By: _____

Larry Martin
Civil Engineering Tech.

Reviewed By: _____

Ray Willingham
Geologist

CESAD-EN-FL

11 October 1994

TABLE 1

COMPONENT SUMMARY CHART FOR DRENNEN HOUSING QUARTERS

COMPONENTS TESTED	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE
EXTERIOR COMPONENTS:			
EXTERIOR SIDING & WALLS	18	3	17
EXTERIOR TRIM (Facia, Soffits, Cornerboards)	21	4	19
EXTERIOR WINDOWS	25	2	[illegible]

(Sills, Frames, Casings)			
EXTERIOR DOORS (Headers, Casings, Frames)	12	3	25
PORCH (Frame, Trim, Floor)	37	0	0
EXTERIOR MISCELLANEOUS	4	1	25
INTERIOR COMPONENTS:			
INTERIOR WINDOWS (Sills, Frames, Casings)	91	18	20
INTERIOR TRIM (Baseboards, Crown & Chair Molding)	90	51	57
INTERIOR DOORS (Headers, Casings Frames)	17 3	48	28
INTERIOR WALLS	86	14	16
INTERIOR CEILINGS	51	3	6
STAIRS (Steps, Stringers, Risers, etc.)	18	5	28
SHELVES and SHELF SUPPORTS	30	6	20
MISCELLANEOUS (Shelves,Fireplace,Cabinets,Stairs)	55	9	16
TOTALS	71 1	150	23

Type Quarters: Three Bedrooms, One Story (approx. 2236 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim

Survey Summary:

1. Quarters No. 81 is a three bedroom, one story house with a full basement.

2. Positive levels of lead-based paint were detected throughout the interior of this house on all surfaces and components. With the exception of interior doors, all interior paint should be considered positive for lead. On the exterior surfaces, the doors and door components, window components, upper trim and the lap board siding above the front porch all contain positive levels of LBP.

3. A photograph of Quarters No. 81 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred at Quarters No. 81, follows the XRF field readings.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 81
Ft. McClellan, AL

Date Surveyed: 03 February 1994
Surveyors: JS,LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020394125001	1.0	1.2	95	N/A	Calibration Check
7094020394125001	0.7	1.1	95	N/A	Calibration Check
7094020394125001	1.0	1.1	95	N/A	Calibration Check

INTERIOR READINGS

Room 1 (Living Room)

81.1.1	**5.8**	0.6	23	Good	Creme Wood Door Casing
81.1.2	**0.8**	0.2	95	Good	Creme Plaster Wall
			(Inconclusive-See		Sample ID# 81.2.5)
81.1.3	**7.1**	0.7	23	Good	Creme Wood Window Apron
81.1.4	**7.5**	0.8	23	Good	Creme Wood Baseboard
81.1.5	0.4	0.0	95	Good	White Plaster Ceiling
81.1.6	**5.1**	0.3	23	Good	Creme Wood Crown Molding
81.1.7	**6.4**	0.5	23	Good	Creme Wood Door Jamb

Room 2 (Kitchen)

81.2.1	**7.5**	0.6	23	Good	Creme Wood Door Header
81.2.2	0.3	0.0	23	Good	Creme Wood Door
81.2.3	-0.1	0.1	23	Good	Creme Wood Shelf
81.2.4	**10.0**	0.8	23	Good	Creme Wood Baseboard
81.2.5	**2.2**	0.2	23	Good	Creme Plaster Wall
81.2.6	0.2	-0.1	23	Good	Creme Metal Cabinet
81.2.7	-0.5	-0.2	23	Good	Creme Wood Cabinet
81.2.8	**4.2**	0.2	95	Fair	Creme Plaster Ceiling

81.2.9	**5.9**	0.2	23	Good	Creme Wood Window Sill

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 81
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Bedroom)			
81.4.1	**9.7**	1.2	23	Good	Creme Wood Baseboard
81.4.1	**11.1**	1.2	23	Good	Duplicate
7094020394141001	0.6	0.6	95	N/A	Calibration Check
81.4.2	**8.8**	1.2	23	Good	Creme Window Casing
81.4.3	1.2(1)	0.2	23	Fair	Creme Plaster Wall (Inconclusive - Scrape Sample Taken)
81.4.4	0.1	-0.0	23	Good	Creme Wood Door
81.4.5	0.2	0.0	23	Fair	White Plaster Ceiling
		Room 5 (Bedroom)			
81.5.1	**6.3**	0.5	23	Good	Creme Wood Window Sill
81.5.2	**1.2**	0.1	95	Good	Creme Plaster Wall (Inconclusive-See Sample ID# 81.2.5)
81.5.3	**0.9**	0.1	95	Good	Creme Plaster Ceiling (Inconclusive-See Sample ID# 81.2.8)
81.5.4	**5.0**	0.3	23	Good	Creme Wood Crown Molding
81.5.5	**8.0**	1.2	23	Good	Creme Wood Baseboard

81.5.6	**6.9**	0.9	23	Good	Creme Wood Door Casing
81.5.7	0.8	0.0	95	Good	Creme Wood Door
			(Inconclusive - See Sample ID# 81.4.4)		

([1]) Lab Analysis: negative (Result = 0.11% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 81
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Master Bedroom)					
81.6.1	**6.3**	0.9	23	Good	Creme Wood Window Apron
81.6.2	**8.8**	1.2	23	Poor	Creme Wood Baseboard
81.6.3	**1.2**	0.1	95	Good	Creme Plaster Wall
			(Inconclusive-See Sample ID# 81.2.5)		
81.6.4	**3.2**	0.3	23	Good	Creme Wood Shelf Support
81.6.5	**5.2**	0.6	23	Good	Creme Wood Door Casing

Room 7 (Basement)

81.7.1	**2.0**	1.9	23	Poor	Stairwell
81.7.2	**2.6**	2.2	23	Poor	Stair Riser
81.7.3	-0.9	-0.2	23	Poor	Basement Wall
81.7.4	**8.3**	4.3	95	Fair	Steel Support Beam
81.7.5	**5.0**	3.3	23	Fair	Back Door

EXTERIOR XRF READINGS

81.1	0.3	-0.1	95	Good	Brown Screen Frame
81.2	-0.9	-0.1	23	Good	Creme Concrete Porch Post
81.3	0.1	0.1	95	Good	Creme Beadboard Ceiling
81.4	-0.0	-0.1	23	Good	White Wood Window Casing
81.5	**9.4**	1.1	23	Poor	Creme Porch Soffit

Positive XRF Readings appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 81
Ft. McClellan, AL

					Concrete
81.8	**0.8**(2)	-0.0	95	Poor	White Window Apron
			(Inconclusive-Scrape Sample Taken)		
81.9	**0.4**(3)	-0.3	23	Poor	Front Porch Siding
			(Inconclusive-Scrape Sample Taken)		
81.10	0.3	0.6	95	Fair	Basement Storm Door
81.11	**3.5**	1.5	23	Poor	White Wood Rear Door
81.12	**10.2**	1.7	23	Fair	White Wood Door Jamb
81.13	-0.1	-0.1	23	Good	Brown Beadboard Porch Ceiling
81.14	-1.2	-0.3	23	Poor	Gray Porch Floor

(2) Lab Analysis: **positive**(Result = 0.70% Lead, Action Level ≥ 0.5% Lead)

(3) Lab Analysis: **positive**(Result = 4.82% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Lead-Based Paint Survey

Quarters No. 83

Type Quarters: Four Bedrooms, One Story (approx. 2655 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim

Survey Summary:

1. Quarters No. 83 is a four bedroom, two bathroom unit, with a full basement.

2. In the interior of Quarters No. 83, positive levels of lead-based paint were detected in Rooms Nos. 1, 2, 5, 6, 7, and 8 (see floorplan in appendix). With the exception of the doors, all paint in these rooms tested positive for lead. The portion of the house that makes up Room Nos. 3 and 4 appears to be a newer addition to the unit. No LBP was detected in this area. On the exterior surfaces, the upper porch trim and siding above the front porch tested positive for LBP. All of the remaining exterior paint tested negative for lead.

3. A photograph of Quarters No. 83 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred at Quarters No. 83 follows the field XRF readings.

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Field XRF Readings for Quarters 83
Ft. McClellan, AL

Date Surveyed: 03 February 1994
Surveyors: KB,LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020394160002	0.7	0.6	95	N/A	Calibration Check
7094020394160002	1.0	1.2	95	N/A	Calibration Check
7094020394142501	1.3	1.3	81	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Living/Dining Room)

83.1.1	**6.6**	0.3	20	Good	White Wood Baseboard
83.1.2	**1.8**	0.1	20	Good	White Wood Wall
83.1.3	**4.8**	0.2	20	Good	White Wood Door Casing
83.1.4	-0.5	-0.1	20	Good	White Wood Door
83.1.5	**5.1**	0.2	20	Good	White Wood Window Apron
83.1.6	**5.0**	0.2	20	Good	White Wood Window Sill
83.1.7	0.0	-0.1	20	Good	White Wood Window Sash
83.1.8	-0.7	-0.1	20	Good	Stained Wood Floor
83.1.9	**4.4**	0.1	20	Good	White Wood Door Header
83.1.10	**4.1**	0.1	20	Good	White Wood Door Jamb
83.1.11	**1.6**	0.1	81	Good	White Wood Wall
83.1.12	0.2	-0.1	20	Good	White Wood Vent Trim

83.1.13	0.3	-0.0	20	Good	White Plaster Ceiling

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 83
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 2 (Bedroom)		
83.2.1	0.4	0.0	81	Good	White Plaster Ceiling
83.2.2	**2.9**	0.1	20	Good	White Wood Crown Molding
83.2.3	**3.7**	0.1	20	Good	White Wood Window Casing
83.2.4	-0.2	-0.1	20	Good	White Wood Window Sash
83.2.5	-0.5	-0.1	20	Good	White Wood Door
83.2.6	**4.2**	0.2	20	Good	White Wood Shelf
83.2.7	**4.0**	0.4	20	Good	White Wood Door Jamb
83.2.7	**4.1**	0.4	20	Good	Duplicate
7094020394155001	1.1	1.3	81	N/A	Calibration Check
83.2.8	1.0	0.1	81	Good	White Plaster Wall (Inconclusive-See Sample ID# 83.3.7)
83.2.9	**3.6**	0.8	20	Good	White Wood Baseboard
83.2.10	-0.6	-0.1	20	Good	White Wood Door

Room 3 (Bedroom)

83.3.1	-0.3	-0.1	20	Good	White Wood Door Casing
83.3.2	0.0	-0.1	20	Good	White Wood Door Casing
83.3.3	-0.2	-0.1	20	Good	White Wood Window Casing
83.3.4	-0.6	-0.1	20	Good	White Wood Window Apron

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 83
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Continued)					
83.3.5	0.2	-0.1	20	Good	White Wood Window Casing
83.3.6	-0.1	-0.1	20	Good	White Wood Window Sash
83.3.7	-0.1	-0.1	20	Good	White Plaster Wall
83.3.8	-0.2	-0.1	20	Good	White Plaster Ceiling
83.3.9	0.1	-0.1	20	Good	White Wood Door Jamb
83.3.10	0.1	-0.1	20	Good	White Wood Baseboard

Room 4 (Bedroom)

83.4.1	-0.4	-0.1	20	Good	Stained Wood Floor
83.4.2	-0.3	-0.1	20	Good	White Wood Door Casing
83.4.3	-0.5	-0.1	20	Good	White Wood Window Apron
83.4.4	-2.2	-0.2	20	Poor	White Plaster Wall
83.4.5	-0.3	-0.1	20	Good	White Wood Door Casing

Room 5 (Bedroom)

83.5.1	0.8	0.1	81	Good	White Plaster Wall
			(Inconclusive-See		Sample ID# 83.3.7)
83.5.2	**7.0**	0.2	20	Good	White Wood Window Sill
83.5.2	**6.9**	0.2	20	Good	Duplicate
7094020394163001	1.0	1.2	81	N/A	Calibration Check

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 83

					Sash
83.5.4	-0.3	0.1	20	Good	White Wood Shelf
83.5.5	**9.2**	0.5	20	Good	White Wood Door Jamb
83.5.6	0.7	0.0	81	Good	White Plaster Ceiling
			(Inconclusive-See Sample ID# 83.6.6)		
83.5.7	**3.1**	1.0	20	Good	White Wood Baseboard
83.5.8	-0.5	-0.1	20	Good	White Wood Door

Room 6 (Hallway and Bathroom)

83.6.1	-0.3	-0.1	20	Good	White Wood Shelf
83.6.2	-0.2	-0.1	20	Good	White Wood Door
83.6.3	-0.5	-0.1	20	Good	White Wood Door Casing
83.6.4	-0.2	-0.1	20	Poor	White Plaster Wall
83.6.5	-0.0	-0.0	20	Good	White Wood Door Jamb
83.6.6	0.4	-0.0	81	Good	White Plaster Ceiling
83.6.7	0.2	-0.0	20	Good	White Wood Crown Molding
83.6.8	-0.3	-0.1	20	Good	Tan Wallpapered Wall
83.6.9	-0.3	-0.1	20	Good	White Wood Door
83.6.10	-0.2	-0.1	20	Good	White Wood Baseboard
83.6.11	**5.1**	0.2	20	Good	White Wood Door Casing
83.6.12	-0.3	-0.1	20	Good	White Wood Door Casing

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 83

Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Continued)					
83.6.13	-0.1	-0.1	20	Good	White Wood Cabinet
83.6.14	**3.2**	0.0	20	Good	White Wood Shelf Support
83.6.14	**3.2**	0.0	20	Good	Duplicate
7094020394170501	1.2	1.3	81	N/A	Calibration Check
83.6.15	**5.3**	0.2	20	Good	White Wood Attic Scuttle
7094020394151501	1.3	1.3	81	N/A	Calibration Check
1.63	1.2	1.5	81	N/A	NIST Standard
Room 7 (Kitchen)					
83.7.1	0.0	-0.1	23	Good	Creme Wood Door Casing
83.7.2	0.1	-0.1	23	Good	Creme Wood Door
83.7.3	0.1	-0.1	23	Good	Creme Wood Cabinet
83.7.4	-0.4	-0.1	23	Good	White Wood Shelf
83.7.5	**3.5**	0.1	23	Good	White Wood Window Sill
83.7.6	**2.0**	0.1	23	Good	White Plaster Wall
83.7.7	**5.2**	0.1	23	Good	White Wood Door Jamb
7094020394171001	0.5	0.5	95	N/A	Calibration Check

:-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 83
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 8 (Basement)					
83.8.1	0.1	-0.1	23	Poor	Basement Step
83.8.2	-0.9	-0.2	23	Fair	Basement Wall
83.8.3	-1.3	-0.1	23	Good	Gray Concrete Wall
83.8.4	**7.0**	2.2	95	Poor	Steel Support Post
83.8.5	**5.3**	2.5	23	Fair	Cross Beam Support
83.8.6	-0.2	0.0	23	Fair	White Plaster Ceiling
83.8.7	**4.8**	2.0	23	Fair	Gray Creme Door
83.8.8	-0.2	-0.2	23	Good	White Concrete Stairwell
83.8.9	-0.9	-0.0	23	Poor	White Back Door
83.8.10	0.1	-0.1	23	Good	Creme Wood Window Casing
83.8.11	0.6	1.0	95	Fair	Black Stair Rail
83.8.12	0.1	-0.1	95	Good	Back Porch Ceiling
EXTERIOR XRF READINGS					
83.1	0.2	0.1	95	Good	Brown Wood Soffit
83.2	-1.8	-0.3	23	Good	Creme Concrete Porch Post
83.3	0.1	-0.1	95	Poor	White Window Frame
83.4	-0.3	-0.1	23	Fair	Creme Coal Shoot Cover
83.5	-0.2	-0.2	23	Good	Concrete Wall
83.6	-0.1	0.0	23	Poor	Brown Soffit
83.7	0.3	-0.1	23	Good	Creme Wood Beadboard Ceiling

83.8	-0.2	-0.1	23	Good	Brown Screen Frame
83.9	-1.9	-0.3	23	Poor	Gray Porch Floor
83.10	**4.9**	0.5	23	Fair	Upper Porch Trim

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Drennen Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 85

Type Quarters: Four Bedroom, One Story (approx. 2655 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim.

Survey Summary:

1. Quarters No. 85 is a four bedroom, two bathroom unit with a full basement.

2. In the interior of Quarters No. 85, positive levels of lead-based paint were detected in Room Nos. 1, 2, 3, 6, 7, and 8 (see floorplan in appendix). The baseboards, crown molding, window and door components, and

the specific locations in which positive readings occurred at Quarters No. 5 follows the field XRF readings.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 85
Ft. McClellan, AL

Date Surveyed: 04 February 1994
Surveyors: LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020494073002	0.4	0.7	95	N/A	Calibration Check
7094020494073002	0.6	0.6	95	N/A	Calibration Check
7094020494073002	0.5	0.7	95	N/A	Calibration Check
7094020494073002	0.4	0.6	95	N/A	Calibration Check
7094020494073002	0.5	0.6	95	N/A	Calibration Check
0000	0.1	-0.1	95	N/A	Blank
1.02	0.9	1.1	95	N/A	NIST Standard

Room 1 (Living Room)

85.1.1	**3.5**	0.2	23	Good	Creme Wood Baseboard
85.1.2	0.9([1])	0.1	95	Good	Creme Plaster Wall
			(Inconclusive-Scrape Sample Taken)		
85.1.3	**3.8**	0.3	23	Good	Creme Wood Door Header
85.1.4	0.1	-0.1	23	Good	Creme Wood Door
85.1.5	**5.2**	0.3	23	Good	Creme Wood Door Casing
85.1.6	0.9	0.1	95	Good	White Plaster Ceiling
			(Inconclusive-See Sample ID# 85.5.3)		
85.1.7	**2.3**	0.1	23	Good	White Wood Crown Molding
85.1.8	**4.6**	0.2	23	Good	Creme Wood Window Sill
85.1.9	0.2	-0.1	23	Good	Creme Wood Window Frame
85.1.10	-0.0	-0.0	23	Good	Creme Wood Window Ledge
85.1.10	0.2	-0.1	23	Good	Duplicate

([1]) Lab Analysis: **negative** (Result = 0.06% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 85
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
70940204090002	0.6	0.6	95	N/A	Calibration Check

Room 2 (Kitchen)

85.2.1	-0.7	-0.2	23	Good	Creme Wood Cabinet
85.2.2	**3.7**	0.1	23	Good	Creme Wood Window Sill
85.2.3	-0.2	-0.1	23	Good	Creme Wood Window Frame
85.2.4	0.2	-0.2	23	Good	Creme Wood Window Trim
85.2.5	**2.9**	0.1	23	Good	Creme Wood Door Casing
85.2.6	**7.9**	0.8	23	Good	Creme Wood Door Jamb
85.2.7	-0.0	-0.1	23	Good	Creme Wood Shelf
85.2.8	-0.2	-0.1	23	Good	Creme Wood Door

Room 3 (Bedroom)

85.3.1	**3.8**	0.6	23	Good	Creme Wood Baseboard
85.3.2	**3.9**	0.1	23	Good	Creme Wood Window Apron
85.3.3	**3.5**	0.1	23	Good	Creme Wood Window Sill
85.3.4	0.1	-0.1	23	Good	Creme Wood Window Frame
85.3.5	**6.0**	0.4	23	Good	Creme Wood Shelf Support
85.3.6	-0.4	-0.1	23	Good	Creme Wood Door

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 85
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Bedroom)			
85.4.1	0.2	-0.1	23	Good	Creme Wood Sliding Door
85.4.2	-0.3	-0.2	23	Good	Creme Wood Shelf
85.4.3	0.1	-0.1	23	Good	Creme Sheetrock Wall
85.4.4	0.3	-0.1	23	Good	Creme Wood Window Apron
85.4.5	0.2	-0.1	23	Good	Creme Wood Baseboard
		Room 5 (Bedroom)			
85.5.1	-0.1	-0.1	23	Good	Creme Wood Door Frame
85.5.2	-0.6	-0.1	23	Good	Creme Wood Window Casing
85.5.3	-0.0	-0.1	23	Good	White Plaster Ceiling
		Room 6 (Bedroom)			
85.6.1	0.5	0.1	23	Good	White Plaster Ceiling (Inconclusive-See Sample ID# 85.5.3)
85.6.2	**3.8**	0.1	23	Good	Creme Wood Window Sill
85.6.3	0.1	-0.1	23	Good	Creme Wood Window Frame
85.6.4	**6.7**	0.6	23	Good	White Wood Crown Molding
		Room 7 (Hallway)			
85.7.1	0.1	-0.0	23	Good	Creme Wood Baseboard
85.7.1	0.3	-0.3	23	Good	Duplicate
7094020494095502	0.5	0.6	95	N/A	Calibration Check
85.7.2	-0.2	-0.1	23	Good	Creme Wood Door

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 85
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 8 (Basement)		
85.8.1	-1.6	-0.1	23	Good	White Concrete Wall
85.8.2	**4.7**	1.9	23	Good	White Steel Support Beam
85.8.3	**4.3**	2.8	23	Good	Brown Steel Cross Beam
85.8.4	**1.4**	0.9	95	Good	Creme Wood Door Casing
			EXTERIOR XRF READINGS		
85.1	-0.2	-0.1	23	Good	Brown Wood Screen Frame
85.2	0.1	-0.1	23	Good	Creme Concrete Window Apron
85.3	0.4	-0.0	95	Good	White Wood Window Casing
85.4	-1.1	-0.3	23	Good	Gray Concrete Floor
85.5	-0.2	-0.0	23	Good	Creme Beadboard Ceiling
85.6	**3.2**	0.6	23	Good	Creme Wood Porch Trim
85.7	-0.4	-0.3	23	Good	Brown Wood Eave
85.8	0.3	-0.0	23	Good	Brown Wood Facia
85.9	**8.9**	0.9	23	Fair	Creme Wood Siding
85.10	-0.6	-0.0	23	Fair	White Wood Window Apron
85.11	-2.0	-0.2	23	Good	Creme Stucco Wall

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Drennen Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 87

Type Quarters: Four Bedroom, One Story (approx. 2655 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim

Survey Summary:

1. Quarters No. 87 is a four bedroom, two bathroom unit with a full basement.

2. Positive levels of lead-based paint were detected in the interior of Quarters No. 87. Based on the XRF readings, it is reasonable to assume that the door components, trim (baseboards, crown molding, etc.), older window components, shelves and shelf supports all contain positive levels of lead-based paint. Walls, ceilings and doors tested negative for LBP. On the exterior surfaces, the upper porch trim, lap-board siding above the front porch and door components tested positive for LBP.

3. A photograph of Quarters No. 87 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing

the specific locations in which positive readings occurred at Quarters No. 7 follows the field XRF readings.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 87
Ft. McClellan, AL

Date Surveyed: 04 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020494101501	0.4	0.5	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Living Room)

87.1.1	0.3	-0.1	95	Good	White Wood Door
87.1.2	**3.8**	0.1	23	Good	White Wood Door

					Header
87.1.3	-0.0	-0.1	23	Good	White Wood Baseboard
87.1.4	**2.9**	0.1	23	Good	White Wood Window Sill
87.1.5	**3.8**	0.1	23	Good	White Wood Window Casing
87.1.6	0.2	-0.0	95	Good	White Plaster Wall
87.1.7	0.6	0.0	23	Good	White Plaster Ceiling
			(Inconclusive-See Sample ID# 87.4.1)		
87.1.8	**3.4**	0.1	23	Good	White Wood Door Jamb
87.1.9	-0.4	-0.1	23	Good	White Wood Baseboard
87.1.10	0.0	-0.0	23	Good	White Wood Crown Molding

Room 2 (Kitchen)

87.2.1	0.0	-0.1	23	Good	White Wood Cabinet
87.2.2	0.1	-0.1	23	Good	White Wood Window Frame
87.2.3	0.2	-0.1	23	Good	White Wood Door
87.2.4	-0.5	-0.2	23	Good	White Wood Shelf

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 87
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 2 (Continued)

87.2.5	-0.2	-0.1	23	Good	White Wood Shelf Support
87.2.6	-0.7	-0.2	23	Good	White Wood Door Casing
87.2.7	0.1	-0.1	95	Good	White Wood Window Sill
87.2.8	**3.8**	0.1	23	Good	White Wood Door Casing

Room 3 (Bedroom)

87.3.1	**3.5**	0.1	23	Good	White Wood Door Header
87.3.2	**3.1**	0.2	23	Good	White Wood Shelf Support
87.3.3	**3.6**	1.1	23	Good	White Wood Baseboard
87.3.4	**4.3**	0.2	23	Good	White Wood Baseboard
87.3.5	0.7	0.1	95	Good	White Plaster Wall

(Inconclusive-See Sample ID# 87.1.6)

Room 4 (Bedroom)

87.4.1	0.1	-0.1	23	Good	White Plaster Ceiling
87.4.2	0.9	0.0	95	Good	White Wood Crown Molding

(Inconclusive-See Sample ID# 87.7.7)

87.4.3	0.1	-0.1	23	Good	White Wood Door
87.4.4	-0.1	-0.1	23	Good	White Sheetrock Wall
87.4.5	-0.4	-0.1	23	Good	White Wood Window Casing
87.4.6	-0.2	-0.1	23	Good	White Wood Baseboard

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 87
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 5 (Bedroom)		
87.5.1	0.1	-0.1	23	Good	White Wood Door Frame
87.5.2	-0.0	-0.1	23	Good	White Wood Window Casing
87.5.3	-0.0	-0.1	23	Good	White Wood Shelf
87.5.4	-0.2	-0.1	23	Good	White Wood Baseboard
			Room 6 (Bedroom)		
87.6.1	**3.9**	0.2	23	Good	White Wood Baseboard
87.6.2	**3.4**	0.1	23	Good	White Wood Door Header
87.6.3	-0.3	-0.1	23	Good	White Wood Shelf
87.6.4	**3.2**	0.1	23	Good	White Wood Window Apron
87.6.5	0.8(1)	0.1	95	Good	White Plaster Wall (Inconclusive-Scrape Sample Taken)
			Room 7 (Hallway,Bathroom,and Closet)		
87.7.1	0.2	-0.1	23	Good	White Wood Door
87.7.2	0.2	0.1	326	Good	White Sheetrock Wall
87.7.3	0.4	-0.1	23	Good	White Wood Door Casing
87.7.4	-0.2	-0.1	23	Good	White Wood Baseboard

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 87
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 8 (Basement)		
87.8.1	0.2	-0.1	20	Good	White Concrete Wall
87.8.2	**7.0**	6.4	20	Good	Brown Beam
87.8.3	-0.1	-0.1	20	Good	White Wood Shelf Support
87.8.4	-1.8	-0.2	20	Good	Brown Concrete Wall
87.8.5	-0.9	-0.2	20	Good	White Soapstone Sink
87.8.6	**1.7**	1.0	81	Good	White Wood Wall Partition
87.8.7	**5.7**	1.0	20	Good	White Wood Screen Door
87.8.8	**3.1**	0.8	20	Good	White Wood Door Jamb
87.8.9	-0.1	-0.2	20	Good	White Concrete Wall
87.8.10	0.0	-0.1	20	Good	White Wood Window Sill
87.8.11	-0.0	-0.0	20	Good	White Wood Window Casing
87.8.12	-0.0	-0.1	20	Good	White Wood Window Sash
87.8.13	-0.1	-0.1	20	Good	White Wood Crown Molding
87.8.14	0.3	-0.0	20	Good	White Plaster Ceiling
87.8.15	-0.2	0.0	81	Good	Black Metal Handrail
87.8.16	-1.0	-0.2	20	Good	White Concrete Wall
87.8.17	0.3	0.0	20	Good	White Wood Door

					Casing
87.8.18	-0.1	-0.1	20	Good	White Wood Door
7094020494115501	1.1	1.4	81	N/A	Calibration Check
7094040294101102	1.2	1.2	81	N/A	Calibration Check

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 87
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			EXTERIOR XRF READINGS		
87.1	-0.9	-0.1	20	Good	White Porch Column
87.2	-3.2	-0.0	20	Good	White Concrete Window Sill
87.3	-0.2	0.0	20	Good	White Wood Window Casing
87.4	-1.0	-0.2	20	Good	White Concrete Foundation
87.5	0.0	0.1	81	Fair	White Wood Window Casing
87.6	0.1	0.0	20	Good	Brown Wood Soffit
87.7	-0.2	-0.0	20	Good	White Wood Door
87.8	-0.2	-0.1	20	Good	Brown Upper Trim
87.9	0.2	-0.0	20	Poor	White Wood Window Casing
87.10	-0.0	-0.2	20	Good	White Stucco Wall

87.11	-1.7	-0.0	20	Good	White Concrete Window Sill
87.12	0.3	0.1	81	Good	Brown Wood Soffit
87.13	**12.5**	0.9	20	Good	White Porch Facia
87.14	-1.3	-0.1	20	Good	White Concrete Column
87.15	-0.4	-0.2	20	Good	Brown Porch Door
87.16	-1.4	-0.1	20	Fair	White Concrete Porch Bar
87.17	-0.9	-0.1	20	Good	White Concrete Window Sill
87.18	-0.3	0.0	20	Good	White Wood Ceiling
87.19	-0.0	-0.1	20	Good	Gray Concrete Threshold
87.20	**7.4**	0.7	20	Good	White Wood Door Jamb
7094020494110501	1.2	1.3	81	N/A	Calibration Check
87.21	**3.7**	0.7	20	Good	White Wood Door Jamb

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Drennen Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 89

Type Quarters: Three Bedroom, One Story (approx. 2236 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim.

Survey Summary:

1. Quarters No. 89 is a three bedroom, one bathroom unit with a full basement.

2. Based on the XRF readings, it is reasonable to assume that all doors, door components, baseboards, and crown molding in the interior of Quarters No. 89 all contain positive levels of lead-based paint. No positive LBP was detected on the exterior of this house.

3. A photograph of Quarters No. 89 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred at Quarters No. 89 follows the field XRF readings.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 89
Ft. McClellan, AL

Date Surveyed: 04 February 1994
Surveyors: LM,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020494120001	0.3	0.5	95	N/A	Calibration Check
7094020494125502	0.4	0.6	95	N/A	Calibration Check
7094020494125502	0.4	0.6	95	N/A	Calibration Check
7094020494125502	0.8	1.0	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Living Room)

89.1.1	**2.7**	0.3	23	Good	Creme Wood Baseboard
89.1.2	0.4	0.1	95	Good	Creme Plaster Wall
89.1.3	**5.7**	0.1	23	Good	White Wood Crown Molding
89.1.4	-0.1	-0.0	23	Good	White Plaster Ceiling
89.1.5	**3.0**	0.3	23	Good	Creme Wood Door Casing
89.1.6	**2.1**	0.4	23	Good	Creme Wood Door
89.1.7	**3.5**	0.5	23	Good	Creme Wood Door Jamb
89.1.8	-1.1	-0.1	23	Good	Creme Wood Window Sill
89.1.9	**3.1**	0.3	23	Good	Creme Wood Door
89.1.10	**2.1**	0.3	23	Good	Creme Wood Shelf
89.1.11	**4.3**	0.3	23	Good	Creme Wood Door Casing

Room 2 (Kitchen)

89.2.1	-0.0	-0.1	23	Good	Creme Wood Cabinet
89.2.2	0.2	-0.1	23	Good	Creme Plaster Wall
89.2.3	-0.4	-0.1	23	Good	Creme Wood Window Sill
89.2.4	**3.2**	0.2	23	Good	Creme Wood Door Casing

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 89
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 2 (Continued)			
89.2.5	0.2	-0.1	23	Good	Creme Wood Window Frame
89.2.5	0.2	-0.1	23	Good	Duplicate
7094020494143002	0.5	0.7	95	N/A	Calibration Check
89.2.6	**2.9**	0.2	23	Good	Creme Wood Door
		Room 3 (Bedroom)			
89.3.1	-1.1	-0.1	23	Good	Creme Wood Window Sill
89.3.2	-0.3	-0.1	23	Good	Creme Wood Window Frame
89.3.3	0.3	0.0	23	Good	Creme Plaster Wall
89.3.4	**4.5**	0.5	23	Good	Creme Wood Baseboard
		Room 4 (Bedroom)			
89.4.1	**6.7**	0.2	23	Good	White Wood Crown Molding
89.4.2	-0.2	-0.1	23	Good	White Plaster Ceiling
89.4.3	-0.9	-0.2	23	Good	Creme Wood Window Sill
89.4.4	0.3	-0.1	23	Good	Creme Wood Window Frame
89.4.5	-0.4	-0.3	23	Good	Creme Wood Baseboard
89.4.6	**3.3**	0.4	23	Good	Creme Wood Door
89.4.7	-0.4	0.1	23	Good	Creme Wood Shelf Support

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 89
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 5 (Bedroom)		
89.5.1	0.4	0.1	95	Good	Creme Plaster Wall
89.5.2	-0.1	-0.1	23	Good	Creme Wood Window Sill
89.5.3	**4.4**	0.5	23	Good	Creme Wood Baseboard
89.5.4	**2.2**	0.2	23	Good	Creme Wood Door
			Room 6 (Basement)		
89.6.1	-0.9	-0.3	23	Good	White Concrete Wall
89.6.2	-0.5	-0.2	23	Fair	Creme Wood Door Jamb
89.6.3	-1.1	-0.2	23	Good	Beige Concrete Wall
89.6.4	0.2	0.2	23	Good	Gray Wood Stair Rail
			EXTERIOR XRF READINGS		
89.1	-1.3	-0.3	23	Good	Creme Concrete Wall
89.2	-1.6	-0.2	23	Fair	Gray Concrete Step
89.3	0.0	-0.0	23	Poor	White Wood Window Apron
89.4	-0.1	-0.1	23	Good	Creme Wood Door
89.5	1.2	0.4	23	Good	Brown Wood Eave

			(Inconclusive-See Sample ID# 89.8)		
89.6	0.1	-0.0	23	Good	Brown Wood Screen Frame
89.7	-1.5	-0.3	23	Good	Creme Concrete Wall
7094020494133501	1.1	1.2	81	N/A	Calibration Check
89.8	0.5	0.3	81	Good	Brown Wood Eave
89.9	0.6	0.3	81	Good	Brown Wood Rafter

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Drennen Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 90

Type Quarters: Three Bedroom, One Story (approx. 2236 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim

Survey Summary:

1. Quarters No. 90 is a three bedroom, one bathroom unit with a full basement.

2. With the exception of the crown molding trim, no lead-based paint was detected in the interior of Quarters No. 90. No lead-based paint was detected on the exterior of Quarters No. 90.

3. A photograph of Quarters No. 90 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing

the specific locations in which positive readings occurred at Quarters No. 0 follows the field XRF readings.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 90
Ft. McClellan, AL

Date Surveyed: 04 February 1994
Surveyors: JS,KB

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020494151501	0.5	0.6	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Bedroom)

90.1.1	-0.3	0.0	20	Good	White Plaster Wall
90.1.2	0.8	0.1	382	Good	White Wood Baseboard
90.1.3	0.2	-0.1	20	Good	White Wood Window Sill
90.1.4	-1.1	-0.1	20	Good	White Wood Window Casing
90.1.5	-0.3	-0.1	20	Good	White Wood Window Sash
90.1.6	**1.1**	0.1	81	Good	White Wood Crown Molding
			(Inconclusive-See Sample ID#		
90.2.2)					
90.1.7	0.3	-0.1	20	Good	White Plaster Ceiling
90.1.8	0.7(1)	0.0	23	Good	White Wood Door
			(Inconclusive-Scrape Sample Taken)		
90.1.9	-1.2	-0.2	20	Good	Stained Wood Floor
90.1.10	0.5	0.1	81	Good	White Wood Door Jamb
90.1.11	0.6	0.1	81	Good	White Wood Door

(1) Lab Analysis: **negative** (Results = 0.45% Lead, Action Level 0.5% Lead)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 90
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 2	**(Bedroom)**		
90.2.1	0.6	0.1	95	Good	White Wood Shelf Support
90.2.2	**1.3**	0.1	326	Good	White Wood Crown Molding
90.2.3	0.1	0.0	95	Good	White Plaster Wall
90.2.4	0.3	0.1	95	Good	White Wood Door
90.2.5	0.4	0.1	95	Good	White Wood Door Casing
90.2.6	-0.4	-0.1	20	Good	White Wood Window Sill
90.2.7	-0.3	-0.1	20	Good	White Wood Window Sash
90.2.8	-0.7	-0.1	20	Good	White Wood Window Apron
90.2.9	1.1(2)	0.2	95	Good	White Wood Baseboard (Inconclusive-Scrape Sample Taken)
90.2.10	-0.1	-0.0	20	Good	White Plaster Ceiling
		Room 3	**(Bedroom)**		
90.3.1	0.3	0.1	81	Good	White Wood Shelf Support
90.3.2	0.1	-0.0	95	Good	White Plaster Wall
90.3.3	0.9	0.1	81	Good	White Wood Baseboard (Inconclusive-See Sample ID# 90.1.2)
90.3.4	-0.7	-0.2	23	Good	White Wood Window Sill
90.3.5	0.1	-0.1	23	Good	White Wood Window Frame

(2) Lab Analysis: **negative** (Results = 0.18% Lead, Action Level 0.5% Lead)

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is

total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings a per HUD guidelines.

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Field XRF Readings for Quarters 90
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 3 (Continued)		
90.3.6	0.1	-0.0	95	Good	White Plaster Ceiling
90.3.7	0.3	0.1	20	Good	White Wood Door
90.3.8	0.4	0.1	81	Good	White Wood Door Header
90.3.9	-0.6	-0.1	23	Good	Wood Floor Tile
90.3.9	-1.6	-0.1	23	Good	Duplicate
7094020494165501	0.3	0.5	95	N/A	Calibration Check
			Room 4 (Hallway and Bathroom)		
90.4.1	0.2	-0.2	23	Good	White Plaster Ceiling
90.4.2	0.3	0.1	81	Good	White Wood Door Jamb
90.4.3	0.0	-0.0	95	Good	White Plaster Wall
90.4.4	0.5	0.2	95	Good	White Wood Door Casing
90.4.5	0.5	0.1	95	Good	White Wood Door
90.4.6	0.1	0.1	81	Good	White Wood Shelf
90.4.7	0.3	0.0	95	Good	White Wood Attic Scuttle
90.4.8	0.2	-0.1	20	Good	Stained Wood Floor
			Room 5 (Basement)		
90.5.1	-2.1	-0.3	23	Good	White Concrete Wall
90.5.2	0.1	0.2	23	Good	Green Hole in Wall
90.5.3	**3.0**	1.7	23	Fair	Gray Stair Rail
90.5.4	**3.5**	1.4	23	Fair	Gray Stair Stringer

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 90
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Kitchen)					
90.6.1	0.3	-0.1	23	Good	White Metal Cabinet
90.6.2	0.0	-0.1	95	Good	White Wood Window Sill
90.6.3	0.1	-0.1	23	Good	White Wood Cabinet
90.6.4	-0.1	0.1	95	Good	White Plaster Wall
90.6.5	0.4	0.1	95	Good	White Wood Door Jamb
Room 7 (Living Room)					
90.7.1	-0.1	-0.1	20	Good	White Wood Window Sill
90.7.2	-0.5	-0.1	20	Good	White Wood Window Casing
90.7.3	-0.6	-0.1	20	Good	White Plaster Wall
90.7.4	-0.3	-0.1	20	Good	White Wood Baseboard
90.7.5	-1.0	-0.1	20	Good	Stained Wood Floor
90.7.6	-0.2	-0.0	20	Good	White Plaster Ceiling
90.7.7	-0.0	-0.1	20	Good	White Wood Attic Vent
90.7.8	0.3	0.1	20	Good	White Wood Door

90.7.9	0.3	0.1	20	Good	White Wood Door Casing
90.7.10	**5.2**	0.7	95	Good	White Wood Door
7094020494174501	0.3	0.6	95	N/A	Calibration Check
7094020494174501	1.1	1.2	81	N/A	Calibration Check
1.63	1.5	1.5	81	N/A	NIST Standard

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 90
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Exterior XRF Readings			
7094020494151501	0.5	0.6	95	N/A	Calibration Check
90.1	-1.7	-0.3	23	Poor	Creme Concrete Post
90.2	-0.1	-0.0	23	Poor	White Wood Window Apron
90.3	-0.1	-0.1	23	Good	Creme Wood Door Jamb
90.4	-0.3	-0.1	23	Good	Creme Wood Door
90.5	-0.1	0.8	23	Poor	Brown Metal Storm Door

90.6	-1.1	-0.3	23	Poor	Gray Porch Floor
90.7	0.2	-0.1	23	Poor	Brown Wood Screen Frame
90.8	-0.5	-0.3	23	Fair	Creme Concrete Window Ledge
90.9	-0.9	-0.3	23	Fair	Creme Concrete Screen Ledge
90.10	0.6	-0.0	95	Fair	Brown Wood Eave

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Drennen Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 103

Type Quarters: Three Bedroom, One Story (approx. 2236 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood Trim

Survey Summary:

1. Quarters No. 103 is a three bedroom, one bathroom unit with a full basement.

2. With the exception of the crown molding trim, the door jamb in Room No. 4 (see floorplan) and the stair railing in the basement, no lead-based paint was detected in the interior of Quarters No. 103. No lead-based paint was detected on the exterior of Quarters No. 103.

3. A photograph of Quarters No. 103 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred at Quarters No. 103 follows the field XRF readings.

Field XRF Readings for Quarters 103

Ft. McClellan, AL

Date Surveyed: 05 February 1994
Surveyors: BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020594071501	0.3	0.6	95	N/A	Calibration Check
7094020594071501	0.4	0.6	95	N/A	Calibration Check
7094020594071501	0.3	0.6	95	N/A	Calibration Check
7094020594071501	0.5	0.6	95	N/A	Calibration Check
7094020594071501	0.6	0.6	95	N/A	Calibration Check
0000	0.0	-0.1	95	N/A	Blank
1.02	1.0	1.1	95	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Living Room)

103.1.1	0.6	0.0	95	Good	Creme Wood Door
103.1.2	1.0	0.1	95	Good	Creme Door Casing
			(Inconclusive-See Scrape Sample ID#		
103.2.6)	103.1.3	0.4	0.1	95	Good Creme Wood
Baseboard					
103.1.4	0.5	0.1	95	Good	Creme Plaster Wall
103.1.5	0.5	0.0	95	Good	White Plaster Ceiling
103.1.6	**0.9**	0.1	95	Good	White Wood Crown Molding
			(Inconclusive-See Sample ID# 103.3.1)		
103.1.7	-0.4	-0.1	23	Good	Creme Wood Window Sill
103.1.8	-0.2	-0.1	23	Good	Creme Wood Window Casing
103.1.9	-0.3	-0.1	23	Good	Stained Wood Floor

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 103
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 2 (Bedroom)		
103.2.1	0.7	0.2	95	Good	Creme Wood Baseboard (Inconclusive-See Sample ID# 103.1.3)
103.2.2	0.6	0.1	95	Good	Creme Plaster Wall
103.2.3	-0.3	-0.1	23	Good	Creme Wood Window Frame
103.2.4	0.1	0.1	95	Good	Creme Wood Shelf Support
103.2.5	0.6	0.2	95	Good	Creme Wood Door Jamb
103.2.6	0.8(1)	0.1	95	Good	Creme Wood Door Casing (Inconclusive -Scrape Sample Taken)
103.2.7	**1.4**	0.1	95	Good	White Wood Crown Molding
			Room 3 (Bedroom)		
103.3.1	**1.6**	0.1	95	Good	White Wood Crown Molding
103.3.2	0.5	-0.0	95	Good	White Plaster Ceiling
103.3.3	0.3	0.0	95	Good	Creme Plaster Wall
103.3.4	0.7	0.1	95	Good	Creme Wood Baseboard (Inconclusive-See Sample ID# 103.1.3)
103.3.5	0.0	0.2	95	Good	Creme Wood Shelf

(1) Lab Analysis: **negative** (Result = 0.25% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 103
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 3 (Continued)		
103.3.6	0.0	-0.1	23	Good	Creme Wood Window Sash
103.3.6	0.2	-0.1	23	Good	Duplicate
7094050294092002	0.4	0.5	95	N/A	Calibration Check
103.3.7	0.3	0.0	95	Good	Creme Wood Door
103.3.8	0.3	0.1	23	Good	Creme Wood Door Header
			Room 4 (Bedroom)		
103.4.1	0.9(2)	0.2	95	Good	Creme Wood Baseboard
			(Inconclusive -		Scrape Sample Taken)
103.4.2	-0.1	-0.1	23	Good	Creme Wood Window Apron

103.4.3	0.3	0.0	95	Good	Creme Plaster Wall
103.4.4	0.2	-0.1	95	Good	White Plaster Ceilin
103.4.5	**5.5**	0.2	95	Good	Creme Wood Door Jamb

Room 5 (Rear Foyer)

103.5.1	-1.2	-0.3	23	Good	Black Concrete Step
103.5.2	-1.6	-0.3	23	Good	White Plaster Wall
103.5.3	-0.2	-0.1	23	Good	White Wood Door

(2) Lab Analysis: **negative** (Result = 0.11% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 103
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 6 (Kitchen/Dining Area)

103.6.1	0.3	-0.1	23	Good	White Metal Cabinet
103.6.2	-0.7	0.0	23	Good	White Sheetrock Ceiling
103.6.3	-0.5	-0.1	23	Good	White Sheetrock Wall
103.6.4	0.2	-0.1	23	Good	White Wood Window

					Casing
103.6.5	-0.3	-0.1	23	Good	White Wood Cabinet
103.6.6	-0.2	-0.1	23	Good	White Wood Vent Trim

Room 7 (Basement)

103.7.1	-0.8	-0.2	23	Good	White Concrete Wall
103.7.2	**3.1**	1.0	23	Good	Gray Wood Stair Rail
103.7.3	-0.1	-0.3	23	Good	Gray Concrete Floor
103.7.4	0.1	-0.2	23	Good	White Wood Wall Partition
103.7.5	0.6	0.9	95	Good	White Wood Door Casing

EXTERIOR XRF READINGS

103.1	-1.7	-0.3	23	Good	Creme Concrete Porch Apron
103.2	0.1	-0.2	23	Poor	Gray Concrete Floor
103.3	-1.2	-0.2	23	Good	Creme Concrete Porch Ceiling
103.4	-0.5	-0.1	23	Good	Brown Wood Screen Frame
103.5	-0.2	-0.1	23	Good	White Wood Window Apron
103.6	-0.8	-0.2	23	Good	Creme Concrete Wall

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 103
Ft. McClellan, AL

ID#	K-Shell	L-Shell	Time	Condition	Comments

	mg/cm^2	mg/cm^2	seconds		

EXTERIOR XRF READINGS (Continued)

103.7	0.0	-0.1	23	Good	White Wood Window Apron
103.8	0.2	-0.1	95	Good	Brown Wood Eave
7094050294103402	0.6	0.6	95	N/A	Calibration Check

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as

per HUD guidelines.

CESAD-EN-FL 11 October 1994

Drennen Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 105

Type Quarters: Three Bedroom, One Story (approx. 2236 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim

Survey Summary:

1. Quarters No. 105 is a three bedroom, one bathroom unit with a full basement.

2. In the interior of Quarters No. 105, positive levels of lead-based paint were detected on the crown molding trim, baseboards, attic scuttle, nd various door frame components (see floorplan). All walls, ceilings, and doors tested negative for LBP. No lead-based paint was detected on the exterior surfaces of Quarters No. 105.

3. A photograph of Quarters No. 105 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred at Quarters No. 105 follows the XRF field readings.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 105
Ft. McClellan, AL

Date Surveyed: 05 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094050294103402	0.7	0.6	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Living Room)

105.1.1	0.9(1)	0.5	95	Good	White Wood Door Casing (Inconclusive-Scrape Sample Taken)
105.1.2	0.4	0.0	95	Good	White Plaster Wall
105.1.3	1.1(2)	0.2	95	Good	White Wood Baseboard (Inconclusive - Scrape Sample Taken)
105.1.4	-1.1	-0.3	95	Good	White Plaster Ceiling

Jamb
(Inconclusive-See Sample ID# 105.5.2)

(1) Lab Analysis: negative (Result = 0.22% Lead, Action Level ≥ 0.5% Lead)

(2) Lab Analysis: negative (Result = 0.24% Lead, Action Level ≥ 0.5% Lead)

(3) Lab Analysis: negative (Result = 0.48% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 105
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen/Dining Room)					
105.2.1	-0.4	-0.1	23	Good	White Wood Heat Vent Trim
105.2.2	0.3	-0.0	95	Good	White Plaster Ceiling
105.2.3	0.1	0.1	23	Good	White Wood Shelf
105.2.4	-0.8	-0.1	23	Good	Stained Wood Floor
105.2.5	0.6	0.2	23	Good	White Wood Baseboard
		(See Result of Scrape Sample ID# 105.1.3)			
105.2.6	-0.2	-0.1	23	Good	White Wood Cabinet
105.2.7	0.2	-0.1	23	Good	White Metal Cabinet
105.2.8	-0.5	-0.2	23	Good	White Plaster Wall
105.2.9	-0.2	-0.1	95	Good	White Wood Window Sill

105.2.10	-0.5	-0.1	23	Good	White Wood Window Apron
105.2.11	1.1	0.2	23	Good	White Wood Door
		(Inconclusive - See Scrape Sample ID# 105.1.8)			
105.2.12	1.4	0.1	23	Good	White Wood Door Casing
		(Inconclusive -See Scrape ID# Sample 105.1.1)			
105.2.12	1.1	0.1	23	Good	Duplicate
7094020594114001	0.5	0.6	95	N/A	Calibration Check

Room 3 (Rear Foyer)

105.3.1	-0.6	-0.0	23	Good	White Wood Door
105.3.2	0.3	0.0	23	Good	White Wood Door Casing

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 105
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 3 (Continued)

105.3.3	-0.7	-0.2	23	Good	White Plaster Wall
105.3.4	-0.2	-0.2	23	Good	Black Concrete Step

105.3.5	-0.2	-0.2	23	Good	White Plaster Ceiling

Room 4 (Bedroom)

105.4.1	-1.1	-0.2	95	Good	White Plaster Ceiling
105.4.2	**1.5**	0.1	95	Good	White Wood Crown Molding
105.4.3	0.1	0.0	95	Good	White Plaster Wall
105.4.4	0.3	-0.1	23	Good	White Wood Window Sash
105.4.5	-0.4	-0.1	23	Good	White Wood Window Sill
105.4.6	**1.7**	0.5	23	Good	White Wood Baseboard
105.4.7	0.8	0.2	95	Good	White Wood Door Jamb

(Inconclusive-See Sample ID# 105.5.2)

Room 5 (Bedroom)

105.5.1	0.6	0.2	95	Good	White Wood Shelf Support
105.5.2	0.6	0.2	95	Good	White Wood Door Jamb
105.5.3	-0.7	-0.1	23	Good	White Wood Window Apron
105.5.4	**1.4**	0.2	95	Good	White Wood Crown Molding
105.5.5	0.5	0.1	95	Good	White Wood Door

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Bedroom)					
105.6.1	0.0	0.2	23	Good	White Wood Baseboard
105.6.2	**1.8**	0.5	23	Good	White Wood Door Casing
105.6.3	0.3	0.0	95	Good	White Plaster Wall
105.6.4	-0.2	-0.1	23	Good	White Wood Window Casing
Room 7 (Hall/Bath)					
105.7.1	0.1	-0.1	95	Good	White Plaster Ceiling
105.7.2	**1.5**	0.2	95	Good	White Wood Attic Scuttle
Room 8 (Basement)					
105.8.1	**4.6**	1.9	23	Good	Gray Step
105.8.1	**5.5**	2.5	23	Good	Duplicate
7094020594124001	0.3	0.6	95	N/A	Calibration Check
105.8.2	-1.7	-0.3	23	Good	White Concrete Wall
105.8.3	**1.0** (4)	1.0	95	Good	Green Wood Door Casing (Inconclusive-Scrape Sample Taken)
105.8.4	-0.6	-0.2	23	Good	White Wood Wall Partition
105.8.5	0.4	0.3	95	Good	Gray Wood Porch Hatch

(4) Lab Analysis: **positive** (Result = 6.34% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 105
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
				EXTERIOR	**XRF READINGS**
105.1	0.2	-0.1	23	Good	Brown Wood Screen Frame
105.2	-0.1	-0.0	23	Good	White Wood Window Apron
105.3	-1.5	-0.2	23	Good	White Concrete Porch Wall
105.4	-1.5	-0.2	23	Good	White Concrete Porch Ceiling
105.5	-0.9	-0.3	23	Good	Gray Concrete Porch Floor
105.6	-0.1	-0.1	95	Good	Brown Wood Eave
105.7	0.0	-0.0	23	Good	White Wood Window Apron
105.8	-1.2	-0.3	23	Good	White Concrete Wall
7094020594131501	0.4	0.6	95	N/A	Calibration Check
7094020594131501	0.6	0.6	95	N/A	Calibration Check
7094050294142502	0.4	0.6	95	N/A	Calibration Check
1.02	1.1	1.1	95	N/A	NIST Standard

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Drennen Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 106

Type Quarters: Three Bedroom, One Story (approx. 2236 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim

Survey Summary:

1. Quarters No. 106 is a three bedroom, one bathroom unit with a full basement.

2. In the interior of Quarters No. 106, positive levels of lead-based paint were detected on the crown molding trim, various baseboards (see floorplan), attic scuttle, and some door frame components (see floorplan). All walls, ceilings, and doors tested negative for LBP. No lead-based paint was detected on the exterior surfaces of Quarters No. 105.

3. A photograph of Quarters No. 106 appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred at Quarters No. 106 follows the field XRF readings.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 106
Ft. McClellan, AL

Date Surveyed: 07 February 1994
Surveyors: BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
70940207071501	0.5	0.6	95	N/A	Calibration Check
70940207071501	0.4	0.6	95	N/A	Calibration Check
70940207071501	0.6	0.6	95	N/A	Calibration Check
70940207071501	0.6	0.6	95	N/A	Calibration Check
70940207071501	0.4	0.6	95	N/A	Calibration Check
0000	-0.2	-0.1	95	N/A	Blank
1.02	0.8	1.1	95	N/A	NIST Standard

Room 1 (Living Room)

106.1.1	**6.7**	1.1	23	Good	White Wood Door Header
106.1.2	0.3	0.1	23	Good	Creme Wood Door Casing
106.1.3	0.8	0.1	95	Good	Creme Wood Door
			(Inconclusive-See Sample ID# 106.2.2)		
106.1.4	0.8	0.1	95	Good	Creme Wood Baseboard
			(Inconclusive-See Sample ID# 106.2.1)		
106.1.5	0.4	0.0	95	Good	Creme Plaster Wall
106.1.6	0.1	-0.1	23	Good	Creme Wood Window Sill
106.1.7	-0.3	-0.1	23	Good	Creme Wood Window Casing
106.1.8	-0.4	-0.0	23	Good	White Plaster Ceiling
106.1.9	**2.9**	0.1	95	Good	Creme Wood Crown Molding
106.1.10	0.4	-0.3	95	Good	Creme Wood Door Jamb

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 106
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 2 (Kitchen/Dining Area)

106.2.1	0.2	-0.1	95	Good	Creme Wood Baseboard
106.2.2	0.6	0.1	95	Good	Creme Wood Door
106.2.3	0.4	-0.3	95	Good	White Wood Shelf
106.2.4	-0.4	-0.2	23	Good	Stained Wood Floor
106.2.5	0.2	-0.1	23	Good	White Wood Heat Vent
106.2.6	0.3	-0.0	23	Good	Creme Sheetrock Ceiling
106.2.7	1.3	0.1	95	Good	Creme Wood Door Jamb
			(Inconclusive-See Sample ID# 106.1.10)		
106.2.8	-0.0	-0.2	23	Good	Creme Wood Cabinet
106.2.9	0.3	-0.1	23	Good	Cream Metal Cabinet
106.2.10	0.2	-0.1	23	Good	Creme Wood Window Sash
106.2.10	-0.0	-0.1	23	Good	Duplicate
7094070294085002	0.4	0.5	95	N/A	Calibration Check

Room 3 (Rear Foyer)

106.3.1	-0.8	-0.2	23	Good	White Wood Door
106.3.2	-0.6	-0.2	23	Good	White Wood Door Casing
106.3.3	-2.2	-0.2	23	Good	White Plaster Wall
106.3.4	-1.0	-0.2	23	Fair	Gray Concrete Step
106.3.5	-0.7	-0.2	23	Good	White Plaster Ceiling

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 106
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Bedroom)			
106.4.1	0.1	-0.1	23	Good	White Plaster Ceiling
106.4.2	**1.9**	0.1	95	Good	Creme Wood Crown Molding
106.4.3	-0.7	0.0	23	Good	Creme Plaster Wall
106.4.4	0.2	-0.1	23	Good	Creme Wood Window Apron
106.4.5	2.5	0.2	95	Good	Creme Wood Door Jamb
		Room 5 (Bedroom)			
106.5.1	**3.5**	0.4	95	Good	Creme Wood Baseboard
106.5.2	0.2	0.0	95	Good	White Wood Shelf Support
106.5.3	-0.4	-0.2	23	Good	Stained Wood Floor
106.5.4	-0.5	-0.1	23	Good	Creme Plaster Wall
106.5.5	**2.7**	0.1	95	Good	Creme Wood Door Casing
		Room 6 (Bedroom)			
106.6.1	-0.4	-0.1	23	Good	Creme Wood Window Sill
106.6.2	0.2	-0.0	23	Good	White Wood Shelf
106.6.3	1.3 (1)	0.2	95	Good	Creme Wood Door (Inconclusive-Scrape Sample Taken)
106.6.4	0.3	0.0	95	Good	Creme Plaster Wall
106.6.5	0.1	-0.2	23	Good	Stained Wood Floor

(1) Lab Analysis: **negative** (Result = 0.21% Lead, Action Level ≥ 0.5%

Lead)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 106
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 7 (Bathroom and Hallway)					
106.7.1	-0.0	-0.1	23	Good	White Plaster Ceiling
106.7.2	**1.6**	0.0	95	Good	White Wood Attic Scuttle
106.7.3	1.3	0.1	95	Good	Creme Wood Door (Inconclusive-See results for scrape Sample ID# 106.6.3)
Room 8 (Basement)					
106.8.1	0.3	0.3	95	Good	Green Wood Porch Hatch
106.8.2	-0.7	-0.2	23	Good	White Concrete Wall
106.8.2	-2.3	-0.3	23	Good	Duplicate
7094070294095202	0.5	0.6	95	N/A	Calibration Check
106.8.3	-0.6	0.2	23	Fair	Gray Wood Step
106.8.4	**1.7**	1.7	95	Good	Green Wood Door Casing

EXTERIOR XRF READINGS

106.1	-0.1	-0.2	23	Good	Creme Concrete Window Apron
106.2	-0.2	-0.2	23	Good	Brown Wood Screen Frame
106.3	-1.1	-0.3	23	Good	Gray Concrete Porch Floor
106.4	0.1	0.0	95	Good	White Wood Window Apron
106.5	-1.4	-0.2	23	Good	Creme Concrete Porch Wall

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 106
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
EXTERIOR XRF READINGS (Continued)					
106.6	-1.0	-0.2	23	Good	Creme Concrete Porch Ceiling
106.7	0.6	0.5	95	Good	Brown Wood Roof Rafter
106.8	-0.6	-0.2	23	Good	Creme Concrete Wall
106.9	-0.4	-0.0	23	Good	White Wood Window Apron
7094070294102002	0.5	0.5	95	N/A	Calibration Check

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Drennen Family Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 107

Type Quarters: Three Bedroom, One Story (approx. 2236 sq. ft.)
Date Constructed: 1930
Type Construction: Concrete with wood trim

Survey Summary:

1. Quarters No. 107 is a three bedroom, one bathroom unit with a full basement.

2. In the interior of Quarters No. 107, positive levels of lead-based paint were detected on the crown molding trim, baseboards, and various door frame components (see floorplan). All other interior surfaces tested negative for LBP. No lead-based was detected on the exterior surfaces.

3. A photograph of Quarters No. 25B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan showing the specific locations in which positive readings occurred at Quarters No. 107 follows the field XRF readings.

ate Surveyed: 07 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094070294102002	0.2	0.5	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Living Room)

107.1.1	0.5	-0.0	95	Good	White Plaster Ceiling
107.1.2	0.6	0.1	81	Good	White Plaster Wall
107.1.3	**1.7**	0.1	95	Good	White Wood Crown Molding
107.1.4	0.0	-0.1	20	Good	White Wood Window Casing
107.1.5	0.1	-0.1	20	Good	White Wood Window Sill
107.1.6	0.0	-0.1	20	Good	White Wood Window Sash
107.1.7	**1.4**	0.2	81	Good	White Wood Baseboard
107.1.8	0.5	0.1	95	Good	White Wood Door Casing
107.1.9	0.7	0.0	95	Good	White Wood Door
	(Inconclusive-See results for scrape Sample ID# 107.2.2)				
107.1.10	0.4	0.0	81	Good	White Wood Door Jamb

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 11 October 1994

Field XRF Readings for Quarters 107
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Dining Room/Kitchen)					
107.2.1	0.5	0.0	95	Good	White Wood Cabinet
107.2.2	0.3(1)	-0.1	81	Good	White Wood Door (Inconclusive -Scrape Sample Taken)
107.2.3	0.2	0.0	95	Good	White Wood Shelf
107.2.4	-0.0	-0.1	20	Good	White Wood Window Sill
107.2.5	-0.1	-0.1	20	Good	White Wood Window Casing
107.2.6	-0.1	-0.1	20	Good	White Wood Window Sash
107.2.7	**1.3**	0.1	81	Good	White Plaster Wall
107.2.8	-0.0	-0.1	95	Good	White Wood Baseboard
107.2.9	-1.2	-0.2	23	Good	Stained Wood Floor
107.2.10	1.1(2)	0.1	81	Good	White Wood Door (Inconclusive-Scrape Sample Taken)
107.2.11	1.0	0.0	95	Good	White Plaster Ceiling (Inconclusive-See Sample ID# 107.4.3)
107.2.12	1.2	0.1	81	Good	White Wood Door Casing (Inconclusive-See Sample ID# 107.1.4)
Room 3 (Basement)					
107.3.1	-0.3	-0.1	81	Good	White Wood Door
107.3.2	-0.8	-0.2	20	Good	White Concrete Wall
107.3.3	0.3	0.2	95	Good	Green Access Hatch

(1) Lab Analysis: **negative** (Result = 0.16% Lead, Action Level ≥ 0.5% Lead)

(2) Lab Analysis: **negative** (Result = 0.13% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 107
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 3 (Continued)		
107.3.4	0.3	0.3	20	Poor	Gray Step
107.3.5	-0.7	-0.1	20	Good	White Wood Wall
107.3.6	0.3	0.3	95	Good	Gray Stair Stringer
107.3.7	**0.8**	0.6	81	Good	White Wood Door Jamb
			(Inconclusive-See Sample ID# 104.4.4)		
			Room 4 (Rear Foyer)		
107.4.1	-1.0	-0.2	23	Good	White Plaster Wall
107.4.2	-2.0	-0.2	23	Fair	Gray Concrete Step
107.4.3	-2.1	-0.3	23	Good	White Plaster Ceiling
107.4.4	**5.0**	0.8	23	Good	White Wood Door Jamb
			Room 5 (Bedroom)		

107.5.1	0.6	0.1	81	Good	White Plaster Wall
107.5.2	0.8	0.1	81	Good	White Wood Baseboard
			(Inconclusive-See Sample ID# 107.1.7)		
107.5.3	-0.2	-0.1	23	Good	White Wood Window Sill
107.5.4	**1.6**	0.1	81	Good	White Wood Crown Molding
107.5.5	0.1	-0.0	23	Good	White Wood Window Frame
107.5.6	-0.3	-0.2	23	Good	White Wood Window Apron
107.5.7	-0.2	-0.0	95	Good	White Plaster Ceiling
107.5.8	0.4	0.0	81	Good	White Wood Door

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 107
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 6 (Bedroom)		
107.6.1	0.7	0.1	95	Good	White Plaster Wall
			(Inconclusive-See Sample ID# 107.5.1)		
107.6.2	-1.7	-0.1	20	Good	Stained Wood Floor
107.6.2	-1.2	-0.1	20	Good	Duplicate
7094020794114501	0.9	1.2	81	N/A	Calibration Check

107.6.3	0.3	-0.1	23	Good	White Wood Window Casing
107.6.3	-0.0	-0.1	23	Good	Duplicate
7094020794114501	0.3	0.6	95	Good	Calibration Check
107.6.4	0.5	0.0	81	Poor	White Wood Closet Shelf Support
107.6.5	0.7(3)	0.1	81	Good	White Wood Door Header (Inconclusive-Scrape Sample Taken)
107.6.6	**0.8**	0.1	95	Good	White Wood Baseboard (Inconclusive-See Sample ID# 107.1.7)
107.6.7	**1.7**	0.1	326	Good	White Wood Crown Molding
107.6.8	0.4	0.0	95	Good	White Plaster Ceiling

Room 7 (Bedroom)

107.7.1	0.2	-0.1	23	Good	White Wood Window Sash

(3) Lab Analysis: **negative** (Result = 0.12% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 107
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 7 (Continued)					
107.7.2	-0.2	-0.1	23	Good	White Wood Window Casing
107.7.3	0.6	0.1	95	Good	White Wood Shelf Support
107.7.4	**1.8**	0.1	81	Good	White Wood Crown Molding
107.7.5	**0.7**	0.0	81	Good	White Wood Baseboard
			(Inconclusive-See Sample ID# 107.1.7)		
107.7.6	0.8	0.1	95	Good	White Plaster Wall
			(Inconclusive-See Sample ID# 107.5.1)		
107.7.7	0.2	-0.1	95	Good	White Plaster Ceiling
107.7.8	0.4	0.0	81	Good	White Wood Door
Room 8 (Bathroom and Hallway)					
107.8.1	0.0	0.0	95	Good	White Wood Attic Scuttle
107.8.2	0.1	0.1	81	Good	White Plaster Wall
107.8.3	0.3	0.0	95	Good	White Wood Door
107.8.4	0.6	0.0	81	Good	White Wood Door Casing
7094020794123502	1.1	1.3	81	N/A	Calibration Check
EXTERIOR XRF READINGS					
107.1	-0.4	-0.1	23	Good	Brown Wood Screen Frame
107.2	0.2	-0.0	23	Good	White Wood Window Apron
107.3	-0.2	-0.3	23	Good	Gray Concrete Floor

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially

surface paint films. All positive results are based on K-shell readings as er HUD guidelines.

Field XRF Readings for Quarters 107
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
EXTERIOR XRF READINGS (Continued)					
107.4	-1.0	-0.2	23	Good	White Concrete Wall
107.5	-1.2	-0.2	23	Good	White Plaster Ceiling
107.6	0.6	0.1	95	Good	Brown Wood Eave
107.7	-0.8	-0.2	23	Good	White Concrete Wall
107.8	0.1	-0.0	23	Poor	White Wood Window Apron
107.9	0.2	0.8	95	Poor	Brown Basement Hatch
107.10	0.6	0.3	95	Good	Brown Wood Eave
7094020794123501	0.4	0.4	95	N/A	Calibration Check

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

LEAD BASED PAINT
SURVEY REPORT

BUILDING(S): 2235 AND 2236

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/421-5271 FAX 404/421-4977

23 September 1994

LEAD-BASED PAINT SURVEY
REPORT FOR QUARTERS NO. 2235 and 2236, W.A.C CIRCLE
FORT McCLELLAN, ALABAMA

Introduction

1. This is the Lead-Based Paint (LBP) field survey report for Quarters No. 2235 and 2236 on W.A.C. Circle located at Fort McClellan, Alabama. This report documents the LBP field results for these two quarters. A map, showing the location of the units that were surveyed for LBP, appears as Plate 1.

2. The LBP survey was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990) and EPA standard operating procedures (EPA document EPA600/8-91/214) for this instrument. The surveys were performed by certified surveyors using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (spectrum analyzer) XRF instrument.

3. The LBP survey results for the two houses tested appears in numerical order (by Unit No.) in the Appendix. A brief summary of the areas testing positive for LBP and a photograph of the buildings are provided. The actual field XRF readings follow the summary. The unit floorplans, showing the locations where positive XRF readings occurred, appear in the appendix.

4. Positive readings (detectable lead above the action level) with the XRF vary depending on the instrument mode selected. The "test" [1] mode is normally used for routine readings. Readings testing "positive"[2] according to the XRF instrument manufacturer in the test mode are those with a lead concentration greater than 1.3 milligrams per centimeter squared (mg/cm^2), whereas, "negative" refers to readings of 0.7 mg/cm^2 or less. According to the HUD guidelines, positive readings for this instrument are greater than 1.3 mg/cm^2. "Inconclusive" readings are those that fall between 0.7 mg/cm^2 and 1.3 mg/cm^2.

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[1] The XRF instrument "test" mode is a reading of approximately 60

seconds duration. Test of longer duration increases precision.

(2) **Inconclusive Range For XRF Spectrum Analyzer**

Instrument Mode	Range	Units
Screen	0.4 - 1.6	mg/cm^2
Test	0.7 - 1.3	mg/cm^2
Confirm	0.85 - 1.15	mg/cm^2

5. The "action level" defined in the HUD Interim Guidelines is a lead concentration above 1.0 mg/cm^2. Lead concentrations in this report are shown for both K-shell and L-shell in Table 1. The L-shell XRF reading is essentially for the top 1 or 2 surface paint layers, whereas, the K-shell is total lead applicable for multi-layered paint surfaces. HUD Guidelines specify that the K-Shell XRF reading be used for assigning positive determination.

6. In this report paint condition stated as "good" is defined as intact; "fair" as intact but worn (minor chips from wear and tear but no adhesion or substrate problems); "poor" as severely worn or no longer adhering or, substrate deterioration (e.g., peeling, flaking, cracking, etc.).

Discussion

7. The two W.A.C Circle houses that were surveyed are one story, rock and concrete structures reportedly built in 1936. The exteriors of both units have painted wood and metal trim and aluminum storm windows. The interiors have painted wood window and door trim and wood baseboards. The floors are wood and the walls and ceilings are all plaster and sheetrock (in some areas). The floorplans are identical. There are visual age differences in similar woodwork components that were tested. This could account for the inconsistent XRF measurements on the same type components in different locations. This is not unusal for an older structure where modifications and a random painting history are suspected. The older, original woodwork is more likely to contain lead-based paint.

8. Eighty-one (81) XRF measurements were made at Quarters No. 2235 and 2236. Thirty-two (32) of those readings were determined to be positive for lead-based paint. Eleven of twenty-two exterior readings were positive and twenty-one of fifty-nine interior were concluded to be positive for lead-based paint. The XRF results

are summarized in Table 1. It lists the number of similar surfaces and components tested in separate catagories. It also includes the number of positive readings as a percentage for each category.

Exterior Summary

9. Based on the percentages of positive LBP readings, it is reasonable to assume that all exterior paint (walls, door and window trim, doors, eaves etc.) on both units contains positive levels of lead. There are a few exceptions. The porch ceilings appeared to be newer and tested negative. Some areas of the trim tested negative but also appeared to have been replaced in recent years. It is reasonable to assume that the paint on the surfaces identical to those testing positive, also contain positive levels of LBP.

Interior Summary

10. All doors and door components in both units tested positive for LBP. The baseboards, shelves and shelf supports all tested positive. A significant number of plaster ceilings also tested positive so they all should be considered positive for LBP. The walls, windows and kitchen cabinets all tested negative.

Paint Condition

11. In both units, all interior paint is in good condition. However, some of the exterior paint on trim components was fair to poor.

Prepared By: _____

Larry Martin
Civil Engineering Tech.

Reviewed By: _____

Ray Willingham
Geologist

Table 1
Summary Listing Components Tested At Quarters No. 2235 and 2236

COMPONENT	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE
Exterior Components			
Porch Components	4	2	50
Doors	5	4	80
Door Components	3	3	100
Trim (e.g., soffits, rafters, cornerboards)	5	1	20
Walls	2	0	0
Screen Trim	2	1	50
Vent Frame	1	0	0
Interior Components			
Doors	5	4	80
Door Components	8	6	75
Window Sashes	2	0	0
Window Components	9	0	0
Plaster Ceilings	7	3	43
Sheetrock Ceilings	2	0	0
Plaster Walls	8	0	0
Sheetrock Walls	3	0	0
Wood Baseboards	7	5	71
Attic Scuttles	1	0	0
Shelves	3	1	33
Shelf Supports	2	2	100

Fan Frame	1	0	0
Kitchen Cabinets	1	0	0
TOTALS	81	32	40

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W.A.C. Circle Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 2235

Type Quarters: Two Bedroom (754 sq. ft.)
Date Constructed: 1936
Type Construction: Rock and Concrete

Survey Summary:

1. Quarters No. 2235 is a four room rock and concrete structure located in the W.A.C. Circle housing area.

2. Positive lead-based paint XRF readings were obtained on the porch trim and doors and door trim on the exterior of this unit. Positive XRF readings occurred on plaster ceilings, doors and door trim, baseboards, and shelf supports and shelves.

3. A photograph of Quarters No. 2235 appears below. The actual field XRF readings and a generalized floorplan showing the specific locations in which positive readings occurred, appear on the following pages.

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Field XRF Readings for Quarters 2235
Ft. McClellan, AL

Date Surveyed: 17 February 1994
Surveyors: BL, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094031794063501	0.4	0.6	106	N/A	Calibration Check
7094031794063501	0.4	0.6	106	N/A	Calibration Check
7094031794063501	0.4	0.6	106	N/A	Calibration Check
7094031794063501	0.4	0.6	106	N/A	Calibration Check
7094031794063501	0.4	0.6	106	N/A	Calibration Check
1.02	0.8	1.0	106	N/A	NIST Standard
		Room 1 (Kitchen)			
2235.1.1	**2.0**	0.1	26	Good	White Plaster Ceiling
2235.1.2	-1.8	-0.3	26	Good	White Plaster Wall
2235.1.3	-1.2	-0.3	26	Good	White Concrete Window Sill
2235.1.4	-0.3	-0.1	26	Good	Stained Wood Window Sash

2235.1.5	0.0	-0.1	26	Good	Stained Wood Window Casing
2235.1.6	0.1	-0.1	26	Good	Stained Wood Cabinet
2235.1.7	**4.6**	0.1	26	Good	White Wood Door Casing
2235.1.8	-0.0	-0.1	26	Good	White Wood Baseboard

Room 2 (Living/Dining Room)

2235.2.1	-0.1	-0.1	26	Good	White Plaster Wall
2235.2.2	0.8	0.1	106	Good	White Plaster Ceiling * (Inconclusive-See Sample 2235.1.1)
2235.2.3	**7.8**	0.4	26	Good	White Wood Baseboard
2235.2.4	**4.7**	0.3	26	Good	White Wood Door Casing
2235.2.5	**6.5**	0.4	26	Good	White Wood Door

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 2235 Cont.
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 3 (Hallway and Bathroom)

2235.3.1	0.2	-0.1	26	Good	White Sheetrock Ceiling
2235.3.2	0.1	-0.1	26	Good	White Sheetrock Wall
2235.3.3	-0.6	-0.1	26	Good	White Wood Fan Frame
2235.3.4	0.7	0.1	106	Good	White Plaster Ceiling

					(Inconclusive-See Sample 2235.1.1)
2235.3.5	**8.8**	0.4	26	Good	White Wood Baseboard
2235.3.5	**8.0**	0.4	26	Good	Duplicate
7094031794063501	0.4	0.6	106	N/A	Calibration Check
		Room 4 (Bedroom and ½ Bathroom)			
2235.4.1	0.9	0.1	106	Good	White Wood Shelf Support
			(Inconclusive-		See Sample 2235.5.1)
2235.4.2	0.1	-0.1	26	Good	White Wood Shelf
2235.4.3	0.3	0.1	26	Good	White Plaster Wall
2235.4.4	**6.8**	0.6	26	Good	White Wood Door Jamb
		Room 5 (Bedroom)			
2235.5.1	**1.7**	0.1	26	Good	White Wood Shelf Support
2235.5.2	0.6	0.0	106	Good	White Plaster Ceiling
2235.5.3	0.4	0.1	106	Good	White Plaster Wall
2235.5.4	-1.1	-0.3	26	Good	White Concrete Window Sill
7094031794093001	1.2	1.4	106	N/A	Calibration Check

Positive XRF Readings appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 2235 Cont.
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

EXTERIOR XRF READINGS

2235.1	-1.3	-0.1	26	Poor	White Concrete Wall
2235.2	**1.6**	0.4	106	Good	White Metal Post
2235.3	0.2	-0.1	26	Good	White Wood Ceiling
2235.4	**19.3**	1.9	26	Good	White Wood Door Casing
2235.5	**1.7**	0.3	26	Good	White Wood Door Jamb
2235.6	0.0	-0.0	26	Good	White Wood Soffitt
2235.7	0.0	-0.1	26	Good	White Wood Trim
2235.8	0.3	-0.0	26	Good	White Wood Screen Trim
2235.9	**1.8**	0.7	26	Good	White Metal Door
2235.10	**6.6**	1.2	26	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings a

per HUD guidelines.

CESAD-EN-FL 23 September 1994

W.A.C. Circle Housing Area, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 2236

Type Quarters: Two Bedroom (754 sq. ft.)
Date Constructed: 1936
Type Construction: Rock and Concrete

Survey Summary:

1. Quarters No. 2236 is a four room rock and concrete structure located in the W.A.C. Circle housing area.

2. Lead-based paint was detected on porch trim, doors and door components, and screen frames on the exterior of Quarters No. 2236. Positive XRF readings occurred on doors and door trim, baseboards, and shelf supports and shelves.

3. A photograph of Quarters No. 2235 appears below. The actual field XRF readings and a generalized floorplan showing the specific locations in which positive readings occurred, appear on the following pages.

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23 September 1994

Field XRF Readings for Quarters 2236
Ft. McClellan, AL

Date Surveyed: 17 February 1994
Surveyors: KB

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094031794063501	1.2	1.2	90	N/A	Calibration Check
7094031794063501	1.1	1.2	90	N/A	Calibration Check
7094031794063501	0.8	1.2	90	N/A	Calibration Check
7094031794063501	0.9	1.2	90	N/A	Calibration Check
7094031794063501	0.9	1.2	90	N/A	Calibration Check
1.63	1.0	1.4	90	N/A	NIST Standard
1.63	1.1	1.5	90	N/A	NIST Standard
Room 1 (Kitchen)					
2236.1.1	-0.0	0.1	22	Good	White Plaster Ceiling
2236.1.2	-1.5	-0.2	22	Good	White Concrete Window Sill
2236.1.3	0.5	-0.0	90	Good	White Plaster Wall
2236.1.4	**3.5**	0.2	22	Good	White Wood Door Casing
2236.1.5	0.3	-0.1	22	Good	White Wood Door
2236.1.6	-1.4	-0.1	22	Good	White Wood Baseboard
2236.1.7	-0.0	-0.1	22	Good	White Wood Door Jamb
Room 2 (Living/Dining Room)					

2236.2.1	**9.4**	0.5	22	Good	White Wood Baseboard
2236.2.2	**8.3**	0.5	22	Good	White Wood Door Casing
2236.2.3	0.2	-0.1	22	Good	White Wood Shelf
2236.2.4	**5.6**	0.4	22	Good	White Wood Door
2235.2.5	-0.0	-0.1	22	Good	White Wood Window Casing
2236.2.6	-0.8	-0.1	22	Good	White Wood Window Sill
2236.2.7	0.3	0.0	90	Good	White Plaster Ceiling
2236.2.8	0.2	-0.1	22	Good	White Sheetrock Wall

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 23 September 1994

Field XRF Readings for Quarters 2236 Cont.
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 3 (Bedroom)			
2236.3.1	**6.3**	0.7	22	Good	White Wood Door
2236.3.2	0.8	0.1	90	Good	White Plaster Wall
2236.3.3	**3.3**	0.3	22	Good	White Wood Shelf
2236.3.4	**5.6**	0.6	22	Good	White Wood Door Jamb
2236.3.5	**2.0**	0.7	22	Good	White Wood Baseboard
2236.3.6	-1.0	-0.1	22	Good	White Plaster Wall
		Room 4 (Bedroom)			
2236.4.1	0.5	0.1	90	Good	White Plaster Wall
2236.4.2	0.2	-0.0	90	Good	White Plaster Ceiling
2236.4.3	0.1	-0.1	22	Good	White Wood Window

					Sash
2236.4.4	-0.3	-0.2	22	Good	White Concrete Window Sill
2236.4.5	0.1	-0.1	22	Good	White Wood Window Casing
2236.4.6	**8.3**	0.5	22	Good	White Wood Door Casing

Room 5 (Hallway and Bathroom)

2236.5.1	-0.1	-0.1	22	Good	White Sheetrock Wall
2236.5.2	0.2	-0.1	22	Good	White Sheetrock Ceiling
2236.5.3	-0.4	-0.1	22	Good	White Wood Window Casing
2236.5.4	**9.6**	0.6	22	Good	White Wood Door
2236.5.5	-0.0	-0.1	22	Good	White Wood Attic Scuttle
2236.5.6	**10.4**	0.6	22	Good	White Wood Baseboard
2236.5.6	**11.5**	0.6	22	Good	Duplicate

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 2236 Cont.
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094031794093001	1.1	1.3	90	N/A	Calibration Check

EXTERIOR XRF READINGS

2236.1	-1.7	-0.0	22	Poor	Tan Concrete Wall
2236.2	**2.4**	0.5	22	Fair	Tan Metal Post

2236.3	0.0	-0.0	22	Fair	Tan Wood Ceiling
2236.4	**1.3**	0.5	90	Good	Tan Metal Door
2236.5	**2.1**	0.3	22	Fair	Tan Wood Screen Door
2236.6	**31.7**	2.3	22	Fair	Tan Wood Door Casing
2236.7	**1.7**	0.3	22	Poor	Tan Wood Eave
2236.8	-0.1	0.1	22	Good	Tan Wood Vent Frame
2236.9	**2.2**	0.4	22	Fair	Tan Wood Screen Trim
2236.10	-0.1	-0.0	22	Good	Tan Wood Soffitt
2236.11	0.0	-0.1	22	Good	Tan Wood Facia
2236.12	0.2	0.2	22	Good	Tan Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

LEAD BASED PAINT
SURVEY REPORT

BUILDING(S): 3310-3343

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/421-5271 FAX 404/421-4977

14 October 1994

LEAD-BASED PAINT SURVEY REPORT
AVERY FAMILY HOUSING GROUP
BUILDINGS 3310 - 3343
FT. McCLELLAN, ALABAMA

INTRODUCTION

1. This is the lead-based paint (LBP) field survey report for the Avery Family Housing Group (Buildings 3310 - 3343) located at Ft. McClellan, Alabama. Twenty five (25) units were selected by Ft. McClellan to be surveyed (see Plate 1). The units are grouped according to style and date of construction, and similarity of survey results. The the units tested in each group appear below.

Units tested in Group 1 (Buildings 3310 - 3331)

3311A	3313A	3314A	3314B	3316A	3316B	3317B
3319A	3319B	3322B	3324A	3325A	3327B	3328B
3330A	3331A					

Units tested in Group 2 (Buildings 3334 - 3343)

3334A	3336A	3337A	3337B	3339A	3340A	3341B
3343A	3343B					

2. A summary of the LBP survey for each group is provided in this report. The components tested appear in Tables 1 and 2. A summary for each unit appears in the Appendix. Included are the actual field XRF readings, a photograph of the unit, and a floorplan of the unit showing the locations of the XRF readings testing positive.

3. The LBP survey was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990) and EPA standard operating procedures (EPA document EPA600/8-91/214) for this instrument. The survey was performed by certified surveyors using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (spectrum analyzer) XRF instrument.

5. The "action level" defined in the HUD Interim Guidelines is a lead concentration above 1.0 mg/cm^2. Lead concentrations in this

report are shown for both K-shell and L-shell. The L-shell XRF reading is essentially for the top 1 or 2 surface paint layers, whereas, the K-shell is total lead applicable for multi-layered paint surfaces. HUD Guidelines specify that the K-Shell results be used for evaluating XRF readings.

6. Positive readings (detectable lead above the action level) with the XRF vary depending on the instrument mode selected. The "test"[1] mode is normally used for routine readings. Readings testing "positive"[2] according to the XRF instrument manufacturer in the test mode are those with a lead concentration greater than 1.3 milligrams per centimeter squared (mg/cm^2), whereas, "negative" refers to readings of 0.7 mg/cm^2 or less. According to the HUD guidelines, positive readings for this instrument are greater than 1.3 mg/cm^2. "Inconclusive" readings are those that fall between 0.7 mg/cm^2 and 1.3 mg/cm^2.

7. In this report paint condition stated as "good" is defined as intact; "fair" as intact but worn (minor chips from wear and tear but no adhesion or substrate problems); "poor" as severely worn or no longer adhering or, substrate deterioration (e.g., peeling, flaking, cracking, etc.).

DISCUSSION

8. The Avery Family Housing Group (Buildings 3310 -3343) consists of one story, two and three bedroom duplexes. All of the units are of similar construction using typical building materials. The buildings have been updated with vinyl siding and factory finished doors and gutters. Based on the survey results, Avery can be summarized in two groups. The groups are differentiated by floor-plan and dates of construction (Group 1 1959-60, Group 2 1958).

9. In Group 1, a total of seven hundred eighty six (786) XRF readings were made. One hundred fifty four (154) were positive for LBP (see Table 1). In Group 2, a total of four hundred twenty six (426) XRF readings were made. Seventy nine (79) were positive for LBP (see Table 2). The components testing positive for leaded paint are summarized below.

EXTERIOR SUMMARY

Group 1 (Buildings 3310 - 3331)

10. Based on the survey results, it is reasonable to assume that all painted wood components (e.g., door casings and jambs, window components, fences, etc.) contain positive levels of lead-based paint. Lead-based paint was also detected on painted wood exposed beneath the vinyl siding. The metal columns supporting the rear porch roofs should also be considered positive.

---

(1) The XRF instrument "test" mode is a reading of approximately 60 seconds duration. Test of longer duration increases precision.

(2) **Inconclusive Range For XRF Spectrum Analyzer**

Instrument Mode	Range	Units
Screen	0.4 - 1.6	mg/cm^2
Test	0.7 - 1.3	mg/cm^2
Confirm	0.85 - 1.15	mg/cm^2

EXTERIOR SUMMARY (continued)

Group 2 (Buildings 3334 - 3343)

11. Based on the survey results, it is reasonable to assume that all porch components (e.g., railing, trim, ceiling, columns, etc.) and wood fences contain positive levels of lead-based paint. At Unit 3343B, the green concrete slab also tested positive.

INTERIOR SUMMARY

Group 1 (Buildings 3310 - 3331)

12. On the interior of this group, shelves, shelf supports, window sashes and attic scuttle components should be considered positive for lead-based paint.

Group 2 (Buildings 3334 - 3343)

13. On the interior of this group, shelves, shelf supports, baseboards and curtain moldings should be considered positive for lead-based paint. In Unit 3340A, door components (e.g., casing, jamb, header, etc.) were found to be positive.

PAINT CONDITION

14. Overall, the paint on the interior and exterior of Groups 1

and 2 is in good condition.

Prepared By: _____
Keith Bates
Geologist

Reviewed By: _____
Ray Willingham
Geologist

encl

Plate 1
Avery Family Housing Group
Group 1 (Buildings 3310 - 3331) Group 2 (Buildings 3334 - 3343)
Buildings In Which Units Were Surveyed Appear In Black

Table 1
Component Summary
Avery Family Housing Group No. 1
Buildings 3310 - 3331

COMPONENT	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE
Exterior Components			
Porch Column	15	15	100

Window Components (e.g., casing, sill, etc.)	31	30	97
Door Components (e.g., jambs, casings, etc.)	20	19	95
Doors	2	0	0
Fences	6	3	50
Gutters/Exhaust Vent	2	0	0
Exposed Wood Beneath Vinyl Siding	1	1	100
Interior Components			
Doors	78	0	0
Door Components (e.g., jambs, casings, etc.)	91	0	0
Window Components (e.g., sill, casing, apron, etc.)	133	0	0
Window Sashes	42	41	98
Ceilings	89	0	0
Walls	70	0	0
Baseboards	63	0	0
Floors	39	0	0
Shelf Supports	41	30	73
Shelves	39	9	23
Cabinets	16	0	0
Attic Scuttles	7	6	86
HVAC Vent	1	0	0
TOTALS	786	154	20

Table 2
Component Summary
Avery Family Housing Group No. 2

Buildings 3334 - 3343

COMPONENT	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE
Exterior Components			
Porch Components (e.g., trim, railing, column, ceiling, etc.)	35	30	86
Window Components (e.g., casing, sill, etc.)	15	0	0
Fences	8	8	100
Concrete Slab (only at Unit 3343B)	1	1	100
Interior Components			
Doors	44	0	0
Door Components (e.g., jambs, casings, etc.)	48	3 *	see note
Window Components (e.g., sill, casing, apron, sash, etc.)	78	0	0
Ceilings	44	0	0
Walls	45	0	0
Baseboards	34	10	29
Floors	17	0	0
Shelf Supports	10	8	80
Shelves	22	15	68
Cabinets	9	0	0
Attic Scuttles	8	0	0
Curtain Molding	8	4	50
TOTALS	426	79	18

* All door components testing positive were found in Unit 3340A.

APPENDIX

Group 1

3311A
3313A
3314A
3314B
3316A
3316B
3317B
3319A
3319B
3322B
3324A
3325A

Group 2

3334A
3336A
3337A
3337B
3339A
3340A
3341B
3343A
3343B

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Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3311A

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3311A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. No positive levels of lead-based paint were detected on the interior of this unit (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that wood door components (e.g., jambs, casing, etc.) and wood window components (e.g., sash, casing, sill, etc.) on the exterior of this unit contain positive levels of lead-based paint (see floorplan).

4. A photograph of Unit 3311A appears below.

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Field XRF Readings for Quarters 3311A
Ft. McClellan, Alabama

Date Surveyed: 07 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020794133001	0.7	0.6	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3311A.1.1	-0.0	-0.1	23	Good	White Wood Baseboard
3311A.1.2	0.2	-0.1	95	Good	White Wood Door Casing
3311A.1.3	0.3	-0.1	95	Good	White Wood Door
3311A.1.4	0.3	0.2	95	Good	White Metal Door
3311A.1.5	0.2	-0.1	95	Good	White Wood Shelf Support
3311A.1.6	-0.9	-0.2	23	Good	White Plaster Wall
3311A.1.7	0.2	-0.1	23	Good	White Plaster Ceiling
3311A.1.8	-0.5	-0.1	23	Good	White Wood Door Jamb
3311A.1.9	0.2	-0.1	23	Good	Stained Wood Floor

Room 2 (Kitchen)

3311A.2.1	0.1	-0.1	23	Good	White Wood Cabinet
3311A.2.2	0.3	-0.1	95	Good	White Wood Window Casing
3311A.2.3	-0.2(1)	- 0.3	23	Good	White Wood Window Apron (Inconclusive-Scrape Sample Taken)
3311A.2.4	-0.1	-0.1	23	Good	White Plaster Wall
3311A.2.5	-0.0	-0.1	23	Good	White Plaster Ceiling

1) Lab analysis negative (Results = 0.13% Lead, Action Level ≥ 0.5%).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3311A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen) (continued)					
3311A.2.6	-0.1	-0.1	23	Good	White Wood Baseboard
3311A.2.7	0.3	-0.1	95	Good	White Wood Door Casing
3311A.2.8	0.3	0.2	95	Good	White Metal Door Casing
3311A.2.9	-0.1	-0.1	95	Good	White Wood Door Jamb
Room 3 (Dining/Living Room)					
3311A.3.1	-0.1	-0.1	23	Good	White Plaster Ceiling
3311A.3.2	0.9	-0.1	95	Good	White Wood Window Apron (Inconclusive-See Sample 3311A.2.3)
3311A.3.3	0.0	-0.1	23	Good	White Plaster Wall
3311A.3.4	0.2	-0.1	23	Good	White Wood Baseboard
3311A.3.5	-0.2	-0.3	23	Good	White Wood Window Frame
3311A.3.6	-1.0	-0.2	23	Good	Stained Wood Floor
3311A.3.6	-0.9	-0.3	23	Good	Duplicate
7094020794143501	0.4	0.6	95	N/A	Calibration Check
Room 4 (Bathroom and Hallway)					

3311A.4.1	0.1	-0.1	23	Good	White Plaster Wall
3311A.4.2	-0.1	-0.0	23	Good	White Plaster Ceiling
3311A.4.3	0.6	-0.1	95	Good	White Wood Window Sill
3311A.4.4	-0.3	-0.2	95	Good	White Wood Door Casing
3311A.4.5	-0.2	-0.1	23	Good	White Wood Shelf
3311A.4.6	-0.0	-0.1	23	Good	White Wood Baseboard
3311A.4.7	0.2	-0.1	95	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3311A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 5 (Bedroom)			
3311A.5.1	0.1	-0.1	95	Good	White Metal Door
3311A.5.2	0.2	-0.1	23	Good	White Plaster Ceiling
3311A.5.3	0.5	-0.1	95	Good	White Wood Window Casing
3311A.5.4	-0.9	-0.1	23	Good	White Wood Baseboard
3311A.5.5	0.2	-0.1	23	Good	White Plaster Ceiling
3311A.5.6	-0.1	-0.1	23	Good	White Wood Door
3311A.5.7	-1.6	-0.2	23	Good	Stained Wood Floor
3311A.5.8	0.0	-0.1	95	Good	White Wood Door Casing
		Room 6 (Bedroom)			

3311A.6.1	1.2	0.1	95	Good	White Wood Shelf Support (Inconclusive-See Sample 3311A.1.5)
3311A.6.2	0.0	-0.1	23	Good	White Plaster Wall
3311A.6.3	0.2	-0.1	95	Good	White Metal Door
3311A.6.4	1.2	-0.1	95	Good	White Wood Window Apron (Inconclusive-See Sample 3311A.2.3)
3311A.6.5	0.2	-0.1	23	Good	White Wood Baseboard
3311A.6.6	0.1	-0.0	23	Good	White Plaster Ceiling
3311A.6.7	-0.2	-0.1	23	Good	White Wood Door
3311A.6.7	0.2	-0.1	23	Good	Duplicate
7094020794152601	0.5	0.6	95	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3311A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
EXTERIOR XRF READINGS					
3311A.1	**5.7**	1.0	23	Good	White Wood Door Casing
3311A.2	**7.2**	0.9	23	Good	White Wood Window

3311A.3	0.3	0.3	95	Good	Casing White Metal Door
7094020794153701	0.4	0.6	95	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3313A

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3313A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint. A confirmatory lab analysis of a scrape sample from a wood shelf support also tested positive (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3313A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3313A
Ft. McClellan, Alabama

Date Surveyed: 07 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020794153701	0.4	0.6	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3313A.1.1	0.3	-0.1	23	Good	White Wood Baseboard
3313A.1.2	-0.2	-0.2	23	Good	White Sheetrock Wall
3313A.1.3	0.0	-0.1	23	Good	White Plaster Ceiling
3313A.1.4	0.1	-0.2	23	Good	White Wood Door Casing
3313A.1.5	0.1	-0.1	95	Good	White Wood Door Jamb
3313A.1.6	0.1	-0.1	95	Good	White Wood Door
3313A.1.7	-0.1	-0.1	23	Good	White Wood Shelf
3313A.1.8	-0.1	-0.1	20	Good	Stained Wood Floor
3313A.1.9	**1.0**(1)	0.1	95	Good	White Wood Shelf Support (Inconclusive-Scrape Sample Taken)

Room 2 (Kitchen)

3313A.2.1	0.1	-0.1	20	Good	White Wood Window Casing
3313A.2.2	0.5	-0.1	81	Good	White Wood Window Sill
3313A.2.3	**2.8**	0.7	20	Good	White Wood Window Sash
3313A.2.4	-0.0	-0.1	23	Good	White Sheetrock Ceiling

.1) Lab analysis positive (Results = 1.51% Lead, Action Level ≥ 0.5%).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3313A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen) (continued)					
3313A.2.5	-0.1	-0.1	20	Good	White Wood Cabinet
3313A.2.6	-0.0	-0.1	23	Good	White Sheetrock Wall
3313A.2.7	-0.3	-0.1	20	Good	White Wood Baseboard
3313A.2.8	-0.2	-0.1	23	Good	White Wood Door Header
3313A.2.9	0.5	-0.1	20	Good	White Wood Door Casing (Inconclusive-See Sample 3313A.1.4)
Room 3 (Living/Dining Room)					
3313A.3.1	-0.5	-0.1	20	Good	White Sheetrock Wall
3313A.3.2	0.6	-0.1	95	Good	White Wood Window Apron
3313A.3.3	0.8	-0.0	81	Good	White Wood Window Frame (Inconclusive)
3313A.3.4	-0.5	-0.1	23	Good	White Wood Baseboard
3313A.3.5	-0.0	-0.1	23	Good	White Plaster Ceiling
3313A.3.6	-1.2	-0.3	23	Good	Stained Wood Floor
3313A.3.7	**1.7**	0.5	20	Good	White Wood Window Sash
Room 4 (Hallway and Bathroom)					

3313A.4.1	0.1	-0.1	95	Good	White Wood Window Sill
3313A.4.2	-0.1	-0.1	20	Good	White Wood Shelf
3313A.4.3	**2.9**	0.1	20	Good	White Wood Shelf Support
3313A.4.4	0.1	-0.0	81	Good	White Wood Door Jamb
3313A.4.5	-0.3	-0.1	23	Good	White Sheetrock Ceiling

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3313A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (continued)			
3313A.4.6	0.2	-0.1	23	Good	White Wood Door
3313A.4.7	-0.4	-0.2	20	Good	White Sheetrock Wall
3313A.4.7	0.2	-0.1	20	Good	Duplicate
7094020794163001	1.0	1.2	81	Good	Calibration Check
3313A.4.8	0.0	-0.1	23	Good	White Wood Baseboard
3313A.4.8	0.2	-0.1	23	Good	Duplicate
7094070294163702	0.3	0.5	95	N/A	Calibration Check
		Room 5 (Bedroom)			

3313A.5.1	**1.3**	0.1	81	Good	White Wood Shelf Support
3313A.5.2	0.8	-0.1	382	Good	White Wood Window Casing
3313A.5.3	0.2	-0.1	20	Good	White Wood Shelf
3313A.5.4	-0.1	-0.1	20	Good	White Masonite Door
3313A.5.5	-0.4	-0.1	20	Good	White Sheetrock Wall
3313A.5.6	-0.5	-0.0	81	Good	White Wood Baseboard
3313A.5.7	**2.3**	0.5	20	Good	White Wood Window Sash
3313A.5.8	-0.1	-0.1	20	Good	White Plaster Ceiling
3313A.5.9	0.1	-0.1	20	Good	White Wood Door Header
3313A.5.10	-0.1	-0.1	20	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3313A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Bedroom)					
3313A.6.1	-0.3	-0.1	20	Good	White Sheetrock Wall
3313A.6.2	**2.6**	0.2	20	Good	White Wood Shelf Support

3313A.6.3	0.0	-0.1	23	Good	White Plaster Ceiling
3313A.6.4	-0.1	-0.0	20	Good	White Wood Shelf
3313A.6.5	0.1	-0.1	23	Good	White Wood Baseboard
3313A.6.6	1.1	-0.0	81	Good	White Wood Window Casing (Inconclusive-See Sample 3313A.5.2)
3313A.6.7	0.0	-0.1	23	Good	White Masonite Door
3313A.6.8	0.2	-0.1	37	Good	White Wood Door
3313A.6.9	0.5	-0.0	81	Good	White Wood Window Sill
3313A.6.10	0.3	-0.1	23	Good	White Wood Door Jamb
3313A.6.11	**2.8**	0.5	20	Good	White Wood Window Sash
3313A.6.12	-1.8	-0.1	20	Good	Stained Wood Floor

EXTERIOR XRF READINGS

3313A.1	**3.9**	0.7	23	Good	White Wood Door Casing
3313A.2	**4.3**	0.7	20	Good	White Wood Window Sill
3313A.3	**5.7**	0.6	23	Good	White Wood Window Casing
3313A.4	**6.6**	0.6	20	Good	White Metal Porch Support
3313A.5	0.4	-0.2	95	Good	White Wood Door Casing
7094070294170802	0.4	0.5	95	N/A	Calibration Check
1.02	1.1	1.1	95	N/A	NIST Standard

Positive XRF Readings (if any) appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3314A

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3314A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. Exposed wood siding beneath the vinyl siding tested positive for lead-based paint (see sample 3314A.7). The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3314A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3314A
Ft. McClellan, Alabama

Date Surveyed: 08 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020894071001	0.4	0.5	95	N/A	Calibration Check
7094020894071001	0.4	0.5	95	N/A	Calibration Check
7094020894071001	0.3	0.5	95	N/A	Calibration Check
7094020894071001	0.4	0.5	95	N/A	Calibration Check
7094020894071001	0.3	0.5	95	N/A	Calibration Check
0000	-0.1	-0.2	95	N/A	Blank
1.02	0.8	1.0	95	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Foyer)

3314A.1.1	0.3	-0.1	23	Good	White Wood Baseboard
3314A.1.2	-0.2	-0.1	23	Good	White Plaster Wall
3314A.1.3	-0.2	-0.1	23	Good	White Plaster Ceiling
3314A.1.4	0.1	-0.2	23	Good	White Wood Door Casing
3314A.1.5	**2.0**	0.1	23	Good	White Wood Shelf Support
3314A.1.6	-0.3	-0.1	23	Good	White Wood Shelf
3314A.1.7	0.1	-0.1	95	Good	White Wood Door
3314A.1.8	-0.1	-0.1	23	Good	White Wood Door Jamb
3314A.1.9	-1.1	-0.2	23	Good	Stained Wood Floor

Room 2 (Kitchen)

3314A.2.1	-0.2	-0.2	23	Good	White Wood Window Sill
3314A.2.2	**2.6**	0.4	23	Good	White Wood Window Sash

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3314A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen) (continued)					
3314A.2.3	0.1	-0.1	23	Good	White Wood Window Casing
3314A.2.4	0.4	-0.1	95	Good	White Wood Window Apron
3314A.2.5	-0.1	-0.1	23	Good	White Wood Cabinet
3314A.2.6	0.2	-0.2	23	Good	White Plaster Wall
3314A.2.7	-0.2	-0.1	23	Good	White Wood Door Header
3314A.2.8	-0.2	-0.2	23	Good	White Plaster Ceiling
3314A.2.8	-0.5	-0.2	23	Good	Duplicate
7094020894085501	0.6	0.5	95	N/A	Calibration Check
3314A.2.9	-0.1	-0.2	23	Good	White Wood Door Casing
3314A.2.10	0.2	-0.2	23	Good	White Wood Baseboard
Room 3 (Living/Dining Room)					
3314A.3.1	-0.4	-0.1	23	Good	White Wood Door
3314A.3.2	0.2	-0.1	23	Good	White Wood Window Sill
3314A.3.3	**2.6**	0.6	23	Good	White Wood Window Sash

3314A.3.4	0.3	-0.1	95	Good	White Wood Window Apron
3314A.3.5	0.4	-0.0	95	Good	White Wood Window Frame
3314A.3.6	0.3	-0.1	23	Good	White Plaster Ceiling
3314A.3.7	-0.4	-0.2	23	Good	White Plaster Wall
3314A.3.8	0.3	-0.1	23	Good	White Wood Baseboard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3314A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Bedroom)			
3314A.4.1	-0.8	-0.1	23	Good	Stained Wood Floor
3314A.4.2	0.2	-0.1	23	Good	White Wood Window Casing
3314A.4.3	0.6	-0.1	95	Good	White Wood Window Sill
3314A.4.4	**1.8**	0.5	23	Good	White Wood Window Sash
3314A.4.5	0.2	-0.1	23	Good	White Masonite Door
3314A.4.6	**1.7**	0.2	23	Good	White Wood Shelf Support
3314A.4.7	0.2	-0.1	23	Good	White Wood Shelf
		Room 5 (Bedroom)			
3314A.5.1	-0.1	-0.1	23	Good	White Plaster Wall

3314A.5.2	0.2	-0.0	23	Good	White Plaster Ceiling
3314A.5.3	-0.1	-0.1	95	Good	White Wood Baseboard
3314A.5.4	0.0	-0.1	23	Good	White Wood Door
3314A.5.5	0.1	-0.1	23	Good	White Wood Door Casing

Room 6 (Hallway and Bathroom)

3314A.6.1	0.2	-0.1	23	Good	White Wood Window Casing
3314A.6.2	0.1	-0.0	23	Good	White Plaster Ceiling
3314A.6.2	0.2	-0.1	23	Good	Duplicate

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3314A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Hallway and Bathroom) (continued)					
7094020894095001	0.4	0.5	95	N/A	Calibration Check
3314A.6.3	**3.1**	0.3	23	Good	White Wood Window Sash
3314A.6.4	0.0	-0.1	95	Good	White Wood Door Jamb

7094020894095701	0.4	0.5	95	N/A	Calibration Check

EXTERIOR XRF READINGS

3314A.1	**5.1**	0.3	95	Good	White Metal Porch Support
3314A.2	**2.4**	0.1	23	Good	White Wood Door Casing
3314A.3	**6.2**	0.4	23	Good	White Wood Window Casing
3314A.4	**1.9**	0.2	23	Good	White Wood Window Sill
3314A.5	-0.4	-0.2	23	Good	White Metal Gutter
3314A.6	0.3	-0.0	23	Good	White Metal Kitchen Exhaust
3314A.7	**3.7**	-0.0	95	Good	Wood Beneath Vinyl Siding

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3314B

Type Building: Two Bedroom Duplex
Date Constructed: 1959

Type Construction: Brick and Wood

Survey Summary

1. Unit 3314B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3314B appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3314B
Ft. McClellan, Alabama

Date Surveyed: 08 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020894095701	0.4	0.5	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Entry Hall)

3314B.1.1	-0.1	-0.1	23	Good	White Plaster Ceiling
3314B.1.2	-0.0	-0.1	23	Good	White Wood Door Casing
3314B.1.3	0.1	-0.1	95	Good	White Sheetrock Wall
3314B.1.4	0.2	-0.1	95	Good	White Wood Baseboard
3314B.1.5	**1.1**(1)	0.3	95	Good	White Wood Shelf Support
(Inconclusive Scrape Sample Taken)					-
3314B.1.6	-0.0	-0.1	23	Good	White Wood Shelf
3314B.1.7	0.1	-0.0	95	Good	White Wood Door Jamb

Room 2 (Kitchen)

3314B.2.1	0.1	-0.1	23	Good	White Sheetrock Ceiling
3314B.2.2	-0.3	-0.1	23	Good	White Wood Cabinet
3314B.2.3	0.1	-0.1	23	Good	White Wood Door
3314B.2.4	-0.1	-0.1	95	Good	White Wood Door Header
3314B.2.5	-0.2	-0.1	95	Good	White Wood Door Casing
3314B.2.6	**2.6**	0.8	23	Good	White Wood Window Sash
3314B.2.7	0.3	-0.1	95	Good	White Wood Sill
3314B.2.8	0.4	-0.1	95	Good	White Wood

Window Casing

(1) Lab analysis positive (Results = 1.29% Lead, Action Level ≥ 0.5%).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3314B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 3 (Living/Dining Room)		
3314B.3.1	0.7	-0.1	95	Good	White Wood Window Apron (Inconclusive - see sample 3314B.4.6)
3314B.3.2	**2.7**	0.9	23	Good	White Wood Window Sash
3314B.3.3	0.8	-0.1	95	Good	White Wood Window Casing (Inconclusive - see sample 3314B.4.5)
3314B.3.4	-0.1	-0.1	95	Good	White Wood Baseboard
3314B.3.5	0.1	-0.1	23	Good	White Sheetrock Wall
3314B.3.6	-0.1	-0.0	23	Good	White Plaster Ceiling
			Room 4 (Bedroom)		
3314B.4.1	-0.1	-0.1	23	Good	White Sheetrock Wall
3314B.4.1	0.1	-0.1	23	Good	Duplicate
7094080294110202	0.3	0.5	95	N/A	Calibration Check
3314B.4.2	0.0	-0.1	23	Good	White Masonite Door

3314B.4.3	**1.3**	0.2	95	Good	White Wood Shelf Support
3314B.4.4	0.0	-0.1	23	Good	White Wood Shelf
3314B.4.5	0.2	-0.1	23	Good	White Wood Window Casing
3314B.4.6	0.6	-0.0	95	Good	White Wood Window Apron
3314B.4.7	0.1	-0.1	23	Good	White Wood Door
3314B.4.8	0.3	0.0	23	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3314B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 5 (Bedroom)		
3314B.5.1	-0.5	-0.0	23	Good	White Wood Baseboard
3314B.5.2	**2.1**	0.6	23	Good	White Wood Window Sash
3314B.5.3	**1.1**	0.1	95	Good	White Wood Shelf Support (Inconclusive - see sample 3314B.1.5)
3314B.5.4	-0.2	-0.1	23	Good	White Sheetrock Wall
3314B.5.5	-0.2	-0.1	23	Good	White Plaster Ceiling
3314B.5.6	-0.2	0.0	23	Good	White Wood Baseboard

Room 6 (Hall/Bathroom)

3314B.6.1	0.4	-0.1	95	Good	White Wood Window Sill
3314B.6.2	0.1	-0.1	23	Good	White Plaster Ceiling
3314B.6.3	-2.0	-0.2	23	Good	Stained Wood Parquet Floor

EXTERIOR XRF READINGS

3314B.1	**2.3**	0.4	23	Good	White Wood Door Casing
3314B.2	**4.0**	0.5	23	Good	White Wood Window Apron
3314B.3	**2.9**	0.2	95	Fair	White Metal Porch Support
3314B.4	**4.4**	0.3	23	Good	White Wood Window Frame
7094070294114602	0.4	0.5	95	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3316A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3316A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint. The wood attic scuttle casing also tested positive (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3316A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3316A
Ft. McClellan, Alabama

Date Surveyed: 08 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020894125501	0.2	0.5	95	N/A	Calibration Check
7094020894125501	0.3	0.5	95	N/A	Calibration Check
7094020894125501	0.4	0.5	95	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Entry Hall)

3316A.1.1	-0.0	-0.1	95	Good	White Plaster Ceiling
3316A.1.2	0.3	-0.1	23	Good	White Wood Door
3316A.1.3	0.3	-0.1	23	Good	White Wood Door Casing
3316A.1.4	**1.9**	0.5	95	Good	White Wood Shelf Support
3316A.1.5	-0.1	-0.0	23	Good	White Wood Shelf
3316A.1.6	-0.1	-0.1	23	Good	White Wood Baseboard
3316A.1.7	0.3	-0.1	23	Good	White Masonite Door
3316A.1.8	-0.1	-0.1	23	Good	White Sheetrock Wall
3316A.1.9	0.3	-0.1	23	Good	White Wood Door Jamb

Room 2 (Kitchen)

3316A.2.1	-0.2	-0.1	23	Good	White Wood Cabinet
3316A.2.2	0.6	-0.1	95	Good	White Wood Window Sill
3316A.2.3	**2.6**	0.3	23	Good	White Wood Window Sash
3316A.2.4	0.8	-0.1	95	Good	White Wood Window Casing (Inconclusive - see sample 3316A.4.2)

3316A.2.5	0.0	-0.1	23	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3316A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen) (continued)					
3316A.2.6	0.5	-0.1	95	Good	White Wood Window Apron
3316A.2.7	-2.3	-0.3	23	Good	White Plaster Ceiling
3316A.2.8	-2.3	-0.3	23	Good	White Wood Door Header
Room 3 (Living/Dining Room)					
3316A.3.1	-0.3	-0.1	23	Good	White Sheetrock Wall
3316A.3.2	0.2	-0.1	23	Good	White Wood Baseboard
3316A.3.3	-2.3	-0.3	23	Good	White Wood Window Apron
3316A.3.4	0.2	-0.1	95	Good	White Wood Window Sill
3316A.3.5	**2.2**	0.0	23	Good	White Wood Window Sash
3316A.3.6	-1.7	-0.3	23	Good	Stained Wood Parquet Floor
3316A.3.7	0.1	-0.1	23	Good	White Plaster Ceiling
3316A.3.7	-0.1	-0.1	23	Good	Duplicate
7094020894135501	0.5	0.4	95	N/A	Calibration Check

Room 4 (Bedroom)

3316A.4.1	**1.4**	0.2	95	Good	White Wood Shelf Support
3316A.4.2	0.0	-0.1	95	Good	White Wood Window Casing
3316A.4.3	0.3	-0.0	95	Good	White Wood Window Apron

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3316A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 4 (Bedroom) (continued)					
3316A.4.4	-0.0	-0.1	23	Good	White Masonite Door
3316A.4.5	-2.3	-0.3	23	Good	White Plaster Ceiling
3316A.4.6	-0.4	-0.1	23	Good	White Wood Door Casing
Room 5 (Bedroom)					
3316A.5.1	0.3	-0.1	23	Good	White Sheetrock Wall
3316A.5.2	-1.9	-0.3	23	Good	Stained Wood Parquet Floor
3316A.5.3	0.1	-0.1	23	Good	White Wood Baseboard
3316A.5.4	0.2	-0.1	23	Good	White Wood Shelf
3316A.5.5	-0.1	-0.1	23	Good	White Wood Door Jamb

Room 6 (Bedroom)

3316A.6.1	**2.3**	0.3	23	Good	White Wood Window Sash
3316A.6.2	-0.0	-0.1	95	Good	White Wood Window Casing
3316A.6.3	-2.3	-0.3	23	Good	White Wood Window Apron
3316A.6.4	-2.3	-0.3	23	Good	White Plaster Ceiling
3316A.6.5	0.1	-0.2	23	Good	White Sheetrock Wall
3316A.6.6	0.1	-0.1	23	Good	White Wood Door

Room 7 (Hall/Bathroom)

3316A.7.1	-0.0	-0.1	23	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3316A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 7 (Hall/Bathroom) (continued)					
3316A.7.2	0.4	0.0	95	Good	White Wood Window Sill
3316A.7.3	-1.6	-0.1	23	Good	Stained Wood Parquet Floor
3316A.7.3	-0.5	-0.2	23	Good	Duplicate
7094020894144001	0.4	0.5	95	N/A	Calibration Check

3316A.7.4	0.0	-0.1	23	Good	White Wood Baseboard
3316A.7.5	**7.0**	-0.3	23	Good	White Wood Attic Schuttle Casing
3316A.7.6	-2.3	-0.3	23	Good	White Plaster Ceiling

EXTERIOR XRF READINGS

3316A.1	**5.3**	1.1	23	Good	White Wood Door Casing
3316A.2	**8.9**	-0.3	23	Good	White Wood Window Casing
3316A.3	**4.1**	0.4	95	Good	White Metal Porch Support
3316A.4	-2.3	-0.3	23	Good	White Wood Window Casing
7094020894145501	0.6	0.6	95	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3316B

Type Building: Three Bedroom Duplex
Date Constructed: 1959

Type Construction: Brick and Wood

Survey Summary

1. Unit 3316B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint. The wood attic scuttle casing also tested positive (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, fence, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3316B appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3316B
Ft. McClellan, Alabama

Date Surveyed: 08 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094080294154502	1.2	1.3	81	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Entry Hall)

3316B.1.1	0.2	-0.1	20	Good	White Plaster Ceiling
3316B.1.2	0.3	0.0	20	Good	White Wood Baseboard
3316B.1.3	-0.8	-0.1	20	Good	White Sheetrock Wall
3316B.1.4	-0.1	-0.1	20	Good	White Wood Door Casing
3316B.1.5	**2.2**	0.4	20	Good	White Wood Shelf Support
3316B.1.6	0.1	-0.1	20	Good	White Wood Shelf
3316B.1.7	0.2	-0.1	81	Good	White Masonite Door
3316B.1.8	-0.2	-0.0	81	Good	White Wood Door Jamb

Room 2 (Kitchen)

3316B.2.1	-0.2	-0.1	20	Good	White Wood Cabinet
3316B.2.2	0.6	-0.0	81	Good	White Wood Window Sill
3316B.2.3	**2.6**	0.3	20	Good	White Wood Window Sash
3316B.2.4	0.5	-0.0	81	Good	White Wood Window Apron
3316B.2.5	0.5	-0.0	81	Good	White Wood Window Casing
3316B.2.6	0.2	-0.1	20	Good	White Plaster Ceiling
3316B.2.7	0.2	-0.0	20	Good	White Wood Door Header

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3316B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Living/Dining Room)					
3316B.3.1	-0.1	-0.1	20	Good	White Sheetrock Wall
3316B.3.2	-0.2	0.0	81	Good	White Wood Baseboard
3316B.3.3	0.5	-0.0	81	Good	White Wood Window Casing
3316B.3.4	-1.1	-0.1	20	Good	Stained Wood Floor
3316B.3.5	-0.0	-0.1	20	Good	White Plaster Ceiling
3316B.3.5	0.1	-0.1	20	Good	Duplicate
7094080294163002	1.1	1.2	81	N/A	Calibration Check
Room 4 (Bedroom)					
3316B.4.1	-0.1	-0.0	20	Good	White Sheetrock Wall
3316B.4.2	**1.9**	0.5	20	Good	White Wood Shelf Support
3316B.4.3	0.1	0.0	20	Good	White Wood Shelf
3316B.4.4	0.3	-0.1	20	Good	White Masonite Door
3316B.4.5	**2.9**	0.8	20	Good	White Wood Window Sash
3316B.4.6	0.3	-0.0	81	Good	White Wood Window Sill
3316B.4.7	0.2	-0.0	20	Good	White Wood Door
3316B.4.8	0.4	0.0	81	Good	White Wood Door Jamb
Room 5 (Bedroom)					

3316B.5.1	0.1	-0.1	20	Good	White Plaster Ceiling
3316B.5.2	-0.1	-0.0	20	Good	White Wood Baseboard
3316B.5.3	-0.4	-0.1	20	Good	White Sheetrock Wall
3316B.5.4	0.8	-0.0	81	Good	White Wood Window Apron (Inconclusive-See Sample 3316B.2.4)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3316B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 5 (continued)					
3316B.5.5	0.2	-0.1	81	Good	White Wood Window Casing
3316B.5.6	-0.5	-0.1	81	Good	White Wood Door Casing
Room 6 (Bedroom and ½ Bathroom)					
3316B.6.1	0.6	-0.0	81	Good	White Wood Window Apron
3316B.6.2	-0.1	-0.1	20	Good	White Plaster Ceiling
3316B.6.3	0.4	-0.0	81	Good	White Wood Door
3316B.6.4	-0.6	-0.1	20	Good	Stained Wood Floor
3316B.6.4	-1.0	-0.2	20	Good	Duplicate
7094080294171602	1.1	1.3	81	N/A	Calibration Check

Room 7 (Hallway and Bathroom)

3316B.7.1	-0.2	-0.1	20	Poor	White Metal Heat Vent
3316B.7.2	**1.6**	0.1	81	Good	White Wood Attic Scuttle
3316B.7.3	-0.1	-0.0	81	Good	White Wood Door Jamb

EXTERIOR XRF READINGS

3316B.1	**9.3**	1.7	20	Good	White Wood Door Casing
3316B.2	**4.2**	0.4	20	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3316B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

EXTERIOR XRF READINGS (continued)

3316B.3	**6.9**	0.6	81	Good	White Metal Porch Support
3316B.4	**3.3**	0.4	20	Good	White Wood Fence
3316B.5	**4.8**	0.8	20	Good	White Wood Window Casing

7094080294173702	1.2	1.3	81	N/A	Calibration Check
1.63	1.5	1.6	81	N/A	NIST Standard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3317B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3317B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3317B appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3317B
Ft. McClellan, Alabama

Date Surveyed: 09 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020994071001	1.2	1.4	81	N/A	Calibration Check
7094020994071001	1.3	1.4	81	N/A	Calibration Check
7094020994071001	1.3	1.4	81	N/A	Calibration Check
7094020994071001	1.4	1.4	81	N/A	Calibration Check
7094020994071001	1.2	1.4	81	N/A	Calibration Check
0000	0.0	-0.1	81	N/A	Blank
1.63	1.5	1.6	81	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Entry)

3317B.1.1	-0.2	-0.1	20	Good	White Plaster Ceiling
3317B.1.2	0.2	-0.0	20	Good	White Plaster Wall
3317B.1.3	-0.1	-0.1	20	Good	White Wood Baseboard
3317B.1.4	0.2	-0.1	20	Good	White Wood Door Casing
3317B.1.5	-0.1	-0.1	20	Good	White Wood Door Jamb
3317B.1.6	**2.4**	0.2	20	Good	White Wood Shelf Support
3317B.1.7	0.1	0.0	20	Good	White Wood Shelf
3317B.1.8	-0.1	-0.0	20	Good	White Wood Door
3317B.1.9	-1.2	-0.1	20	Good	Stained Wood Floor

Room 2 (Kitchen)

3317B.2.1	-0.5	-0.1	20	Good	White Wood Cabinet
3317B.2.2	0.4	-0.1	81	Good	White Wood Window Sill
3317B.2.3	0.5	-0.1	81	Good	White Wood Window Apron
3317B.2.4	0.3	-0.1	81	Good	White Wood Window

Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3317B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 2 (continued)			
3317B.2.4	0.3	-0.1	81	Good	Duplicate
7094020994082501	1.2	1.4	81	N/A	Calibration Check
3317B.2.5	**2.5**	0.5	20	Good	White Wood Window Sash
3317B.2.6	0.3	-0.1	20	Good	White Plaster Ceiling
3317B.2.7	-0.0	-0.1	20	Good	White Wood Door Header
		Room 3 (Dining/Living Room)			
3317B.3.1	-0.2	-0.1	20	Good	White Plaster Ceiling
3317B.3.2	-0.3	-0.0	20	Good	White Wood Baseboard
3317B.3.3	-0.2	-0.0	20	Good	White Plaster Ceiling
3317B.3.4	-0.4	-0.0	20	Good	Stained Wood Floor
3317B.3.5	0.6	-0.1	81	Good	White Wood Window Apron
3317B.3.6	1.0	-0.0	81	Good	White Wood Window Casing (Inconclusive-See Sample 3317B.2.4)
3317B.3.7	0.3	-0.1	20	Good	White Wood Door
3317B.3.8	-0.3	-0.0	20	Good	White Wood Window Casing

Room 4 (Bedroom)

3317B.4.1	0.1	-0.1	81	Good	White Masonite Door
3317B.4.2	1.2	0.2	81	Good	White Wood Shelf Support (Inconclusive-See Sample 3317B.1.6)
3317B.4.3	-0.1	-0.1	20	Good	White Wood Shelf

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3317B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 4 (continued)					
3317B.4.4	0.7	0.0	81	Good	White Wood Window Casing (Inconclusive - See Sample 3317B.2.4)
3317B.4.5	**2.0**	0.7	20	Good	White Wood Window Sash
3317B.4.6	0.0	-0.1	20	Good	White Plaster Wall
3317B.4.7	-0.4	-0.1	20	Good	White Wood Door Jamb
Room 5 (Bedroom)					
3317B.5.1	**2.4**	0.4	20	Good	White Wood Shelf Support
3317B.5.2	0.4	-0.0	81	Good	White Wood Window Casing

3317B.5.3	0.0	-0.0	81	Good	White Wood Window Sill
3317B.5.4	-0.0	-0.1	20	Good	White Plaster Wall
3317B.5.4	-0.3	-0.1	20	Good	Duplicate
7094020994091001	0.9	1.2	81	N/A	Calibration Check
3317B.5.5	-0.1	-0.1	20	Good	White Plaster Ceiling
3317B.5.6	0.0	-0.0	20	Good	White Wood Baseboard
3317B.5.7	0.2	0.0	81	Good	White Wood Door Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3317B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Rooom 6 (Hallway and Bathroom)					
3317B.6.1	-0.0	-0.0	81	Good	White Wood Window Casing
3317B.6.2	-0.2	-0.1	20	Good	White Plaster Ceiling
3317B.6.3	0.2	-0.1	20	Good	White Wood Door
3317B.6.4	-0.4	-0.1	20	Good	White Wood Door Jamb

7094020994093001	1.2	1.3	81	N/A	Calibration Check

EXTERIOR XRF READINGS

3317B.1	**5.6**	0.5	20	Good	White Wood Door Casing
3317B.2	**5.4**	0.6	20	Good	White Window Casing
3317B.3	**4.3**	0.4	81	Good	White Metal Porch Support
3317B.4	**3.0**	0.5	20	Good	White Wood Window Apron
3317B.5	0.3	-0.1	20	Good	White Wood Door Casing
3317B.6	**4.0**	0.5	20	Good	White Wood Window Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3319A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3319A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3319A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3319A
Ft. McClellan, Alabama

Date Surveyed: 09 February 1994
Surveyors: BS,JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020994093001	1.2	1.3	81	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3319A.1.1	0.3	-0.0	20	Good	White Plaster Ceiling
3319A.1.2	0.0	-0.1	20	Good	White Sheetrock Wall
3319A.1.3	0.3	-0.0	20	Good	White Wood Baseboard
3319A.1.4	-0.0	-0.1	20	Good	Stained Wood Floor
3319A.1.5	0.2	-0.1	20	Good	White Wood Door Casing
3319A.1.6	0.2	-0.0	81	Good	White Wood Door Jamb
3319A.1.7	0.2	-0.1	20	Good	White Masonite Door
3319A.1.8	**3.2**	0.9	20	Good	White Wood Shelf Support
3319A.1.9	0.1	-0.1	20	Good	White Wood Shelf
3319A.1.10	0.1	-0.1	20	Good	White Wood Door

Room 2 (Kitchen)

3319A.2.1	-0.3	-0.1	20	Good	White Sheetrock Ceiling
3319A.2.2	-0.4	-0.1	20	Good	White Wood Cabinet
3319A.2.3	-0.0	-0.0	20	Good	White Sheetrock Wall
3319A.2.4	**1.9**	0.7	20	Good	White Wood Window Sash
3319A.2.4	**2.5**	0.7	20	Good	Duplicate
7094090294100602	1.1	1.2	81	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3319A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (continued)					
3319A.2.5	0.7	-0.0	81	Good	White Wood Window Casing (Inconclusive-See Sample 3319A.3.2
3319A.2.6	0.4	-0.0	81	Good	White Wood Window Sill
3319A.2.7	0.3	-0.0	81	Good	White Wood Window Apron
3319A.2.8	-0.2	-0.1	20	Good	White Wood Door Header
Room 3 (Living/Dining)					
3319A.3.1	-0.1	-0.1	20	Good	White Sheetrock Wall
3319A.3.2	0.2	-0.0	81	Good	White Wood Window Casing
3319A.3.3	-0.1	0.0	20	Good	White Wood Baseboard
3319A.3.4	0.4	0.0	81	Good	White Wood Window Apron
3319A.3.5	0.2	-0.0	20	Good	White Wood Door
3319A.3.6	0.0	-0.0	20	Good	White Wood Door Casing
Room 4 (Bedroom)					

3319A.4.1	**3.4**	0.5	20	Good	White Wood Shelf Support
3319A.4.2	-0.4	-0.1	20	Good	White Wood Shelf
3319A.4.3	-0.1	-0.1	20	Good	White Plaster Ceiling
3319A.4.4	-1.7	-0.1	20	Good	Stained Wood Floor
3319A.4.5	0.2	-0.1	81	Good	White Wood Window Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3319A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 4 (continued)					
3319A.4.6	**2.8**	0.6	20	Good	White Wood Window Sash
3319A.4.7	0.0	-0.1	20	Good	White Sheetrock Ceiling
3319A.4.8	0.1	-0.0	20	Good	White Wood Door Jamb
3319A.4.9	-0.1	-0.1	20	Good	White Wood Baseboard
3319A.4.10	0.3	-0.1	20	Good	White Sheetrock Wall
3319A.4.11	0.3	-0.1	20	Good	White Wood Door
Room 5 (Bedroom)					
3319A.5.1	0.2	-0.1	20	Good	White Masonite Door
3319A.5.1	0.0	-0.1	20	Good	Duplicate
7094090294104702	1.1	1.3	81	N/A	Calibration Check

3319A.5.2	0.4	-0.1	81	Good	White Wood Window Sill
3319A.5.3	0.5	-0.0	81	Good	White Wood Window Apron
3319A.5.4	-1.6	-0.1	20	Good	Stained Wood Floor
3319A.5.5	0.0	-0.1	20	Good	White Sheetrock Wall
3319A.5.6	-0.1	-0.1	81	Good	White Wood Door Casing

Room 6 (Bedroom)

3319A.6.1	**2.2**	0.6	20	Good	White Wood Shelf Support
3319A.6.2	0.4	-0.0	20	Good	White Wood Shelf
3319A.6.3	**2.7**	0.6	20	Good	White Wood Window Sash

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3319A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (continued)					
3319A.6.4	0.2	-0.0	81	Good	White Wood Window Sill
3319A.6.5	-0.1	-0.1	20	Good	White Plaster Ceiling
3319A.6.6	-0.4	-0.1	20	Good	Stained Wood Floor
3319A.6.7	-0.2	-0.1	20	Good	White Sheetrock Wall
3319A.6.8	0.2	-0.0	81	Good	White Masonite Door

Room 7 (Hallway and Bathroom)

3319A.7.1	0.3	-0.0	20	Good	White Wood Door
3319A.7.2	0.0	-0.0	20	Good	White Wood Baseboard
3319A.7.4	0.3	-0.1	20	Good	White Sheetrock Ceiling
3319A.7.5	0.2	-0.1	20	Good	White Wood Attic Scuttle
7094090294112302	1.0	1.2	81	N/A	Calibration Check

EXTERIOR XRF READINGS

3319A.1	**5.9**	1.0	20	Good	White Wood Door Casing
3319A.2	**4.3**	0.4	20	Good	White Wood Window Sill
3319A.3	**13.0**	0.7	20	Good	White Metal Porch Support
3319A.4	-0.8	0.0	20	Good	White Wood Fence
3319A.5	**6.1**	0.6	20	Good	White Wood Window Casing
3319A.6	-0.1	-0.2	20	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3319B

Type Building: Three Bedroom Duplex
Date Constructed: 1959

Type Construction: Brick and Wood

Survey Summary

1. Unit 3319B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint. The wood attic scuttle also tested positive (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3319B appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3319B
Ft. McClellan, Alabama

Date Surveyed: 09 February 1994
Surveyors: JS, BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094090294124502	1.3	1.4	81	N/A	Calibration Check
7094090294124502	1.2	1.4	81	N/A	Calibration Check
7094090294124502	1.2	1.3	81	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3319B.1.1	0.2	-0.1	20	Good	Stained Wood Floor
3319B.1.2	-0.1	-0.1	20	Good	White Plaster Ceiling
3319B.1.3	0.2	-0.1	20	Good	White Masonite Door
3319B.1.4	**1.7**	0.5	20	Good	White Wood Shelf Support
3319B.1.5	0.1	-0.1	20	Good	White Wood Shelf
3319B.1.6	-0.1	-0.1	20	Good	White Wood Door
3319B.1.7	-0.5	-0.1	20	Good	White Wood Door Casing
3319B.1.8	0.1	-0.1	20	Good	White Wood Door Jamb
3319B.1.9	-0.1	-0.0	81	Good	White Wood Baseboard
3319B.1.10	-0.2	-0.1	20	Good	White Plaster Wall
3319B.1.10	-0.2	-0.1	20	Good	Duplicate
7094020994134101	1.3	1.3	81	Good	Calibration Check

Room 2 (Kitchen)

3319B.2.1	**2.8**	0.6	20	Good	White Wood Window Sash
3319B.2.2	0.2	-0.1	81	Good	White Wood Window Sill
3319B.2.3	0.3	-0.1	81	Good	White Wood Window Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3319B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 2 (continued)		
3319B.2.4	0.5	-0.0	81	Good	White Wood Window Apron
3319B.2.5	-0.7	-0.1	20	Good	White Wood Cabinet
3319B.2.6	-0.5	-0.1	20	Good	White Wood Baseboard
3319B.2.7	-0.1	-0.1	20	Good	White Wood Door Header
3319B.2.8	0.1	-0.1	20	Good	White Plaster Wall
3319B.2.9	0.3	-0.1	20	Good	White Plaster Ceiling
			Room 3 (Dining/Living Room)		
3319B.3.1	0.1	-0.1	20	Good	White Wood Door
3319B.3.2	-0.1	-0.1	20	Good	White Wood Door Casing
3319B.3.3	0.2	-0.0	81	Good	White Wood Window Apron
3319B.3.4	0.4	-0.0	81	Good	White Wood Window Casing
3319B.3.5	0.1	-0.1	20	Good	White Plaster Ceiling
3319B.3.6	0.1	0.0	20	Good	White Wood Baseboard
3319B.3.7	-0.7	-0.1	20	Good	Stained Wood Floor
3319B.3.8	0.2	-0.1	20	Good	White Plaster Wall
			Room 4 (Bedroom and ½ Bath)		

3319B.4.1	0.0	-0.0	20	Good	White Plaster Ceiling
3319B.4.2	-0.3	-0.1	20	Good	White Wood Door Jamb
3319B.4.3	**1.7**	0.3	20	Good	White Wood Shelf Support
3319B.4.4	0.0	-0.1	20	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3319B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (continued)			
3319B.4.5	0.4	-0.0	81	Good	White Wood Window Sill
3319B.4.6	**2.5**	0.6	20	Good	White Wood Window Sash
3319B.4.7	0.1	-0.1	20	Good	White Plaster Ceiling
		Room 5 (Bedroom)			
3319B.5.1	-0.0	-0.1	20	Good	White Plaster Wall
3319B.5.1	-0.1	-0.1	20	Good	Duplicate
7094020994142001	1.0	1.2	81	Good	Calibration Check
3319B.5.2	0.6	-0.0	81	Good	White Wood Window Casing

3319B.5.3	0.1	-0.1	81	Good	White Wood Window Apron
3319B.5.4	0.3	-0.1	20	Good	White Wood Shelf
3319B.5.5	-0.0	-0.1	20	Good	White Masonite Door
3319B.5.6	-0.1	-0.1	20	Good	White Wood Baseboard

Room 6 (Bedroom)

3319B.6.1	0.1	-0.0	81	Good	White Wood Window Sill
3319B.6.2	**3.4**	0.9	20	Good	White Wood Window Sash
3319B.6.3	-0.4	-0.1	20	Good	White Wood Door Casing
3319B.6.4	0.2	-0.1	20	Good	White Wood Door
3319B.6.5	0.2	-0.0	81	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3319B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 7 (Hallway and Bathroom)

3319B.7.1	**1.7**	0.3	20	Good	White Wood Attic Scuttle
3319B.7.2	-0.2	-0.1	20	Good	White Plaster Ceiling
3319B.7.3	-0.4	-0.0	20	Good	White Wood Baseboard
3319B.7.4	-0.6	-0.1	20	Good	White Plaster Wall

7094020994145501	1.2	1.3	20	N/A	Calibration Check

EXTERIOR XRF READINGS

3319B.1	**9.4**	0.7	20	Good	White Metal Porch Support
3319B.2	-0.1	-0.1	20	Good	White Wood Door Casing
3319B.3	**7.8**	0.5	20	Good	White Wood Door Casing
3319B.4	**6.1**	0.6	20	Good	White Wood Window Casing
3319B.5	**4.5**	0.3	20	Good	White Wood Window Sill
3319B.6	**4.5**	0.3	20	Good	White Wood Window Apron

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3322B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3322B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3322B appears below.

CESAD-EN-FL

14 October 1994

Field XRF Readings for Quarters 3322B
Ft. McClellan, Alabama

Date Surveyed: 09 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094020994145501	1.2	1.3	20	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3322B.1.1	0.3	-0.1	20	Good	White Plaster Ceiling
3322B.1.2	-0.6	-0.1	20	Good	White Wood Baseboard
3322B.1.3	0.2	-0.0	20	Good	White Wood Door
3322B.1.4	-1.1	-0.1	20	Good	White Wood Door Casing
3322B.1.5	-0.2	-0.1	20	Good	Stained Wood Floor
3322B.1.6	**1.8**	0.1	81	Good	White Wood Shelf Support
3322B.1.7	0.3	-0.1	81	Good	White Wood Shelf

Room 2 (Kitchen)

3322B.2.1	0.2	-0.1	20	Good	White Sheetrock Ceiling
3322B.2.2	0.0	-0.1	20	Good	White Wood Cabinet
3322B.2.3	**2.2**	0.3	20	Good	White Wood Window Sash
3322B.2.4	-0.2	-0.1	81	Good	White Wood Window Casing
3322B.2.5	-0.0	-0.1	20	Good	White Sheetrock Wall
3322B.2.6	-0.8	-0.1	20	Good	White Wood Door Header
3322B.2.7	0.0	-0.1	20	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3322B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Living/Dining Room)					
3322B.3.1	-0.5	-0.1	20	Good	White Wood Baseboard
3322B.3.2	0.1	-0.1	81	Good	White Wood Window Sill
3322B.3.3	0.3	-0.1	81	Good	White Wood Window Apron
3322B.3.4	0.1	-0.1	20	Good	White Plaster Ceiling
3322B.3.5	-0.4	-0.1	20	Good	White Sheetrock Wall
Room 4 (Bedroom)					
3322B.4.1	0.2	-0.1	81	Good	White Wood Window Casing
3322B.4.2	**2.0**	0.6	81	Good	White Wood Window Sash
3322B.4.3	**3.1**	0.2	20	Good	White Wood Shelf Support
3322B.4.4	0.1	-0.0	20	Good	White Wood Shelf
3322B.4.5	0.0	0.1	20	Good	White Masonite Door
3322B.4.6	0.3	-0.1	20	Good	White Wood Door Jamb
Room 5 (Bedroom)					
3322B.5.1	0.4	-0.1	81	Good	White Wood Window Sill

3322B.5.2	0.5	-0.1	81	Good	White Wood Window Apron
3322B.5.3	0.0	-0.1	20	Good	White Plaster Ceiling
3322B.5.4	-0.2	-0.1	20	Good	White Sheetrock Wall
3322B.5.5	0.3	-0.0	20	Good	White Wood Door
3322B.5.6	-0.1	-0.1	20	Good	White Wood Door Casing
3322B.5.7	-0.3	-0.1	20	Good	White Wood Baseboard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3322B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094090294163502	1.2	1.3	81	N/A	Calibration Check
1.63	1.2	1.5	81	Good	NIST Standard

EXTERIOR XRF READINGS

3322B.1	**3.9**	0.5	20	Good	White Wood Window Casing
3322B.2	**1.8**	0.5	20	Good	White Wood Door Casing
3322B.3	**3.8**	0.4	20	Good	White Wood Window Apron
3322B.4	**5.6**	0.5	20	Good	White Metal Porch Column
3322B.5	**1.7**	0.2	20	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3324A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3324A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Based on the XRF results, wood shelves, wood shelf supports and wood window sashes on the interior of this unit should be

considered positive for lead-based paint. The wood attic scuttle also tested positive (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3324A appears below.

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Field XRF Readings for Quarters 3324A
Ft. McClellan, Alabama

Date Surveyed: 10 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021094071501	1.1	1.3	83	N/A	Calibration Check
7094021094071501	1.4	1.3	83	N/A	Calibration Check
7094021094071501	1.2	1.3	83	N/A	Calibration Check
7094021094071501	1.2	1.3	83	N/A	Calibration Check
7094021094071501	1.2	1.3	83	N/A	Calibration Check
0000	-0.0	-0.1	83	N/A	Blank
1.63	1.5	1.6	83	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Foyer)

3324A.1.1	0.1	-0.1	20	Good	White Plaster Ceiling
3324A.1.2	0.3	-0.0	83	Good	White Wood Baseboard
3324A.1.3	-0.3	-0.1	20	Good	Stained Wood Floor
3324A.1.4	-0.1	-0.2	20	Good	White Wood Door Casing
3324A.1.5	0.0	-0.1	20	Good	White Sheetrock Wall
3324A.1.6	**2.7**	0.6	20	Good	White Wood Shelf Support
3324A.1.7	0.3	0.0	83	Good	White Wood Shelf
3324A.1.8	0.4	-0.0	83	Good	White Wood Door Jamb
3324A.1.9	0.1	-0.1	20	Good	White Wood Door
3324A.1.10	0.3	-0.1	20	Good	White Masonite Door

Room 2 (Kitchen)

3324A.2.1	0.2	-0.1	20	Good	White Sheetrock Ceiling
3324A.2.2	0.1	-0.1	20	Good	White Wood Cabinet
3324A.2.3	**2.3**	0.3	20	Good	White Wood Window Sash

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3324A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 2 (continued)		
3324A.2.4	0.9	0.0	83	Good	White Wood Window Casing (Inconclusive-See Sample 3324A.3.2)
3324A.2.5	0.4	-0.1	83	Good	White Wood Window Sill
3324A.2.6	0.7	-0.1	83	Good	White Wood Window Apron (Inconclusive-See Sample 3324A.3.3)
3324A.2.7	0.1	-0.1	20	Good	White Wood Door Jamb
			Room 3 (Living/Dining Room)		
3324A.3.1	0.2	-0.1	83	Good	White Wood Door
3324A.3.2	0.2	-0.1	83	Good	White Wood Window Casing
3324A.3.3	0.3	-0.1	83	Good	White Wood Window Apron
3324A.3.4	-0.0	-0.1	20	Good	White Wood Baseboard
3324A.3.4	-0.3	-0.1	20	Good	Duplicate
7094100294085702	1.0	1.3	83	N/A	Calibration Check
3324A.3.5	0.3	-0.1	20	Good	White Plaster Ceiling
3324A.3.6	-0.1	-0.1	20	Good	White Sheetrock Wall

Room 4 (Bedroom and ½ Bathroom)

3324A.4.1	**1.6**	0.1	83	Good	White Wood Shelf Support
3324A.4.2	0.4	0.0	83	Good	White Wood Shelf
3324A.4.3	0.0	-0.1	20	Good	White Sheetrock Wall
3324A.4.4	-0.8	-0.1	20	Good	Stained Wood Floor

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3324A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 4 (continued)					
3324A.4.5	**2.0**	0.4	20	Good	White Wood Window Sash
3324A.4.6	0.0	-0.1	20	Good	White Sheetrock Ceiling
3324A.4.7	-0.1	-0.1	20	Good	White Wood Door
3324A.4.8	-0.1	-0.1	20	Good	White Wood Door Casing
Room 5 (Bedroom)					
3324A.5.1	0.1	-0.1	83	Good	White Wood Window Sill
3324A.5.2	0.6	-0.0	83	Good	White Wood Window Apron
3324A.5.3	0.3	-0.1	20	Good	White Masonite Door

3324A.5.4	0.2	-0.1	20	Good	White Wood Baseboard
3324A.5.5	0.2	-0.1	20	Good	White Plaster Ceiling
3324A.5.6	0.2	-0.1	20	Good	White Wood Door Jamb

Room 6 (Bedroom)

3324A.6.1	0.5	-0.1	83	Good	White Wood Window Casing
3324A.6.2	**2.4**	0.2	20	Good	White Wood Window Sash
3324A.6.3	**2.0**	0.2	20	Good	White Wood Shelf Support
3324A.6.4	0.7	0.2	83	Good	White Wood Shelf (Inconclusive- See Sample 3324A.4.2)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3324A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 7 (Hallway and Bathroom)					
3324A.7.1	**7.8**	1.4	83	Good	White Wood Shelf
3324A.7.2	0.7	0.1	83	Good	White Wood Shelf (Inconclusive- See Sample 3324A.7.1)
3324A.7.2	0.7	0.1	83	Good	Duplicate

7094100294094802	1.2	1.2	83	N/A	Calibration Check
3324A.7.3	-0.1	-0.1	20	Good	White Sheetrock Ceiling
3324A.7.4	**1.5**	0.0	83	Good	White Wood Attic Scuttle
		EXTERIOR XRF READINGS			
3324A.1	**4.8**	0.6	20	Good	White Wood Door Casing
3324A.2	**6.2**	1.0	20	Good	White Wood Window Sill
3324A.3	**6.7**	0.4	20	Good	White Metal Porch Column
3324A.4	**5.0**	0.6	20	Good	White Wood Window Casing
7094100294100002	1.1	1.3	83	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3325A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3325A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint. The wood attic scuttle also tested positive (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3325A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3325A
Ft. McClellan, Alabama

Date Surveyed: 10 February 1994
Surveyors: JS, BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094100294100002	1.1	1.3	83	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3325A.1.1	-0.2	-0.1	20	Good	White Plaster Wall
3325A.1.2	-0.3	-0.1	20	Good	White Wood Door
3325A.1.3	**3.2**	0.7	20	Good	White Wood Shelf Support
3325A.1.4	0.1	-0.1	20	Good	White Wood Shelf
3325A.1.5	-0.1	-0.1	20	Good	White Wood Door Casing
3325A.1.6	0.0	-0.0	20	Good	White Wood Baseboard
3325A.1.7	-0.3	-0.1	20	Good	Stained Wood Floor
3325A.1.8	0.2	-0.1	83	Good	White Masonite Door
3325A.1.9	0.3	-0.1	20	Good	White Plaster Ceiling
3325A.1.10	-0.2	-0.1	20	Good	White Wood Door Jamb

Room 2 (Kitchen)

3325A.2.1	0.3	-0.1	20	Good	White Wood Cabinet
3325A.2.2	0.3	-0.1	20	Good	White Plaster Ceiling
3325A.2.3	0.1	-0.1	83	Good	White Wood Window Sill
3325A.2.4	-0.0	-0.1	83	Good	White Wood Window Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3325A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 2 (continued)		
3325A.2.5	0.2	-0.1	20	Good	White Wood Window Apron
3325A.2.6	**2.5**	0.4	20	Good	White Wood Window Sash
3325A.2.7	-0.2	-0.1	20	Good	White Wood Baseboard
3325A.2.8	-0.1	-0.1	20	Good	White Wood Door Casing
			Room 3 (Dining/Living Room)		
3325A.3.1	-0.0	-0.1	83	Good	White Plaster Wall
3325A.3.2	0.4	-0.1	83	Good	White Wood Window Casing
3325A.3.3	-0.0	-0.1	20	Good	White Plaster Ceiling
3325A.3.4	0.8	-0.0	83	Good	White Wood Window Apron (Inconclusive-See Sample 3325A.2.5)
3325A.3.5	-1.5	-0.1	20	Good	Stained Wood Floor
3325A.3.5	-0.7	-0.1	20	Good	Duplicate
7094021094104701	1.0	1.3	83	Good	Calibration Check
			Room 4 (Bedroom)		
3325A.4.1	0.3	-0.1	20	Good	White Masonite Door

3325A.4.2	**3.5**	0.3	20	Fair	White Wood Shelf Support
3325A.4.3	0.4	-0.0	83	Good	White Wood Window Sill
3325A.4.4	0.6	-0.1	83	Good	White Wood Window Apron

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3325A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (continued)			
3325A.4.5	0.0	-0.1	20	Good	White Wood Door Casing
3325A.4.6	0.1	-0.1	20	Good	White Wood Door
3325A.4.7	-0.2	-0.0	20	Good	White Wood Door Jamb
		Room 5 (Bedroom)			
3325A.5.1	-0.2	-0.1	20	Good	White Wood Shelf
3325A.5.2	**2.9**	0.4	20	Good	White Wood Window Sash
3325A.5.3	1.0	-0.1	83	Good	White Wood Window Casing (Inconclusive-See Sample 3325A.2.4)
3325A.5.4	-0.2	-0.1	20	Good	White Plaster Wall

3325A.5.5	0.2	-0.1	20	Good	White Wood Ceiling

Room 6 (Bedroom and ½ Bathroom)

3325A.6.1	0.9[1]	-0.1	83	Good	White Wood Window Casing (Inconclusive-Scrape Sample Taken)
3325A.6.2	0.1	-0.1	20	Good	White Plaster Ceiling
3325A.6.3	0.3	-0.1	20	Good	White Wood Baseboard
3325A.6.4	-0.2	-0.1	20	Good	White Wood Door Casing

(1) Lab Analysis: negative (Results = 0.16% Lead, Action Level ≥ 0.5%)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3325A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 7 (Hallway and Bathroom)					
3325A.7.1	0.1	-0.1	20	Good	White Plaster Wall
3325A.7.2	**2.1**	0.1	83	Good	White Wood Attic Scuttle

EXTERIOR XRF READINGS

3325A.1	**5.5**	0.8	20	Poor	White Wood Door Casing
3325A.2	**2.1**	0.1	20	Fair	White Wood Window Apron
3325A.3	**5.7**	0.6	20	Fair	White Wood Window Casing
3325A.4	0.1	-0.0	20	Poor	White Wood Fence
3325A.5	**7.0**	0.6	20	Good	White Metal Porch Support
3325A.6	**3.6**	0.4	20	Good	White Wood Window Sill
7094021094114001	1.3	1.3	83	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3327B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3327B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelves, wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint. (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, fence, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3327B appears below.

CESAD-EN-FL

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Field XRF Readings for Quarters 3327B
Ft. McClellan, Alabama

Date Surveyed: 10 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021094124501	1.1	1.3	83	N/A	Calibration Check
7094021094124501	1.4	1.4	83	N/A	Calibration Check
7094021094124501	1.3	1.3	83	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3327B.1.1	0.0	-0.1	20	Good	White Plaster Ceiling
3327B.1.2	0.2	-0.2	20	Good	White Wood Door Casing
3327B.1.3	0.5	-0.1	83	Good	White Wood Shelf Support
3327B.1.4	**3.3**	1.1	20	Good	White Wood Shelf
3327B.1.5	0.2	-0.0	20	Good	White Wood Door
3327B.1.6	0.1	0.0	20	Good	White Wood Door Jamb
3327B.1.7	0.3	-0.1	20	Good	White Sheetrock Wall
3327B.1.8	-0.3	-0.1	20	Good	Stained Wood Floor

Room 2 (Kitchen)

3327B.2.1	-0.5	-0.1	20	Good	White Sheetrock Ceiling
3327B.2.2	-0.6	-0.1	20	Good	White Wood Cabinet
3327B.2.3	0.4	-0.0	83	Good	White Wood Window Sill
3327B.2.4	0.9	-0.0	83	Good	White Wood Window Apron (Inconclusive-See Sample 3327B.3.2)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3327B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 2 (continued)			
3327B.2.5	-0.1	-0.1	83	Good	White Wood Window Casing
3327B.2.6	**1.8**	0.5	20	Good	White Wood Window Sash
3327B.2.7	-0.5	-0.1	20	Good	White Wood Door Header
		Room 3 (Living/Dining Room)			
3327B.3.1	-0.3	-0.1	20	Good	White Sheetrock Wall
3327B.3.1	0.1	-0.1	20	Good	Duplicate
7094100294142002	1.1	1.2	83	Good	Calibration Check
3327B.3.2	0.4	-0.0	83	Good	White Wood Window Apron
3327B.3.3	0.2	-0.1	20	Good	White Wood Door
3327B.3.4	-0.2	-0.1	20	Good	White Wood Baseboard
3327B.3.5	-0.6	-0.1	20	Good	Stained Wood Floor
3327B.3.6	0.2	-0.1	20	Good	White Plaster Ceiling
3327B.3.7	0.8	-0.0	83	Good	White Wood Window Casing (Inconclusive-See Sample 3327B.2.5)
		Room 4 (Bedroom)			

3327B.4.1	0.4	-0.0	83	Good	White Wood Window Casing
3327B.4.2	**1.8**	0.7	20	Good	White Wood Window Sash

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3327B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (continued)			
3327B.4.3	-0.3	-0.1	20	Good	White Wood Baseboard
3327B.4.4	0.1	-0.1	20	Good	White Masonite Door
3327B.4.5	0.2	-0.0	20	Good	White Wood Shelf Support
3327B.4.6	**1.7**	0.8	83	Good	White Wood Shelf
3327B.4.7	0.3	-0.0	20	Good	White Wood Door Jamb
		Room 5 (Bedroom)			
3327B.5.1	-0.0	-0.1	20	Good	White Sheetrock Wall
3327B.5.2	0.7	-0.0	83	Good	White Wood Window Sill (Inconclusive-See Sample 3327B.2.3)
3327B.5.3	0.5	-0.0	83	Good	White Wood Window Apron

3327B.5.4	0.0	-0.1	20	Good	White Wood Door
3327B.5.5	-0.5	-0.1	20	Good	White Wood Door Casing

Room 6 (Hallway and Bathroom)

3327B.6.1	0.2	-0.1	20	Good	White Sheetrock Ceiling
3327B.6.2	-0.2	-0.1	20	Good	White Wood Baseboard
7094100294150202	1.0	1.3	83	Good	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3327B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
EXTERIOR XRF READINGS					
3327B.1	**4.1**	0.3	20	Good	White Wood Door Casing
3327B.2	**2.3**	0.2	20	Poor	White Wood Window Apron
3327B.3	**7.8**	1.1	20	Good	White Metal Porch Support
3327B.4	**5.5**	0.7	20	Good	White Wood Window

					Casing
3327B.5	1.0	0.1	83	Good	White Wood Window Sill (Inconclusive)
3327B.6	**3.4**	0.5	20	Good	White Wood Fence

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3328B

Type Building: Three Bedroom Duplex
Date Constructed: 1960

Type Construction: Brick and Wood

Survey Summary

1. Unit 3328B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelves, wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint. The wood attic scuttle also tested positive (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3328B appears below.

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Field XRF Readings for Quarters 3328B
Ft. McClellan, Alabama

Date Surveyed: 10 February 1994
Surveyors: JS, BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094100294150202	1.0	1.3	83	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3328B.1.1	0.3	-0.1	20	Good	White Masonite Door
3328B.1.2	0.0	-0.1	83	Good	White Wood Door Casing
3328B.1.3	0.0	-0.1	20	Good	White Plaster Ceiling
3328B.1.4	-0.0	-0.1	20	Good	White Wood Baseboard
3328B.1.5	**1.9**	0.7	20	Good	White Wood Shelf Support
3328B.1.6	**2.2**	0.6	20	Good	White Wood Shelf
3328B.1.7	0.2	-0.1	20	Good	White Plaster Wall

Room 2 (Kitchen)

3328B.2.1	-0.4	-0.1	20	Good	White Wood Cabinet
3328B.2.2	0.3	-0.1	20	Good	White Wood Door Jamb
3328B.2.3	0.3	-0.1	83	Good	White Wood Window Sill
3328B.2.4	**1.9**	0.3	20	Good	White Wood Window Sash
3328B.2.5	0.3	-0.0	83	Good	White Wood Window Apron
3328B.2.6	0.1	-0.1	83	Good	White Wood Window Casing
3328B.2.7	-0.5	-0.1	20	Good	White Plaster Ceiling

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3328B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Living/Dining Room)					
3328B.3.1	0.3	-0.1	20	Good	White Wood Baseboard
3328B.3.2	-0.5	-0.1	20	Good	Stained Wood Floor
3328B.3.3	0.3	-0.1	20	Good	White Plaster Ceiling
3328B.3.4	-0.2	-0.1	20	Good	White Plaster Wall
Room 4 (Bedroom)					
3328B.4.1	0.3	-0.1	83	Good	White Wood Window Casing
3328B.4.2	0.4	-0.0	83	Good	White Wood Window Apron
3328B.4.3	**1.7**	0.4	20	Good	White Wood Shelf Support
3328B.4.4	0.0	-0.1	20	Good	White Wood Door Casing
3328B.4.4	-0.1	-0.1	20	Good	Duplicate
7094021094154501	1.0	1.2	83	Good	Calibration Check
3328B.4.5	0.2	-0.1	20	Good	White Wood Door
3328B.4.6	-0.3	-0.1	20	Good	White Wood Door Jamb
Room 5 (Bedroom)					

3328B.5.1	-0.1	-0.0	20	Good	White Wood Shelf Support
3328B.5.2	0.3	-0.0	20	Good	White Masonite Door
3328B.5.3	**3.7**	0.7	20	Good	White Wood Window Sash
3328B.5.4	0.6	-0.1	83	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3328B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 5 (continued)		
3328B.5.5	0.3	-0.1	20	Good	White Plaster Ceiling
3328B.5.6	0.1	-0.0	20	Good	White Plaster Wall
3328B.5.7	-0.3	-0.1	20	Good	White Wood Baseboard
			Room 6 (Bedroom and ½ Bathroom)		
3328B.6.1	-0.0	-0.1	20	Good	White Plaster Ceiling
3328B.6.2	0.2	-0.1	83	Good	White Wood Window Casing
3328B.6.3	0.2	-0.0	20	Good	White Wood Window Apron
3328B.6.4	**2.7**	0.7	20	Good	White Wood Shelf
3328B.6.5	0.2	-0.1	20	Good	White Wood Door
			Room 7 (Hallway and Bathroom)		

3328B.7.1	-0.1	-0.1	20	Good	White Wood Baseboard
3328B.7.2	0.0	-0.1	20	Good	White Plaster Wall
3328B.7.3	**1.7**	0.1	20	Good	White Wood Attic Scuttle
3328B.7.4	-1.2	-0.1	20	Good	Stained Wood Floor

EXTERIOR XRF READINGS

3328B.1	**7.1**	1.1	20	Good	White Wood Door Casing
3328B.2	**6.3**	0.5	20	Good	White Wood Window Casing
3328B.3	**2.7**	0.2	20	Good	White Wood Window Apron
3328B.4	**5.9**	0.7	20	Good	White Metal Porch Support
3328B.5	-0.4	0.1	20	Good	White Wood Fence
7094021094162501	1.0	1.3	83	N/A	Calibration Check
1.63	1.2	1.4	83	N/A	NIST Standard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3330A

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3330A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelves, wood shelf supports and wood window sashes on the

interior of this unit tested positive by XRF for lead-based paint. (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3330A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3330A
Ft. McClellan, Alabama

Date Surveyed: 11 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021194072001	0.6	0.6	98	N/A	Calibration Check
7094021194072001	0.3	0.6	98	N/A	Calibration Check
7094021194072001	0.5	0.6	98	N/A	Calibration Check
7094021194072001	0.6	0.6	98	N/A	Calibration Check
7094021194072001	0.8	0.6	98	N/A	Calibration Check
0000	-0.1	-0.1	98	N/A	Blank
1.02	0.9	1.1	98	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Foyer)

3330A.1.1	-0.0	-0.1	24	Good	White Plaster Ceiling
3330A.1.2	0.0	-0.1	24	Good	White Wood Door Casing
3330A.1.3	-1.5	-0.2	24	Good	Stained Wood Floor
3330A.1.4	0.0	-0.1	24	Good	White Wood Door
3330A.1.5	-0.1	-0.1	24	Good	White Sheetrock Wall
3330A.1.6	**2.1**	0.6	24	Good	White Wood Shelf Support
3330A.1.7	-0.0	-0.1	24	Good	White Wood Shelf
3330A.1.8	-0.0	-0.0	24	Good	White Wood Door Jamb
3330A.1.9	-0.1	-0.1	24	Good	White Wood Baseboard

Room 2 (Kitchen)

3330A.2.1	-0.4	-0.2	24	Good	White Sheetrock Ceiling
3330A.2.2	0.3	-0.1	24	Good	White Wood Cabinet
3330A.2.3	0.4	-0.1	98	Good	White Wood Window Casing
3330A.2.4	0.1	-0.3	98	Good	White Wood Window

Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3330A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 2 (continued)		
3330A.2.5	0.5	-0.1	98	Good	White Wood Window Apron
3330A.2.6	**3.8**	1.2	24	Good	White Wood Window Sash
3330A.2.7	-0.2	-0.1	24	Good	White Wood Door Header
			Room 3 (Living/Dining Room)		
3330A.3.1	-0.1	-0.1	24	Good	White Sheetrock Wall
3330A.3.2	0.7	-0.1	98	Good	White Wood Window Casing (Inconclusive-See Sample 3330A.2.3)
3330A.3.3	0.2	-0.1	98	Good	White Wood Window Sill
3330A.3.4	-0.6	-0.2	24	Good	Stained Wood Floor
3330A.3.4	-0.6	-0.2	24	Good	Duplicate
7094110294084902	0.3	0.5	98	N/A	Calibration Check
3330A.3.5	0.1	-0.1	24	Good	White Plaster Ceiling
3330A.3.6	0.2	-0.1	24	Good	White Wood Baseboard
			Room 4 (Bedroom)		

3330A.4.1	-0.1	-0.1	24	Good	White Wood Shelf Support
3330A.4.2	**2.0**	0.7	24	Good	White Wood Shelf
3330A.4.3	0.6	-0.1	98	Good	White Wood Window Casing
3330A.4.4	**1.9**	0.5	24	Good	White Wood Window Sash
3330A.4.5	-0.1	-0.1	24	Good	White Masonite Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3330A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (continued)			
3330A.4.6	0.2	-0.1	24	Good	White Wood Door
3330A.4.7	-0.0	-0.1	24	Good	White Wood Door Casing
3330A.4.8	0.2	-0.1	24	Good	White Wood Door Jamb
		Room 5 (Bedroom)			
3330A.5.1	0.4	-0.1	98	Good	White Wood Window Casing
3330A.5.2	0.3	-0.1	98	Good	White Wood Window Apron
3330A.5.3	-0.2	-0.1	24	Good	White Sheetrock Wall
3330A.5.4	0.3	-0.0	24	Good	White Plaster Ceiling
3330A.5.5	0.0	-0.1	24	Good	White Masonite Door
3330A.5.6	**2.9**	0.9	24	Good	White Wood Shelf

Room 6 (Hallway and Bathroom)

3330A.6.1	-0.3	-0.1	24	Good	White Sheetrock Ceiling
3330A.6.2	-0.5	-0.1	24	Good	White Wood Baseboard

EXTERIOR XRF READINGS

3330A.1	**3.7**	0.8	24	Good	White Wood Door Casing
3330A.2	**4.6**	0.9	24	Good	White Wood Door Casing
3330A.3	**2.7**	0.3	24	Good	White Porch Column
3330A.4	**2.0**	0.4	24	Good	White Wood Door Casing
3330A.5	**5.3**	0.6	24	Good	White Wood Window Sill
7094021194093002	0.3	0.6	98	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3331A

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3331A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. Wood shelves, wood shelf supports and wood window sashes on the interior of this unit tested positive by XRF for lead-based paint.

(see field XRF readings).

3. Based on the survey results, it is reasonable to assume that all wood components (e.g., door casings, door jambs, window components, fence, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal pole supporting the back porch roof also tested positive (see floorplan).

4. A photograph of Unit 3331A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3331A
Ft. McClellan, Alabama

Date Surveyed: 11 February 1994
Surveyors: JS, BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021194093002	0.3	0.5	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3331A.1.1	-0.3	-0.2	24	Good	White Wood Baseboard
3331A.1.2	-0.1	-0.1	24	Good	White Wood Door Casing
3331A.1.3	**2.5**	0.8	24	Good	White Wood Shelf Support
3331A.1.4	**1.8**	0.8	98	Good	White Wood Shelf
3331A.1.5	0.2	0.0	24	Good	White Plaster Ceiling
3331A.1.6	0.2	-0.1	24	Good	White Plaster Wall
3331A.1.7	0.3	-0.1	24	Good	White Wood Door
3331A.1.8	0.0	-0.0	24	Good	White Wood Door Jamb

Room 2 (Kitchen)

3331A.2.1	0.7[1]	-0.0	98	Good	White Wood Window Apron (Inconclusive-Scrape Sample Taken)
3331A.2.2	0.6	-0.1	98	Good	White Wood Window

1) Lab Analysis: negative (Results = 0.22% Lead, Action Level ≥ 0.5%)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3331A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Living/Dining Room)					
3331A.3.1	-0.4	-0.2	24	Good	Stained Wood Floor
3331A.3.2	0.7	-0.0	98	Good	White Wood Window Mullion (Inconclusive)
3331A.3.3	0.8	-0.1	98	Good	White Wood Window Apron (Inconclusive-See Scrape Sample Results 3331A.2.1)
3331A.3.4	0.0	-0.1	24	Good	White Plaster Wall
3331A.3.5	-0.1	-0.1	24	Good	White Wood Baseboard
Room 4 (Bedroom)					
3331A.4.1	1.1	-0.0	98	Good	White Wood Window Casing (Inconclusive-See Scrape Sample Results 3331A.2.2)
3331A.4.2	**2.1**	0.4	24	Good	White Wood Window Sash
3331A.4.2	**2.0**	0.3	24	Good	Duplicate
7094021194102301	0.5	0.6	98	N/A	Calibration Check
3331A.4.3	0.3	-0.1	24	Good	White Masonite Door

3331A.4.4	0.2	0.1	24	Good	White Wood Shelf Support
3331A.4.5	**3.1**	1.9	24	Good	White Wood Shelf
3331A.4.6	0.1	-0.1	24	Good	White Wood Door Casing
3331A.4.7	-0.1	-0.1	24	Good	White Wood Door Jamb
3331A.4.8	0.0	-0.1	24	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3331A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 5 (Bedroom)					
3331A.5.1	1.0	-0.0	98	Good	White Wood Window Apron(Inconclusive-See Scrape Sample Results 3331A.2.1)
3331A.5.2	0.3	-0.0	24	Good	White Plaster Wall
3331A.5.3	0.1	0.0	98	Good	White Plaster Ceiling
3331A.5.4	0.1	-0.1	24	Good	White Masonite Door
3331A.5.5	0.4	0.2	98	Good	White Wood Shelf Support
Room 6 (Hallway and Bathroom)					
3331A.6.1	0.2	-0.1	24	Good	White Plaster Ceiling

3331A.6.2	0.2	-0.1	24	Good	White Wood Baseboard

EXTERIOR XRF READINGS

3331A.1	1.0	-0.1	98	Good	White Wood Door Casing(Inconclusive)
3331A.2	**3.4**	0.2	24	Good	White Metal Porch Support
3331A.3	**5.0**	0.7	24	Fair	White Wood Door Casing
3331A.4	**2.7**	0.4	24	Poor	White Wood Fence
3331A.5	**2.9**	0.6	24	Good	White Wood Door Casing
3331A.6	**3.4**	0.7	24	Fair	White Wood Window Apron
7094021194110601	0.3	0.5	98	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3334A

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3334A is typical of Units 3310 - 3343 (referred to as the

Avery Family Housing Group) located on Avery Drive.

2. Wood shelves and shelf supports on the interior of this unit tested positive by XRF for lead-based paint (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that, except for wood window components, all wood components (e.g., porch ceiling, porch rails, fence, porch trim, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal poles supporting porch roofs also tested positive (see floorplan).

4. A photograph of Unit 3334A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3334A
Ft. McClellan, Alabama

Date Surveyed: 11 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021194124802	0.3	0.6	98	N/A	Calibration Check
7094021194124802	0.5	0.6	98	N/A	Calibration Check
7094021194124802	0.4	0.6	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3334A.1.1	0.1	-0.1	24	Good	White Plaster Ceiling
3334A.1.2	-0.0	-0.1	24	Good	White Wood Door Casing
3334A.1.3	-0.1	-0.1	98	Good	White Sheetrock Wall
3334A.1.4	0.2	-0.1	24	Good	White Masonite Door
3334A.1.5	-0.8	-0.1	24	Good	White Wood Baseboard
3334A.1.6	-0.4	-0.2	24	Good	Stained Wood Floor
3334A.1.7	**1.3**	0.2	98	Good	White Wood Shelf
3334A.1.8	0.7	-0.1	98	Good	White Metal Door Jamb(Inconclusive-See Sample 3334A.5.4)

Room 2 (Kitchen)

3334A.2.1	-0.4	-0.1	24	Good	White Wood Window Casing
3334A.2.2	0.1	-0.1	24	Good	White Wood Window Sash
3334A.2.3	0.1	-0.1	24	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3334A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (continued)					
3334A.2.4	0.3	-0.1	24	Good	White Wood Window Apron
3334A.2.5	0.1	-0.1	24	Good	White Wood Cabinet
3334A.2.6	0.1	-0.1	24	Good	White Sheetrock Ceiling
3334A.2.7	0.6	-0.1	98	Good	White Metal Door Casing
3334A.2.8	0.6	-0.1	98	Good	White Metal Door Jamb
Room 3 (Living/Dining Room)					
3334A.3.1	-0.2	-0.3	24	Good	White Concrete Block Wall
3334A.3.2	0.2	0.1	98	Good	White Metal Door
3334A.3.3	-0.0	-0.1	24	Good	White Sheetrock Wall
3334A.3.4	1.3 (1)	-0.0	98	Good	White Wood Curtain Molding
3334A.3.5	-0.5	-0.2	24	Good	White Wood Baseboard
3334A.3.6	0.3	-0.1	24	Good	White Plaster Ceiling
Room 4 (Bedroom)					
3334A.4.1	0.0	-0.1	24	Good	White Wood Window Sill

3334A.4.1	0.2	-0.0	24	Good	Duplicate
7094110294140802	0.3	0.5	98	N/A	Calibration Check
3334A.4.2	**1.8**	0.1	24	Good	White Wood Shelf Support
3334A.4.3	**1.8**	0.3	24	Good	White Wood Shelf

(1) Lab Analysis: negative (Results = 0.19% Lead, Action Level ≥ 0.5%)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3334A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 4 (continued)		
3334A.4.4	0.0	-0.1	98	Good	White Sheetrock Wall
3334A.4.5	0.2	-0.1	24	Good	White Wood Baseboard
3334A.4.6	0.0	-0.1	24	Good	White Masonite Door
3334A.4.7	0.2	-0.1	24	Good	White Wood Door
3334A.4.8	0.5	-0.1	98	Good	White Metal Door Casing
3334A.4.9	0.7	-0.1	98	Good	White Metal Door Jamb (Inconclusive-See Sample 3334A.5.4)
			Room 5 (Bedroom and ½ Bathroom)		
3334A.5.1	0.1	-0.1	24	Good	White Wood Window Sash

3334A.5.2	-0.0	-0.1	98	Good	White Sheetrock Wall
3334A.5.3	0.2	-0.1	24	Good	White Sheetrock Ceiling
3334A.5.4	0.6	-0.1	98	Good	White Metal Door Jamb
3334A.5.5	0.2	-0.1	24	Good	White Wood Window Apron
3334A.5.6	0.0	-0.1	24	Good	White Masonite Door

Room 6 (Bedroom)

3334A.6.1	-0.5	-0.1	24	Good	White Wood Window Casing
3334A.6.2	**2.0**	0.4	98	Good	White Wood Shelf
3334A.6.3	-0.1	-0.1	24	Good	White Wood Baseboard
3334A.6.4	-0.1	-0.1	98	Good	White Sheetrock Wall
3334A.6.5	0.2	-0.1	24	Good	White Plaster Ceiling
3334A.6.6	0.6	-0.1	98	Good	White Metal Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3334A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 7 (Hallway and Bathroom)

3334A.7.1	0.1	-0.1	24	Good	White Wood Baseboard
3334A.7.1	-0.6	-0.1	24	Good	Duplicate
7094110294150402	0.4	0.6	98	Good	Calibration Check

3334A.7.2	-0.7	-0.1	24	Good	White Sheetrock Ceiling
3334A.7.3	-0.5	-0.1	24	Good	White Wood Attic Scuttle
3334A.7.4	0.8	-0.1	98	Good	White Wood Curtain Molding (Inconclusive-See Scrape Results 3334A.3.4)

EXTERIOR XRF READINGS

3334A.1	**6.8**	0.5	24	Good	White Wood Porch Ceiling
3334A.2	**8.3**	0.6	24	Good	White Metal Porch Column
3334A.3	**9.5**	0.6	24	Good	White Wood Porch Rail
3334A.4	-0.1	-0.0	24	Good	White Wood Window Apron
3334A.5	0.2	0.0	24	Good	White Wood Window Casing
3334A.6	**14.4**	1.5	24	Good	White Wood Fence
7094021194153501	0.4	0.5	98	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3336A

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3336A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. On the interior of this unit positive XRF readings were obtained on wood shelves, baseboard and curtain molding (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that, except for wood window components, all wood components (e.g., porch ceiling, porch rails, fence, porch trim, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal poles supporting porch roofs also tested positive (see floorplan).

4. A photograph of Unit 3336A appears below.

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14 October 1994

Field XRF Readings for Quarters 3336A
Ft. McClellan, Alabama

Date Surveyed: 10 February 1994
Surveyors: BS, KB, LM, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021194153501	0.4	0.5	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3336A.1.1	0.5	-0.1	98	Good	White Metal Door Jamb
3336A.1.2	0.4	-0.1	98	Good	White Metal Door Casing
3336A.1.3	0.0	-0.1	24	Good	White Wood Door Casing
3336A.1.4	**1.7**	0.4	98	Good	White Wood Shelf
3336A.1.5	-0.0	-0.1	24	Good	White Masonite Door
3336A.1.6	0.1	-0.1	24	Good	White Plaster Wall
3336A.1.7	0.0	-0.1	24	Good	White Wood Baseboard
3336A.1.8	-0.2	-0.1	24	Good	Stained Wood Floor
3336A.1.9	0.2	-0.1	24	Good	White Wood Door

Room 2 (Kitchen)

3336A.2.1	0.0	-0.1	24	Good	White Wood Cabinet
3336A.2.2	0.3	-0.1	24	Good	White Plaster Ceiling
3336A.2.3	0.3	-0.1	24	Good	White Wood Window Casing
3336A.2.4	0.1	-0.1	24	Good	White Wood Window Sash
3336A.2.5	0.2	-0.1	24	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3336A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 2 (continued)			
3336A.2.6	0.1	-0.1	24	Good	White Wood Window Apron
3336A.2.7	0.7	-0.1	98	Good	White Metal Door Casing (Inconclusive-See Sample 3336A.5.3)
3336A.2.8	**1.9**	0.3	98	Good	White Wood Baseboard
3336A.2.9	0.6	-0.1	98	Good	White Metal Door Jamb
		Room 3 (Living/Dining Room)			
3336A.3.1	**1.4**	0.1	98	Good	White Wood Curtain Molding
3336A.3.2	0.3	0.1	98	Good	White Metal Door
3336A.3.3	0.5	-0.1	98	Good	White Metal Door Casing
3336A.3.4	0.2	-0.1	24	Good	White Plaster Ceiling
3336A.3.5	-0.2	-0.2	24	Good	White Concrete Block Wall
3336A.3.6	0.1	-0.1	24	Good	White Wood Window Casing
3336A.3.6	-0.2	-0.2	24	Good	Duplicate
7094021194163701	0.3	0.6	98	Good	Calibration Check

3336A.3.7	0.2	-0.1	24	Good	White Wood Window Apron

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3336A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 4 (Bedroom)					
3336A.4.1	0.1	-0.1	20	Good	White Plaster Wall
3336A.4.2	-0.1	-0.1	20	Good	White Wood Window Apron
3336A.4.3	-0.1	-0.1	20	Good	White Wood Window Casing
3336A.4.4	0.1	-0.1	20	Good	White Wood Window Sash
3336A.4.5	**1.6**	0.6	210	Good	White Wood Shelf
3336A.4.6	0.0	-0.1	20	Good	White Masonite Closet Door
3336A.4.7	-0.1	-0.1	20	Good	White Wood Baseboard
3336A.4.8	-0.0	-0.1	20	Good	Stained Wood Floor
3336A.4.9	0.4	-0.1	83	Good	White Metal Door Jamb
3336A.4.10	0.2	-0.1	20	Good	White Wood Door
3336A.4.11	-0.1	-0.1	20	Good	White Plaster Ceiling

Room 5 (Bedroom and ½ Bathroom)

3336A.5.1	-0.4	-0.1	20	Good	White Sheetrock Wall
3336A.5.2	0.1	-0.1	20	Good	White Plaster Ceiling
3336A.5.3	0.6	-0.1	83	Good	White Metal Door Casing
3336A.5.4	-0.3	-0.1	20	Good	White Wood Door
3336A.5.5	0.2	-0.1	20	Good	White Wood Window Sill
3336A.5.6	-0.2	-0.1	20	Good	White Wood Window Sash
3336A.5.7	-0.2	-0.1	20	Good	White Masonite Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3336A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 5 (continued)					
3336A.5.8	**1.2**	0.4	101	Good	White Wood Shelf
3336A.5.9	-0.0	-0.1	20	Good	White Sheetrock Wall
3336A.5.10	-0.1	-0.1	20	Good	White Wood Baseboard
3336A.5.10	-0.7	-0.1	20	Good	Duplicate
7094021194163501	1.2	1.2	83	Good	Calibration Check

3336A.5.11	0.3	-0.1	20	Good	White Metal Door Jamb

Room 6 (Bedroom)

3336A.6.1	-0.1	-0.1	20	Good	White Sheetrock Wall
3336A.6.2	-0.0	-0.1	20	Good	White Wood Window Sill
3336A.6.3	-0.3	-0.1	20	Good	White Wood Window Sash
3336A.6.4	-0.1	-0.1	20	Good	White Wood Baseboard
3336A.6.5	-0.5	-0.1	20	Good	Stained Wood Floor
3336A.6.6	-0.1	-0.1	20	Good	White Plaster Ceiling
3336A.6.7	**1.4**	0.5	83	Good	White Wood Shelf
3336A.6.8	0.1	-0.1	20	Good	White Masonite Door
3336A.6.9	0.2	-0.1	20	Good	White Wood Door

Room 7 (Hallway and Bathroom)

3336A.7.1	-0.1	-0.1	98	Good	White Wood Baseboard
3336A.7.2	-0.3	-0.2	24	Good	Stained Wood Floor
3336A.7.3	-0.2	-0.1	24	Good	White Wood Attic Scuttle
3336A.7.4	-0.2	-0.1	24	Good	White Metal Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3336A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

EXTERIOR XRF READINGS

3336A.1	**6.1**	0.7	24	Good	White Wood Porch Ceiling
3336A.2	**8.2**	0.7	24	Good	White Metal Porch Support
3336A.3	**5.2**	0.8	24	Good	White Wood Porch Rail
3336A.4	-0.1	-0.0	24	Good	White Wood Window Apron
3336A.5	**7.2**	0.3	24	Good	White Wood Porch Trim
3336A.6	**8.7**	0.7	24	Good	White Wood Fence
7094021194170001	0.7	0.6	98	N/A	Calibration Check
1.02	0.7	1.0	98	N/A	NIST Standard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3337A

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3337A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. On the interior of this unit positive XRF readings were obtained on wood shelves, shelf supports, baseboard and curtain molding (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that, except for wood window components, all wood components (e.g., porch ceiling, porch rails, fence, porch trim, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal poles supporting porch roofs also tested positive (see floorplan).

4. A photograph of Unit 3337A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3337A
Ft. McClellan, Alabama

Date Surveyed: 12 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021294071902	0.3	0.6	98	N/A	Calibration Check
7094021294071902	0.5	0.5	98	N/A	Calibration Check
7094021294071902	0.5	0.5	98	N/A	Calibration Check
7094021294071902	0.3	0.6	98	N/A	Calibration Check
7094021294071902	0.3	0.6	98	N/A	Calibration Check
000	-0.0	-0.1	98	N/A	Blank
1.02	0.9	1.1	98	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Foyer)

3337A.1.1	0.1	-0.1	24	Good	White Plaster Ceiling
3337A.1.2	-0.2	-0.1	24	Good	White Wood Door Casing
3337A.1.3	0.1	-0.1	24	Good	White Masonite Door
3337A.1.4	**1.7**	0.3	24	Good	White Wood Shelf Support
3337A.1.5	1.2	0.3	98	Good	White Wood Shelf (Inconclusive-See Sample 3337A.4.2)
3337A.1.6	-0.1	-0.1	24	Good	White Sheetrock Wall
3337A.1.7	**1.6**	0.2	98	Good	White Wood Baseboard
3337A.1.8	-0.7	-0.2	24	Good	Stained Wood Floor
3337A.1.9	0.5	-0.1	98	Good	White Metal Door Casing
3337A.1.10	0.4	-0.1	98	Good	White Metal Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3337A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen)					
3337A.2.1	0.2	-0.1	24	Good	White Sheetrock Ceiling
3337A.2.2	0.2	-0.1	24	Good	White Wood Cabinet
3337A.2.3	0.2	-0.1	24	Good	White Wood Window Apron
3337A.2.4	0.3	-0.1	24	Good	White Wood Window Sill
3337A.2.5	-0.5	-0.1	24	Good	White Wood Window Casing
3337A.2.6	0.3	-0.1	24	Good	White Wood Window Sash
3337A.2.7	0.0	-0.1	24	Good	White Wood Door
Room 3 (Living/Dining Room)					
3337A.3.1	-1.0	-0.3	24	Good	White Concrete Block Wall
3337A.3.2	**1.6**	0.1	98	Good	White Wood Curtain Molding
3337A.3.3	0.2	-0.1	24	Good	White Plaster Ceiling
3337A.3.4	0.3	0.2	24	Good	White Metal Door
3337A.3.5	-0.0	-0.1	24	Good	White Sheetrock Wall
3337A.3.5	0.2	-0.1	24	Good	Duplicate
7094120294090902	0.2	0.5	98	N/A	Calibration Check

3337A.3.6	1.1	0.1	98	Good	White Wood Baseboard (Inconclusive-See Sample 3337A.5.6)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3337A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Bedroom)			
3337A.4.1	0.9	0.1	98	Good	White Wood Shelf Support (Inconclusive-See Sample 3337A.1.7)
3337A.4.2	**1.5**	0.4	98	Good	White Wood Shelf
3337A.4.3	0.2	-0.1	24	Good	White Wood Window Casing
3337A.4.4	-0.0	-0.0	24	Good	White Wood Window Apron
3337A.4.5	-0.4	-0.2	24	Good	White Sheetrock Wall
3337A.4.6	-0.1	-0.1	24	Good	White Masonite Door
3337A.4.7	0.3	-0.1	24	Good	White Metal Door Jamb
		Room 5 (Bedroom)			
3337A.5.1	-0.2	-0.1	24	Good	White Wood Window

					Sill
3337A.5.2	0.1	-0.1	24	Good	White Plaster Ceiling
3337A.5.3	-1.2	-0.1	24	Good	Stained Wood Floor
3337A.5.4	-0.0	-0.1	24	Good	White Sheetrock Ceiling
3337A.5.5	0.2	-0.1	24	Good	White Wood Door
3337A.5.6	0.3	0.0	24	Good	White Wood Baseboard

Room 6 (Bedroom)

3337A.6.1	1.0	0.1	24	Good	White Wood Shelf Support(Inconclusive-See Sample 3337A.1.7)
3337A.6.2	0.0	-0.1	24	Good	White Wood Window Sash
3337A.6.3	0.3	-0.1	24	Good	White Sheetrock Wall

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3337A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 7 (Hallway and Bathroom)					
3337A.7.1	0.1	0.0	24	Good	White Wood Baseboard
3337A.7.2	0.0	-0.2	24	Good	White Sheetrock Ceiling
3337A.7.3	-0.3	-0.1	24	Good	White Wood Window Apron
3337A.7.4	0.1	-0.1	24	Good	White Wood Attic

Scuttle

EXTERIOR XRF READINGS

3337A.1	**7.2**	0.4	24	Good	White Wood Porch Ceiling
3337A.2	**6.6**	0.4	24	Good	White Metal Porch Support
3337A.3	**7.2**	0.7	24	Good	White Wood Porch Rail
3337A.4	-0.1	0.0	24	Good	White Wood Window Apron
3337A.5	**5.2**	0.3	24	Good	White Wood Porch Trim
3337A.6	0.1	-0.1	24	Good	White Wood Screen Trim
3337A.7	**10.2**	1.0	24	Good	White Wood Fence
7094120294100902	0.4	0.6	98	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3337B

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3337B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. On the interior of this unit positive XRF readings were obtained on wood shelves, shelf supports, baseboard and curtain molding (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that, except for wood window components, all wood components (e.g., porch ceiling, porch rails, fence, porch trim, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal poles supporting porch roofs also tested positive (see floorplan).

4. A photograph of Unit 3337B appears below.

CESAD-EN-FL

14 October 1994

Field XRF Readings for Quarters 3337B
Ft. McClellan, Alabama

Date Surveyed: 12 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094120294100902	0.4	0.6	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3337B.1.1	0.2	-0.1	24	Good	White Plaster Ceiling
3337B.1.2	0.1	-0.1	24	Good	White Wood Door Casing
3337B.1.3	0.1	-0.1	24	Good	White Masonite Door
3337B.1.4	**1.4**	0.3	98	Good	White Wood Shelf
3337B.1.5	-0.0	-0.1	24	Good	White Plaster Wall
3337B.1.6	**1.4**	0.1	98	Good	White Wood Baseboard
3337B.1.7	0.7	-0.1	98	Good	White Metal Door Jamb (Inconclusive-See Sample 3337B.2.8)

Room 2 (Kitchen)

3337B.2.1	0.1	-0.1	24	Good	White Wood Window Apron
3337B.2.2	-0.2	-0.1	24	Good	White Wood Window Sash
3337B.2.3	-0.4	-0.1	24	Good	White Wood Window Casing
33272.2.4	-0.3	-0.1	24	Good	White Wood Window Sill
3337B.2.5	-0.1	-0.1	24	Good	White Wood Cabinet
3337B.2.6	0.3	-0.1	24	Good	White Plaster Ceiling
3337B.2.7	-0.1	-0.1	98	Good	White Wood Door
3337B.2.8	0.4	-0.1	98	Good	White Metal Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3337B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Living/Dining Room)					
3337B.3.1	**1.6**	0.3	98	Good	White Wood Curtain Molding
3337B.3.2	0.2	-0.1	24	Good	White Plaster Ceiling
3337B.3.3	0.2	-0.0	98	Good	White Metal Door
3337B.3.4	-1.5	-0.2	24	Good	Stained Wood Floor
3337B.3.5	-0.3	-0.2	24	Good	White Concrete Block Wall
3337B.3.5	-0.9	-0.3	24	Good	Duplicate
7094021294105601	0.3	-0.3	98	N/A	Calibration Check
3337B.3.6	0.1	-0.1	24	Good	White Plaster Wall
3337B.3.7	0.6	0.0	98	Good	White Wood Baseboard
Room 4 (Bedroom)					
3337B.4.1	**1.5**	0.3	98	Good	White Wood Shelf Support
3337B.4.2	1.0	0.3	98	Good	White Wood Shelf (Inconclusive-See Sample 3337B.5.6)
3337B.4.3	0.0	-0.1	24	Good	White Wood Window Apron
3337B.4.4	-0.4	-0.1	24	Good	White Wood Window

					Casing
3337B.4.5	0.1	-0.1	24	Good	White Plaster Wall
3337B.4.6	0.1	-0.1	24	Good	White Masonite Door
3337B.4.7	0.4	-0.1	98	Good	White Metal Door Casing
3337B.4.8	0.6	-0.1	98	Good	White Metal Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3337B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 5 (Bedroom and ½ Bathroom)					
3337B.5.1	-0.2	-0.2	24	Good	White Plaster Ceiling
3337B.5.2	0.3	-0.1	24	Good	White Wood Door
3337B.5.3	-0.1	-0.1	24	Good	White Plaster Ceiling
3337B.5.4	0.2	-0.1	24	Good	White Wood Window Sill
[redacted]					

3337B.6.4	0.9	0.2	98	Good	White Wood Baseboard (Inconclusive - See Sample 3337B.1.6)
3337B.6.5	0.4	-0.1	98	Good	White Metal Door Casing

Room 7 (Hallway and Bathroom)

3337B.7.1	-0.9	-0.1	24	Good	Stained Wood Floor
3337B.7.1	-1.0	-0.2	24	Good	Duplicate
7094021294115401	0.3	0.5	98	N/A	Calibration Check
3337B.7.2	-0.7	-0.2	24	Good	White Plaster Ceiling
3337B.7.3	-0.3	-0.1	24	Good	White Wood Attic Scuttle

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3337B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
EXTERIOR XRF READINGS					
3337B.1	**6.6**	0.8	24	Good	White Wood Porch Rail
3337B.2	**8.1**	0.6	24	Good	White Metal Porch Column

3337B.3	0.3	-0.0	24	Good	White Wood Window Apron
3337B.4	**4.6**	0.4	24	Good	White Wood Porch Ceiling
3337B.5	**6.2**	0.3	24	Good	White Wood Trim
7094021294120701	0.4	0.6	98	N/A	Calibration Check
1.02	0.7	1.0	98	N/A	NIST Standard

Positive XRF Readings (if any) appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3339A

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3339A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. On the interior of this unit positive XRF readings were obtained on wood shelves, shelf supports and baseboard (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that, except for wood window components, all wood components (e.g., porch ceiling, porch rails, fence, porch trim, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal poles supporting porch roofs also tested positive (see floorplan).

4. A photograph of Unit 3339A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3339A
Ft. McClellan, Alabama

Date Surveyed: 14 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021494071501	0.5	0.5	98	N/A	Calibration Check
7094021494071501	0.4	0.6	98	N/A	Calibration Check
7094021494071501	0.4	0.5	98	N/A	Calibration Check
7094021494071501	0.4	0.6	98	N/A	Calibration Check
7094021494071501	0.4	0.6	98	N/A	Calibration Check
000	-0.3	-0.1	98	N/A	Blank
1.02	0.7	1.1	98	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Foyer)

3339A.1.1	0.1	-0.0	24	Good	White Plaster Ceiling
3339A.1.2	0.1	-0.1	24	Good	White Plaster Wall
3339A.1.3	**1.8**	0.2	24	Good	White Wood Baseboard
3339A.1.4	0.4	-0.1	98	Good	White Metal Door Casing
3339A.1.5	0.5	-0.1	98	Good	White Metal Door Jamb
3339A.1.6	0.1	-0.1	24	Good	White Wood Window Casing
3339A.1.7	**1.8**	0.7	24	Good	White Wood Shelf
3339A.1.8	**1.3**	0.2	98	Good	White Wood Shelf Support
3339A.1.9	-0.1	-0.1	24	Good	White Masonite Door
3339A.1.10	-1.2	-0.2	24	Good	Stained Wood Floor
3339A.1.11	0.2	-0.1	24	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3339A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen)					
3339A.2.1	0.2	-0.1	98	Good	White Wood Window Apron
3339A.2.2	-0.2	-0.0	24	Good	White Wood Window Sill
3339A.2.3	0.3	0.1	24	Good	White Wood Window Sash
3339A.2.4	-0.0	-0.1	24	Good	White Wood Window Casing
3339A.2.5	-0.4	-0.1	24	Good	White Wood Cabinet
3339A.2.6	0.5	-0.1	98	Good	White Wood Door Header
Room 3 (Living/Dining Room)					
3339A.3.1	1.1(1)	0.2	98	Good	White Wood Curtain Molding (Inconclusive-Scrape Sample Taken)
3339A.3.2	0.2	-0.0	24	Good	White Plaster Ceiling
3339A.3.3	0.1	-0.2	24	Good	White Concrete Block Wall
3339A.3.4	0.1	-0.1	24	Good	White Wood Baseboard
3339A.3.5	0.3	0.1	98	Good	White Metal Door
3339A.3.6	-0.3	-0.1	24	Good	White Wood Window Casing
3339A.3.6	0.1	-0.1	24	Good	Duplicate

7094021494093601	0.2	-0.3	98	N/A	Calibration Check

(1) Lab Analysis: negative (Results = 0.49% Lead, Action Level ≥ 0.5%)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3339A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Bedroom)			
7094021494093601	0.4	0.6	98	N/A	Calibration Check
3339A.4.1	1.2	0.3	98	Good	White Wood Shelf (Inconclusive-See Sample 3339A.1.7)
3339A.4.2	**1.4**	0.3	98	Good	White Wood Shelf Support
3339A.4.3	0.2	-0.0	24	Good	White Wood Window Sill
3339A.4.4	-0.4	-0.1	24	Good	White Plaster Wall
3339A.4.5	0.6	-0.1	98	Good	White Metal Door Casing
		Room 5 (Bedroom and ½ Bathroom)			

3339A.5.1	-0.4	-0.2	24	Good	White Plaster Ceiling
3339A.5.2	0.5	-0.1	98	Good	White Metal Door Jamb
3339A.5.3	0.1	0.0	24	Good	White Plaster Ceiling
3339A.5.4	0.2	-0.1	24	Good	White Wood Window Apron
3339A.5.6	0.2	-0.1	24	Good	White Wood Door

Room 6 (Bedroom)

3339A.6.1	**1.6**	0.1	98	Good	White Wood Baseboard
3339A.6.2	0.2	-0.1	24	Good	White Wood Window Sash
3339A.6.3	-0.1	-0.1	24	Good	White Plaster Wall
3339A.6.4	**1.3**	0.4	98	Good	White Wood Shelf
3339A.6.5	0.5	-0.1	98	Good	White Metal Door Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3339A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 7 (Hallway and Bathroom)					
3339A.7.1	-0.3	-0.1	24	Good	White Wood Window Casing
3339A.7.2	0.4	-0.1	98	Good	White Metal Door Jamb

3339A.7.3	-0.2	-0.1	24	Good	White Wood Attic Scuttle
3339A.7.4	-0.7	-0.2	24	Good	Stained Wood Floor
3339A.7.4	-0.4	-0.1	24	Good	Duplicate
7094021494102301	0.5	0.6	98	N/A	Calibration Check

EXTERIOR XRF READINGS

3339A.1	**8.1**	0.5	24	Good	White Wood Trim
3339A.2	**6.4**	0.8	24	Good	White Wood Ceiling
3339A.3	0.2	0.1	24	Good	White Wood Window Apron
3339A.4	**7.5**	0.5	24	Good	White Porch Column
3339A.5	0.2	-0.0	24	Good	White Wood Window Casing
3339A.6	**10.8**	1.3	24	Good	White Wood Fence

Positive XRF Readings (if any) appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3340A

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3340A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. On the interior of this unit positive XRF readings were obtained on wood shelves, shelf supports, baseboard and curtain molding. Metal door components (e.g., jambs, casings, etc.) also tested positive for lead-based paint (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that, except for wood window components, all wood components (e.g., porch ceiling, porch rails, fence, porch trim, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal poles supporting porch roofs also tested positive (see floorplan).

4. A photograph of Unit 3340A appears below.

CESAD-EN-FL

14 October 1994

Field XRF Readings for Quarters 3340A
Ft. McClellan, Alabama

Date Surveyed: 14 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021494103501	0.2	0.6	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3340A.1.1	-0.2	-0.1	24	Good	White Plaster Ceiling
3340A.1.2	**1.8**	0.3	24	Good	White Wood Baseboard
3340A.1.3	-0.0	-0.1	24	Good	White Sheetrock Wall
3340A.1.4	-0.1	-0.1	24	Good	White Wood Door Casing
3340A.1.5	1.1	0.2	98	Good	White Wood Shelf (Inconclusive - See Sample 3340A.4.3)
3340A.1.6	**1.8**	0.2	24	Good	White Metal Door Jamb

Room 2 (Kitchen)

3340A.2.1	0.1	-0.1	24	Good	White Wood Window Sill
3340A.2.2	0.1	-0.1	24	Good	White Wood Window Sash
3340A.2.3	0.1	-0.1	24	Good	White Wood Window Casing
3340A.2.4	0.1	-0.1	98	Good	White Wood Window Apron
3340A.2.5	-0.0	-0.1	24	Good	White Sheetrock Ceiling
3340A.2.6	-0.3	-0.1	24	Good	White Wood Cabinet
3340A.2.6	-0.3	-0.1	24	Good	Duplicate
7094140294113902	0.4	0.6	98	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3340A
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Living/Dining Room)					
3340A.3.1	0.5	-0.0	98	Good	White Wood Curtain Molding
3340A.3.2	0.1	-0.1	24	Good	White Plaster Ceiling
3340A.3.3	0.3	0.2	98	Good	White Metal Door
3340A.3.4	-0.6	-0.1	98	Good	White Concrete Block Wall
3340A.3.5	0.2	-0.1	24	Good	White Sheetrock Wall
3340A.3.6	0.1	-0.2	24	Good	White Wood Window Casing
Room 4 (Bedroom)					
3340A.4.1	**1.8**	0.2	24	Good	White Wood Shelf Support
3340A.4.2	0.2	-0.1	24	Good	White Wood Window Apron
3340A.4.3	**2.6**	0.4	24	Good	White Wood Baseboard
3340A.4.4	0.0	-0.1	24	Good	White Masonite Door
3340A.4.5	**1.3**	0.1	98	Good	White Metal Door Casing
Room 5 (Bedroom and ½ Bathroom)					
3340A.5.1	-0.1	-0.1	24	Good	White Wood Window Sill

3340A.5.2	-0.1	-0.1	24	Good	White Plaster Ceiling
3340A.5.3	-0.3	-0.1	24	Good	White Sheetrock Ceiling
3340A.5.4	-0.1	-0.1	24	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3340A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Bedroom)					
3340A.6.1	-0.1	-0.1	24	Good	White Wood Window Sash
3340A.6.2	**1.4**	0.7	98	Good	White Wood Shelf
3340A.6.3	0.0	-0.1	24	Good	White Sheetrock Wall
3340A.6.4	**1.5**	0.2	98	Good	White Metal Door Jamb
Room 7 (Hallway and Bathroom)					
3340A.7.1	0.2	-0.1	24	Good	White Sheetrock Ceiling
3340A.7.2	-0.1	-0.1	24	Good	White Wood Attic Scuttle
3340A.7.3	-0.8	-0.2	24	Good	Stained Wood Floor

7094140294122202	0.4	0.5	98	N/A	Calibration Check

EXTERIOR XRF READINGS

3340A.1	**6.8**	0.5	24	Good	White Wood Porch Ceiling
3340A.2	**6.9**	0.3	24	Good	White Wood Trim
3340A.3	**6.3**	0.4	24	Good	White Metal Porch Support
3340A.4	0.1	0.0	98	Good	White Wood Window Apron
3340A.5	**3.9**	0.4	24	Good	White Wood Porch Rail
3340A.6	-0.3	-0.0	24	Good	White Wood Window Casing
3340A.7	**7.8**	1.0	24	Good	White Wood Fence

'ositive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3341B

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3341B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. On the interior of this unit positive XRF readings were obtained on wood shelves, shelf supports, baseboard and curtain molding (see field XRF readings).

3. Positive XRF readings for lead-based paint were only obtained on the wood privacy fence on the exterior of this unit (see floorplan).

4. A photograph of Unit 3341B appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3341B
Ft. McClellan, Alabama

Date Surveyed: 14 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094140294131702	0.3	0.7	98	N/A	Calibration Check
7094140294131702	0.5	0.7	98	N/A	Calibration Check
7094140294131702	0.3	0.6	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3341B.1.1	0.4	-0.1	98	Good	White Metal Door Jamb
3341B.1.2	0.2	-0.1	98	Good	White Metal Door Casing
3341B.1.3	1.0	0.2	98	Good	White Wood Shelf (Inconclusive-See Sample 3341B.5.2)
3341B.1.4	0.3	-0.1	98	Good	White Wood Door Casing
3341B.1.5	0.0	-0.1	24	Good	White Plaster Wall
3341B.1.6	0.7	-0.1	98	Good	White Wood Baseboard (Inconclusive-See Sample 3341B.3.4)
3341B.1.7	-0.1	-0.1	24	Good	White Plaster Ceiling

Room 2 (Kitchen)

3341B.2.1	0.1	-0.1	24	Good	White Wood Window Apron
3341B.2.2	-0.0	-0.1	24	Good	White Wood Window Sill
3341B.2.3	0.1	-0.1	24	Good	White Wood Window Sash
3341B.2.4	0.1	-0.1	98	Good	White Wood Window Casing
3341B.2.5	-0.3	-0.1	24	Good	White Wood Cabinet

3341B.2.6	0.3	-0.1	24	Good	White Plaster Ceiling
3341B.2.7	-0.0	-0.1	24	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3341B
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Living/Dining Room)					
3341B.3.1	**1.7**	0.0	98	Good	White Wood Curtain Molding
3341B.3.2	-0.2	-0.1	24	Good	White Plaster Ceiling
3341B.3.3	-0.5	-0.2	24	Good	White Concrete Block Wall
3341B.3.4	0.1	-0.1	24	Good	White Wood Baseboard
3341B.3.5	0.2	-0.0	98	Good	White Metal Door
3341B.3.6	0.1	-0.1	24	Good	White Plaster Wall
3341B.3.6	-0.3	-0.1	24	Good	Duplicate
7094021494141601	0.5	-0.3	98	N/A	Calibration Check
7094021494141601	0.4	0.5	98	N/A	Calibration Check
3341B.3.7	-0.0	-0.1	24	Good	White Wood Window Sill
Room 4 (Bedroom)					
3341B.4.1	-0.3	-0.2	24	Good	White Wood Window Casing
3341B.4.2	**1.5**	0.1	98	Good	White Wood Shelf Support
3341B.4.3	-0.1	-0.2	24	Good	White Wood Door
3341B.4.4	**1.8**	0.1	24	Good	White Wood Baseboard
3341B.4.5	0.4	-0.1	98	Good	White Metal Door

Jamb

Room 5 (Bedroom and ½ Bathroom)

3341B.5.1	0.1	-0.1	24	Good	White Wood Window Sash
3341B.5.2	**1.7**	0.5	98	Good	White Wood Shelf
3341B.5.3	-0.2	-0.1	24	Good	White Plaster Ceiling
3341B.5.4	-0.6	-0.2	24	Good	Stained Wood Floor
3341B.5.5	0.1	-0.1	24	Good	White Masonite Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3341B (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Bedroom)					
3341B.6.1	0.1	-0.1	24	Good	White Wood Window Apron
3341B.6.2	0.2	-0.1	24	Good	White Plaster Wall
3341B.6.3	-0.0	-0.1	24	Good	White Plaster Ceiling
3341B.6.4	0.4	-0.1	98	Good	White Metal Door Casing
Room 7 (Hallway and Bathroom)					
3341B.7.1	0.2	-0.1	24	Good	White Wood Attic Scuttle
3341B.7.2	0.3	-0.1	24	Good	White Plaster Wall
3341B.7.3	0.6	-0.0	98	Good	White Wood Baseboard

EXTERIOR XRF READINGS

3341B.1	0.5	0.0	98	Good	White Metal Porch Support
3341B.2	-0.2	0.0	98	Good	White Wood Porch Rail
3341B.3	0.1	-0.0	24	Good	White Wood Trim
3341B.4	-0.1	0.0	24	Good	White Wood Porch Ceiling
3341B.5	-0.0	0.0	24	Good	White Wood Window Casing
3341B.6	0.2	-0.0	24	Good	White Wood Window Apron
3341B.7	**12.9**	1.0	24	Good	White Wood Fence
7094021494150701	0.4	0.5	98	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Fort McClellan LBP Survey Summary
Avery Family Housing Group

Unit 3343A

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3343A is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. On the interior of this unit positive XRF readings were obtained on wood shelves, shelf supports and baseboard (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that, except for wood window components, all wood components (e.g., porch ceiling, porch rails, fence, porch trim, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal poles supporting porch roofs also tested positive (see floorplan).

4. A photograph of Unit 3343A appears below.

CESAD-EN-FL

14 October 1994

Field XRF Readings for Quarters 3343A
Ft. McClellan, Alabama

Date Surveyed: 14 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021494150701	0.4	0.5	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3343A.1.1	-0.0	-0.1	24	Good	White Plaster Ceiling
3343A.1.2	**1.4**	0.1	98	Good	White Wood Baseboard
3343A.1.3	0.1	-0.1	24	Good	White Sheetrock Wall
3343A.1.4	0.1	-0.1	24	Good	White Masonite Door
3343A.1.5	**1.8**	0.4	24	Good	White Wood Shelf Support
3343A.1.6	0.9	0.2	98	Good	White Wood Shelf (Inconclusive-See Sample 3343A.5.6)
3343A.1.7	0.2	-0.1	24	Good	White Wood Door Casing
3343A.1.8	0.5	-0.1	98	Good	White Wood Door Jamb

Room 2 (Kitchen)

3343A.2.1	-0.2	-0.1	24	Good	White Wood Window Sill
3343A.2.2	0.2	-0.1	98	Good	White Wood Window Apron
3343A.2.3	0.2	-0.1	24	Good	White Wood Window Sash
3343A.2.4	-0.1	-0.0	24	Good	White Wood Window Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3343A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (continued)					
3343A.2.5	0.1	-0.1	24	Good	White Sheetrock Ceiling
3343A.2.6	0.1	-0.1	24	Good	White Wood Cabinet
3343A.2.7	0.6	-0.1	98	Good	White Metal Door Header
3343A.2.8	0.2	-0.1	24	Good	White Wood Door
Room 3 (Living/Dining Room)					
3343A.3.1	0.3	-0.1	24	Good	White Concrete Block Wall
3343A.3.2	0.0	-0.1	98	Good	White Sheetrock Wall
3343A.3.3	0.2	0.1	98	Good	White Metal Door
3343A.3.4	0.1	-0.1	24	Good	White Plaster Ceiling
3343A.3.5	-0.0	-0.1	24	Good	White Wood Window Casing
3343A.3.6	-0.9	-0.1	24	Good	Stained Wood Floor
3343A.3.6	-0.0	-0.2	24	Good	Duplicate
7094021494161902	0.3	0.6	98	N/A	Calibration Check
Room 4 (Bedroom and ½ Bathroom)					
3343A.4.1	-0.1	-0.1	20	Good	White Wood Window Casing

3343A.4.2	-0.4	-0.1	20	Good	White Plaster Wall
3343A.4.3	-0.0	-0.1	20	Good	White Plaster Ceilin
3343A.4.4	0.6	-0.1	83	Good	White Metal Door Jamb
3343A.4.5	0.1	-0.1	20	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3343A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (continued)			
3343A.4.6	-0.0	-0.1	20	Good	White Wood Window Casing
3343A.4.7	0.0	-0.1	20	Good	Off-White Plaster Wall
3343A.4.8	1.2	0.2	83	Good	White Wood Baseboard (Inconclusive-See Sample 3343A.6.4)
3343A.4.9	-0.0	-0.1	20	Good	White Masonite Door
		Room 5 (Bedroom)			
3343A.5.1	-0.4	-0.0	20	Good	White Wood Window Sill
3343A.5.2	-0.1	-0.1	20	Good	White Wood Window Sash

3343A.5.3	0.1	-0.1	20	Good	Off-White Plaster Wall
3343A.5.4	-0.1	-0.0	20	Good	Off-White Masonite Door
3343A.5.5	0.2	-0.0	83	Good	Off-White Door Track
3343A.5.6	**1.7**	0.3	20	Good	White Wood Shelf

Room 6 (Bedroom)

3343A.6.1	1.2	0.6	83	Good	White Wood Shelf (Inconclusive-See Sample 3343.5.6)
3343A.6.2	0.3	-0.1	20	Good	White Wood Window Apron
3343A.6.3	-0.2	-0.0	20	Good	Off-White Plaster Wall
3343A.6.4	0.2	0.1	83	Good	White Wood Baseboard
3343A.6.5	0.1	-0.1	20	Good	White Plaster Ceiling

'ositive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3343A (continued)
Ft. McClellan, Alabama

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 7 (Hallway and Bathroom)					
3343A.7.1	-0.1	-0.0	24	Good	White Wood Window Apron
3343A.7.2	-0.4	-0.1	24	Good	White Sheetrock Ceiling
3343A.7.3	1.6	0.2	24	Good	White Wood Baseboard

					(Inconclusive-See Sample 3343A.6.4)
3343A.7.4	0.4	-0.1	98	Good	White Metal Door Casing
3343A.7.5	-0.1	-0.1	24	Good	White Wood Attic Scuttle

EXTERIOR XRF READINGS

3343A.1	**9.9**	0.6	24	Good	White Metal Porch Support
3343A.2	**7.5**	0.4	24	Good	White Wood Porch Rail
3343A.3	**5.5**	0.4	24	Good	White Wood Trim
3343A.4	**6.0**	0.5	24	Good	White Wood Porch Ceiling
3343A.5	0.2	0.0	24	Good	White Wood Window Casing
3343A.6	0.3	-0.0	24	Good	White Wood Window Apron
3343A.7	**15.0**	1.4	24	Good	White Wood Fence
7094021494164102	0.4	0.6	98	N/A	Calibration Check
1.02	0.9	1.0	98	N/A	NIST Standard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3343B is typical of Units 3310 - 3343 (referred to as the Avery Family Housing Group) located on Avery Drive.

2. No interior XRF readings were made on the interior of this unit.

3. Based on the survey results, it is reasonable to assume that, except for wood window components, all wood components (e.g., porch ceiling, porch rails, fence, porch trim, etc.) on the exterior of this unit contain positive levels of lead-based paint. The metal poles supporting porch roofs tested positive as well as green paint on an exterior concrete slab (see floorplan).

4. A photograph of Unit 3343A appears below.

CESAD-EN-FL 14 October 1994

Field XRF Readings for Quarters 3343B
Ft. McClellan, Alabama

Date Surveyed: 15 February 1994
Surveyors: BS, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021594074001	0.6	0.7	98	N/A	Calibration Check
7094021594074001	0.4	0.6	98	N/A	Calibration Check
7094021594074001	0.5	0.6	98	N/A	Calibration Check
7094021594074001	0.6	0.7	98	N/A	Calibration Check
7094021594074001	0.6	0.7	98	N/A	Calibration Check
0000	0.1	-0.1	98	N/A	Blank
1.02	0.9	1.0	98	N/A	NIST Standard

EXTERIOR XRF READINGS

3343B.1	**8.9**	0.6	24	Good	White Metal Porch Support
3343B.2	**7.3**	0.6	24	Good	White Wood Porch Rail
3343B.3	**4.6**	0.4	24	Good	White Wood Trim
3343B.4	**7.0**	0.7	24	Good	White Wood Porch Ceiling
3343B.5	**1.7**	0.7	24	Good	Green Concrete Slab
3343B.6	-0.0	0.0	24	Good	White Wood Window Apron
3343B.7	0.1	0.1	24	Good	White Wood Window Casing
3343B.8	**18.0**	1.3	24	Good	White Wood Fence

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

LEAD BASED PAINT
SURVEY REPORT

BUILDING(S): 3401, 3402, 3403, 3407, and 3409

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/421-5271 FAX 404/421-4977

21 November 1994

LEAD-BASED PAINT SURVEY REPORT
LITTLEBRANT FAMILY HOUSING GROUP
BUILDINGS 3400 - 3411
FT. McCLELLAN, ALABAMA

INTRODUCTION

1. This is the lead-based paint (LBP) field survey report for the Littlebrant Family Housing Group (Buildings 3400 - 3411) located at Ft. McClellan, Alabama. Five (5) units were selected for surveying by environmental office personnel at Fort McClellan (see Plate 1). All of the units in this area are similar in style and date of construction. The actual units surveyed appear below.

Units Surveyed

3401	3402B	3403B	3407	3409B

2. A summary of the LBP survey is provided in this report. A summary of the components tested, including the percentage testing positive, appear in Table 1. A summary for each unit appears in the Appendix. Included are the actual field XRF readings, a photograph of the unit, and a floorplan of the unit showing the locations of the XRF readings testing positive.

3. The LBP survey was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990) and EPA standard operating procedures (EPA document EPA600/8-91/214) for this instrument. The survey was performed by certified surveyors using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (spectrum analyzer) XRF instrument.

4. In this report paint condition stated as "good" is defined as intact; "fair" as intact but worn (minor chips from wear and tear but no adhesion or substrate problems); "poor" as severely worn or no longer adhering or, substrate deterioration (e.g., peeling, flaking, cracking, etc.).

5. The "action level" defined in the HUD Interim Guidelines is a lead concentration above 1.0 mg/cm^2. Lead concentrations in this

report are shown for both K-shell and L-shell. The L-shell XRF reading is essentially for the top 1 or 2 surface paint layers, whereas, the K-shell is total lead applicable for multi-layered paint surfaces. HUD Guidelines specify that the K-Shell results be used for evaluating XRF readings.

6. Positive readings (detectable lead above the action level) with the XRF vary depending on the instrument mode selected. The "test"[1] mode is normally used for routine readings. Readings testing "positive"[2] according to the XRF instrument manufacturer in the test mode are those with a lead concentration greater than 1.3 milligrams per centimeter squared (mg/cm^2), whereas, "negative" refers to readings of 0.7 mg/cm^2 or less. According to the HUD guidelines, positive readings for this instrument are greater than 1.3 mg/cm^2. "Inconclusive" readings are those that fall between 0.7 mg/cm^2 and 1.3 mg/cm^2.

DISCUSSION

7. The Littlebrant Family Housing Group (Buildings 3400 - 3411) consists of one story, three and four bedroom duplexes and single family dwellings. All of the units are of similar construction using typical building materials. The buildings have been updated with vinyl siding and factory finished doors and gutters.

8. A total of two hundred fifteen (215) XRF readings were made. Twenty seven (27) were positive for LBP (see Table 1). The components testing positive for leaded paint are summarized below.

EXTERIOR SUMMARY

9. Based on the survey results, it is reasonable to assume that all of the front and rear porch components (e.g., ceilings, trim, supports, etc.) contain positive levels of lead-based paint. Lead-based paint was also detected on fence components.

INTERIOR SUMMARY

10. On the interiors shelves, shelf supports, baseboards and attic scuttle components should be considered positive for lead-based paint.

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(1) The XRF instrument "test" mode is a reading of approximately 60 seconds duration. Test of longer duration increases precision.

(2) **Inconclusive Range For XRF Spectrum Analyzer**

Instrument Mode	Range	Units
Screen	0.4 - 1.6	mg/cm^2
Test	0.7 - 1.3	mg/cm^2
Confirm	0.85 - 1.15	mg/cm^2

PAINT CONDITION

11. Overall, the paint on the interior and exterior of the units surveyed is in good condition.

Prepared By: _____
Keith Bates
Geologist

Reviewed By: _____
Ray Willingham
Geologist

encl

Plate 1
Littlebrant Family Housing Group
Buildings 3400 - 3411
Buildings In Which Units Were Surveyed Appear In Black

Table 1
Component Summary
Littlebrant Family Housing Group
Buildings 3400 - 3411

COMPONENT	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE
Exterior Components			
Porch Components (e.g., trim,	16	16	100

ceiling, supports, etc.)			
Window Components	7	0	0
Wood Door Components	2	0	0
Fence Components	3	2	67
Interior Components			
Masonite Door	9	0	0
Wood Doors	12	0	0
Metal Doors	3	0	0
Wood Door Components	9	0	0
Metal Door Components	17	0	0
Window Components	33	0	0
Window Sashes	11	0	0
Plaster Ceilings	24	0	0
Sheetrock Ceilings	4	0	0
Plaster Walls	11	0	0
Wood Walls	2	0	0
Sheetrock Walls	6	0	0
Baseboards	15	3	20
Kitchen Cabinets	5	0	0
Shelves and Shelf Supports	18	3	17
Attic Scuttles	3	3	100
Stained Wood Floors	5	0	0
TOTALS	215	27	13

APPENDIX

Units Surveyed

3401	3402B	3403B	3407	3409B

CESAD-EN-FL 21 November 1994

Fort McClellan LBP Survey Summary
Littlebrant Family Housing Group

Unit 3401

Type Building: Four Bedroom
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3401 is typical of Units 3401 - 3411 (referred to as the Littlebrant Family Housing Group) located on Littlebrant Drive.

2. Positive levels of lead-based paint were detected on the baseboards and attic scuttle on the interior of this unit (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that porch components (e.g., trim, ceiling, columns, etc.) on the exterior of this unit contain positive levels of lead-based paint (see floorplan).

4. A photograph of Unit 3401 appears below.

CESAD-EN-FL

21 November 1994

Field XRF Readings for Quarters 3401
Ft. McClellan, AL

Date Surveyed: 15 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021594074001	0.6	0.7	98	N/A	Calibration Check
7094021594074001	0.4	0.6	98	N/A	Calibration Check
7094021594074001	0.5	0.6	98	N/A	Calibration Check
7094021594074001	0.6	0.7	98	N/A	Calibration Check
7094021594074001	0.6	0.7	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3401.1.1	0.0	-0.1	24	Good	White Plaster Ceiling
3401.1.2	0.2	-0.1	24	Good	White Wood Door
3401.1.3	-0.0	-0.1	24	Good	White Plaster Wall
3401.1.4	-0.2	-0.1	24	Good	White Wood Door Casing
3401.1.5	-0.4	-0.1	24	Good	White Wood Shelf Support
3401.1.6	0.7(1)	0.2	98	Good	White Wood Shelf (Inconclusive-Scrape Sample Taken)
3401.1.7	0.7	-0.0	98	Good	White Wood Baseboard (Inconclusive-See Scrape Sample 3401.4.5)
3401.1.8	-0.9	-0.2	24	Good	Stained Wood Floor
3401.1.9	0.7(2)	-0.1	98	Good	White Metal Door Jamb (Inconclusive-Scrape Sample Taken)

(1) Lab Analysis negative (Result = 0.46% Lead, Action Level ≥ 0.5% Lead).

(2) Lab Analysis negative (Result = 0.15% Lead, Action Level ≥ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 21 November 1994

Field XRF Readings for Quarters 3401 (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen)					
3401.2.1	-0.2	-0.1	98	Good	White Wood Window Apron
3401.2.2	0.3	-0.1	24	Good	White Wood Window Sill
3401.2.3	0.3	-0.1	24	Good	White Wood Window Sash
3401.2.4	-0.2	-0.2	24	Good	White Wood Window Casing
3401.2.5	0.3	-0.1	24	Good	White Plaster Ceiling
3401.2.6	-0.1	-0.1	24	Good	White Wood Cabinet
3401.2.7	0.7	-0.1	98	Good	White Metal Door Jamb (Inconclusive-See Scrape Sample 3401.1.9)
Room 3 (Living Room)					
3401.3.1	-0.4	-0.1	24	Good	White Plaster Wall
3401.3.1	-0.3	-0.1	24	Good	Duplicate
7094021594103501	0.3	0.6	98	N/A	Calibration Check

3401.3.2	-0.0	-0.1	24	Good	White Wood Window Casing
3401.3.3	**0.9**	0.0	98	Good	White Wood Baseboard (Inconclusive - See Scrape Sample 3401.4.5)
3401.3.4	-0.1	-0.1	24	Good	White Plaster Ceiling

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3401 (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 4 (Bedroom)					
3401.4.1	1.0	0.2	98	Good	White Wood Shelf (Inconclusive-See Scrape Sample 3401.1.6)
3401.4.2	0.3	-0.1	24	Good	White Masonite Door
3401.4.3	0.2	-0.1	24	Good	White Wood Window Sill
3401.4.4	-0.3	-0.1	24	Good	White Plaster Wall
3401.4.5	**1.0(3)**	0.0	98	Good	White Wood Baseboard (Inconclusive-Scrape Sample Taken)

Room 5 (Bedroom)

3401.5.1	0.7	-0.1	98	Good	White Metal Door Jamb (Inconclusive-See Scrape Sample 3401.1.9)
3401.5.2	0.9	0.2	98	Good	White Wood Shelf (Inconclusive-See Scrape Sample 3401.1.6)
3401.5.3	0.2	-0.1	24	Good	White Plaster Ceiling
3401.5.4	0.2	-0.1	24	Good	White Wood Window Apron
3401.5.5	0.2	-0.1	24	Good	White Wood Door
3401.5.6	0.6	-0.1	98	Good	White Metal Door Casing

(3) Lab Analysis **positive** (Result = 0.56% Lead, Action Level ≥ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3401 (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments

Room 6 (Bedroom)

3401.6.1	0.0	-0.1	24	Good	White Wood Window Sash
3401.6.2	0.2	-0.1	24	Good	White Masonite Door
3401.6.3	-0.6	-0.1	24	Good	White Wood Shelf Support
3401.6.4	0.1	-0.1	24	Good	White Plaster Wall

Room 7 (Bedroom)

3401.7.1	-0.4	-0.1	24	Good	White Plaster Ceiling
3401.7.2	-0.0	-0.1	24	Good	White Wood Window Casing
3401.7.3	0.2	-0.1	24	Good	White Wood Door
3401.7.4	0.6	-0.1	98	Good	White Wood Door Casing

Room 8 (Hallway and Bathroom)

3401.8.1	**1.6**	-0.0	98	Good	White Wood Attic Scuttle
3401.8.2	0.3	-0.1	24	Good	White Plaster Ceiling
3401.8.3	0.1	-0.1	24	Good	White Wood Wall
7094021594115901	0.5	0.6	98	N/A	Calibration Check

EXTERIOR XRF READINGS

3401.1	-0.1	-0.1	24	Fair	White Wood Fence
3401.2	**8.8**	0.7	24	Fair	White Metal Porch Support
3401.3	**6.6**	0.5	24	Poor	White Wood Trim
3401.4	**6.9**	0.6	24	Fair	White Wood Porch Ceiling
3401.5	-0.5	0.0	24	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.
K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Unit 3402B

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3402B is typical of Units 3401 - 3411 (referred to as the Littlebrant Family Housing Group) located on Littlebrant Drive.

2. Positive levels of lead-based paint were detected on the shelf supports and attic scuttle on the interior of this unit (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that porch components (e.g., trim, ceiling, columns, etc.) on the exterior of this unit contain positive levels of lead-based paint (see floorplan).

4. A photograph of Unit 3402B appears below.

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Field XRF Readings for Quarters 3402B
Ft. McClellan, AL

Date Surveyed: 15 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021594131102	0.3	0.5	98	N/A	Calibration Check
7094021594131102	0.5	0.5	98	N/A	Calibration Check
7094021594131102	0.4	0.6	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3402B.1.1	0.2	-0.1	24	Good	White Plaster Ceiling
3402B.1.2	0.2	-0.1	24	Good	White Wood Door
3402B.1.3	0.5	-0.1	98	Good	White Metal Door Casing
3402B.1.4	**1.9**	0.1	24	Good	White Wood Shelf Support
3402B.1.5	0.7	0.2	98	Good	White Wood Shelf (Inconclusive- See Sample 3402B.6.1)
3402B.1.6	1.0	-0.0	98	Good	White Wood Baseboard (Inconclusive - See Scrape Sample 3402B.4.5)

Room 2 (Kitchen)

3402B.2.1	0.0	-0.1	24	Good	White Sheetrock Ceiling
3402B.2.2	-0.4	-0.1	24	Good	White Wood Cabinet
3402B.2.3	0.2	-0.0	24	Good	White Wood Window Apron
3402B.2.4	-0.3	-0.1	24	Good	White Wood Window Casing
3402B.2.5	0.2	-0.1	24	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3402B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 2 (Continued)			
3402B.2.6	0.2	-0.1	24	Good	White Wood Window Sash
3402B.2.7	-0.0	-0.1	24	Good	White Sheetrock Wall
		Room 3 (Living/Dining Room)			
3402B.3.1	0.1	-0.1	24	Good	White Wood Door Casing
3402B.3.2	-0.3	-0.1	24	Good	White Wood Window Sill
3402B.3.3	0.9	-0.0	98	Good	White Wood Baseboard (Inconclusive - See Scrape Sample 3402B.4.5)
3402B.3.4	0.1	-0.1	24	Good	White Plaster Ceiling

3402B.4.4	0.3	-0.1	24	Good	White Sheetrock Wall
3402B.4.4	-0.0	-0.1	24	Good	Duplicate
7094021594140602	0.5	0.5	98	N/A	Calibration Check
3402B.4.5	1.2(1)	0.0	98	Good	White Wood Baseboard (Inconclusive - scrape sample taken

(1) Lab Analysis negative (Result = 0.19% Lead, Action Level ≥ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3402B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 5 (Bedroom)					
3402B.5.1	0.2	-0.0	24	Good	White Wood Window Apron
3402B.5.2	0.4	-0.0	24	Good	White Wood Shelf Support (Inconclusive-See Sample 3402B.1.4)
3402B.5.3	-0.2	-0.1	24	Good	White Wood Door
3402B.5.4	0.7	-0.1	98	Good	White Metal Door Casing (Inconclusive-See Sample 3402B.1.3)
Room 6 (Bedroom and Bathroom)					
3402B.6.1	0.3	0.1	24	Good	White Wood Shelf
3402B.6.2	0.2	-0.1	24	Good	White Sheetrock

					Ceiling
3402B.6.3	0.1	-0.0	24	Good	White Wood Window Sill
3402B.6.4	0.0	-0.1	24	Good	White Wood Window Sash
3402B.6.5	-0.1	-0.1	24	Good	White Sheetrock Wall

Room 7 (Hallway and Bathroom)

3402B.7.1	**2.1**	0.1	24	Good	White Wood Attic Scuttle
3402B.7.2	0.5	-0.1	98	Good	White Metal Door Casing
3402B.7.3	-0.6	-0.1	24	Good	White Plaster Ceiling
3402B.7.4	-0.1	-0.1	24	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 21 November 1994

Field XRF Readings for Quarters 3402B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
EXTERIOR XRF READINGS					
3402B.1	**6.6**	0.5	24	Good	White Wood Porch Ceiling
3402B.2	**7.4**	0.4	24	Good	White Wood Trim
3402B.3	0.5	-0.1	24	Good	White Wood Window Apron (Inconclusive)

3402B.4	**7.4**	0.8	24	Good	White Metal Porch Support
3402B.5	-0.0	-0.1	24	Good	White Wood Door Casing
7094021594144802	0.3	0.6	98	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 21 November 1994

Fort McClellan LBP Survey Summary
Littlebrant Family Housing Group

Unit 3403B

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3403B is typical of Units 3401 - 3411 (referred to as the Littlebrant Family Housing Group) located on Littlebrant Drive.

2. No positive XRF readings for lead-based paint were obtained on the interior of this unit (see field XRF readings). The wood attic scuttle was inconclusive. Attic scuttles in other units in this area tested positive, thus it is reasonable to assume the attic scuttle in this unit contains positive levels of lead-based paint.

3. Based on the survey results, it is reasonable to assume that porch components (e.g., trim, ceiling, columns, etc.) on the exterior of this unit contain positive levels of lead-based paint. Lead paint was also found on the metal fence support (see floorplan).

4. A photograph of Unit 3403B appears below.

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Field XRF Readings for Quarters 3403B
Ft. McClellan, AL

Date Surveyed: 15 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021594144802	0.3	0.6	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3403B.1.1	0.3	-0.1	24	Good	White Plaster Ceiling
3403B.1.2	0.1	-0.1	24	Good	White Wood Door
3403B.1.3	0.5	-0.1	98	Good	White Wood Door Casing
3403B.1.4	0.8(1)	-0.0	98	Good	White Wood Baseboard (Inconclusive- Scrape Sample Taken)
3403B.1.5	-0.0	-0.1	24	Good	White Plaster Wall

Room 2 (Kitchen)

3403B.2.1	0.2	-0.1	24	Good	White Wood Window Casing
3403B.2.2	-0.2	-0.1	24	Good	White Wood Window Sill
3403B.2.3	0.3	-0.1	24	Good	White Wood Window Sash
3403B.2.4	0.3	-0.1	24	Good	White Wood Window Apron
3403B.2.5	-0.0	-0.1	24	Good	White Wood Cabinet
3403B.2.6	-0.3	-0.1	24	Good	White Plaster Ceiling

(1) Lab Analysis negative (Result = 0.19% Lead, Action Level ≥ 0.5% Lead)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3403B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Living/Dining Room)					
3403B.3.1	0.4	-0.0	98	Good	White Metal Door
3403B.3.2	0.2	-0.1	24	Good	White Wood Door Casing
3403B.3.3	1.1	0.1	98	Good	White Wood Baseboard (Inconclusive- See Scrape Sample 3403B.1.4)
3403B.3.4	-0.2	-0.1	24	Good	White Wood Window Casing
Room 4 (Bedroom)					
3403B.4.1	-0.2	-0.1	24	Good	White Plaster Ceiling
3403B.4.1	0.2	-0.1	24	Good	Duplicate
7094021594154101	0.3	0.5	98	Good	Calibration Check
3403B.4.2	-0.2	-0.1	24	Good	White Masonite Door
3403B.4.3	0.1	-0.1	98	Good	White Wood Shelf Support
3403B.4.4	0.7	0.1	98	Good	White Wood Shelf (Inconclusive - See Sample 3403B.5.1)

3403B.4.5	0.1	-0.1	24	Good	White Plaster Ceiling
3403B.4.6	0.3	-0.1	98	Good	White Metal Door Jamb

Room 5 (Bedroom)

3403B.5.1	0.4	0.1	98	Good	White Wood Shelf
3403B.5.2	0.1	-0.1	24	Good	White Wood Window Apron
3403B.5.3	-0.5	-0.1	24	Good	White Plaster Wall
3403B.5.4	0.0	-0.1	24	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3403B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 6 (Bedroom)					
3403B.6.1	0.2	-0.1	24	Good	White Wood Window Sash
3403B.6.2	0.2	-0.1	24	Good	White Masonite Door
3403B.6.3	-0.0	-0.1	24	Good	White Plaster Ceiling
3403B.6.4	0.6	-0.1	98	Good	White Metal Door Casing
Room 7 (Hallway and Bathroom)					
3403B.7.1	-0.7	-0.2	24	Good	Stained Wood Floor
3403B.7.2	**1.1**	0.0	98	Good	White Wood Attic Scuttle(Inconclusive)
3403B.7.3	0.0	-0.1	24	Good	White Wood Window

					Apron
3403B.7.4	0.1	-0.1	24	Good	White Plaster Ceiling
3403B.7.5	0.1	-0.1	24	Good	White Wood Wall
7094021594162001	0.7	0.7	98	N/A	Calibration Check
1.02	0.6	1.1	98	N/A	NIST Standard

EXTERIOR XRF READINGS

3403B.1	0.3	-0.1	24	Good	White Wood Window Apron
3403B.2	**5.9**	0.5	24	Good	White Wood Porch Trim
3403B.3	**4.2**	0.4	24	Good	White Wood Porch Ceiling
3403B.4	**4.1**	0.6	24	Good	White Metal Porch Support
3403B.5	-0.0	-0.1	24	Good	White Wood Door Casing
3403B.6	-0.2	-0.0	24	Good	White Wood Window Casing
3403B.7	**9.0**	0.3	24	Poor	Green Metal Fence Support

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Fort McClellan LBP Survey Summary
Littlebrant Family Housing Group

Unit 3407

Type Building: Four Bedroom
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3407 is typical of Units 3401 - 3411 (referred to as the Littlebrant Family Housing Group) located on Littlebrant Drive.

2. Positive levels of lead-based paint were detected on the shelves and attic scuttle on the interior of this unit (see field XRF readings).

3. Based on the survey results, it is reasonable to assume that porch components (e.g., trim, ceiling, columns, etc.) on the exterior of this unit contain positive levels of lead-based paint (see floorplan).

4. A photograph of Unit 3407 appears below.

CESAD-EN-FL 21 November 1994

Field XRF Readings for Quarters 3407
Ft. McClellan, AL

Date Surveyed: 16 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021694071902	0.5	0.6	98	N/A	Calibration Check
7094021694071902	0.4	0.6	98	N/A	Calibration Check
7094021694071902	0.6	0.6	98	N/A	Calibration Check
7094021694071902	0.4	0.6	98	N/A	Calibration Check
7094021694071902	0.3	0.6	98	N/A	Calibration Check
0000	0.2	-0.1	98	N/A	Blank
1.02	1.0	1.2	98	N/A	NIST Standard

INTERIOR XRF READINGS

Room 1 (Foyer)

3407.1.1	0.1	-0.1	24	Good	White Plaster Ceiling
3407.1.2	-0.0	-0.1	24	Good	White Wood Door
3407.1.3	1.1(1)	-0.0	98	Good	White Wood Baseboard (Inconclusive-Scrape Sample Taken)
3407.1.4	-0.2	-0.2	24	Good	White Sheetrock Wall
3407.1.5	0.5	-0.1	98	Good	White Metal Door Casing
3407.1.6	0.3	-0.1	98	Good	White Metal Door Jamb
3407.1.7	-0.0	-0.1	24	Good	White Wood Door Casing

Room 2 (Kitchen)

3407.2.1	-0.0	-0.1	24	Good	White Wood Window Sill
3407.2.2	-0.1	-0.1	24	Good	White Wood Window Apron
3407.2.3	-0.2	-0.1	24	Good	White Wood Window Sash

1) Lab Analysis negative (Result = 0.10% Lead, Action Level ≥ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3407 (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen - continued)					
3407.2.4	-0.4	-0.1	24	Good	White Wood Window Casing
3407.2.5	-0.1	-0.1	24	Good	White Wood Cabinet
3407.2.6	-0.3	-0.1	24	Good	White Sheetrock Ceiling
Room 3 (Living/Dining Room)					
3407.3.1	0.3	0.0	98	Good	White Metal Door
3407.3.2	-0.1	-0.1	24	Good	White Wood Window Sill
3407.3.2	-0.1	-0.1	24	Good	Duplicate
7094021694093102	-0.1	-0.1	98	N/A	Calibration Check
7094021694093102	0.4	0.6	98	N/A	Calibration Check
3407.3.3	0.9	-0.0	98	Good	White Wood Baseboard (Inconclusive-See Scrape Sample 3407.1.3)
3407.3.4	0.2	-0.1	24	Good	White Plaster Ceiling
Room 4 (Bedroom)					

3407.4.1	0.2	-0.1	24	Good	White Wood Window Casing
3407.4.2	0.2	-0.1	24	Good	White Wood Shelf Support
3407.4.3	1.2	0.1	98	Good	White Wood Shelf (Inconclusive-See Sample 3407.5.3)
3407.4.4	0.0	-0.1	24	Good	White Masonite Door
3407.4.5	-0.3	-0.1	24	Good	White Sheetrock Wall
3407.4.6	0.6	-0.1	98	Good	White Metal Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3407 (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 5 (Bedroom)					
3407.5.1	0.2	-0.1	24	Good	White Wood Window Sash
3407.5.2	0.3	-0.1	24	Good	White Plaster Ceiling
3407.5.3	**1.5**	0.2	98	Good	White Wood Shelf
3407.5.4	1.3	0.1	98	Good	White Wood Baseboard (Inconclusive-See Scrape Sample 3407.1.3)
3407.5.5	0.3	-0.1	24	Good	White Wood Door
Room 6 (Bedroom)					
3407.6.1	-0.4	-0.1	24	Good	White Wood Window

					Apron
3407.6.2	0.2	-0.1	24	Good	White Sheetrock Wall
3407.6.3	-0.1	-0.1	24	Good	White Masonite Door
3407.6.4	0.6	-0.1	98	Good	White Metal Door Casing

Room 7 (Bedroom)

3407.7.1	-0.5	-0.1	24	Good	White Wood Window Sill
3407.7.2	0.1	-0.1	24	Good	White Plaster Ceiling
3407.7.3	0.1	-0.1	24	Good	White Wood Shelf Support
3407.7.4	0.5	-0.1	98	Good	White Metal Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3407 (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 8 (Hallway and Bathroom)					
3407.8.1	**1.3**	-0.1	98	Good	White Wood Attic Scuttle
3407.8.2	-0.1	-0.1	24	Good	White Sheetrock Ceiling

3407.8.3	-1.7	-0.1	24	Good	Stained Wood Floor
7094021694102902	0.3	0.6	98	N/A	Calibration Check

EXTERIOR XRF READINGS

3407.1	**10.0**	0.5	24	Good	White Wood Trim
3407.2	**6.2**	1.5	24	Good	White Wood Porch Ceiling
3407.3	0.1	-0.0	24	Good	White Wood Window Apron
3407.4	0.0	-0.0	24	Good	White Wood Window Casing
3407.5	**6.7**	0.8	24	Good	White Metal Porch Support

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 21 November 1994

Fort McClellan LBP Survey Summary
Littlebrant Family Housing Group

Unit 3409B

Type Building: Three Bedroom Duplex
Date Constructed: 1958
Type Construction: Brick and Wood

Survey Summary

1. Unit 3409B is typical of Units 3401 - 3411 (referred to as the Littlebrant Family Housing Group) located on Littlebrant Drive.

2. No positive XRF readings for lead-based paint were obtained on the interior of this unit (see field XRF readings). The wood attic scuttle was inconclusive. Attic scuttles in other units in this area tested positive, thus it is reasonable to assume the attic scuttle in this unit contains positive levels of lead-based paint.

3. Based on the survey results, it is reasonable to assume that porch components (e.g., trim, ceiling, columns, etc.) on the exterior of this unit contain positive levels of lead-based paint. Lead paint was also found on the fence (see floorplan).

4. A photograph of Unit 3409B is not available.

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Field XRF Readings for Quarters 3409B
Ft. McClellan, AL

Date Surveyed: 16 February 1994
Surveyors: JS,BS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094021694102902	0.3	0.6	98	N/A	Calibration Check

INTERIOR XRF READINGS

Room 1 (Foyer)

3409B.1.1	0.7	0.1	98	Good	White Wood Baseboard (Inconclusive-See Sample 3409B.3.2)
3409B.1.2	-0.2	-0.1	24	Good	White Plaster Wall
3409B.1.3	0.0	-0.1	24	Good	White Masonite Door
3409B.1.4	-0.0	-0.2	24	Good	White Wood Shelf Support
3409B.1.5	-0.2	-0.1	24	Good	White Wood Door Casing
3409B.1.6	0.3	-0.1	24	Good	White Metal Door Casing
3409B.1.7	0.2	-0.1	24	Good	White Metal Door Jamb

Room 2 (Kitchen)

3409B.2.1	-0.7	-0.1	24	Good	White Wood Cabinet
3409B.2.2	0.1	-0.1	24	Good	White Wood Window Sill
3409B.2.3	-0.3	-0.1	24	Good	White Wood Window Casing
3409B.2.4	0.2	-0.1	24	Good	White Wood Window Sash
3409B.2.5	-0.3	-0.0	24	Good	White Wood Window Apron
3409B.2.6	-0.5	-0.2	24	Good	White Plaster Ceiling
3409B.2.7	-0.1	-0.1	24	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3409B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Dining/Living Room)					
3409B.3.1	-0.0	-0.1	24	Good	White Wood Window Apron
3409B.3.2	0.6	0.1	98	Good	White Wood Baseboard
3409B.3.3	0.1	-0.1	24	Good	White Plaster Ceiling
3409B.3.4	-0.0	-0.1	24	Good	White Plaster Wall
3409B.3.5	0.1	-0.0	98	Good	White Metal Door
Room 4 (Bedroom and ½ Bathroom)					
3409B.4.1	0.1	-0.1	24	Good	White Plaster Ceiling
3409B.4.1	0.1	-0.1	24	Good	Duplicate
7094021694110601	0.6	0.6	98	N/A	Calibration Check
3409B.4.2	-0.1	-0.1	24	Good	White Wood Window Sash
3409B.4.3	0.3	0.2	24	Good	White Wood Shelf
3409B.4.4	0.2	-0.1	24	Good	White Masonite Door
3409B.4.5	0.8(1)	0.1	98	Good	White Wood Baseboard (Inconclusive-Scrape Sample Taken)
3409B.4.6	0.2	-0.1	24	Good	White Metal Door Jamb

(1) Lab Analysis negative (Result = 0.28% Lead, Action Level ≥ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3409B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 5 (Bedroom)		
3409B.5.1	0.1	-0.1	24	Good	White Wood Window Sill
3409B.5.2	1.0	0.0	98	Good	White Wood Shelf Support (Inconclusive- See Sample 3409B.6.1)
3409B.5.3	-0.2	-0.1	24	Good	White Plaster Wall
3409B.5.4	-0.1	-0.1	24	Good	White Wood Door
3409B.5.5	-0.0	-0.1	24	Good	White Plaster Ceiling
			Room 6 (Bedroom)		
3409B.6.1	-0.2	-0.1	24	Good	White Wood Shelf Support
3409B.6.2	0.3	-0.1	24	Good	White Wood Window Casing

3409B.6.3	0.5	-0.1	98	Good	White Metal Door Casing
3409B.6.4	-0.2	-0.1	24	Good	White Plaster Wall
3409B.6.5	-0.2	-0.1	24	Good	White Plaster Ceiling
Room 7 (Hallway and Bathroom)					
3409B.7.1	-0.3	-0.1	24	Good	White Plaster Wall
3409B.7.2	0.1	-0.1	24	Good	White Wood Window Apron
3409B.7.3	1.2	0.1	98	Good	White Wood Attic Scuttle(Inconclusive)
3409B.7.4	-0.9	-0.1	24	Good	Stained Wood Floors
7409021694115001	0.5	0.6	98	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3409B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
EXTERIOR XRF READINGS					
3409B.1	-0.1	-0.0	20	Good	White Wood Window Apron
3409B.2	**5.0**	0.3	20	Good	White Wood Porch Ceiling
3409B.3	**4.4**	0.4	20	Good	White Wood Trim
3409B.4	-0.1	-0.0	20	Good	White Wood Window Casing

3409B.5	**7.6**	0.7	20	Good	White Metal Porch Support
3409B.6	**4.8**	0.8	20	Good	White Wood Trim
3409B.7	**12.1**	0.9	20	Good	Green Fence

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

LEAD BASED PAINT
SURVEY REPORT

BUILDING(S):

3500A, 3500C, 3501A, 3502B, 3502D, 3503A, 3571B,3519B,3520E, 3524A, 3524C, 3526B, 3528D, 3529B, 3530C, 3531B, 3531E, 3532D, 3540E, 3533C, 3533E, 3543B, 3534F, 3535B, 3535D, 3536A, 3536E, 3536F, 3537A, 3437A, 3538B, 3538F

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/421-5271 FAX 404/421-4977

21 November 1994

LEAD-BASED PAINT SURVEY REPORTS FOR MORTON, CHURCH, AND BAKER ROAD FAMILY HOUSING UNITS (UNITS 3500 - 3540) FORT McCLELLAN, ALABAMA

Introduction

1. This is the Lead-Based Paint (LBP) field survey report for thirty-one (31) of the family housing units selected for testing in the Morton, Church and Baker Roads area of Fort McClellan, Alabama. This report documents the LBP field and laboratory results for these units which were grouped together due to similarities in construction, age, and paint history (based on XRF results). A map, showing the locations of these family quarters, appears as Plate 1. The units that were surveyed for LBP in this group are listed below.

Morton, Church and Baker Roads Family Housing Units

3500A	3517B	3528D	3533C	3536A
3500C	3519B	3529B	3533E	3536E
3501A	3520E	3530C	3534B	3536F
3502B	3524A	3531B	3534F	3537A
3502D	3524C	3531E	3535B	3538B
3503A	3526B	3532D	3535D	3538F
		and 3540E		

2. The lead-based paint surveys were performed by certified surveyors using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (spectrum analyzer) XRF instrument. The surveys were conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990) and EPA standard operating procedures (EPA document EPA600/8-91/214) for this instrument.

3. The LBP survey results for the thirty-one units tested appear in numerical order (by unit no.) in the appendix. A brief summary of the components testing positive for LBP and a photograph of the buildings are provided. The actual field XRF readings and the unit floorplan, showing the locations where positive XRF readings occurred, also appears in the appendix.

4. In this report, paint condition expressed as "good" is defined as intact; "fair" as intact but worn (minor chips from wear and tear but no adhesion or substrate problems); "poor" as severely worn or no longer adhering or, substrate deterioration

(e.g., peeling, flaking, cracking, etc.).

5. The "action level" defined in the HUD Interim Guidelines is a lead concentration above 1.0 mg/cm^2. Lead concentrations in this report are shown for both K-shell and L-shell in the field XRF data. The XRF L-shell reading is the result of the instrument examining 1 or 2 surface paint layers only, whereas, the K-shell reflects the total lead found through all paint films down to the substrate material. HUD Guidelines specify that the XRF K-Shell reading be used for assigning positive determination.

6. Positive readings (detectable lead above the action level) with the XRF instrument vary depending on the instrument mode selected. The "test" [1] mode is normally used for routine readings. In accordance with the XRF instrument manufacturer and the HUD guidelines, readings testing "positive" in the test mode are those with a lead concentration greater than 1.3 milligrams per centimeter squared (mg/cm^2). "Negative" refers to readings of 0.7 mg/cm^2 or less. "Inconclusive"[2] readings are those that fall between 0.7 mg/cm^2 and 1.3 mg/cm^2.

Discussion

7. The Family Housing units in this group, which are located on either Morton, Church, or Baker Road, are constructed of identical materials, however, they vary between one and two story floorplans. All are built of block, brick, and partial wood framing. The two story units have two bedrooms (upstairs) and the one story units have three bedrooms. These buildings, which contain two, four, five, and six individual family units, were reportedly built in 1955. They have wood frame windows, wood upper trim and aluminum storm windows. The exteriors are covered with unpainted brick, vinyl siding, and vinyl or aluminum trim. The interior walls and ceilings are sheetrock with wooden trim components.

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[1] The XRF instrument "test" mode is a reading of approximately 60 to 100 second durations (depending on the age of the source). Tests of longer duration increases precision.

[2] **Inconclusive Range For XRF Spectrum Analyzer**

Instrument Mode	Range	Units
Screen	0.4 - 1.6	mg/cm^2

Test	0.7 - 1.3	mg/cm^2
Confirm	0.85 - 1.15	mg/cm^2

8. A total of one-thousand five-hundred and sixty-one (1561) XRF measurements were made at the thirty-one units surveyed for LBP. One-hundred and fifteen (115) of those readings were determined to be positive for lead-based paint. Thirty-five (35) of the one-thousand three hundred and seventy-six (1376) interior XRF readings were positive. Forty-five (45) of the one-hundred and eighty-five (185) exterior XRF readings were positive for LBP. The XRF results are summarized in Table 1. The Table lists the similar surfaces and components tested in separate categories. It also includes the number of positive XRF readings and percentages of positive XRF tests in each category.

Interior Summary

9. Based on the XRF measurements, the painting history of the selected thirty-one units on Morton, Church and Baker Road, appear to be very similar. With minor exceptions, there is no distinctive differences in the XRF measurements taken from one unit to the next. Any slight variations will be discussed in the appendix of each individual unit. In most cases, there was very little lead-based paint detected on interior surfaces. However, in the two story units, the black metal handrails (located in the stairwell between floors) contain positive levels of leaded paint. A small percentage of doors, door components, and shelves also tested positive for LBP. Refer to individual unit summaries and floorplans in the appendix for specific locations where positive XRF readings occurred.

Exterior Summary

10. The exterior XRF readings obtained at these units were also very consistent. The wood frame exterior walls and upper trim on these twenty-five units have been encapsulated with vinyl siding and aluminum trim. However, XRF readings taken on some of the exposed painted surfaces (upper trim, window and door trim) resulted in positive LBP readings. All paint associated with the porch (metal support posts, overhangs, and trim) should be considered positive for LBP. With the exception of newly replaced components, it is reasonable to assume that all exterior paint contains positive levels of lead. Refer to individual unit summaries and floorplans in the appendix for specific locations where positive XRF readings occurred.

Paint Condition

11. The interior paint in this group of family housing units was generally in "good" condition. Positive leaded paint in "fair" to "poor" condition was noted on porch support posts and some window and door components on the exterior.

Prepared By: _____
Larry Martin

Civil Engineering Tech.

Reviewed By: _____
Ray Willingham
Geologist

CESAD-EN-FL

21 November 1994

TABLE 1

COMPONENT SUMMARY CHART FOR MORTON, CHURCH, and BAKER ROAD FAMILY HOUSING HOUSING UNITS 3500 - 3542

COMPONENTS TESTED	# TESTED	# POSITIVE	% POSITIVE
EXTERIOR COMPONENTS			
EXTERIOR SIDING & WALLS *	2	0	0
EXTERIOR TRIM (Facia, Soffits, Cornerboards)	7	5	71
EXTERIOR WINDOWS (Sills, Frames, Casings)	79	13	16
EXTERIOR DOORS (Headers, Casings, Frames)	57	4	7
PORCH (Frame, Trim, Floor)	28	23	82
MISCELLANEOUS (Privacy Fence, etc.)	12	0	0
INTERIOR COMPONENTS			
INTERIOR WINDOWS (Sills, Frames, Casings)	218	0	0
INTERIOR TRIM (Baseboards, Crown & Chair Molding)	203	3	1
INTERIOR DOORS (Headers, Casings, Frames)	337	10	3
INTERIOR WALLS	183	0	0
INTERIOR CEILINGS	179	0	0
STAIRS (Risers, Thread, Handrails, Posts)	51	20	39
SHELVES and SHELF SUPPORTS	142	2	1
FLOORS	17	0	0
MISCELLANEOUS (Fireplace, Cabinets)	46	0	0

TOTALS	1561	115	7

- Vinyl or Aluminum covered

Quarters No. 3500A

Type Quarters: Two Bedrooms, Two Story (approx. 1000 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3500A is one unit in a four family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The floors are stained hardwood.

2. With the exception of the black metal handrail in the stair well, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3500A, LBP was detected on the metal porch support post and the door lintels (overhang above doors).

3. A photograph of Unit No. 3500A appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 500A, follows the XRF field readings.

Quarters No. 3502B

Type Quarters: Two Bedrooms, Two Story (approx. 1000 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3502B is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The floors are stained hardwood or linoleum covered.

2. With the exception of the black metal handrail in the stair well between the first and second floors, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3502B, LBP was detected on the metal porch support post and door trim (kitchen entry door). It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3502B appears below. The actual field XRF

readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3502B, follows the XRF field readings.

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Morton Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3502D

Type Quarters: Two Bedrooms, Two Story (approx. 1000 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3502D is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The floors are stained hardwood, floor tile, and linoleum.

2. With the exception of the black metal handrail in the stair well between the first and second floors, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3502D, LBP was detected on the metal porch support post.

3. A photograph of Unit No. 3502D appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3502D, follows the XRF field readings.

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Morton Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3503A

Type Quarters: Three Bedrooms, One Story (approx. 1300 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3503A is one unit in a two family unit (duplex) building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. The floors are covered with 12 " floor tiles.

2. No lead-based paint was detected in the interior of this unit. On the exterior of unit 3503A, LBP was detected on the wood window trim on the front and rear of this unit (See floorplan).

3. A photograph of Unit No. 3503A appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3503A, follows the XRF field readings.

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Morton Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3517B

Type Quarters: Three Bedrooms, One Story (approx. 1400 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3517B is one unit in a two family unit (duplex) building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. The floors are covered with 12 " floor tiles.

2. With the exception of the shelf supports in the closet in room no. 6 (bedroom), no lead-based paint was detected in the interior of this unit. Other shelf supports throughout this unit were tested with negative LBP results. On the exterior of unit 3517B, LBP was detected on the wood window and door trim on the front and rear of this unit. It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3517B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3517B, follows the XRF field readings.

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Morton Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3519B

Type Quarters: Three Bedrooms, One Story (approx. 1300 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3519B is one unit in a two family unit (duplex) building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. The floors are covered with rolled linoleum.

2. With the exception of the shelves in the hall closet, no lead-based paint was detected in the interior of this unit. Other shelves throughout this unit were tested with negative LBP results. On the exterior of unit 3519B, LBP was detected on the wood door trim, porch trim, and the metal porch support post (See floorplan). It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3519B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3519B, follows the XRF field readings.

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Morton Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3520E

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3520E is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom on the first floor appeared to be newly added.

2. With the exception of the black metal handrail in the stair well between the first and second floors, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3520E, LBP was detected on the metal porch support post and the door lintels (overhang above doors).

3. A photograph of Unit No. 3520E appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3520E, follows the XRF field readings.

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Morton Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3524A

Type Quarters: Three Bedrooms, One Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3524A is one unit in a six family unit building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. The floors are carpeted or linoleum covered.
2. No lead-based paint was detected in the interior of this unit. On the exterior of unit 3524A, LBP was detected on the wood trim and the wood porch support column (See floorplan). It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3524A appears below. The actual field XRF

readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3524A, follows the XRF field readings.

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Morton Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3524C

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3524C is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well between the first and second floors, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3524C, LBP was detected on the metal porch support post and the wood window trim. It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3524C appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3524C, follows the XRF field readings.

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Morton Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3526B

Type Quarters: Three Bedrooms, One Story (approx. 1200 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3526B is one unit in a two family unit (duplex) building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. The floors are carpeted or linoleum covered.

2. With the exception of the door jamb in the laundry room (see floorplan), no lead-based paint was detected in the interior of this unit. No lead-based paint was detected on the exterior of unit 3526B.

3. A photograph of Unit No. 3526B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which

shows the specific locations in which positive readings occurred at Unit No. 3526B, follows the XRF field readings.

Quarters No. 3528D

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3528D is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3528D, LBP was detected on the wood window trim. It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3528D appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3528D, follows the XRF field readings.

Quarters No. 3529B

Type Quarters: Three Bedrooms, One Story (approx. 1200 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3529B is one unit in a two family unit (duplex) building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. The floors are carpeted or linoleum covered.

2. No lead-based paint was detected in the interior of this unit. On the exterior of unit 3529B, LBP was detected on the wood window trim (See floorplan). It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3529B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No.

3529B, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3530C

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3530C is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3530C, LBP was detected on the metal porch support post and the window trim. It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3530C appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3530C, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3531B

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3531B is one unit in a five family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appeared to be newly added.

2. With the exception of the black metal handrail in the stair well between the first and second floors, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3531B, LBP was detected on the metal porch support.

3. A photograph of Unit No. 3531B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which

shows the specific locations in which positive readings occurred at Unit No. 3531B, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3531E

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3531E is one unit in a five family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3531E, LBP was detected on the metal porch support.

3. A photograph of Unit No. 3531E appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3531E, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3532D

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3532D is one unit in a four family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well and the door casing in the kitchen (room no. 2), no lead-based paint was detected in the interior of this unit. On the exterior of unit 3532D, LBP was detected on the metal porch support. It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3532D appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which

shows the specific locations in which positive readings occurred at Unit No. 3532D, follows the XRF field readings.

'ESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3533C

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3533C is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well and the wood door in Room No. 5 (bedroom), no lead-based paint was detected in the interior of this unit. On the exterior of unit 3533C, LBP was detected on the metal porch support post and wood trim in the rear (see floorplan). It is reasonable to assume that surfaces identical to those testing positive, also contain LBP.

3. A photograph of Unit No. 3533C appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3533C, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3533E

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3533E is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well and the metal door casing in living room (see floorplan), no lead-based paint was detected in the interior of this unit. On the exterior of unit 3533E, LBP was detected on the metal porch support post.

3. A photograph of Unit No. 3533E appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3533E, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3534B

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3534B is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well and the metal door casing in the kitchen (see floorplan), no lead-based paint was detected in the interior of this unit. No positive levels of lead-based paint were detected on the exterior of unit 3534B.

3. A photograph of Unit No. 3534B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3534B, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3534F

Type Quarters: Three Bedrooms, One Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3534F is one unit in a six family unit building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. The floors are carpeted or linoleum covered.
2. No lead-based paint was detected in the interior of this unit. On the exterior of unit 3534F, LBP was detected on the porch support column and the door casing in the rear (see floorplan). It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3534F appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 534F, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3535B

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3535B is one unit in a five family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well between the first and second floors, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3535B, LBP was detected on the metal porch support.

3. A photograph of Unit No. 3535B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3535B, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Church Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3535D

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3535D is one unit in a five family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well, and a door jamb in the kitchen (see floorplan), no lead-based paint was detected in the interior of this unit. On the exterior of unit 3535D, LBP was detected on the metal porch support and wood upper trim. It is reasonable to assume that the paint on the surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3535D appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3535D, follows the XRF field readings.

Quarters No. 3536A

Type Quarters: Three Bedrooms, One Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3536A is one unit in a six family unit building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. Signs of interior remodeling were evident by the visual age differences in some of the walls and trim components.

2. No lead-based paint was detected in the interior of this unit. On the exterior of unit 3536A, LBP was detected on wood window trim the porch support column (See floorplan). It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3536A appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3536A, follows the XRF field readings.

Quarters No. 3536E

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3536E is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. With the exception of the black metal handrail in the stair well, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3536E, LBP was detected on the metal porch support.

3. A photograph of Unit No. 3536E appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3536E, follows the XRF field readings.

Quarters No. 3536F

Type Quarters: Three Bedrooms, One Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3536F is one unit in a six family unit building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. Signs of interior remodeling were evident by visual age differences in certain walls and trim components.

2. No lead-based paint was detected in the interior of this unit. On the exterior of unit 3536F, LBP was detected on the porch support column (See floorplan).

3. A photograph of Unit No. 3536F appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3536F, follows the XRF field readings.

Quarters No. 3537A

Type Quarters: Three Bedrooms, One Story (approx. 1200 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3537A is one unit in a two family unit (duplex) building. This unit has three bedrooms, one bathroom, and a combined living room and dining room. Signs of completed remodeling were evident by visual age differences in certain walls and trim components.

2. Lead-based paint was detected on metal door casings and jambs in the interior of this unit. On the exterior of unit 3537A, LBP was detected on wood window trim and the wood porch support column (See floorplan for specific positive LBP locations). It is reasonable to assume that surfaces identical to those testing positive, also contain positive levels of LBP.

3. A photograph of Unit No. 3537A appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3537A, follows the XRF field readings.

Quarters No. 3538B

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3538B is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The LBP survey team was unable to access the interior of this unit so interior XRF measurements were not obtained.

2. With the exception of the metal porch support post, no lead-based paint was detected on the exterior of unit 3538B.

3. A photograph of Unit No. 3538B appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3538B, follows the XRF field readings.

Quarters No. 3538F

Type Quarters: Three Bedrooms, One Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3538F is one unit in a six family unit building. This unit has three bedrooms, one bathroom, and a combined living room and dining room.

2. With the exception of the metal door jamb in the living room, no lead-based paint was detected in the interior of this unit. On the exterior of unit 3538F, LBP was detected on the wood window trim (see floorplan).

3. A photograph of Unit No. 3538F appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3538F, follows the XRF field readings.

CESAD-EN-FL 21 November 1994

Baker Road Family Housing, Fort McClellan, Alabama
Lead-Based Paint Survey

Quarters No. 3540E

Type Quarters: Two Bedrooms, Two Story (approx. 1100 sq. ft.)
Date Constructed: 1955
Type Construction: Brick, and Wood Frame.

Survey Summary:

1. Quarters No. 3540E is one unit in a six family unit building. This unit has two bedrooms, two bathrooms, and a combined living room and dining room. The laundry room/bathroom (room no. 3) on the first floor appears to be newly added.

2. In the interior of Quarters No. 3540E, positive levels of LBP were detected on the black metal handrail in the stair well and on baseboards in the upstairs bedrooms. On the exterior of this unit, LBP was detected on the metal porch support.

3. A photograph of Unit No. 3540E appears below. The actual field XRF readings appear on the following pages. A generalized floorplan, which shows the specific locations in which positive readings occurred at Unit No. 3540E, follows the XRF field readings.

LEAD BASED PAINT
SURVEY REPORT

BUILDING(S):

3610B, 3611A, 3612A, 3614B, 3615B, 3616A, 3616B, 3617A, 3617B, 3618A, 3619B, 3620B, 3622B, 3624B, 3626B, 3629B, 3632B, 3635B, 3637B, 3640B, 3643B, 3652A, 3659B, 3662A, 3664A, 3664B, 3665B, 3668B, 3670A, 3671B, 3672B, 3673B

US ARMY CORPS OF ENGINEERS
SOUTH ATLANTIC DIVISION LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GEORGIA 30060-3112
PHONE 404/919-5271 FAX 404/919-4977

20 January 1995

LEAD-BASED PAINT SURVEY REPORT
3600 SERIES FAMILY HOUSING GROUP
BUILDINGS 3610 - 3673
FT. McCLELLAN, ALABAMA

INTRODUCTION

1. This is the lead-based paint (LBP) field survey report for Buildings 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads at Fort McClellan, Alabama. Thirty two (32) units were selected for surveying by environmental office personnel at Fort McClellan (see Plate 1). All of the units in this area are similar in style and date of construction. The actual units surveyed appear below.

Units Surveyed

3610B	3611A	3612A	3614B	3615B	
3616A	3616B	3617A		3617B	3618A
3619B	3620B	3622B		3624B	3626B
3629B	3632B	3635B		3637B	3640B
3643B	3652A	3659B		3662A	3664A
3664B	3665B	3668B		3670A	3671B
3672B	3673B				

2. A summary of the LBP survey is provided in this report. A summary of the components tested, including the percentage testing positive, appear in Table 1. A summary for each unit appears in the Appendix. Included are the actual field XRF readings, a photograph of the unit, and a floorplan of the unit showing the locations of the XRF readings testing positive.

3. The survey was performed by certified surveyors using a SCITEC MAP 3, X-ray Fluorescence Spectrometer (spectrum analyzer) XRF instrument. The LBP survey was conducted in accordance with general procedures in the April 1, 1990 HUD Guidelines (revised September 28, 1990) and EPA standard operating procedures (EPA document EPA600/8-91/214) for this instrument.

4. The "action level" defined in the HUD Interim Guidelines is a lead concentration above 1.0 mg/cm^2. Lead concentrations in this report are shown for both K-shell and L-shell. The L-shell XRF reading is essentially for the top 1 or 2 surface paint layers, whereas, the K-shell is total lead applicable for multi-layered paint surfaces. HUD Guidelines specify that the K-Shell results be used for evaluating XRF readings.

5. Positive readings (detectable lead above the action level) with the XRF vary depending on the instrument mode selected. The "test"[1] mode is normally used for routine readings. Readings testing "positive"[2] according to the XRF instrument manufacturer in the test mode are those with a lead concentration greater than 1.3 milligrams per centimeter squared (mg/cm^2), whereas, "negative" refers to readings of 0.6 mg/cm^2 or less. According to the HUD guidelines, positive readings for this instrument are greater than 1.3 mg/cm^2. "Inconclusive" readings are those that fall between 0.7 mg/cm^2 and 1.3 mg/cm^2.

6. In this report paint condition stated as "good" is defined as intact; "fair" as intact but worn (minor chips from wear and tear but no adhesion or substrate problems); "poor" as severely worn or no longer adhering or, substrate deterioration (e.g., peeling, flaking, cracking, etc.).

DISCUSSION

7. The 3600 Series Family Housing Group (Buildings 3610 - 3673) consists of one story, three and four bedroom duplexes. All of the units are of similar construction using typical building materials. The buildings have been updated with vinyl siding and factory finished doors and gutters. Some units showed visual age differences in materials that suggest past remodeling.

8. A total of one thousand, three hundred and fifty two (1,352) XRF readings were made. Three hundred and thirty three (333) were positive for LBP (see Table 1). The components testing positive for lead-based paint are summarized below.

EXTERIOR SUMMARY

9. Except for the factory finished doors, upper trim, soffits and gutters, all painted exterior components should be considered positive for lead-based paint. These include porch components (e.g., ceilings, trim, supports, etc.), door components (e.g., jambs, casings, headers, etc.), window components (e.g., aprons, casings, sills, sashes, etc.), and fences. Other painted exterior components that should be considered positive for lead-based paint include various painted metal electrical conduits, metal vents, and metal guide wire sleeves. In some areas painted wood is visible beneath the soffits. These areas tested positive for lead-based paint. It is reasonable to assume that all "original" paint beneath the soffits and upper trim contains lead.

---

[1] The XRF instrument "test" mode is a reading of approximately 60 seconds duration. Test of longer duration increases precision.

[2] **Inconclusive Range For XRF Spectrum Analyzer**

Instrument Mode	Range	Units
Screen	0.4 - 1.6	mg/cm^2
Test	0.7 - 1.3	mg/cm^2
Confirm	0.85 - 1.15	mg/cm^2

INTERIOR SUMMARY

10. On the interior of this group, all painted window components (e.g., aprons, casings, sills, sashes, wells, etc.), shelves, and shelf supports should be considered positive for lead-based paint. Isolated positive readings occurred in two different units. The wood attic scuttle in Unit 3619B (reading 3619B.2.8) tested positive. The hall bathroom door jamb in Unit 3615B (reading 3615.6.1) also tested positive for lead-based paint.

PAINT CONDITION

11. Overall, the paint on the interior of the units surveyed is in good condition. The exterior paint is in fair condition.

Joint Preparation By: _____
Keith Bates
Geologist

And: _____
Nikhil Kamat-Mhamai
Physical Science Technician

Reviewed By: _____
Ray Willingham
Geologist

encl

Plate 1
3600 Series Family Housing Group
Buildings 3610 - 3673
Buildings In Which Units Were Surveyed Appear In Black

Table 1 - Component Summary
3600 Series Family Housing Group
Buildings 3610 - 3673
on Church, Wirans & Morton Roads

COMPONENT	NUMBER TESTED	NUMBER POSITIVE	PERCENT POSITIVE
Exterior Components			
Doors	1	0	0
Door Components	32	23	72%
Fences	24	14	58%
Exposed Wood Beneath Metal Soffit	1	1	100%
Metal Electrical Conduits, Guide Wire Sleeves, & Vents	6	5	83%
Metal Porch Supports	31	31	100%
Wood Porch Components (e.g., ceilings, trim, ramps, etc.)	53	52	98%
Window Components (e.g., aprons, casings, sashes, sills, etc.)	63	62	98%
Interior Components			
Attic Fan Frames	2	0	0
Attic Scuttles	30	1	3%
Baseboards	127	0	0
Cabinets	33	0	0
Ceilings	123	0	0
Closet Rods	2	0	0
Doors	121	0	0
Door Components (e.g. casings, jambs, door tracks, etc.)	170	1	0.59%
Floors	16	0	0
Shelves & Shelf Supports	136	43	32%
Upper Trim	1	0	0
Walls	128	0	0
Window Components (e.g. aprons, casings, sashes, sills, wells, etc.)	252	100	40%
TOTALS	1352	333	25%

APPENDIX

Units Surveyed

3610B	3611A	3612A	3614B	3615B
3616A	3616B	3617A	3617B	3618A
3619B	3620B	3622B	3624B	3626B
3629B	3632B	3635B	3637B	3640B
3643B	3652A	3659B	3662A	3664A
3664B	3665B	3668B	3670A	3671B
3672B	3673B			

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3610B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3610B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. Positive levels of lead-based paint were detected on the window wells, window sashes and shelf supports on the interior of this unit (see field XRF readings).

3. Except for the doors, all painted wood exterior components (e.g., door casings, window aprons, window casings, porch ceilings, porch trim, fences, etc.) should be considered positive for lead-based paint (see floorplan). Painted metal porch supports and painted metal door casings should also be considered positive.

4. A photograph of Unit 3610B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3610B
Ft. McClellan, AL

Date Surveyed: 02 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030294094501	0.5	0.6	103	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3610B.1.1	-0.2	-0.1	25	Good	White Sheetrock Wall
3610B.1.2	0.2	-0.2	25	Good	White Wood Window Casing
3610B.1.3	0.1	-0.1	25	Good	White Wood Baseboard
3610B.1.4	-0.0	-0.1	25	Fair	White Sheetrock (Plaster?) Ceiling
3610B.1.5	0.1	-0.1	25	Good	White Wood Window Casing
3610B.1.6	**3.5**	0.3	25	Fair	White Wood Window Well
3610B.1.7	**2.6**	0.5	25	Good	White Wood Window Sash
3610B.1.8	-0.3	-0.1	25	Good	White Wood Cabinet Door
3610B.1.9	-0.1	-0.1	25	Good	White Wood Cabinet Trim
3610B.1.10	0.1	-0.1	25	Good	White Wood Door
3610B.1.11	-0.3	-0.1	25	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3610B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 2 (Foyer)			
3610B.2.1	-0.1	-0.1	25	Good	White Wood Door Casing
3610B.2.2	0.2	-0.1	25	Good	White Wood Door
3610B.2.3	0.1	-0.1	25	Good	White Sheetrock Wall
3610B.2.4	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3610B.2.5	0.0	-0.1	25	Good	White Wood Baseboard
3610B.2.6	0.1	-0.1	25	Good	White Wood Shelf
3610B.2.7	**1.7**	0.3	25	Good	White Wood Shelf Support
3610B.2.8	0.1	-0.1	25	Good	White Wood Attic Scuttle
3610B.2.9	-0.7	-0.1	25	Good	White Wood Door Jamb
3610B.2.9	0.1	-0.1	25	Good	Duplicate
7094030294103001	0.3	0.6	103	Good	Calibration Check
		Room 3 (Master Bedroom)			
3610B.3.1	-0.4	-0.1	25	Good	White Sheetrock Wall
3610B.3.2	0.1	-0.1	25	Good	White Masonite Door
3610B.3.3	0.2	-0.1	25	Good	White Metal Closet Door Track
3610B.3.4	**4.9**	0.8	25	Fair	White Wood Window Well
3610B.3.5	0.9	0.2	103	Good	White Wood Window Sash (Inconclusive - See Sample 3610B.1.7)
3610B.3.6	-0.5	-0.1	25	Good	White Wood Baseboard
3610B.3.7	0.4	0.1	103	Good	White Wood Shelf Support
3610B.3.8	-0.1	-0.1	25	Good	White Wood Door
3610B.3.9	0.2	-0.1	25	Good	White Wood Door Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is otal lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3610B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 4 (Child's Bedroom)					
3610B.4.1	-0.2	-0.1	25	Good	White Sheetrock Wall
3610B.4.2	**3.9**	0.2	25	Fair	White Wood Window Well
3610B.4.3	0.3	-0.1	103	Good	White Wood Window Casing
3610B.4.4	0.4	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling (Inconclusive - See Sample 3610B.2.4)
3610B.4.5	0.7	0.2	103	Good	White Wood Shelf (Inconclusive - See Sample 3610B.2.6)
3610B.4.6	0.1	-0.1	25	Good	White Wood Baseboard
3610B.4.7	0.5	-0.0	103	Good	White Metal Closet Door Track
3610B.4.8	-0.1	-0.1	25	Good	White Wood Door
3610B.4.9	0.3	-0.1	25	Good	White Wood Door Jamb
Room 5 (Bathroom/Hall)					
3610B.5.1	**3.7**	0.6	25	Good	White Wood Window Sash
3610B.5.2	-0.4	-0.1	25	Good	White Sheetrock Wall
3610B.5.3	0.9	0.0	103	Good	White Wood Door (Inconclusive - See Sample 3610B.4.8)

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3610B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 6	**(Living Room)**		
3610B.6.1	0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3610B.6.2	0.2	-0.1	22	Good	White Sheetrock Wall
3610B.6.3	0.0	-0.1	88	Good	White Metal Window Casing
3610B.6.4	0.2	-0.1	22	Good	White Wood Baseboard
3610B.6.5	0.3	-0.0	22	Good	White Wood Window Frame
3610B.6.6	0.1	-0.1	22	Good	White Wood Door Casing
3610B.6.7	**2.3**	0.5	22	Good	White Wood Window Sash
3610B.6.8	-0.8	-0.1	22	Good	Tile Floor
		Exterior XRF Readings			
3610B.1	**4.5**	0.5	22	Good	White Wood Privacy Fence
3610B.2	**4.7**	0.3	22	Good	White Metal Porch Support
3610B.3	**5.9**	0.4	22	Good	White Metal Door Casing
3610B.4	0.3	0.3	22	Good	White Metal Door
3610B.5	**5.4**	0.8	22	Good	White Wood Window Casing
3610B.6	**4.0**	0.3	22	Good	White Wood Porch Trim
3610B.7	**7.5**	0.5	22	Good	White Wood Porch Ceiling
3610B.8	**3.7**	0.2	22	Good	White Wood Window Apron
3610B.9	**6.9**	0.4	22	Good	White Wood Porch Ceiling
7094030294115001	0.5	0.6	103	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is

total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3611A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3611A is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. Positive levels of lead-based paint were detected on the window wells, window sashes and shelf supports on the interior of this unit (see field XRF readings).

3. Except for the doors and white wood fences, all painted wood exterior components (e.g., entry headers, door jambs, window sills, porch ceilings, fences, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3611A appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3611A
Ft. McClellan, AL

Date Surveyed: 03 February 1994
Surveyors: LM, KB

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030294124501	0.5	0.6	103	N/A	Calibration Check
7094030294124501	0.6	0.6	103	N/A	Calibration Check
7094030294124501	0.6	0.6	103	N/A	Calibration Check
Exterior XRF Readings					
3611A.1	**7.4**	0.5	25	Good	White Wood Entry Header
3611A.2	**8.7**	0.7	25	Poor	White Porch Ceiling
3611A.3	**7.2**	0.5	25	Fair	White Metal Porch Post
3611A.4	-0.3	0.0	25	Poor	White Wood Fence
3611A.5	**4.5**	0.6	25	Poor	White Wood Window Sill
3611A.6	**4.7**	0.5	25	Poor	White Wood Window Sill
3611A.7	**8.1** (1)	0.5	25	Poor	White Wood Porch Ceiling (Scrape Sample Taken)
3611A.8	**2.6**	0.1	25	Good	White Wood Door Jamb
Interior XRF Readings					
Room 1 (Kitchen)					
3611A.1.1	0.3	-0.1	25	Good	White Wood Cabinet
3611A.1.2	0.2	-0.1	25	Good	White Sheetrock Wall
3611A.1.3	0.1	-0.1	25	Good	White Wood Baseboard
3611A.1.4	-0.2	-0.2	25	Good	White Wood Door Casing
3611A.1.5	**3.5**	0.7	25	Good	White Wood Window Well
3611A.1.6	**2.1**	0.7	25	Good	White Wood Window Sash

(1) Lab analysis **positive** (Result = 5.71% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3611A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 1 (Kitchen - continued)					
3611A.1.7	0.3	-0.1	103	Good	White Wood Window Casing
3611A.1.8	-0.0	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3611A.1.9	0.0	-0.0	25	Fair	White Wood Door Jamb
3611A.1.10	0.3	-0.1	25	Fair	White Wood Door
Room 2 (Foyer)					
3611A.2.1	0.1	-0.1	25	Good	White Masonite Door
3611A.2.2	0.3	-0.1	103	Good	White Metal Door Track
3611A.2.3	0.2	-0.1	25	Good	White Sheetrock Wall
3611A.2.4	0.0	-0.0	25	Good	White Wood Baseboard
3611A.2.5	-0.6	-0.2	25	Good	Wood Parquet Floor
3611A.2.6	0.6	0.1	103	Good	White Wood Shelf Support
3611A.2.7	-0.6	-0.1	25	Good	White Wood Door Jamb
3611A.2.8	-0.0	-0.1	25	Good	White Wood Door
Room 3 (Living/Dining Room)					
3611A.3.1	0.1	0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3611A.3.2	0.2	-0.1	25	Good	White Wood Baseboard
3611A.3.3	**3.6**	1.1	25	Good	White Wood Window Sash
3611A.3.3	**4.1**	1.2	25	Good	Duplicate
7094030294140001	0.4	0.6	103	N/A	Calibration Check
3611A.3.4	0.1	-0.1	25	Good	White Wood Window Casing
3611A.3.5	0.2	-0.1	25	Good	White Sheetrock Wall

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surfac paint films. All positive results are based on K-shell readings as per HU

guidelines.

Field XRF Readings for Quarters 3611A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4	**(Bedroom)**		
3611A.4.1	0.7	0.2	413	Good	White Wood Shelf
3611A.4.2	0.4	-0.1	103	Good	White Metal Door Track
3611A.4.3	0.2	-0.1	25	Good	White Wood Sliding Door
3611A.4.4	0.5	-0.0	103	Good	White Wood Window Casing
3611A.4.5	0.2	-0.1	25	Good	White Wood Window Casing
3611A.4.6	-0.1	-0.0	25	Good	White Wood Door Jamb
		Room 5	**(Bedroom)**		
3611A.5.1	**4.0**	0.6	25	Good	White Wood Shelf Support
3611A.5.2	0.4	-0.1	103	Good	White Metal Door Track
3611A.5.3	0.1	-0.1	25	Good	White Masonite Door
3611A.5.4	-0.1	-0.1	25	Good	White Wood Baseboard
3611A.5.5	0.3	-0.1	25	Good	White Wood Door
3611A.5.6	-0.5	-0.1	25	Good	White Wood Door Casing
		Room 6	**(Bedroom/Bath)**		
3611A.6.1	0.3	-0.1	25	Good	White Sheetrock Wall
3611A.6.2	0.3	-0.1	103	Good	White Wood Window Casing
3611A.6.3	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3611A.6.4	0.2	-0.1	25	Good	White Wood Baseboard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Field XRF Readings for Quarters 3611A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 7	**(Hall/Bath)**		
3611A.7.1	0.3	0.0	25	Good	White Wood Door
3611A.7.2	0.1	-0.1	25	Good	White Sheetrock Wall
3611A.7.3	-0.1	-0.0	25	Good	White Wood Attic Scuttle
7094030294150001	0.3	0.5	103	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is

total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3612A

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3612A is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Road.

2. Positive levels of lead-based paint were detected on the window sashes and shelf supports on the interior of this unit (see field XRF readings).

3. Except for door casings and fences, all painted exterior wood components (e.g., porch ceilings, window casings, window aprons, etc.) should be considered positive for lead-based paint (see floorplan). All painted porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3612A appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3612A
Ft. McClellan, AL

Date Surveyed: 02 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030294124502	1.3	1.3	88	N/A	Calibration Check
7094030294124502	1.3	1.2	88	N/A	Calibration Check
7094030294124502	1.2	1.3	88	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3612A.1.1	0.1	-0.1	22	Good	White Wood Window Casing
3612A.1.2	0.6	-0.0	88	Good	White Wood Window Sash
3612A.1.3	-0.3	-0.1	22	Good	White Wood Window Sill
3612A.1.4	-0.2	-0.1	22	Good	White Wood Cabinet
3612A.1.5	0.1	-0.1	22	Good	White Sheetrock Wall
3612A.1.6	0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3612A.1.7	0.0	-0.1	22	Good	White Wood Baseboard
3612A.1.8	0.1	-0.1	22	Good	White Wood Door Casing
3612A.1.9	0.1	0.2	22	Good	White Wood Door

Room 2 (Living/Dining Room)

3612A.2.1	0.3	-0.1	88	Good	White Wood Window Apron
3612A.2.2	-0.2	-0.1	88	Good	White Wood Window Casing
3612A.2.3	0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3612A.2.4	0.1	-0.1	22	Good	White Sheetrock Wall
3612A.2.5	-0.4	-0.1	22	Good	White Wood Door Jamb
3612A.2.6	-0.4	-0.1	22	Good	White Wood Baseboard
3612A.2.7	-0.9	-0.1	22	Good	Stained Wood Floor

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3612A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 3 (Master Bedroom)			
3612A.3.1	-0.3	-0.1	22	Good	White Masonite Door
3612A.3.2	**0.7** [1]	0.0	88	Good	White Wood Shelf Support (Inconclusive -Scrape Sample Taken)
3612A.3.3	0.1	-0.0	22	Good	White Wood Shelf
3612A.3.4	0.2	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3612A.3.5	0.3	-0.1	22	Good	White Metal Door Track
3612A.3.6	-0.3	-0.1	22	Good	White Sheetrock Wall
3612A.3.6	-0.0	-0.1	22	Good	Duplicate
7094030294135502	0.9	1.2	88	N/A	Calibration Check
3612A.3.7	0.4	-0.1	88	Good	White Wood Window Sash
3612A.3.8	0.3	-0.1	22	Good	White Wood Door Jamb
		Room 4 (Child's Bedroom)			
3612A.4.1	0.1	-0.1	22	Good	White Masonite Door
3612A.4.2	-0.4	-0.1	22	Good	White Wood Baseboard
3612A.4.3	0.1	-0.1	22	Good	White Wood Shelf
3612A.4.4	0.2	-0.1	22	Good	White Wood Door Casing
3612A.4.5	-0.3	-0.1	22	Good	White Wood Door Jamb
3612A.4.6	0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3612A.4.7	-0.5	-0.1	22	Good	White Wood Window Apron

[1] Lab analysis **positive** (Result = 0.7% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3612A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 5 (Hall/Bath)			
3612A.5.1	0.0	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3612A.5.2	0.3	-0.1	22	Good	White Wood Window Sill
3612A.5.3	**2.0**	0.5	22	Good	White Wood Window Sash
3612A.5.4	0.1	-0.1	22	Good	White Wood Door
		Room 6 (Foyer)			
3612A.6.1	-0.2	-0.1	22	Good	White Wood Door Casing
3612A.6.2	0.8	0.1	88	Good	White Wood Shelf Support (Inconclusive See Sample 3612A.3.2)
3612A.6.3	-0.5	-0.1	22	Good	White Wood Baseboard
3612A.6.4	-0.5	-0.1	22	Good	White Wood Door Jamb
		Exterior XRF Readings			
3612A.1	0.2	0.0	22	Good	Brown Wood Fence
3612A.2	0.3	-0.1	88	Good	White Wood Door Casing
3612A.3	**4.7**	0.5	22	Good	White Wood Porch Ceiling
3612A.4	**4.0**	0.6	88	Good	White Porch Support
3612A.5	**2.7**	0.7	22	Good	White Wood Window Casing
3612A.6	**2.8**	0.3	88	Good	White Wood Window Apron
70940302144502	1.1	1.2	88	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surfac paint films. All positive results are based on K-shell readings as per HUD

guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3614B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3614B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Road.

2. Positive levels of lead-based paint were detected on the window sashes and shelf supports on the interior of this unit (see field XRF readings).

3. Except for the free standing wood fences, all painted exterior wood components (window casings, porch ceilings, etc.) should be considered positive for lead-based paint (see floorplan). Also, all painted metal porch supports should be considered positive.

4. A photograph of Unit 3614B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3614B
Ft. McClellan, AL

Date Surveyed: 02 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030294150001	0.3	0.5	103	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3614B.1.1	0.0	-0.1	25	Good	White Wood Cabinet Door
3614B.1.2	0.6	-0.1	25	Good	White Sheetrock Wall
3614B.1.3	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3614B.1.4	-0.1	-0.1	25	Good	White Wood Door Casing
3614B.1.5	0.3	-0.1	25	Good	White Wood Door
3614B.1.6	0.1	-0.1	25	Good	White Wood Baseboard
3614B.1.7	**2.5**	0.4	25	Good	White Wood Window Sash
3614B.1.8	-0.2	-0.1	25	Good	White Wood Window Sill
3614B.1.9	0.3	-0.1	25	Good	White Wood Door Jamb

Room 2 (Living Rm./Dining Rm.)

3614B.2.1	-0.6	-0.1	25	Good	White Sheetrock Wall
3614B.2.2	-0.5	-0.1	25	Good	White Wood Window Casing
3614B.2.3	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3614B.2.4	**1.8**	0.1	103	Good	White Wood Window Sash
3614B.2.5	-0.1	-0.1	103	Good	White Wood Window Casing
3614B.2.6	-0.2	-0.1	25	Good	White Wood Baseboard
3614B.2.7	-0.2	-0.1	25	Good	White Wood Door Casing
3614B.2.8	0.3	0.0	25	Good	White Wood Shelf

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3614B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 3 (Master Bedroom)			
3614B.3.1	**1.2** [1]	0.2	103	Good	White Wood Shelf Support (Inconclusive -Scrape Sample Taken)
3614B.3.2	0.0	-0.1	25	Good	White Wood Baseboard
3614B.3.3	0.1	-0.1	103	Good	White Wood Door
3614B.3.3	0.2	-0.1	25	Good	Door (Duplicate)
7094030294160001	0.6	0.7	103	N/A	Calibration Check
3614B.4.1	0.9	-0.0	103	Good	White Wood Window Sash (Inconclusive-See Sample 3614B.1.7)
3614B.4.2	0.5	-0.0	103	Good	White Wood Window Casing
3614B.4.3	-0.3	-0.1	25	Good	White Sheetrock Wall
3614B.4.4	0.5	0.1	103	Good	White Wood Shelf
3614B.4.5	-0.4	-0.1	25	Good	White Wood Baseboard
3614B.4.6	-0.5	-0.1	25	Good	White Wood Door Casing
3614B.4.7	0.1	-0.1	25	Good	White Wood Door
		Room 5 (Hall/Bathroom)			
3614B.5.1	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3614B.5.2	**2.1**	0.2	25	Good	White Wood Window Sash
3614B.5.3	-0.1	-0.1	25	Good	White Wood Door Casing

[1] Lab analysis **positive** (Result = 0.5% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3614B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Exterior XRF Readings			
3614B.1	**8.2**	0.5	25	Fair	White Wood Porch Ceiling
3614B.2	**4.2**	0.6	25	Fair	White Wood Window Casing
3614B.3	**3.6**	0.6	25	Fair	White Wood Window Casing
3614B.4	-0.4	-0.1	25	Poor	White Wood Fence
3614B.5	**5.6**	0.3	25	Fair	White Metal Porch Support
7094030294165001	0.3	0.6	103	N/A	Calibration Check
1.02	0.9	1.0	103	N/A	NIST Std. = 1.02

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3615B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3615B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on window sashes, window casings, shelves, shelf supports, and the door jamb in the hall bathroom (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., porch ceiling, door jambs, upper trim, window sills, etc.) should be considered positive for lead-based paint (see floorplan).
Also, the metal porch supports should be considered positive for lead-based paint.

4. No photograph is available of Unit 3615B.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3615B
Ft. McClellan, AL

Date Surveyed: 02 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030294165501	1.0	1.2	88	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3615B.1.1	-0.3	-0.1	22	Good	White Wood Cabinet
3615B.1.2	0.2	-0.0	88	Good	White Wood Door Casing
3615B.1.3	-0.3	-0.1	22	Good	White Sheetrock Wall
3615B.1.4	-0.0	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3615B.1.5	0.8	0.1	88	Good	White Wood Window Sash (Inconclusive - See Sample 3615B.1.7)
3615B.1.6	0.1	-0.1	22	Good	White Wood Baseboard
3615B.1.7	**3.5**	0.8	88	Good	White Wood Window Sash

Room 2 (Living Room)

3615B.2.1	0.5	-0.0	88	Good	White Wood Window Apron
3615B.2.2	**0.9** (1)	0.1	88	Good	White Wood Window Casing (Inconclusive - Scrape Sample Taken)
3615B.2.3	-0.1	-0.1	22	Good	White Sheetrock Wall
3615B.2.4	0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3615B.2.5	-0.1	-0.0	22	Good	White Wood Baseboard
3615B.2.6	-0.4	0.1	22	Good	White Wood Door Jamb
3615B.2.7	-0.2	-0.1	22	Good	White Wood Door Casing

(1) Lab analysis **positive** (Result = 0.56% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3615B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Master Bedroom and Half Bath)					
3615B.3.1	-0.4	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3615B.3.2	-0.3	-0.0	22	Good	White Wood Window Sill
3615B.3.3	-0.3	-0.1	22	Good	White Wood Door
3615B.3.4	1.0 (2)	0.1	88	Good	White Wood Shelf Support (Inconclusive -Scrape Sample Taken)
3615B.3.5	**1.8**	0.5	22	Good	White Wood Shelf
3615B.3.6	0.2	0.0	88	Good	White Wood Door Jamb
3615B.3.7	0.3	-0.0	22	Good	White Sheetrock Wall
3615B.3.8	-0.5	-0.1	22	Good	White Wood Baseboard
Room 4 (Child's Bedroom)					
3615B.4.1	-0.0	-0.1	22	Good	White Wood Window Sash
3615B.4.2	0.1	-0.1	22	Good	White Wood Window Casing
3615B.4.3	-0.3	-0.1	22	Good	White Masonite Door
3615B.4.4	0.6	-0.0	88	Good	White Metal Door Track
3615B.4.5	-0.1	-0.1	22	Good	White Sheetrock Wall
3615B.4.6	-0.8	-0.1	22	Good	Stained Wood Floor
3615B.4.6	-0.5	-0.1	22	Good	Duplicate
7094030294161001	1.3	1.3	88	N/A	Calibration Check
Room 5 (Child's Bedroom)					
3615B.5.1	**2.2**	0.7	88	Good	White Wood Shelf Support
3615B.5.2	0.0	-0.0	22	Good	White Masonite Door

(2) Lab analysis negative (Result = 0.45% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3615B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 5 (Child's Bedroom - continued)					
3615B.5.3	0.8	0.1	88	Good	White Wood Window Casing (Inconclusive - See Sample 3615B.2.2)
3615B.5.4	-0.2	-0.0	22	Good	White Sheetrock Wall
3615B.5.5	-0.3	-0.0	22	Good	White Wood Baseboard
3615B.5.6	0.3	-0.0	88	Good	White Wood Door Casing
Room 6 (Hallway and Bath)					
3615B.6.1	**1.8**	0.5	22	Good	White Wood Door Jamb
3615B.6.2	0.0	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3615B.6.3	0.3	-0.0	22	Good	White Wood Attic Scuttle
Room 7 (Foyer)					
3615B.7.1	-0.3	-0.0	22	Good	White Sheetrock Wall
3615B.7.2	-0.1	-0.0	22	Good	White Wood Baseboard
3615B.7.3	0.1	-0.0	22	Good	White Wood Door
3615B.7.4	-0.2	-0.0	88	Good	White Wood Door Casing
Exterior XRF Readings					
3615B.1	**8.5**	0.7	25	Good	White Wood Porch Ceiling
3615B.2	**2.5**	0.2	25	Good	White Wood Door Jamb
3615B.3	**5.0**	0.4	25	Fair	White Metal Porch Support
3615B.4	**5.6**	0.6	25	Fair	White Wood Upper Trim
3615B.5	**3.6**	0.7	25	Poor	White Wood Window Sill
7094030294165501	1.0	1.2	88	N/A	Calibration Check
1.63	1.2	1.5	88	N/A	NIST Std. = 1.63

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3616A

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3616A is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on window sashes, window wells, shelves and shelf supports (see field XRF readings).

3. Except for the free standing wood fence, all painted exterior wood components (e.g., window aprons and casings, porch ceilings and trim, door casings, etc.) should be considered positive for lead-based paint (see floorplan). Painted metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3616A appears below.

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Field XRF Readings for Quarters 3616A
Ft. McClellan, AL

Date Surveyed: 03 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030394070001	0.5	0.6	103	N/A	Calibration Check
7094030394070001	0.7	0.6	103	N/A	Calibration Check
7094030394070001	0.5	0.7	103	N/A	Calibration Check
7094030394070001	0.7	0.6	103	N/A	Calibration Check
0000	0.0	-0.1	103	N/A	Blank
1.02	0.8	1.1	103	N/A	NIST Std. = 1.02

Interior XRF Readings

Room 1 (Kitchen)

3616A.1.1	-0.2	-0.1	25	Good	White Wood Cabinet
3616A.1.2	-0.4	-0.2	25	Good	White Wood Window Casing
3616A.1.3	**3.3**	0.2	25	Good	White Wood Window Sash
3616A.1.4	-0.2	-0.1	25	Good	White Sheetrock Wall
3616A.1.5	-0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3616A.1.6	-0.1	-0.1	25	Good	White Wood Baseboard
3616A.1.7	-0.4	-0.2	25	Good	White Wood Door Casing
3616A.1.8	0.1	-0.1	25	Good	White Wood Door

Room 2 (Living Room/Dining Room)

3616A.2.1	-0.2	-0.1	25	Good	White Wood Window Apron
3616A.2.2	0.3	-0.1	103	Good	White Wood Window Casing
3616A.2.3	-0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3616A.2.4	0.2	-0.1	25	Good	White Wood Baseboard
3616A.2.5	-0.6	-0.2	25	Good	Stained Wood Floor
3616A.2.6	0.3	-0.1	25	Good	White Wood Door Jamb
3616A.2.7	0.2	-0.1	25	Good	White Sheetrock Wall

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3616A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 3 (Foyer)			
3616A.3.1	0.1	-0.1	25	Good	White Wood Door Casing
3616A.3.2	**1.3** [1]	0.2	103	Good	White Wood Shelf Support (Inconclusive -Scrape Sample Taken)
3616A.3.3	0.4	0.0	103	Good	White Wood Shelf
3616A.3.4	0.0	-0.1	25	Good	White Wood Door
		Room 4 (Master Bedroom)			
3616A.4.1	0.2	-0.1	25	Good	White Masonite Door
3616A.4.1	0.1	-0.1	25	Good	Duplicate
7094030394084502	0.3	0.6	103	N/A	Calibration Check
3616A.4.2	-0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3616A.4.3	0.3	-0.0	25	Good	White Wood Baseboard
3616A.4.4	-0.2	-0.1	25	Good	White Sheetrock Wall
3616A.4.5	**6.0**	0.7	25	Good	White Wood Window Well
3616A.4.6	1.2	0.1	103	Good	White Wood Window Sash (Inconclusive - See Sample 3616A.1.3)
3616A.4.7	0.2	-0.1	103	Good	White Wood Shelf Support
		Room 5 (Child's Bedroom)			
3616A.5.1	0.3	-0.1	25	Good	White Metal Door Track
3616A.5.2	-0.1	-0.0	25	Good	White Masonite Door
3616A.5.3	**1.8**	0.3	25	Good	White Wood Shelf

[1] Lab analysis **positive** (Result = 1.45% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3616A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 5 (Child's Bedroom - continued)					
3616A.5.4	0.3	0.1	25	Good	White Wood Window Casing
3616A.5.5	0.4	-0.0	103	Good	White Wood Window Apron
3616A.5.6	-0.0	-0.1	25	Good	White Wood Door Casing
Room 6 (Hall/Bathroom)					
3616A.6.1	-0.1	-0.1	25	Good	White Wood Fan Frame
3616A.6.2	**3.7**	0.4	25	Good	White Wood Window Sash
3616A.6.3	0.2	-0.1	25	Good	White Wood Window Casing
3616A.6.4	0.0	-0.1	25	Good	White Wood Door
Exterior XRF Readings					
3616A.1	0.3	-0.3	25	Good	White Wood Fence
3616A.2	**3.2**	0.7	25	Good	White Wood Door Casing
3616A.3	**5.0**	0.7	25	Good	White Wood Window Casing
3616A.4	**1.3** [2]	0.1	103	Poor	White Wood Window Apron (Inconclusive-Scrape Sample Taken)
3616A.5	**4.9**	0.4	103	Poor	White Metal Porch Support
3616A.6	**4.8**	0.4	25	Poor	White Wood Porch Ceiling
3616A.7	**3.8**	0.1	25	Fair	White Wood Porch Trim
7094030294093502	0.3	0.5	103	N/A	Calibration Check

[2] Lab analysis **positive** (Result = 2.15% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell i total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

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Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3616B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3616B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., window casings, window aprons, fences, door headers, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3616B appears below.

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Field XRF Readings for Quarters 3616B
Ft. McClellan, AL

Date Surveyed: 03 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030394070001	1.4	1.2	88	N/A	Calibration Check
7094030394070001	1.2	1.2	88	N/A	Calibration Check
7094030394070001	1.2	1.3	88	N/A	Calibration Check
7094030394070001	1.2	1.2	88	N/A	Calibration Check
7094030394070001	1.2	1.2	88	N/A	Calibration Check
0000	0.0	-0.1	88	N/A	Blank
1.63	1.3	1.5	88	N/A	NIST Std. = 1.63

Interior XRF Readings

Room 1 (Living Room/Dining Room/Foyer)

3616B.1.1	-0.0	-0.1	22	Good	White Sheetrock Wall
3616B.1.2	-1.0	-0.1	22	Good	White Wood Door Casing
3616B.1.3	-0.2	-0.1	22	Good	White Wood Baseboard
3616B.1.4	0.1	-0.1	22	Good	White Wood Door
3616B.1.5	0.4	0.1	88	Good	White Wood Shelf
3616B.1.6	-0.1	-0.0	22	Good	White Wood Attic Scuttle
3616B.1.7	-0.1	-0.1	22	Good	White Wood Window Casing
3616B.1.8	**2.7**	0.3	22	Good	White Wood Window Sash
3616B.1.9	0.3	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling

Room 2 (Kitchen)

3616B.2.1	**2.9**	0.5	22	Fair	White Wood Window Well
3616B.2.2	0.6	-0.1	88	Good	White Wood Window Sill
3616B.2.3	0.2	-0.1	22	Good	White Sheetrock Wall
3616B.2.4	0.1	-0.1	22	Good	White Wood Baseboard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3616B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Kitchen - continued)					
3616B.2.5	-0.0	-0.1	88	Good	White Wood Door Header
3616B.2.6	-0.1	-0.1	22	Good	White Wood Cabinet
3616B.2.7	-0.3	-0.1	22	Good	White Wood Cabinet Trim
3616B.2.8	0.2	-0.1	22	Good	White Wood Door
3616B.2.9	0.2	-0.1	22	Good	White Sheetrock Ceiling
Room 3 (Bedroom)					
3616B.3.1	0.1	-0.1	22	Good	White Masonite Door
3616B.3.2	**1.7**	0.1	88	Good	White Wood Shelf Support
3616B.3.3	0.6	-0.0	88	Good	White Metal Door Track
3616B.3.4	0.6	0.1	88	Good	White Wood Shelf
3616B.3.5	-0.2	0.0	22	Good	White Wood Baseboard
3616B.3.5	0.2	-0.0	22	Good	Baseboard (Duplicate)
7094030394084001	1.1	1.4	88	N/A	Calibration Check
3616B.3.6	0.1	-0.1	22	Good	White Wood Window Casing
3616B.3.7	0.1	-0.1	22	Good	White Sheetrock Wall
Room 4 (Bedroom)					
3616B.4.1	0.3	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3616B.4.2	0.3	-0.1	22	Good	White Wood Window Casing
3616B.4.3	0.3	-0.1	22	Good	White Wood Baseboard
3616B.4.4	0.5	0.2	88	Good	White Wood Shelf Support
3616B.4.5	0.2	-0.1	22	Good	White Wood Door
3616B.4.6	0.2	-0.0	88	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is otal lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3616B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 5 (Hall/Bathroom)			
3616B.5.1	0.6	-0.0	88	Good	White Wood Window Sill
3616B.5.2	0.1	-0.1	22	Good	White Sheetrock Upper Wall
3616B.5.3	-0.1	-0.1	22	Good	White Wood Door Casing
3616B.5.4	0.2	-0.1	88	Good	White Wood Door
3616B.5.5	-0.1	-0.1	22	Good	White Wood Attic Scuttle
3616B.5.6	-0.4	-0.1	22	Good	Wood Parquet Floor
		Exterior XRF Readings			
3616B.1	1.2	0.1	88	Good	White Wood Door Jamb (Inconclusive)
3616B.2	**5.7** (1)	0.3	22	Fair	White Wood Door Header (Scrape Sample Taken)
3616B.3	**3.5**	0.4	22	Good	White Wood Window Casing
3616B.4	**8.9**	0.6	22	Good	White Metal Porch Post
3616B.5	**2.1**	0.1	22	Poor	Red Wood Fence
3616B.6	**1.5**	0.3	88	Fair	White Wood Window Apron
7094030394092001	1.3	1.4	88	N/A	Calibration Check

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3617A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3617A is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on window sashes, window wells, shelves and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., fences, window casings, window aprons, porch ceilings, porch trim, door casings, etc.) should be considered positive for lead-based paint (see floorplan). Also all painted metal porch supports should be considered positive for lead-based paint.

4. A photograph of Unit 3617A appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3617A
Ft. McClellan, AL

Date Surveyed: 03 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030394112001	0.5	0.5	103	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3617A.1.1	-0.2	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3617A.1.2	0.2	-0.0	25	Good	White Wood Door Casing
3617A.1.3	0.2	-0.1	25	Good	White Wood Cabinet
3617A.1.4	-0.3	-0.1	25	Good	White Sheetrock Wall
3617A.1.5	0.2	-0.0	25	Good	White Wood Window Casing
3617A.1.6	**2.9**	0.7	25	Good	White Wood Window Sash
3617A.1.7	0.3	-0.1	25	Good	White Wood Door

Room 2 (Living Room/Dining Room)

3617A.2.1	-0.2	-0.1	25	Good	White Wood Baseboard
3617A.2.2	0.3	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3617A.2.3	0.2	-0.1	25	Good	White Wood Window Apron
3617A.2.4	0.4	0.0	103	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3617A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
			Room 3 (Foyer)		
3617A.3.1	**1.8**	0.6	103	Good	White Wood Shelf Support
3617A.3.2	**1.9**	0.8	25	Good	White Wood Shelf
3617A.3.3	0.1	-0.1	25	Good	White Metal Door Track
3617A.3.4	0.2	-0.1	25	Good	White Masonite Door
3617A.3.5	-0.1	-0.1	25	Good	White Wood Baseboard
3617A.3.6	-0.0	0.0	25	Good	White Sheetrock Wall
			Room 4 (Child's Bedroom)		
3617A.4.1	**7.2**	1.1	25	Good	White Wood Window Well
3617A.4.2	0.6	0.1	103	Good	White Wood Window Casing
3617A.4.3	0.2	-0.1	25	Good	White Sheetrock Wall
3617A.4.4	-0.1	-0.1	25	Good	White Wood Baseboard
3617A.4.5	-0.0	-0.0	25	Good	White Wood Door Casing
			Room 5 (Child's Bedroom)		
3617A.5.1	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3617A.5.2	0.3	-0.0	25	Good	White Masonite Door
3617A.5.3	0.3	-0.1	25	Good	White Metal Door Track
3617A.5.4	-0.4	-0.0	25	Good	White Wood Window Casing
3617A.5.5	-0.3	-0.0	25	Good	White Wood Baseboard
3617A.5.6	0.3	0.0	25	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3617A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 6 (Master Bedroom)			
3617A.6.1	-0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3617A.6.2	0.1	-0.0	25	Good	White Sheetrock Wall
3617A.6.3	-0.4	-0.1	25	Good	White Wood Window Sill
3617A.6.4	0.3	-0.1	25	Good	White Wood Door
3617A.6.4	-0.0	-0.1	25	Good	Duplicate
709403039410501	0.5	0.6	103	N/A	Calibration Check
3617A.6.5	-0.1	-0.1	25	Good	White Wood Baseboard
		Room 7 (Hallway/Bathroom)			
3617A.7.1	0.1	-0.1	25	Good	White Sheetrock Ceiling
3617A.7.2	0.2	-0.1	25	Good	White Sheetrock Wall
3617A.7.3	0.0	-0.1	25	Good	White Wood Door Casing
3617A.7.4	0.3	-0.1	25	Good	White Wood Attic Scuttle
3617A.7.5	-0.1	-0.2	25	Good	Stained Wood Floor
		Exterior XRF Readings			
3617A.1	**3.2**	0.5	25	Good	White Wood Fence
3617A.2	**6.2**	0.4	25	Good	White Metal Porch Support
3617A.3	**4.0**	0.1	25	Good	White Wood Door Casing
3617A.4	**3.1**	0.3	25	Good	White Wood Porch Ceiling
3617A.5	**3.3**	0.1	25	Good	White Wood Porch Trim
3617A.6	**8.0**	1.1	25	Good	White Wood Window Casing
3617A.7	**2.9**	0.4	103	Good	White Wood Window Apron
7094030394112001	0.5	0.5	103	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell i total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3617B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3617B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window casings, window wells, and shelf supports (see field XRF readings).

3. On the exterior of this unit, positive levels of lead-based paint were detected on wood porch ceilings, wood window casings, and metal porch supports (see floorplan).

4. A photograph of Unit 3617B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3617B
Ft. McClellan, AL

Date Surveyed: 03 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030394092001	1.2	1.3	88	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3617B.1.1	-0.8	-0.2	22	Good	White Wood Door Casing
3617B.1.2	-0.2	-0.1	88	Good	White Wood Baseboard
3617B.1.3	**2.5**	0.5	22	Good	White Wood Window Casing
3617B.1.4	**3.8**	0.6	22	Fair	White Wood Window Well
3617B.1.5	0.0	-0.1	88	Good	White Wood Window Sill
3617B.1.6	-0.1	-0.1	22	Good	White Sheetrock Wall
3617B.1.7	-0.2	-0.1	22	Good	White Wood Cabinet
3617B.1.8	-0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3617B.1.9	-0.4	-0.1	22	Good	White Wood Door Header
3617B.1.10	-0.2	-0.1	22	Good	White Wood Door

Room 2 (Living Room/Dining Room/Foyer)

3617B.2.1	-0.8	-0.1	22	Good	White Sheetrock Wall
3617B.2.2	**1.8**	0.2	22	Good	White Wood Window Sash
3617B.2.3	-0.1	-0.2	88	Good	White Wood Window Casing
3617B.2.4	-0.1	-0.1	88	Good	White Wood Baseboard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3617B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room/Foyer - continued)					
3617B.2.5	**2.5**	0.4	22	Good	White Wood Shelf Support
3617B.2.6	0.6	0.1	88	Good	White Wood Shelf
3617B.2.7	-0.0	-0.1	22	Good	White Wood Door Header
3617B.2.8	0.0	-0.1	22	Good	White Masonite Door
Room 3 (Master Bedroom)					
3617B.3.1	-0.6	-0.1	22	Good	White Wood Baseboard
3617B.3.2	-0.2	-0.1	22	Good	White Sheetrock Wall
3617B.3.3	**2.9**	0.5	22	Good	White Wood Window Well
3617B.3.4	**3.7**	0.7	22	Good	White Wood Window Sash
3617B.3.5	0.3	-0.1	22	Good	White Wood Door Casing
3617B.3.5	0.0	-0.1	22	Good	Door Casing (Duplicate)
7094030394104501	0.9	1.2	88	N/A	Calibration Check
Room 4 (Child's Bedroom)					
3617B.4.1	-0.3	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3617B.4.2	0.4	-0.0	88	Good	White Wood Baseboard
3617B.4.3	**2.1**	0.2	88	Good	White Wood Shelf Support
3617B.4.4	0.6	-0.1	88	Good	White Metal Sliding Door Track
3617B.4.5	0.1	-0.1	22	Good	White Sheetrock Wall
3617B.4.6	-0.2	-0.1	22	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3617B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 5 (Child's Bedroom)			
3617B.5.1	**2.1**	0.4	22	Poor	White Wood Window Well
3617B.5.2	**3.0**	0.5	22	Good	White Wood Window Sash
3617B.5.3	0.5	0.1	88	Good	White Wood Shelf
3617B.5.4	-0.5	-0.1	88	Good	White Wood Baseboard
3617B.5.5	-0.1	-0.1	22	Good	White Wood Door Jamb
		Room 6 (Hall/Bathroom)			
3617B.6.1	-0.1	-0.1	22	Good	White Wood Attic Scuttle
3617B.6.2	0.2	-0.1	22	Good	White Sheetrock Ceiling
		Exterior XRF Readings			
3617B.1	**6.8**	0.5	22	Good	White Wood Porch Ceiling
3617B.2	**4.0**	0.6	22	Good	White Wood Window Casing
3617B.3	**2.5**	0.3	22	Good	White Metal Porch Support
7094030394113001	1.0	1.2	88	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell i total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD uidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3618A

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3618A is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes and window wells (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., door jambs, window casings, window sills, porch ceilings, porch headers, fences, etc.) should be considered positive for lead-based paint (see floorplan). All metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3618A appears below.

CESAD-EN-FL

20 January 1995

Field XRF Readings for Quarters 3618A
Ft. McClellan, AL

Date Surveyed: 03 March 1994
Surveyors: KB, LM, JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030394124502	0.6	0.7	103	N/A	Calibration Check
7094030394124502	0.6	0.7	103	N/A	Calibration Check
Exterior XRF Readings					
3618A.1	**1.8**	0.1	22	Good	White Wood Door Jamb
3618A.2	**9.2**	0.5	22	Poor	White Wood Porch Ceiling
3618A.3	**2.3**	0.3	22	Poor	White Wood Window Casing
3618A.4	**7.2**	0.6	22	Fair	White Metal Porch Support
3618A.5	**3.2**	0.6	22	Good	White Wood Porch Trim
3618A.6	**6.1**	0.8	22	Poor	Brown Wood Fence
3618A.7	**1.8**	0.1	22	Poor	White Wood Window Sill
Interior XRF Readings					
Room 1 (Kitchen)					
3618A.1.1	-0.2	-0.1	25	Good	White Wood Cabinet
3618A.1.2	-0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3618A.1.3	0.0	-0.1	25	Good	White Wood Window Casing
3618A.1.4	**2.7**	0.2	25	Good	White Wood Window Sash
3618A.1.5	0.0	-0.1	25	Good	White Sheetrock Wall
3618A.1.6	0.3	-0.0	25	Good	White Wood Door Jamb

Field XRF Readings for Quarters 3618A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room)					
3618A.2.1	0.3	-0.1	25	Good	Stained Wood Floor
3618A.2.2	0.2	-0.1	25	Good	White Wood Door Casing
3618A.2.3	0.1	-0.0	25	Good	White Wood Door
3618A.2.4	0.1	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3618A.2.5	-0.5	-0.1	25	Good	White Wood Baseboard
3618A.2.6	0.2	-0.1	25	Good	White Sheetrock Wall
3618A.2.7	0.4	-0.0	103	Good	White Wood Window Apron
3618A.2.8	**5.2**	0.4	25	Good	White Wood Window Well
Room 3 (Foyer)					
3618A.3.1	-0.3	-0.0	25	Good	White Wood Shelf Support
3618A.3.2	0.9 [1]	0.2	103	Good	White Wood Shelf (Inconclusive - Scrape Sample Taken)
3618A.3.3	0.2	-0.1	25	Good	White Wood Door
3618A.3.4	0.0	-0.1	25	Good	White Wood Baseboard
3618A.3.5	-0.1	-0.0	25	Good	White Wood Door Jamb
Room 4 (Bedroom)					
3618A.4.1	-0.6	-0.1	88	Good	White Wood Shelf Support
3618A.4.2	-0.4	-0.1	22	Good	White Wood Shelf
3618A.4.3	0.4	-0.0	88	Good	White Metal Door Track
3618A.4.4	-0.0	-0.1	22	Good	White Wood Baseboard
3618A.4.5	-0.4	-0.1	22	Fair	White Wood Window Casing
3618A.4.6	-0.1	-0.0	22	Good	White Wood Door Jamb

[1] Lab analysis negative (Result < 0.05% Lead, Action Level ≥ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3618A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 5 (Bedroom)			
3618A.5.1	-0.3	-0.1	88	Good	White Wood Shelf Support
3618A.5.2	-0.5	-0.1	22	Good	White Wood Shelf
3618A.5.3	**8.8**	0.8	22	Good	White Wood Window Well
3618A.5.4	**2.3**	0.6	22	Good	White Wood Window Sash
3618A.5.5	0.3	0.0	22	Good	White Wood Window Sill
3618A.5.6	0.1	-0.1	22	Good	White Wood Baseboard
3618A.5.7	0.2	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3618A.5.8	-0.1	-0.1	22	Good	White Sheetrock Wall
3618A.5.9	-0.1	-0.1	22	Good	White Wood Door
3618A.5.10	-0.0	-0.1	22	Good	White Wood Door Header
3618A.5.10	-0.1	-0.1	22	Good	Duplicate
		Room 6 (Hall/Bathroom)			
3618A.6.1	0.5	-0.1	88	Good	White Wood Window Casing
3618A.6.2	0.1	-0.1	22	Good	White Sheetrock Wall
3618A.6.3	-0.3	-0.0	22	Good	White Wood Door Jamb
3618A.6.4	0.1	-0.1	22	Good	White Wood Door
7094030394135502	0.5	0.6	103	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell i total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3619B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3619B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, shelf supports, and attic scuttles (see field XRF readings).

3. Except for the doors and door components, all painted exterior wood components (e.g., window aprons, window casings, porch ceilings, etc.) should be considered positive for lead-based paint (see floorplan). All metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3619B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3619B
Ft. McClellan, AL

Date Surveyed: 03 March 1994
Surveyors: KB, LM, JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Exterior XRF Readings					
3619B.1	**5.6**	0.4	25	Fair	White Metal Porch Support
3619B.2	0.3	-0.1	25	Fair	White Wood Door Casing
3619B.3	**4.4**	0.6	25	Good	White Wood Window Casing
3619B.4	**2.2**	0.2	25	Poor	White Wood Window Apron
3619B.5	**8.5**	0.6	25	Poor	White Wood Porch Ceiling
Interior XRF Readings					
Room 1 (Kitchen)					
3619B.1.1	0.3	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3619B.1.2	-0.9	-0.1	25	Good	White Wood Cabinet
3619B.1.3	-0.0	-0.1	25	Good	White Wood Window Casing
3619B.1.4	-0.4	-0.1	25	Good	White Sheetrock Wall
3619B.1.5	**2.5**	0.4	25	Good	White Wood Window Sash
3619B.1.6	-0.4	-0.1	25	Good	White Wood Baseboard
3619B.1.7	-0.4	-0.2	25	Good	White Wood Door Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3619B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room)					
3619B.2.1	0.8 [1]	-0.1	103	Good	White Wood Window Casing (Inconclusive-Scrape Sample Taken)
3619B.2.2	-0.8	-0.1	25	Good	Stained Wood Floor
3619B.2.3	-0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3619B.2.4	-0.0	-0.1	25	Good	White Wood Baseboard
3619B.2.5	-0.4	-0.1	25	Good	White Wood Door Jamb
3619B.2.6	**0.9** [2]	0.1	103	Good	White Wood Shelf Support (Inconclusive -Scrape Sample Taken)
3619B.2.7	-0.1	-0.1	25	Good	White Wood Shelf
3619B.2.8	**2.1**	0.3	25	Good	White Wood Attic Scuttle
Room 3 (Master Bedroom)					
3619B.3.1	**6.1**	1.0	25	Poor	White Wood Window Well
3619B.3.2	0.3	-0.1	103	Good	White Masonite Door
3619B.3.3	1.2	0.2	103	Good	White Wood Shelf Support (Inconclusive - See Sample 3619B.2.6)
3619B.3.4	0.3	-0.1	25	Good	White Metal Door Track
3619B.3.5	-0.2	-0.0	25	Good	White Wood Baseboard
3619B.3.6	-0.1	-0.1	25	Good	White Wood Door Casing
7094030394134501	1.0	1.2	88	N/A	Calibration Check

[1] Lab analysis negative (Result = 0.11% Lead, Action Level $\geq$ 0.5% Lead).

[2] Lab analysis **positive** (Result = 2.50% Lead, Action Level > 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3619B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
			Room 4 (Bedroom)		
3619B.4.1	**6.1**	1.3	22	Poor	White Wood Window Well
3619B.4.2	1.0	-0.0	88	Good	White Wood Window Casing (Inconclusive - See Sample 3619B.2.1)
3619B.4.3	**2.7**	0.3	22	Good	White Wood Window Sash
3619B.4.4	0.7	0.1	88	Good	White Wood Shelf Support (Inconclusive - See Sample 3619B.2.6)
3619B.4.5	0.0	-0.0	88	Good	White Wood Shelf
3619B.4.6	0.2	-0.0	22	Good	White Wood Baseboard
3619B.4.7	0.2	-0.1	22	Good	White Sheetrock Wall
3619B.4.8	0.2	-0.1	22	Good	White Wood Door
			Room 5 (Bathroom)		
3619B.5.1	-0.2	-0.1	22	Good	White Wood Door Casing
3619B.5.2	0.2	-0.1	22	Good	White Wood Window Casing
3619B.5.3	0.1	-0.1	22	Good	White Sheetrock Wall
7094030394150001	0.4	0.6	103	N/A	Calibration Check
1.02	0.8	1.0	103	N/A	NIST Std. = 1.02

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell i total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3620B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction: Brick and Wood

Survey Summary

1. Unit 3620B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelves (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., door casings, window casings, window aprons, porch ceilings, fences, etc.) should be considered positive for lead-based paint (see floorplan). All metal porch supports should be considered positive for lead-based paint as well.

4. A photograph of Unit 3620B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3620B
Ft. McClellan, AL

Date Surveyed: 03 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
7094030394140001	1.2	1.3	88	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3620B.1.1	0.6	-0.0	88	Good	White Wood Window Sash
3620B.1.2	0.2	-0.0	22	Fair	White Wood Window Sill
3620B.1.3	-0.6	-0.1	22	Good	White Wood Baseboard
3620B.1.4	0.3	-0.1	22	Good	White Sheetrock Wall
3620B.1.5	-0.3	-0.2	22	Good	White Wood Door Casing
3620B.1.6	-0.5	-0.1	22	Good	White Wood Cabinet
3620B.1.7	-0.1	-0.1	22	Good	White Wood Upper Trim
3620B.1.8	0.2	-0.1	22	Good	White Wood Door
3620B.1.9	-0.2	-0.0	22	Good	White Wood Door Jamb
3620B.1.10	0.0	-0.1	88	Good	White Sheetrock (Plaster?) Ceiling

Room 2 (Foyer/Living Room/Dining Room)

3620B.2.1	0.2	-0.1	22	Good	White Sheetrock Wall
3620B.2.2	0.2	-0.1	22	Good	White Wood Door
3620B.2.3	-0.5	-0.1	22	Good	White Wood Baseboard
3620B.2.4	0.1	-0.1	22	Good	White Wood Attic Scuttle
3620B.2.5	-0.4	-0.0	22	Good	White Wood Shelf Support

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3620B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 2 (Foyer/Living Room/Dining Room - continued)					
3620B.2.6	**1.4**	0.7	88	Good	White Wood Shelf
3620B.2.7	**3.6**	0.4	22	Good	White Wood Window Sash
3620B.2.8	0.2	-0.1	22	Good	White Wood Window Casing
3620B.2.9	-0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
Room 3 (Child's Bedroom)					
3620B.3.1	**0.6** [1]	0.1	88	Good	White Wood Window Well (Scrape Sample Taken)
3620B.3.2	0.5	0.0	88	Good	White Wood Window Sill
3620B.3.3	**2.4**	0.6	22	Good	White Wood Window Sash
3620B.3.4	**1.7**	1.0	22	Good	White Wood Shelf
3620B.3.5	-0.1	-0.1	22	Good	White Wood Shelf Support
3620B.3.6	0.1	-0.1	22	Good	White Sheetrock Wall
3620B.3.7	-0.1	-0.0	22	Good	White Wood Door Jamb
Room 4 (Master Bedroom)					
3620B.4.1	0.2	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3620B.4.2	-0.2	-0.1	22	Good	White Wood Window Apron
3620B.4.3	-0.1	-0.0	22	Good	White Wood Baseboard
3620B.4.4	-0.2	-0.1	22	Good	White Masonite Door
3620B.4.5	0.2	-0.1	22	Good	White Wood Door

[1] Lab analysis **positive** (Result = 2.37% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is otal lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3620B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 5 (Hall/Bathroom)			
3620B.5.1	-0.2	-0.0	22	Good	White Wood Attic Scuttle
3620B.5.2	0.1	0.0	88	Good	White Wood Window Well
3620B.5.3	**2.8**	0.5	22	Good	White Wood Window Sash
		Exterior XRF Readings			
3620B.1	**6.6**	0.4	25	Good	White Metal Porch Support
3620B.2	**9.0**	0.8	25	Good	White Wood Door Casing
3620B.3	**2.9**	0.4	25	Good	White Wood Window Casing
3620B.4	**0.9** (2)	0.1	103	Poor	White Wood Window Apron (Inconclusive-Scrape Sample Taken)
3620B.5	**5.8**	0.5	25	Good	White Wood Porch Ceiling
3620B.6	0.7 (3)	-0.1	103	Good	White Wood Door Jamb (Inconclusive - Scrape Sample Taken)
3620B.7	**4.2**	0.3	25	Poor	White Wood Porch Ceiling
3620B.8	**2.4**	0.1	25	Poor	White Wood Fence
7094030394165001	1.1	1.3	88	N/A	Calibration Check
1.63	1.1	1.4	88	N/A	NIST Std. = 1.63

(2) Lab analysis **positive** (Result = 2.46% Lead, Action Level $\geq$ 0.5% Lead).

(3) Lab analysis negative (Result = 0.14% Lead, Action Level > 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell i total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD uidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3622B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3622B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., door casings, window casings, window sills, porch ceilings, porch upper trim, fences, etc.) should be considered positive for lead-based paint (see floorplan). Other exterior components testing positive for lead-based paint include painted metal electrical conduits and painted metal porch supports.

4. A photograph of Unit 3622B appears below.

CESAD-EN-FL

20 January 1995

Field XRF Readings for Quarters 3622B
Ft. McClellan, AL

Date Surveyed: 04 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030494070501	1.4	1.3	88	N/A	Calibration Check
7094030494070501	1.3	1.3	88	N/A	Calibration Check
7094030494070501	1.1	1.3	88	N/A	Calibration Check
7094030494070501	1.3	1.3	88	N/A	Calibration Check
7094030494070501	1.2	1.3	88	N/A	Calibration Check
0000	0.0	-0.1	88	N/A	Blank
1.63	1.4	1.5	88	N/A	NIST Std. = 1.63

Exterior XRF Readings

3622B.1	**10.4**	0.3	22	Fair	White Wood Upper Trim
3622B.2	**5.8**	0.9	22	Fair	White Wood Window Casing
3622B.3	**8.3**	0.7	22	Fair	White Metal Electrical Conduit
3622B.4	**10.1**	0.9	22	Poor	White Metal Porch Support
3622B.5	**4.9**	0.5	22	Fair	White Wood Door Casing
3622B.6	**9.9**	0.5	22	Good	White Wood Porch Ceiling
3622B.7	**6.2**	0.9	22	Poor	White Wood Window Sill
3622B.8	**5.1**	0.6	22	Poor	White Wood Fence
3622B.9	0.4	0.0	88	Good	White Metal Vent

Interior XRF Readings

Room 1 (Foyer/Living Room/Dining Room)

3622B.1.1	0.5	-0.0	88	Good	White Wood Baseboard
3622B.1.2	0.0	-0.1	22	Good	White Masonite Door
3622B.1.3	**2.3**	0.2	88	Good	White Wood Shelf Support
3622B.1.4	-0.1	-0.1	88	Good	White Wood Shelf

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HU guidelines.

Field XRF Readings for Quarters 3622B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 1 (Foyer/Living Room/Dining Room - continued)					
3622B.1.5	1.0 [1]	0.0	88	Fair	White Metal Closet Rod (Inconclusive - Scrape Sample Taken)
3622B.1.6	-0.4	-0.1	22	Good	White Wood Door Casing
3622B.1.7	**5.2**	0.4	22	Fair	White Wood Window Well
3622B.1.8	**2.3**	0.4	22	Good	White Wood Window Sash
3622B.1.9	0.3	-0.1	22	Good	White Wood Window Sill
3622B.1.10	0.1	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3622B.1.10	0.2	-0.1	122	Good	Ceiling (Duplicate)
7094030494090501	1.1	1.3	88	N/A	Calibration Check
3622B.1.11	0.3	-0.1	22	Good	White Wood Door Jamb
Room 2 (Kitchen)					
3622B.2.1	-0.3	-0.1	22	Good	White Wood Cabinet
3622B.2.2	0.3	-0.1	22	Good	White Wood Window Casing
3622B.2.3	0.1	-0.1	22	Good	White Wood Door
3622B.2.4	-0.0	-0.1	88	Good	White Wood Baseboard
3622B.2.5	-0.3	-0.1	22	Good	White Sheetrock Wall
3622B.2.6	0.2	-0.1	22	Good	White Wood Door Casing

[1] Lab analysis negative (Result < 0.05% Lead, Action Level ≥ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is otal lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3622B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 3 (Child's Bedroom)			
3622B.3.1	-0.3	-0.0	22	Good	White Wood Baseboard
3622B.3.2	0.3	-0.1	22	Good	White Wood Door
3622B.3.3	0.2	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3622B.3.4	-0.2	-0.1	22	Good	White Wood Shelf
3622B.3.5	0.4	-0.1	88	Good	White Metal Door Track
		Room 4 (Child's Bedroom)			
3622B.4.1	-0.1	-0.1	22	Good	White Sheetrock Wall
3622B.4.2	-0.2	-0.1	22	Good	White Wood Door Casing
3622B.4.3	-0.8	-0.1	22	Good	White Sheetrock Closet Door Jamb
3622B.4.4	-0.0	-0.1	22	Good	White Wood Baseboard
3622B.4.5	0.2	-0.0	22	Good	White Wood Window Casing
		Room 5 (Master Bedroom)			
3622B.5.1	0.3	-0.1	22	Good	White Wood Door
3622B.5.2	0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3622B.5.3	-0.5	-0.1	88	Good	White Wood Door Jamb
3622B.5.4	-0.5	-0.0	22	Good	Stained Wood Floor
3622B.5.5	0.1	-0.1	22	Good	White Wood Shelf
3622B.5.6	**2.1**	0.1	88	Good	White Wood Shelf Support
		Room 6 (Hall/Bathroom)			
3622B.6.1	-0.2	-0.0	22	Good	White Wood Attic Scuttle
7094030494094501	1.3	1.3	88	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3624B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3624B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, window casings, and shelf supports (see field XRF readings).

3. Except for the doors and the fences, all painted exterior wood components (e.g., door casings, window casings, window aprons, porch ceilings, porch trim, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal porch supports should be considered positive for lead-based paint as well.

4. A photograph of Unit 3624B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3624B
Ft. McClellan, AL

Date Surveyed: 04 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030494070501	0.8	0.6	103	N/A	Calibration Check
7094030494070501	0.7	0.6	103	N/A	Calibration Check
7094030494070501	0.6	0.6	103	N/A	Calibration Check
7094030494070501	0.5	0.6	103	N/A	Calibration Check
7094030494070501	0.6	0.6	103	N/A	Calibration Check
0000	0.1	-0.1	103	N/A	Blank
1.02	0.9	1.1	103	N/A	NIST Std. = 1.02

Exterior XRF Readings

3624B.1	**5.1**	0.5	25	Fair	White Wood Porch Ceiling
3624B.2	**6.8**	0.9	25	Good	White Wood Window Casing
3624B.3	-0.1	-0.1	25	Good	White Wood Fence
3624B.4	**4.8**	0.7	25	Good	White Metal Porch Support
3624B.5	**5.2**	0.9	25	Good	White Wood Door Casing
3624B.6	**6.5**	0.3	25	Good	White Wood Porch Trim
3624B.7	**5.5**	0.7	103	Good	White Wood Window Apron

Interior XRF Readings

Room 1 (Kitchen)

3624B.1.1	**3.7**	0.7	25	Good	White Wood Window Sash
3624B.1.2	**5.6**	0.6	25	Good	White Wood Window Well
3624B.1.3	-0.4	-0.1	25	Good	White Wood Cabinet
3624B.1.4	0.1	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3624B.1.5	0.4	-0.0	103	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3624B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 2 (Living Room/Dining Room)			
3624B.2.1	0.7 [1]	-0.0	103	Good	White Wood Window Apron (Inconclusive-Scrape Sample Taken)
3624B.2.2	**1.5**	0.0	103	Good	White Wood Window Casing
3624B.2.3	0.2	-0.1	25	Good	White Sheetrock Wall
3624B.2.4	-0.9	-0.0	25	Good	White Wood Baseboard
3624B.2.5	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3624B.2.6	0.5	0.2	103	Good	White Wood Shelf Support
3624B.2.7	-0.2	-0.1	25	Good	White Wood Shelf
3624B.2.8	-0.1	-0.1	25	Good	White Wood Door Casing
3624B.2.8	0.2	-0.1	25	Good	Duplicate
7094030494091502	0.4	0.6	103	N/A	Calibration Check
		Room 3 (Child's Bedroom)			
3624B.3.1	**2.0**	0.8	25	Good	White Wood Shelf Support
3624B.3.2	0.3	-0.0	103	Good	White Wood Shelf
3624B.3.3	-0.0	-0.0	103	Good	White Wood Baseboard
3624B.3.4	0.1	-0.0	25	Good	White Masonite Door

[1] Lab analysis negative (Result = 0.26% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

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Field XRF Readings for Quarters 3624B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Child's Bedroom)			
3624B.4.1	1.0	-0.0	103	Good	White Wood Window Apron (Inconclusive - See Sample 3624B.2.1)
3624B.4.2	0.3	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3624B.4.3	0.3	-0.1	103	Good	White Wood Shelf
3624B.4.4	0.5	-0.1	103	Good	White Metal Door Track
		Room 5 (Master Bedroom/Half Bath)			
3624B.5.1	-0.1	-0.2	25	Good	White Sheetrock Wall
3624B.5.2	-0.4	-0.1	25	Good	White Wood Baseboard
3624B.5.3	-0.1	-0.1	25	Good	White Wood Door
3624B.5.4	-0.0	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
		Room 6 (Hall/Bath)			
3624B.6.1	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3624B.6.2	0.1	-0.1	25	Good	White Sheetrock Wall
3624B.6.3	-0.3	-0.1	25	Good	White Wood Attic Scuttle
3624B.6.4	-1.3	-0.2	25	Good	Stain Hardwood Floor
7094030494100002	0.3	-0.3	103	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3626B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3626B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, door casings, and fences, all painted exterior wood components (e.g., window casings, window sills, porch ceilings, porch upper trim, etc.) should be considered positive for lead-based paint (see floorplan). Also, all painted metal porch supports should be considered positive for lead-based paint.

4. A photograph of Unit 3626B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3626B
Ft. McClellan, AL

Date Surveyed: 04 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030494094501	1.1	1.2	88	N/A	Calibration Check
		Exterior XRF Readings			
3626B.1	**6.1**	0.8	22	Fair	White Wood Window Casing
3626B.2	**3.3**	0.7	22	Fair	White Wood Window Sill
3626B.3	**2.6**	0.5	22	Fair	White Metal Porch Post
3626B.4	0.3	-0.1	22	Good	White Wood Door Casing
3626B.5	**11.6**	0.8	22	Good	White Wood Upper Porch Trim
3626B.6	-0.2	0.0	22	Good	Red Wood Fence
3626B.7	**5.7**	0.6	22	Good	White Wood Porch Ceiling
		Interior XRF Readings			
		Room 1 (Kitchen)			
3626B.1.1	-0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3626B.1.2	0.1	-0.1	22	Good	White Wood Cabinet
3626B.1.3	0.1	-0.1	22	Good	White Wood Door Header
3626B.1.4	-0.3	-0.1	22	Good	White Sheetrock Wall
3626B.1.5	**7.7**	1.0	22	Good	White Wood Window Well
3626B.1.6	0.6	-0.1	88	Good	White Wood Window Sill
3626B.1.7	**4.6**	0.5	22	Good	White Wood Window Sash
3626B.1.8	0.1	-0.1	22	Good	White Wood Baseboard
3626B.1.9	0.3	-0.1	22	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3626B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Foyer/Living Room/Dining Room)					
3626B.2.1	**1.7**	0.1	88	Good	White Wood Shelf Support
3626B.2.2	0.1	-0.1	88	Good	White Masonite Door
3626B.2.3	0.0	-0.1	22	Good	White Wood Shelf
3626B.2.4	-0.8	-0.1	22	Good	White Wood Baseboard
3626B.2.5	0.0	-0.1	22	Good	White Sheetrock Wall
3626B.2.6	-0.3	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3626B.2.7	0.2	-0.1	88	Good	White Wood Window Casing
Room 3 (Bedroom)					
3626B.3.1	0.0	-0.1	22	Good	White Sheetrock Wall
3626B.3.1	-0.3	-0.1	22	Good	Duplicate
7094030494103501	1.0	1.2	88	N/A	Calibration Check
3626B.3.2	0.1	-0.1	22	Good	White Wood Shelf
3626B.3.3	0.4	-0.1	88	Good	White Metal Door Track
3626B.3.4	-0.2	-0.0	22	Good	White Wood Baseboard
3626B.3.5	0.3	-0.1	22	Good	White Wood Door Casing
3626B.3.6	0.1	-0.1	22	Good	White Wood Door
Room 4 (Child's Bedroom)					
3626B.4.1	**2.1**	0.2	22	Good	White Wood Shelf Support
3626B.4.2	**5.7**	0.7	22	Fair	White Wood Window Well
3626B.4.3	0.4	-0.1	88	Good	White Wood Window Sill
3626B.4.4	0.3	-0.1	22	Good	White Wood Baseboard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is otal lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3626B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 4 (Child's Bedroom - continued)					
3626B.4.5	0.3	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3626B.4.6	0.0	-0.1	22	Good	White Wood Door Jamb
Room 5 (Master Bedroom/Half Bath)					
3626B.5.1	-0.0	-0.1	22	Good	White Sheetrock Wall
3626B.5.2	0.0	-0.1	22	Good	White Wood Door
3626B.5.3	0.1	-0.1	22	Good	White Wood Shelf
3626B.5.4	0.3	-0.1	22	Good	White Wood Baseboard
3626B.5.5	0.4	-0.1	88	Good	White Wood Window Casing
Room 6 (Hall/Bath)					
3626B.6.1	0.2	-0.1	22	Good	White Sheetrock Wall
3626B.6.2	0.1	-0.1	22	Good	White Wood Door
3626B.6.3	-0.6	-0.1	22	Good	Stained Wood Floor
3626B.6.4	0.3	-0.1	22	Good	White Wood Attic Scuttle
7094030494114501	0.8	1.2	88	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3629B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3629B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., door casings, window casings, window aprons, porch ceilings, fences, etc.) should be considered positive for lead-based paint (see floorplan). Please note that the painted metal porch supports should also be considered positive for lead-based paint.

4. No photograph is available of Unit 3629B.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3629B
Ft. McClellan, AL

Date Surveyed: 04 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Interior XRF Readings					
Room 1 (Kitchen)					
3629B.1.1	0.2	-0.0	103	Good	White Sheetrock (Plaster?) Ceiling
3629B.1.2	**3.2**	0.8	25	Good	White Wood Window Sash
3629B.1.3	**4.9**	0.4	25	Good	White Wood Window Well
3629B.1.4	0.0	0.0	25	Good	White Wood Window Sill
3629B.1.5	-0.3	-0.1	25	Good	White Wood Cabinet
3629B.1.6	0.2	-0.1	25	Good	White Wood Door Jamb
Room 2 (Living Room/Dining Room)					
3629B.2.1	-0.1	-0.1	103	Good	White Wood Window Casing
3629B.2.2	0.3	-0.0	103	Good	White Wood Window Apron
3629B.2.3	-0.3	-0.1	25	Good	White Sheetrock Wall
3629B.2.4	-0.3	-0.1	25	Good	White Wood Baseboard
3629B.2.5	**1.9**	0.3	25	Good	White Wood Shelf Support
3629B.2.6	0.1	-0.1	25	Good	White Wood Attic Scuttle
3629B.2.7	-0.2	-0.1	25	Good	White Wood Shelf
3629B.2.8	-0.3	-0.1	25	Good	White Wood Door Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3629B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Master Bedroom)					
3629B.3.1	0.4	-0.1	103	Good	White Metal Door Track
3629B.3.2	0.1	-0.1	25	Good	White Masonite Door
3629B.3.3	0.4	-0.1	103	Fair	White Wood Window Casing
3629B.3.4	0.3	0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3629B.3.5	0.0	-0.1	103	Good	White Wood Shelf
Room 4 (Child's Bedroom)					
3629B.4.1	0.1	-0.1	103	Good	White Wood Window Sill
3629B.4.2	-0.2	-0.1	25	Good	White Sheetrock Wall
3629B.4.2	-0.1	-0.1	25	Good	Duplicate
7094030494110001	0.3	0.7	103	N/A	Calibration Check
3629B.4.3	0.1	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3629B.4.4	-0.1	-0.1	103	Good	White Wood Baseboard
Room 5 (Hall/Bath)					
3629B.5.1	-0.2	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3629B.5.2	-0.0	-0.1	25	Good	White Sheetrock Wall
3629B.5.3	-0.0	-0.0	103	Good	White Wood Window Casing
3629B.5.4	-0.2	-0.0	103	Good	White Wood Door Jamb
3629B.5.5	-1.5	-0.3	25	Good	Stained Wood Floor

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3629B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Exterior XRF Readings			
3629B.1	**2.8**	0.2	25	Fair	White Wood Fence
3629B.2	**4.4**	0.4	25	Good	White Wood Window Casing
3629B.3	**3.3**	0.4	25	Good	White Metal Porch Support
3629B.4	**2.6**	0.4	25	Fair	White Wood Door Casing
3629B.5	**7.0**	0.6	25	Fair	White Wood Porch Ceiling
3629B.6	**1.8**	0.6	103	Fair	White Wood Window Apron
7094030494113001	0.2	0.6	103	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surfac paint films. All positive results are based on K-shell readings as per HUD

guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3632B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3632B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted wood exterior components (e.g., door casings, window casings, porch trim, porch ceilings, fences, etc.) should be considered positive for lead-based paint (see floorplan). Also consider all painted metal porch supports positive for lead-based paint.

4. A photograph of Unit 3632B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3632B
Ft. McClellan, AL

Date Surveyed: 04 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030494125001	1.2	1.3	88	N/A	Calibration Check
7094030494125001	1.1	1.3	88	N/A	Calibration Check
7094030494125001	1.2	1.3	88	N/A	Calibration Check

Exterior XRF Readings

3632B.1	**7.1**	0.6	22	Good	White Wood Porch Ceiling
3632B.2	**12.8**	1.6	22	Good	White Wood Window Casing
3632B.3	**15.6**	1.5	22	Good	White Wood Door Casing
3632B.4	**6.3**	0.4	22	Good	White Wood Porch Trim
3632B.5	**9.2**	0.9	22	Poor	White Wood Fence
3632B.6	**6.5**	1.0	22	Fair	White Wood Window Casing
3632B.7	**9.0**	0.5	22	Fair	White Metal Porch Support

Interior XRF Readings

Room 1 (Kitchen)

3632B.1.1	0.1	-0.0	22	Good	White Wood Baseboard
3632B.1.2	0.0	-0.1	22	Good	White Sheetrock Wall
3632B.1.3	**10.1**	0.7	22	Fair	White Wood Window Well
3632B.1.4	**2.4**	0.5	22	Good	White Wood Window Sash
3632B.1.5	0.1	-0.1	22	Good	White Wood Door Casing
3632B.1.6	-0.1	-0.1	22	Good	White Wood Cabinet

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3632B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Foyer/Living Room/Dining Room)					
3632B.2.1	-0.0	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3632B.2.2	0.2	-0.1	22	Good	White Wood Door
3632B.2.3	0.3	-0.0	22	Good	White Wood Shelf
3632B.2.4	-0.0	-0.2	88	Good	White Wood Baseboard
3632B.2.5	-0.3	-0.1	22	Good	White Wood Window Casing
3632B.2.6	**3.1**	0.5	22	Good	White Wood Window Sash
Room 3 (Child's Bedroom)					
3632B.3.1	0.3	-0.1	22	Good	White Wood Baseboard
3632B.3.2	**2.8**	0.3	22	Good	White Wood Shelf Support
3632B.3.3	-0.1	-0.1	22	Good	White Masonite Door
3632B.3.4	-0.0	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3632B.3.5	0.2	-0.1	22	Good	White Wood Door Jamb
Room 4 (Master Bedroom)					
3632B.4.1	0.3	-0.0	22	Good	White Metal Door Track
3632B.4.2	0.0	-0.0	22	Good	White Sheetrock Wall
3632B.4.3	-0.6	-0.1	22	Good	White Wood Baseboard
3632B.4.4	0.1	-0.0	88	Good	White Wood Shelf
3632B.4.5	0.0	-0.1	22	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3632B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 5	**(Bathroom/Hall)**		
3632B.5.1	0.5	-0.1	88	Good	White Wood Window Sill
3632B.5.2	0.3	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3632B.5.3	0.2	-0.1	22	Good	White Wood Door Header
3632B.5.4	0.2	-0.1	22	Good	White Wood Attic Scuttle
7094030494141001	1.2	1.2	88	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell i total lead (multi-layered paint surfaces) and L-shell is essentially surfac

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3635B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3635B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors and fences, all painted exterior wood components (e.g., door casings, window casings, window aprons, porch trim, porch ceilings, etc.) which should be considered positive for lead-based paint (see floorplan). Painted metal exterior components which should be considered positive for lead-based paint include metal porch supports.

4. A photograph of Unit 3635B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3635B
Ft. McClellan, AL

Date Surveyed: 04 March 1994
Surveyors: BL, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030494125001	0.3	0.6	103	N/A	Calibration Check
7094030494125001	0.5	0.6	103	N/A	Calibration Check
7094030494125001	0.5	0.6	103	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3635B.1.1	-0.1	-0.1	25	Good	White Wood Cabinet
3635B.1.2	**2.9**	0.2	25	Good	White Wood Window Sash
3635B.1.3	**4.8**	0.4	25	Good	White Wood Window Well
3635B.1.4	0.3	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3635B.1.5	-0.3	-0.1	25	Good	White Wood Door Jamb

Room 2 (Living Room/Dining Room)

3635B.2.1	0.1	-0.1	103	Good	White Wood Window Apron
3635B.2.2	0.3	-0.1	103	Good	White Wood Window Casing
3635B.2.3	-0.2	-0.1	25	Good	White Sheetrock Wall
3635B.2.4	-0.2	-0.1	25	Good	White Wood Baseboard
3635B.2.5	**2.1**	0.3	25	Good	White Wood Shelf Support
3635B.2.6	0.6	0.1	103	Good	White Wood Shelf
3635B.2.7	-0.4	-0.1	25	Good	White Wood Door Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3635B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Master Bedroom)					
3635B.3.1	0.2	-0.1	25	Good	White Wood Window Sill
3635B.3.2	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3635B.3.3	0.3	-0.1	25	Good	White Sheetrock Wall
3635B.3.4	-0.2	-0.1	25	Good	White Wood Baseboard
3635B.3.5	-0.1	-0.1	25	Good	White Wood Door
Room 4 (Child's Bedroom)					
3635B.4.1	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3635B.4.2	0.0	-0.1	25	Good	White Masonite Door
3635B.4.3	0.5	-0.1	103	Good	White Metal Door Track
3635B.4.4	0.7	0.0	103	Good	White Wood Shelf (Inconclusive - See Sample 3635B.2.6)
3635B.4.5	0.4	-0.1	103	Good	White Wood Window Casing
Room 5 (Child's Bedroom)					
3635B.5.1	0.2	-0.1	103	Good	White Wood Shelf
3635B.5.2	-0.2	-0.1	25	Good	White Sheetrock Wall
3635B.5.2	0.2	-0.1	25	Good	Duplicate
7094030494141002	0.2	0.5	103	N/A	Calibration Check
3635B.5.3	-0.4	-0.1	25	Good	White Wood Baseboard
3635B.5.4	-0.8	-0.1	25	Good	White Wood Door Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is otal lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

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Field XRF Readings for Quarters 3635B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 6 (Hall/Bath)			
3635B.6.1	0.0	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3635B.6.2	-0.1	-0.1	25	Good	White Sheetrock Wall
3635B.6.3	-0.0	-0.0	25	Good	White Wood Door Jamb
3635B.6.4	-0.2	-0.1	25	Good	White Wood Attic Scuttle
		Exterior XRF Readings			
3635B.1	0.9 [1]	-0.1	103	Good	White Wood Door Jamb
3635B.2	0.2	0.3	25	Good	White Wood Fence
3635B.3	**3.8**	0.6	25	Good	White Wood Porch Ceiling
3635B.4	**5.4**	0.7	25	Good	White Wood Porch Trim
3635B.5	**5.4**	1.0	25	Good	White Wood Window Apron
3635B.6	**3.9**	0.6	25	Good	White Wood Window Casing
3635B.7	**5.2**	0.6	25	Good	White Metal Porch Support
3635B.8	**5.3**	0.5	25	Good	White Wood Door Casing
7094030494143502	0.3	0.5	103	N/A	Calibration Check

[1] Lab analysis negative (Result = 0.11% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell i total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3637B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3637B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors and door components, all painted exterior wood components (e.g., window casings, window sills, porch ceilings, porch upper trim, fences, etc.) should be considered positive for lead-based paint (see floorplan). Also all painted metal porch supports should be considered positive for lead-based paint.

4. A photograph of Unit 3637B appears below.

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20 January 1995

Field XRF Readings for Quarters 3637B
Ft. McClellan, AL

Date Surveyed: 04 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030494141001	1.2	1.2	88	N/A	Calibration Check
		Exterior XRF Readings			
3637B.1	**5.8**	1.1	22	Fair	White Wood Window Casing
3637B.2	**7.6**	0.4	22	Fair	White Wood Porch Ceiling
3637B.3	**5.7**	0.5	22	Good	White Metal Porch Support
3637B.4	0.1	-0.1	22	Good	White Wood Door Casing
3637B.5	**4.3**	0.8	22	Good	White Wood Upper Trim
3637B.6	**10.2**	0.7	22	Poor	White Wood Fence
3637B.7	**8.4**	1.3	22	Fair	White Wood Window Sill
		Interior XRF Readings			
		Room 1 (Kitchen)			
3637B.1.1	**4.2**	0.4	22	Fair	White Wood Window Well
3637B.1.2	0.2	-0.1	88	Good	White Wood Window Sill
3637B.1.3	**3.1**	0.3	22	Good	White Wood Window Sash
3637B.1.4	-0.4	-0.1	22	Good	White Wood Cabinet
3637B.1.5	0.3	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3637B.1.6	0.0	-0.1	22	Good	White Sheetrock Wall
3637B.1.7	0.1	-0.1	22	Good	White Wood Door
3637B.1.8	-0.2	-0.1	22	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3637B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room/Foyer)					
3637B.2.1	0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3637B.2.2	0.1	-0.1	22	Good	White Wood Door
3637B.2.3	**1.9**	0.3	88	Good	White Wood Shelf Support
3637B.2.4	-0.0	-0.1	22	Good	White Wood Shelf
3637B.2.5	-0.2	-0.1	22	Good	White Wood Baseboard
3637B.2.6	0.1	-0.1	22	Good	White Sheetrock Wall
3637B.2.7	0.3	-0.0	22	Good	White Wood Window Casing
Room 3 (Child's Bedroom)					
3637B.3.1	**7.3**	0.9	22	Fair	White Wood Window Well
3637B.3.2	-0.0	-0.1	88	Good	White Wood Window Sill
3637B.3.3	-0.2	-0.1	22	Good	White Wood Shelf
3637B.3.4	-0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3637B.3.5	-0.2	-0.1	22	Good	White Wood Baseboard
3637B.3.6	-0.6	-0.1	22	Good	White Wood Door Casing
Room 4 (Bedroom)					
3637B.4.1	**2.2**	0.3	22	Good	White Wood Shelf Support
3637B.4.2	-0.1	-0.0	22	Good	White Wood Shelf
3637B.4.3	0.2	-0.0	22	Good	White Sheetrock Wall
3637B.4.4	-0.0	-0.1	22	Good	White Wood Window Casing
3637B.4.5	-0.1	-0.1	22	Good	White Wood Baseboard
3637B.4.6	0.3	-0.1	22	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD

guidelines.

Field XRF Readings for Quarters 3637B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 5 (Master Bedroom)			
3637B.5.1	0.2	-0.0	22	Good	Stained Wood Floor
3637B.5.2	0.2	-0.0	22	Good	White Wood Shelf
3637B.5.3	**2.0**	0.1	22	Good	White Wood Shelf Support
3637B.5.4	-0.3	-0.1	22	Good	White Wood Door Jamb
3637B.5.5	**2.0**	0.4	22	Good	White Wood Window Sash
3637B.5.6	-0.2	-0.0	22	Good	White Wood Window Casing
3637B.5.7	-0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
		Room 6 (Hall/Bath)			
3637B.6.1	0.2	-0.1	22	Good	White Sheetrock Wall
3637B.6.2	-0.7	-0.1	22	Good	White Wood Door Casing
3637B.6.3	-0.6	-0.1	22	Good	White Wood Attic Scuttle
3637B.6.4	-0.2	-0.1	22	Good	White Wood Baseboard
3637B.6.4	-0.4	-0.1	22	Good	Duplicate
7094030494152501	0.9	1.2	88	N/A	Calibration Check
1.02	0.8	0.9	88	N/A	NIST Std. = 1.02

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell i total lead (multi-layered paint surfaces) and L-shell is essentially surface

paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3640B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3640B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors and free-standing fences, all painted exterior wood components (e.g., door casings, window casings, window aprons, porch ceiling, etc.) should be considered positive for lead-based paint (see floorplan). Also to be considered positive for lead-based paint are all painted metal porch supports.
4. A photograph of Unit 3640B appears below.

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Field XRF Readings for Quarters 3640B
Ft. McClellan, AL

Date Surveyed: 04 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Exterior XRF Readings			
3640B.1	**2.6**	0.3	25	Good	White Wood Door Casing
3640B.2	**7.2**	0.3	25	Good	White Metal Porch Support
3640B.3	**4.1**	0.8	25	Good	White Wood Porch Ceiling
3640B.4	**4.9**	0.9	25	Good	White Wood Window Casing
3640B.5	**1.4**	0.2	103	Good	White Wood Window Apron
3640B.6	0.0	-0.0	25	Good	Stained Wood Fence
		Interior XRF Readings			
		Room 1 (Kitchen)			
3640B.1.1	**1.8**	0.4	25	Good	White Wood Window Sash
3640B.1.2	**12.0**	2.0	25	Good	White Wood Window Well
3640B.1.3	-0.6	-0.1	25	Good	White Wood Cabinet
3640B.1.4	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3640B.1.5	-0.1	-0.2	25	Good	White Wood Door Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3640B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room)					
3640B.2.1	**2.2**	0.3	25	Good	White Wood Shelf Support
3640B.2.2	0.8 [1]	0.1	103	Good	White Wood Shelf (Inconclusive - Scrape Sample Taken)
3640B.2.3	-0.0	-0.1	103	Good	White Wood Window Casing
3640B.2.4	0.4	-0.1	103	Good	White Wood Window Apron
3640B.2.5	-0.1	-0.1	25	Good	White Sheetrock Wall
3640B.2.6	-0.2	-0.1	25	Good	White Wood Baseboard
Room 3 (Master Bedroom/Bath)					
3640B.3.1	0.0	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3640B.3.2	0.1	-0.1	25	Good	White Sheetrock Wall
3640B.3.3	0.2	-0.0	25	Good	White Wood Door Jamb
3640B.3.4	0.2	-0.1	25	Good	White Wood Window Sill
Room 4 (Child's Bedroom)					
3640B.4.1	0.5	-0.1	103	Good	White Metal Door Track
3640B.4.2	0.6	-0.0	103	Good	White Wood Window Casing
3640B.4.3	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3640B.4.4	0.7	0.1	103	Good	White Wood Shelf (Inconclusive - See Sample 3640B.2.2)
3640B.4.5	-0.3	-0.1	25	Good	White Wood Baseboard

[1] Lab analysis negative (Result = 0.17% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3640B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 5 (Child's Bedroom)			
3640B.5.1	0.4	-0.1	103	Good	White Wood Window Apron
3640B.5.2	0.0	-0.1	25	Good	White Masonite Door
3640B.5.3	-0.1	-0.1	25	Good	White Sheetrock Wall
3640B.5.4	-0.1	-0.1	25	Good	White Wood Door Casing
		Room 6 (Hall/Bath)			
3640B.6.1	-0.5	-0.1	25	Good	White Wood Window Sill
3640B.6.2	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3640B.6.3	-0.1	-0.1	25	Good	White Sheetrock Wall
3640B.6.4	-0.1	-0.1	25	Good	White Wood Attic Scuttle
7094030494160001	0.5	0.7	103	N/A	Calibration Check
1.02	0.7	1.1	103	N/A	NIST Std. = 1.02

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3643B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3643B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., window sills, window casings, porch trim, porch ceilings, etc.) should be considered positive for lead-based paint (see floorplan). All metal porch supports should be considered positive for lead-based paint as well.

4. A photograph of Unit 3643B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3643B
Ft. McClellan, AL

Date Surveyed: 05 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030594070001	1.2	1.2	88	N/A	Calibration Check
7094030594070001	1.3	1.3	88	N/A	Calibration Check
7094030594070001	1.1	1.3	88	N/A	Calibration Check
7094030594070001	1.3	1.3	88	N/A	Calibration Check
7094030594070001	1.2	1.3	88	N/A	Calibration Check
0000	0.1	-0.1	88	N/A	Blank
1.63	1.5	1.5	88	N/A	NIST Std. = 1.63
Exterior XRF Readings					
3643B.1	**7.8**	0.5	22	Fair	White Wood Porch Ceiling
3643B.2	**3.4**	0.4	22	Fair	White Wood Window Sill
3643B.3	**9.3**	0.5	22	Fair	White Metal Porch Support
3643B.4	**4.1**	0.9	22	Good	White Wood Upper Porch Trim
3643B.5	**8.7**	1.1	22	Good	White Wood Window Casing
Interior XRF Readings					
Room 1 (Kitchen)					
3643B.1.1	0.2	-0.1	22	Good	White Wood Door Casing
3643B.1.2	-0.3	-0.1	22	Good	White Wood Cabinet
3643B.1.3	0.1	-0.1	22	Good	White Wood Baseboard
3643B.1.4	0.1	-0.1	22	Good	White Wood Door Jamb
3643B.1.5	0.0	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3643B.1.6	0.1	-0.1	22	Good	White Sheetrock Wall
3643B.1.7	**3.9**	0.5	22	Good	White Wood Window Well
3643B.1.8	0.4	0.0	88	Good	White Wood Window Sash

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3643B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 2 (Living Room/Dining/Foyer)					
3643B.2.1	-0.1	-0.1	22	Good	White Sheetrock Wall
3643B.2.2	0.2	-0.1	22	Good	White Wood Window Casing
3643B.2.3	**3.4**	0.5	22	Good	White Wood Window Sash
3643B.2.4	0.3	-0.0	22	Good	White Wood Baseboard
3643B.2.5	-0.3	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3643B.2.6	-0.1	-0.1	22	Good	White Wood Shelf
3643B.2.7	1.0 (1)	0.2	88	Good	White Wood Shelf Support (Inconclusive - Scrape Sample Taken)
3643B.2.8	1.0 (2)	0.0	22	Fair	White Metal Closet Rod (Inconclusive - Scrape Sample Taken)
3643B.2.9	0.1	-0.1	22	Good	White Wood Door
3643B.2.9	0.0	0.0	22	Good	Duplicate
7094030594084501	1.3	1.3	88	N/A	Calibration Check
Room 3 (Master Bedroom/Half Bath)					
3643B.3.1	-0.3	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3643B.3.2	**3.5**	0.5	22	Good	White Wood Window Well
3643B.3.3	**2.5**	0.6	22	Good	White Wood Window Sash
3643B.3.4	-0.0	-0.1	22	Good	White Wood Baseboard
3643B.3.5	-0.0	-0.1	22	Good	White Sheetrock Wall

(1) Lab analysis negative (Result = 0.34% Lead, Action Level $\geq$ 0.5% Lead).

(2) Lab analysis negative (Result = 0.07% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3643B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Master Bedroom/Half Bath - continued)					
3643B.3.6	**1.8**	0.1	22	Good	White Wood Shelf Support
3643B.3.7	0.2	-0.1	22	Good	White Wood Door Jamb
Room 4 (Child's Bedroom)					
3643B.4.1	0.1	-0.1	22	Good	White Sheetrock Wall
3643B.4.2	1.1	-0.0	88	Good	White Wood Window Casing (Inconclusive-See Sample 3643B.2.2)
3643B.4.3	0.3	-0.1	22	Good	White Masonite Door
3643B.4.4	0.3	-0.1	22	Good	White Wood Shelf
3643B.4.5	-0.3	-0.1	22	Good	White Wood Baseboard
Room 5 (Baby's Bedroom)					
3643B.5.1	0.1	-0.1	22	Good	White Sheetrock Wall
3643B.5.2	0.2	-0.1	22	Good	White Wood Door
3643B.5.3	-0.2	-0.0	22	Good	White Wood Door Jamb
Room 6 (Hall/Bath)					
3643B.6.1	0.2	-0.0	22	Good	White Wood Baseboard
3643B.6.2	0.1	-0.1	22	Good	White Wood Attic Scuttle
3643B.6.3	-0.2	-0.1	22	Good	White Wood Window Casing
7094030594091501	1.1	1.3	88	N/A	Calibration Check

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3652A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3652A is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior components (e.g., door casings, window aprons, window casings, metal porch supports, etc.) should be considered positive for lead-based paint (see floorplan).

4. A photograph of Unit 3652A appears below.

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20 January 1995

Field XRF Readings for Quarters 3652A
Ft. McClellan, AL

Date Surveyed: 05 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030594070001	0.7	0.6	103	N/A	Calibration Check
7094030594070001	0.6	0.6	103	N/A	Calibration Check
7094030594070001	0.6	0.6	103	N/A	Calibration Check
7094030594070001	0.6	0.6	103	N/A	Calibration Check
7094030594070001	0.3	0.6	103	N/A	Calibration Check
0000	-0.0	-0.1	103	N/A	Blank
1.02	1.0	1.1	103	N/A	NIST Std. = 1.02
Exterior XRF Readings					
3652A.1	**2.4**	0.2	25	Good	White Metal Porch Support
3652A.2	**2.7**	0.2	25	Good	White Wood Door Casing
3652A.3	**2.9**	0.4	25	Good	White Wood Window Casing
3652A.4	**1.7**	0.1	103	Good	White Wood Window Apron
Interior XRF Readings					
Room 1 (Kitchen)					
3652A.1.1	0.3	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3652A.1.2	0.0	-0.1	25	Good	White Wood Cabinet
3652A.1.3	-0.4	-0.1	25	Good	White Wood Window Casing
3652A.1.4	**2.1**	0.6	25	Good	White Wood Window Sash

Field XRF Readings for Quarters 3652A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 1 (Kitchen - continued)					
3652A.1.5	**3.3**	0.5	25	Good	White Wood Window Sash
3652A.1.6	0.3	-0.0	25	Good	White Wood Window Sill
3652A.1.7	-0.3	-0.1	25	Good	White Wood Door Casing
3652A.1.8	0.1	-0.1	25	Good	White Wood Door
Room 2 (Living Room/Dining Room/Foyer)					
3652A.2.1	0.2	-0.1	103	Good	White Wood Window Apron
3652A.2.2	-0.0	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3652A.2.3	0.2	-0.1	25	Good	White Sheetrock Wall
3652A.2.4	-0.2	-0.1	25	Good	White Wood Baseboard
3652A.2.5	-0.1	-0.1	25	Good	White Wood Door Jamb
3652A.2.6	**1.7**	0.3	25	Good	White Wood Shelf Support
3652A.2.7	0.0	-0.0	103	Good	White Wood Shelf
Room 3 (Master Bedroom/Bath)					
3652A.3.1	-0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3652A.3.2	-0.2	-0.1	25	Good	White Sheetrock Wall
3652A.3.2	-0.4	-0.1	25	Good	Duplicate
7094030594084001	0.5	0.6	103	N/A	Calibration Check
3652A.3.3	-0.1	-0.0	25	Good	White Wood Window Casing
3652A.3.4	0.6	0.1	103	Good	White Wood Closet Shelf
3652A.3.5	0.1	-0.1	25	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface aint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3652A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Child's Bedroom)			
3652A.4.1	0.0	-0.1	25	Good	White Masonite Door
3652A.4.2	0.3	-0.1	103	Good	White Metal Door Track
3652A.4.3	0.3	-0.0	25	Good	White Wood Window Sill
3652A.4.4	0.2	-0.0	25	Good	White Wood Baseboard
3652A.4.5	-0.1	-0.1	103	Good	White Wood Door Jamb
		Room 5 (Child's Bedroom)			
3652A.5.1	0.6	-0.0	103	Good	White Wood Window Apron
3652A.5.2	-0.2	-0.0	25	Good	White Wood Baseboard
3652A.5.3	-0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3652A.5.4	-0.1	-0.1	25	Good	White Sheetrock Wall
		Room 6 (Hall/Bath)			
3652A.6.1	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3652A.6.2	-0.8	-0.1	25	Good	White Sheetrock Wall
3652A.6.3	0.3	-0.1	25	Good	White Wood Door Casing
3652A.6.4	-0.1	-0.0	25	Good	White Wood Attic Scuttle
7094030594091501	0.3	0.5	103	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HU guidelines.

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Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3659B

Type Building: Two Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3659B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., window casings, window sills, porch ceilings, porch upper trim, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3659B appears below.

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Field XRF Readings for Quarters 3659B
Ft. McClellan, AL

Date Surveyed: 05 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Exterior XRF Readings					
3659B.1	**5.6**	0.6	22	Good	White Wood Porch Ceiling
3659B.2	**2.7**	0.6	22	Good	White Wood Porch Upper Trim
3659B.3	**7.0**	0.4	22	Poor	White Metal Porch Support
3659B.4	**2.4**	0.4	22	Good	White Wood Window Casing
3659B.5	**2.9**	0.4	22	Fair	White Wood Window Sill
Interior XRF Readings					
Room 1 (Kitchen)					
3659B.1.1	-0.4	-0.1	22	Good	White Wood Shelf
3659B.1.2	**2.8**	0.3	22	Good	White Wood Window Well
3659B.1.3	-0.0	-0.1	22	Good	White Wood Window Sill
3659B.1.4	**1.8**	0.3	88	Good	White Wood Window Sash
3659B.1.5	-0.5	-0.1	22	Good	White Wood Baseboard
3659B.1.6	-0.1	-0.0	22	Good	White Wood Door Jamb
3659B.1.7	-0.1	-0.1	22	Good	White Wood Door
3659B.1.8	0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3659B.1.9	0.2	-0.1	22	Good	White Sheetrock Wall

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3659B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Foyer/Dining Room/Living Room)					
3659B.2.1	0.2	-0.1	22	Good	White Wood Closet Door
3659B.2.2	-0.1	-0.1	22	Good	White Wood Door Casing
3659B.2.3	**1.9**	0.3	22	Good	White Wood Shelf Support
3659B.2.4	-0.2	-0.1	22	Good	White Wood Shelf
3659B.2.5	-0.0	-0.1	22	Fair	White Wood Attic Scuttle
3659B.2.6	0.2	-0.1	22	Good	White Wood Baseboard
3659B.2.7	-0.2	-0.1	22	Good	White Sheetrock Wall
3659B.2.8	-0.4	-0.1	22	Good	White Wood Window Casing
3659B.2.9	-0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3659B.2.9	0.2	-0.1	22	Good	Duplicate
7094030594100001	1.0	1.2	88	N/A	Calibration Check
Room 3 (Master Bedroom)					
3659B.3.1	**1.8**	0.8	22	Fair	White Wood Window Well
3659B.3.2	0.1	-0.0	88	Good	White Wood Window Sill
3659B.3.3	-0.1	-0.0	22	Good	White Wood Baseboard
3659B.3.4	1.1	0.1	88	Good	White Wood Shelf Support (Inconclusive - See Sample 3659B.4.1)
3659B.3.5	-0.1	-0.1	22	Good	White Wood Shelf
3659B.3.6	0.2	-0.1	22	Good	White Wood Closet Door
3659B.3.7	-0.1	-0.1	22	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3659B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 4 (Child's Bedroom)			
3659B.4.1	**2.8**	0.2	22	Good	White Wood Shelf Support
3659B.4.2	0.3	-0.1	22	Good	White Wood Shelf
3659B.4.3	0.3	-0.1	88	Good	White Metal Door Track
3659B.4.4	-0.3	-0.0	22	Good	White Wood Baseboard
3659B.4.5	0.1	-0.0	88	Good	White Wood Window Casing
3659B.4.6	0.0	-0.1	22	Good	White Sheetrock Wall
3659B.4.7	0.2	-0.1	22	Good	White Wood Door
3659B.4.8	-0.2	-0.1	22	Good	White Wood Door Casing
		Room 5 (Bath/Hall)			
3659B.5.1	**3.4**	0.8	22	Good	White Wood Window Sash
3659B.5.2	-0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3659B.5.3	0.2	-0.1	22	Good	White Wood Door
3659B.5.4	-0.2	-0.1	22	Good	White Wood Attic Fan Frame
7094030594105501	1.2	1.3	88	N/A	Calibration Check
1.63	1.4	1.5	88	N/A	NIST Std. = 1.63

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3662A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3662A is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Road.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes and window wells (see field XRF readings).

3. Except for the doors and fences, all painted exterior wood components (e.g., door casings, window casings, porch supports, porch trim, porch ceilings, etc.) should be considered positive for lead-based paint (see floorplan).

4. A photograph of Unit 3662A appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3662A
Ft. McClellan, AL

Date Surveyed: 05 March 1994
Surveyors: BL, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Exterior XRF Readings			
3662A.1	-0.1	-0.1	25	Good	White Wood Fence
3662A.2	**8.1**	0.6	25	Good	White Wood Porch Support
3662A.3	**4.5**	0.5	25	Good	White Wood Door Casing
3662A.4	**4.9**	0.5	25	Good	White Wood Porch Ceiling
3662A.5	**5.0**	0.7	25	Good	White Wood Porch Trim
3662A.6	**4.0**	0.5	25	Good	White Wood Window Casing
3662A.7	0.6	0.0	103	Good	White Wood Window Apron
		Interior XRF Readings			
		Room 1 (Kitchen)			
3662A.1.1	**2.4**	0.2	25	Good	White Wood Window Sash
3662A.1.2	**3.5**	0.4	25	Good	White Wood Window Well
3662A.1.3	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3662A.1.4	-0.3	-0.1	25	Good	White Wood Cabinet
3662A.1.5	-0.4	-0.1	25	Good	White Wood Door Jamb
3662A.1.6	-0.0	-0.2	25	Good	White Wood Door Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3662A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room)					
3662A.2.1	-0.5	-0.1	25	Good	White Wood Baseboard
3662A.2.2	0.2	-0.1	103	Good	White Sheetrock (Plaster?) Ceiling
3662A.2.3	0.1	-0.1	103	Good	White Sheetrock Wall
3662A.2.4	0.2	-0.1	25	Good	White Wood Shelf Support
3662A.2.5	0.3	-0.1	25	Good	White Wood Shelf
3662A.2.6	0.2	-0.1	25	Good	White Wood Door
Room 3 (Master Bedroom/Bath)					
3662A.3.1	-0.2	-0.1	25	Good	White Wood Window Casing
3662A.3.2	0.2	-0.1	25	Good	White Wood Window Apron
3662A.3.3	0.3	-0.1	25	Good	White Wood Window Sill
3662A.3.3	0.4	-0.1	103	Good	Duplicate
7094030594104502	0.6	0.6	103	N/A	Calibration Check
3662A.3.4	-0.3	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3662A.3.5	0.1	-0.1	25	Good	White Sheetrock Wall

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3662A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Child's Bedroom)			
3662A.4.1	0.2	-0.1	25	Good	White Wood Shelf Support
3662A.4.2	0.1	-0.1	25	Good	White Wood Shelf
3662A.4.3	0.0	-0.1	25	Good	White Wood Door
3662A.4.4	0.7 (1)	-0.1	103	Good	White Metal Door Track (Inconclusive-Scrape Sample Taken)
3662A.4.5	-0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3662A.4.6	-0.4	-0.0	25	Good	White Wood Baseboard
		Room 5 (Child's Bedroom)			
3662A.5.1	0.0	-0.1	25	Good	White Sheetrock Wall
3662A.5.2	-0.1	-0.1	25	Good	White Wood Door Jamb
3662A.5.3	-0.3	-0.1	25	Good	White Wood Door Casing
3662A.5.4	0.1	-0.1	25	Good	White Wood Door
		Room 6 (Hall/Bath)			
3662A.6.1	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3662A.6.2	0.1	-0.1	25	Good	White Sheetrock Wall
3662A.6.3	0.2	-0.1	25	Good	White Wood Attic Scuttle
3662A.6.4	-0.4	-0.1	25	Good	Stained Wood Floor
7094030594112002	0.2	0.6	103	N/A	Calibration Check
1.02	1.0	1.1	103	N/A	NIST Std. = 1.02

(1) Lab analysis negative (Result = 0.06% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3664A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3664A is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., door jambs, window casings, porch ceilings, porch upper trim, fences, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal electrical conduits should also be considered positive for lead-based paint.

4. A photograph of Unit 3664A appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3664A
Ft. McClellan, AL

Date Surveyed: 07 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030794071501	1.0	1.3	88	N/A	Calibration Check
7094030794071501	1.4	1.3	88	N/A	Calibration Check
7094030794071501	1.2	1.3	88	N/A	Calibration Check
7094030794071501	1.3	1.3	88	N/A	Calibration Check
7094030794071501	1.2	1.3	88	N/A	Calibration Check
1.63	1.2	0.7	88	N/A	NIST Std. = 1.63
1.63	1.4	1.5	88	N/A	NIST Std. = 1.63
0000	-0.0	-0.1	88	N/A	Blank

Exterior XRF Readings

3664A.1	**2.8**	0.2	22	Fair	White Wood Porch Ceiling
3664A.2	**2.4**	0.4	88	Good	White Wood Window Casing
3664A.3	**3.1**	0.5	22	Good	Green Metal Conduit
3664A.4	**1.7**	0.2	22	Poor	Green Wood Fence
3664A.5	0.4	-0.1	88	Good	White Wood Door Casing
3664A.6	**2.9**	0.4	22	Poor	White Wood Upper Trim
3664A.7	**3.9**	0.5	22	Fair	White Wood Window Casing
3664A.8	[1] NO XRF READINGS TAKEN			Poor	Door Jamb (Scrape Sample Taken)

Interior XRF Readings

Room 1 (Kitchen)

3664A.1.1	-0.2	-0.1	22	Good	White Sheetrock Wall
3664A.1.2	-0.2	-0.1	22	Good	White Wood Cabinet
3664A.1.3	-0.2	-0.1	22	Good	White Wood Door Casing
3664A.1.4	-0.2	-0.1	22	Good	White Wood Baseboard

[1] Lab analysis **positive** (Result = 2.16% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3664A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 1 (Kitchen - continued)					
3664A.1.5	-0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3664A.1.6	0.0	-0.1	22	Good	White Wood Door
3664A.1.7	0.4	-0.0	22	Good	White Wood Door Jamb
Room 2 (Living Rm/Dining Rm/Foyer)					
3664A.2.1	-0.3	-0.1	22	Good	White Sheetrock Wall
3664A.2.2	0.0	-0.1	22	Good	White Wood Baseboard
3664A.2.3	**3.7**	0.4	22	Fair	White Wood Window Well
3664A.2.4	**0.6** [2]	0.0	88	Fair	White Wood Window Sash
3664A.2.5	-0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3664A.2.6	0.2	-0.1	88	Good	White Wood Door
3664A.2.7	0.0	-0.1	22	Good	White Wood Shelf
3664A.2.8	0.4	0.1	88	Good	White Wood Shelf Support
3664A.2.9	0.2	-0.1	22	Good	White Masonite Door
Room 3 (Master Bedroom/Bath)					
3664A.3.1	-0.1	-0.1	22	Good	White Wood Baseboard
3664A.3.2	0.0	-0.1	22	Good	White Sheetrock Wall
3664A.3.3	-0.2	-0.1	22	Good	White Wood Door Casing
3664A.3.4	0.0	-0.1	22	Good	White Wood Door
3664A.3.5	**3.0**	0.6	22	Good	White Wood Window Well
3664A.3.6	**2.2**	0.4	22	Good	White Wood Window Sash
3664A.3.7	-0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling

[2] Lab analysis **positive** (Result = 0.82% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3664A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Child's Bedroom)			
3664A.4.1	**2.9**	0.4	22	Good	White Wood Shelf Support
3664A.4.2	0.0	-0.1	22	Good	White Wood Shelf
3664A.4.2	0.3	-0.1	22	Good	Shelf (Duplicate)
7094030794085501	1.3	1.3	88	N/A	Calibration Check
3664A.4.3	-0.1	-0.1	22	Good	White Wood Door Jamb
3664A.4.4	0.1	-0.1	22	Good	White Wood Baseboard
3664A.4.5	0.0	-0.1	22	Good	White Wood Window Casing
		Room 5 (Child's Bedroom)			
3664A.5.1	-0.5	-0.1	22	Good	White Sheetrock Wall
3664A.5.2	-0.5	-0.1	22	Good	White Sheetrock Jamb
3664A.5.3	0.3	-0.1	22	Good	White Wood Door
		Room 6 (Hall/Bath)			
3664A.6.1	0.2	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3664A.6.2	0.1	-0.1	22	Good	White Wood Shelf
3664A.6.3	0.0	-0.0	22	Good	White Wood Door Jamb
3664A.6.4	0.0	-0.0	22	Good	White Wood Attic Scuttle
794030794091501	1.1	1.2	88	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3664B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3664B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Road.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., door casings, window casings, window aprons, porch ceilings, fences, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3664B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3664B
Ft. McClellan, AL

Date Surveyed: 07 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030794070901	0.3	0.6	103	N/A	Calibration Check
7094030794070901	0.5	0.6	103	N/A	Calibration Check
7094030794070901	0.5	0.6	103	N/A	Calibration Check
7094030794070901	0.5	0.6	103	N/A	Calibration Check
7094030794070901	0.3	0.6	103	N/A	Calibration Check
1.02	0.6	1.0	103	N/A	NIST Std. = 1.02
0000	-0.1	-0.1	103	N/A	Blank

Exterior XRF Readings

3664B.1	**3.0**	0.5	25	Good	White Wood Window Casing
3664B.2	**2.2**	0.1	25	Poor	Green Wood Privacy Fence
3664B.3	**3.2**	0.2	25	Fair	White Wood Porch Ceiling
3664B.4	**3.3**	0.3	25	Fair	White Wood Door Casing
3664B.5	**3.2**	0.5	103	Fair	White Wood Window Apron
3664B.6	**4.4**	0.4	25	Good	White Metal Porch Support

Interior XRF Readings

Room 1 (Kitchen)

3664B.1.1	0.2	-0.1	25	Good	White Wood Cabinet
3664B.1.2	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3664B.1.3	0.1	-0.1	25	Good	White Sheetrock Wall
3664B.1.4	0.2	-0.1	25	Good	White Wood Baseboard
3664B.1.5	**3.2**	0.3	25	Good	White Wood Window Well
3664B.1.6	0.3	-0.1	25	Good	White Wood Window Sill

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3664B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room)					
3664B.2.1	0.3	-0.1	25	Good	White Wood Door
3664B.2.2	0.0	-0.1	25	Good	White Wood Door Jamb
3664B.2.3	-0.0	-0.1	25	Good	White Wood Door Casing
3664B.2.4	-0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3664B.2.5	-0.2	-0.1	25	Good	White Wood Window Casing
3664B.2.6	0.2	-0.1	103	Good	White Wood Window Apron
3664B.2.7	**2.9**	0.4	25	Good	White Wood Window Sash
3664B.2.8	**1.7**	0.2	25	Good	White Wood Shelf Support
3664B.2.9	-0.0	-0.1	25	Good	White Wood Shelf
Room 3 (Child's Bedroom)					
3664B.3.1	-0.0	-0.1	25	Good	White Masonite Door
3664B.3.1	0.2	-0.1	25	Good	Duplicate
7094030794084502	0.4	0.5	103	N/A	Calibration Check
3664B.3.2	0.3	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3664B.3.3	0.2	-0.1	25	Good	White Sheetrock Wall
3664B.3.4	0.2	-0.1	25	Good	White Wood Shelf
3664B.3.5	-0.4	-0.1	25	Good	White Wood Baseboard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3664B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Child's Bedroom)			
3664B.4.1	-0.1	-0.1	25	Good	White Wood Window Casing
3664B.4.2	0.1	-0.0	25	Good	White Wood Door Jamb
3664B.4.3	-0.0	-0.1	25	Good	White Wood Door Casing
3664B.4.4	0.3	-0.0	25	Good	White Wood Door
3664B.4.5	0.3	-0.1	25	Good	White Metal Door Track
		Room 5 (Master Bedroom)			
3664B.5.1	-0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3664B.5.2	0.2	-0.1	25	Good	White Sheetrock Wall
3664B.5.3	0.2	-0.1	25	Good	White Wood Window Sill
3664B.5.4	0.1	-0.0	25	Good	White Wood Baseboard
3664B.5.5	0.1	-0.1	25	Good	White Wood Shelf
		Room 6 (Hall/Bath)			
3664B.6.1	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3664B.6.2	0.2	-0.1	25	Good	White Sheetrock Wall
3664B.6.3	-0.6	-0.1	25	Good	White Wood Baseboard
3664B.6.4	0.1	-0.1	25	Good	White Wood Attic Scuttle
7094030794094502	0.3	0.5	103	N/A	Calibration Check

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3665B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3665B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Road.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors and fences, all painted exterior wood components (e.g., door casings, window casings, porch ceilings, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal porch supports and painted metal conduits should also be considered positive for lead-based paint. Any exposed "original" painted wood beneath the metal soffits should be considered positive for lead-based paint as well.

4. A photograph of Unit 3665B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3665B
Ft. McClellan, AL

Date Surveyed: 07 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
794030794091501	1.1	1.2	88	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3665B.1.1	**1.8**	0.2	88	Fair	White Wood Window Well
3665B.1.2	0.3	-0.1	22	Good	White Wood Window Sill
3665B.1.3	0.6	-0.0	88	Good	White Wood Window Sash
3665B.1.4	-0.5	-0.1	22	Good	White Wood Baseboard
3665B.1.5	-0.0	-0.1	22	Good	White Sheetrock Wall
3665B.1.6	0.2	-0.1	22	Good	White Wood Cabinet
3665B.1.7	0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3665B.1.8	0.0	-0.1	22	Good	White Wood Door Jamb
3665B.1.9	0.1	-0.1	22	Good	White Wood Door

Room 2 (Foyer/Living Room/Dining Room)

3665B.2.1	0.1	-0.1	22	Good	White Wood Baseboard
3665B.2.2	-0.2	-0.1	22	Good	White Wood Door Casing
3665B.2.3	**1.7**	0.2	22	Good	White Wood Shelf Support
3665B.2.4	0.2	-0.1	22	Good	White Wood Shelf
3665B.2.5	-0.0	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3665B.2.6	0.5	-0.0	88	Good	White Wood Window Sash
3665B.2.7	0.2	-0.1	22	Good	White Wood Window Casing
3665B.2.8	0.3	-0.1	22	Good	White Sheetrock Wall

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3665B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 3 (Master Bedroom/Half Bath)					
3665B.3.1	-0.3	-0.1	22	Good	White Sheetrock Wall
3665B.3.2	-0.3	-0.0	22	Good	White Wood Baseboard
3665B.3.3	1.1	0.0	88	Good	White Wood Shelf Support (Inconclusive -See Sample 3665B.4.1)
3665B.3.4	-0.0	-0.1	22	Good	White Wood Shelf
3665B.3.5	**2.2**	0.3	22	Good	White Wood Window Sash
3665B.3.5	**1.9**	0.2	22	Good	Duplicate
7094030794100001	1.1	1.2	88	N/A	Calibration Check
3665B.3.6	0.2	0.0	22	Good	White Wood Door Jamb
3665B.3.7	0.1	-0.1	22	Good	White Wood Door
Room 4 (Child's Bedroom)					
3665B.4.1	**1.4**	0.1	88	Good	White Wood Shelf Support
3665B.4.2	-0.1	-0.0	22	Good	White Wood Shelf
3665B.4.3	0.0	-0.1	22	Good	White Masonite Door
3665B.4.4	0.6	-0.1	88	Good	White Wood Window Casing
3665B.4.5	-0.1	-0.1	120	Good	White Wood Baseboard
3665B.4.6	-0.3	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
Room 5 (Child's Bedroom)					
3665B.5.1	-0.0	-0.1	22	Good	White Wood Shelf
3665B.5.2	0.2	-0.1	22	Good	White Sheetrock Wall
3665B.5.3	**3.2**	0.4	22	Good	White Wood Window Well
3665B.5.4	0.3	-0.1	22	Good	White Wood Baseboard
3665B.5.5	-0.5	0.0	22	Good	White Wood Door Casing
3665B.5.6	-0.0	-0.1	22	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3665B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 6 (Hall/Bath)			
3665B.6.1	0.0	-0.1	22	Good	White Sheetrock Wall
3665B.6.2	-0.4	-0.1	22	Good	White Wood Door Jamb
3665B.6.3	0.2	-0.1	22	Good	White Wood Attic Scuttle
		Exterior XRF Readings			
3665B.1	**6.6** [1]	0.6	22	Good	White Wood Porch Ceiling (Scrape Sample Taken)
3665B.2	**3.4**	0.6	22	Poor	White Wood Window Casing
3665B.3	**2.9**	0.6	22	Good	White Metal Conduit
3665B.4	**3.3**	0.3	22	Good	White Metal Porch Support
3665B.5	**3.9**	0.4	22	Good	White Wood Door Casing
3665B.6	**3.1**	0.2	22	Good	White Wood Window Casing
3665B.7	**5.5**	0.0	88	Good	Painted Wood Beneath White Metal Soffit
3665B.8	-0.3	-0.0	22	Good	Red Wood Fence
7094030794104201	1.0	1.3	88	N/A	Calibration Check

[1] Lab analysis **positive** (Result = 2.24% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3668B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3668B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, door components, and Green porch ramp (reading 3668B.1), all painted exterior wood components (e.g., window casings, window aprons, porch ceilings, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3668B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3668B
Ft. McClellan, AL

Date Surveyed: 07 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030794094502	0.3	0.5	103	N/A	Calibration Check
		Exterior XRF Readings			
3668B.1	0.0	-0.1	103	Good	Green Porch Ramp
3668B.2	**4.9**	0.4	25	Good	White Wood Window Casing
3668B.3	0.0	-0.1	25	Good	White Wood Door Casing
3668B.4	**5.4**	0.5	25	Good	White Wood Porch Ceiling
3668B.5	**3.4**	0.4	25	Good	White Wood Window Apron
3668B.6	**4.0**	0.2	25	Good	White Metal Porch Support
		Interior XRF Readings			
		Room 1 (Kitchen)			
3668B.1.1	**3.4**	0.3	25	Good	White Wood Window Well
3668B.1.2	**2.3**	0.3	25	Good	White Wood Window Sash
3668B.1.3	0.3	-0.0	25	Good	White Wood Window Sill
3668B.1.4	-0.2	-0.1	25	Good	White Wood Cabinet
3668B.1.5	0.0	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3668B.1.6	0.1	-0.1	25	Good	White Sheetrock Wall

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3668B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room)					
3668B.2.1	-0.1	-0.0	25	Good	White Wood Baseboard
3668B.2.2	0.2	-0.0	25	Good	White Wood Window Apron
3668B.2.3	-0.1	-0.1	25	Good	White Wood Window Casing
3668B.2.4	0.1	-0.1	25	Good	White Wood Door Casing
3668B.2.5	0.2	-0.1	25	Good	White Wood Door Jamb
3668B.2.6	**1.0** (1)	0.1	103	Good	White Wood Shelf Support (Inconclusive -Scrape Sample Taken)
3668B.2.7	0.2	-0.0	103	Good	White Wood Shelf
Room 3 (Child's Bedroom)					
3668B.3.1	0.2	-0.1	25	Good	White Masonite Door
3668B.3.2	0.3	-0.1	25	Good	White Metal Door Track
3668B.3.3	**1.7**	0.1	103	Good	White Wood Shelf Support
3668B.3.4	0.2	-0.0	103	Good	White Wood Window Apron
3668B.3.5	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
Room 4 (Child's Bedroom)					
3668B.4.1	-0.2	-0.1	25	Good	White Wood Window Casing
3668B.4.2	0.2	-0.0	25	Good	White Wood Baseboard
3668B.4.3	0.1	-0.0	25	Good	White Wood Shelf
3668B.4.4	0.0	-0.1	25	Good	White Wood Door
3668B.4.5	0.2	-0.1	25	Good	White Masonite Door

(1) Lab analysis **positive** (Result = 0.65% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3668B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 5 (Master Bedroom)			
3668B.5.1	-0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3668B.5.1	0.2	-0.0	25	Good	Duplicate
7094030794105501	0.5	0.6	103	N/A	Calibration Check
3668B.5.2	-0.3	-0.1	25	Good	White Sheetrock Wall
3668B.5.3	0.2	-0.1	25	Good	White Wood Window Sill
3668B.5.4	-0.4	-0.1	25	Good	White Wood Baseboard
3668B.5.5	-0.1	-0.1	25	Good	White Wood Door Jamb
		Room 6 (Hall/Bath)			
3668B.6.1	-0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3668B.6.2	-0.2	-0.1	25	Good	White Sheetrock Wall
3668B.6.3	0.2	-0.1	25	Good	White Wood Window Casing
3668B.6.4	0.3	-0.1	25	Good	White Wood Attic Scuttle
7094030794111501	0.5	0.6	103	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3670A

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3670A is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., window casings, window sills, porch ceilings, upper porch trim, fences, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal electrical conduits and metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3670A appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3670A
Ft. McClellan, AL

Date Surveyed: 07 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030794140001	1.2	1.3	88	N/A	Calibration Check
7094030794140001	1.2	1.3	88	N/A	Calibration Check
7094030794140001	1.2	1.3	88	N/A	Calibration Check
Exterior XRF Readings					
3670A.1	**2.4**	0.1	22	Fair	White Metal Electrical Conduit
3670A.2	**3.8**	0.5	22	Good	White Wood Window Casing
3670A.3	**2.2**	0.1	22	Good	White Wood Porch Ceiling
3670A.4	**1.7**	0.1	22	Fair	White Wood Window Sill
3670A.5	**6.5**	0.6	22	Fair	White Metal Porch Support
3670A.6	**3.8**	0.2	22	Fair	White Wood Upper Porch Trim
3670A.7	**5.0**	0.1	22	Fair	White Wood Fence
3670A.8	**4.4**	0.5	22	Fair	White Wood Window Casing

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3670A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
			Interior XRF Readings		
			Room 1 (Kitchen)		
3670A.1.1	-0.6	-0.1	22	Good	White Wood Door Casing
3670A.1.2	0.0	-0.1	22	Good	White Wood Baseboard
3670A.1.3	0.0	-0.1	22	Good	White Sheetrock Wall
3670A.1.4	**2.8**	0.1	22	Good	White Wood Window Well
3670A.1.5	0.3	-0.0	22	Good	White Wood Window Sill
3670A.1.6	0.4	0.1	88	Good	White Wood Window Sash
3670A.1.7	0.0	-0.1	22	Good	White Wood Cabinet
3670A.1.8	-0.3	-0.1	22	Good	White Wood Door Jamb
3670A.1.9	0.2	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
			Room 2 (Foyer/Living Room/Dining Room)		
3670A.2.1	-0.0	-0.0	22	Good	White Wood Baseboard
3670A.2.2	-0.0	-0.1	22	Good	White Sheetrock Wall
3670A.2.3	**2.0**	0.1	22	Good	White Wood Shelf Support
3670A.2.4	0.3	0.0	22	Good	White Wood Shelf
3670A.2.5	0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3670A.2.6	**3.1**	0.3	22	Fair	White Wood Window Well
3670A.2.6	**2.2**	0.3	22	Fair	Duplicate
7094030794134001	1.1	1.3	88	N/A	Calibration Check
3670A.2.7	**2.5**	0.6	22	Good	White Wood Window Sash

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3670A (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 3 (Master Bedroom)			
3670A.3.1	-0.5	-0.0	22	Good	White Wood Door Jamb
3670A.3.2	0.2	-0.0	22	Good	White Wood Door
3670A.3.3	-0.1	-0.1	22	Good	White Sheetrock Wall
3670A.3.4	-0.4	-0.0	22	Good	White Wood Door Casing
3670A.3.5	0.3	0.0	22	Good	White Wood Baseboard
		Room 4 (Child's Bedroom)			
3670A.4.1	0.2	-0.1	22	Good	White Sheetrock Wall
3670A.4.2	**2.2**	0.5	22	Good	White Wood Shelf Support
3670A.4.3	0.3	0.1	88	Good	White Wood Shelf
3670A.4.4	0.3	-0.0	22	Good	White Wood Window Casing
3670A.4.5	0.0	0.0	22	Good	White Wood Baseboard
		Room 5 (Child's Bedroom)			
3670A.5.1	0.3	-0.1	22	Good	White Masonite Door
3670A.5.2	**2.5** [1]	0.5	22	Good	White Wood Window Sash (Scrape Sample Taken)
3670A.5.3	-0.2	-0.0	22	Good	White Wood Baseboard
3670A.5.4	0.0	-0.1	22	Good	White Wood Door
		Room 6 (Hall/Bath)			
3670A.6.1	-0.2	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3670A.6.2	-0.2	-0.0	22	Good	White Wood Door Jamb
3670A.6.3	0.1	-0.0	22	Good	White Wood Attic Scuttle
7094030794141501	0.1	-0.1	88	N/A	Calibration Check

[1] Lab analysis **positive** (Result = 1.80% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3671B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3671B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window sills, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., door casings, window casings, window aprons, porch ceilings, porch trim, fences, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal porch supports should also be considered positive for lead-based paint.

4. A photograph of Unit 3671B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3671B
Ft. McClellan, AL

Date Surveyed: 07 March 1994
Surveyors: BL, JS

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
0794030794124001	0.4	0.6	103	N/A	Calibration Check
0794030794124001	0.6	0.6	103	N/A	Calibration Check
0794030794124001	0.6	0.6	103	N/A	Calibration Check
Exterior XRF Readings					
3671B.1	**8.6**	0.6	25	Good	White Wood Porch Trim
3671B.2	**8.2**	0.2	25	Good	White Wood Ceiling
3671B.3	**4.6**	0.7	25	Good	White Wood Window Casing
3671B.4	**12.4**	0.5	25	Fair	White Metal Porch Support
3671B.5	**1.7**	0.1	103	Poor	White Wood Fence
3671B.6	**5.1**	0.5	25	Good	White Wood Door Casing
3671B.7	**5.0**	0.4	25	Good	White Wood Window Apron
Interior XRF Readings					
Room 1 (Kitchen)					
3671B.1.1	**3.9**	0.3	25	Good	White Wood Window Well
3671B.1.2	**2.9**	0.3	25	Good	White Wood Window Sill
3671B.1.3	**1.8**	0.3	103	Good	White Wood Window Sash
3671B.1.4	0.3	-0.1	103	Good	White Wood Window Casing
3671B.1.5	0.2	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling
3671B.1.6	-0.1	-0.1	25	Good	White Wood Cabinet
3671B.1.7	-0.0	-0.1	25	Good	White Wood Baseboard
3671B.1.8	0.1	-0.1	25	Good	White Sheetrock Wall
3671B.1.9	0.2	-0.1	25	Good	White Wood Door Jamb

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3671B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room)					
3671B.2.1	0.3	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3671B.2.2	0.6 [1]	-0.0	103	Good	White Wood Window Apron (Scrape Sample Taken)
3671B.2.3	0.2	-0.1	103	Good	White Wood Window Casing
3671B.2.4	0.3	-0.0	25	Good	White Wood Baseboard
3671B.2.4	0.1	-0.1	25	Good	Duplicate
7094030794134502	0.5	0.6	103	N/A	Calibration Check
3671B.2.5	**1.9**	0.2	25	Good	White Wood Shelf Support
3671B.2.6	-0.2	-0.1	25	Good	White Wood Shelf
3671B.2.7	0.2	-0.1	25	Good	White Wood Door
Room 3 (Master Bedroom\Half Bath)					
3671B.3.1	0.1	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3671B.3.2	0.2	-0.1	25	Good	White Sheetrock Wall
3671B.3.3	0.3	-0.1	25	Good	White Wood Window Casing
3671B.3.4	0.3	-0.1	25	Good	White Wood Door Casing
3671B.3.5	0.1	-0.1	25	Good	White Wood Shelf

[1] Lab analysis negative (Result = 0.21% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3671B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Room 4 (Child's Bedroom)			
3671B.4.1	0.1	-0.1	25	Good	White Masonite Door
3671B.4.2	0.1	-0.1	25	Good	White Metal Door Track
3671B.4.3	0.3	-0.1	25	Good	White Wood Window Apron
3671B.4.4	-0.2	-0.0	25	Good	White Wood Baseboard
3671B.4.5	0.1	-0.0	25	Good	White Sheetrock (Plaster?) Ceiling
		Room 5 (Child's Bedroom)			
3671B.5.1	0.1	-0.1	25	Good	White Sheetrock Wall
3671B.5.2	0.1	-0.0	25	Good	White Masonite Door
3671B.5.3	0.3	-0.1	25	Good	White Wood Door Jamb
3671B.5.4	0.5	-0.1	103	Good	White Metal Door Track
3671B.5.5	0.1	-0.1	25	Good	White Wood Baseboard
		Room 6 (Hall/Bath)			
3671B.6.1	-0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3671B.6.2	0.2	-0.1	25	Good	White Wood Window Sill
3671B.6.3	0.2	-0.1	103	Good	White Wood Attic Scuttle
7094030794143002	0.3	0.6	103	N/A	Calibration Check

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3672B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3672B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes, window wells, and shelf supports (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., door casings, window casings, porch ceilings, upper porch trim, fences, etc.) should be considered positive for lead-based paint (see floorplan). All painted electric pole guide wire sleeves and painted metal porch supports should be considered positive for lead-based paint.

4. A photograph of Unit 3672B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3672B
Ft. McClellan, AL

Date Surveyed: 07 March 1994
Surveyors: KB, LM

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
7094030794141501	1.1	1.1	88	N/A	Calibration Check

Interior XRF Readings

Room 1 (Kitchen)

3672B.1.1	0.2	0.2	22	Good	White Sheetrock Wall
3672B.1.2	-0.4	-0.1	22	Good	White Wood Cabinet
3672B.1.3	0.0	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3672B.1.4	0.1	-0.1	22	Good	White Wood Window Sash
3672B.1.5	0.1	-0.1	22	Good	White Wood Window Casing
3672B.1.6	-0.3	-0.1	22	Good	White Wood Door Jamb
3672B.1.7	0.3	-0.1	22	Good	White Wood Door

Room 2 (Living Room/Dining Room/Foyer)

3672B.2.1	**1.7**	1.0	22	Good	White Wood Window Well
3672B.2.2	0.3	-0.1	22	Good	White Wood Window Sill
3672B.2.3	**3.4**	0.5	22	Good	White Wood Window Sash
3672B.2.4	0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3672B.2.5	-0.4	-0.0	22	Good	White Wood Baseboard
3672B.2.6	0.1	-0.1	22	Good	White Sheetrock Wall
3672B.2.7	**1.8**	0.4	88	Good	White Wood Shelf Support
3672B.2.8	0.1	-0.0	22	Good	White Wood Shelf
3672B.2.9	-0.6	-0.1	22	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3672B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
Room 3 (Master Bedroom/Bath)					
3672B.3.1	0.1	-0.1	22	Good	White Wood Door
3672B.3.2	0.2	-0.0	22	Good	White Sheetrock (Plaster?) Ceiling
3672B.3.5	0.0	-0.1	22	Good	White Wood Door Header
Room 4 (Child's Bedroom)					
3672B.4.1	-0.1	-0.1	22	Good	White Sheetrock (Plaster?) Ceiling
3672B.4.1	0.3	-0.1	22	Good	Duplicate
7094030794150501	0.9	1.2	88	N/A	Calibration Check
3672B.4.2	0.1	-0.0	22	Good	White Wood Window Sash
3672B.4.3	-0.1	-0.1	22	Good	White Wood Window Casing
3672B.4.4	**2.8**	0.3	22	Good	White Wood Shelf Support
3672B.4.5	0.1	-0.1	22	Good	White Masonite Door
3672B.4.6	-0.3	-0.1	22	Good	White Wood Door Jamb
Room 5 (Child's Bedroom)					
3672B.5.1	0.0	-0.1	22	Good	White Sheetrock Wall
3672B.5.2	0.2	0.0	22	Good	White Wood Shelf
3672B.5.3	-0.2	-0.1	22	Good	White Wood Baseboard
3672B.5.4	0.1	-0.1	22	Good	White Wood Door

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3672B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 6 (Hall/Bath)			
3672B.6.1	**1.7**	0.4	22	Good	White Wood Window Sash
3672B.6.2	0.3	-0.1	22	Good	White Sheetrock Wall
3672B.6.3	-0.5	-0.1	22	Good	White Wood Door Casing
3672B.6.4	0.3	-0.0	22	Good	White Wood Attic Scuttle
		Exterior XRF Readings			
3672B.1	**4.2**	0.3	22	Good	White Wood Porch Ceiling
3672B.2	**2.3**	0.3	22	Fair	White Wood Window Casing
3672B.3	**7.7**	0.5	22	Poor	White Metal Porch Support
3672B.4	**3.6**	0.3	22	Good	White Wood Door Casing
3672B.5	**3.0**	0.7	22	Good	White Wood Upper Porch Trim
3672B.6	**5.5**	0.7	22	Poor	Tan Wood Fence
3672B.7	**2.8**	0.5	22	Fair	White Wood Window Casing
3672B.8	**1.8**	1.7	88	Fair	Tan Guide Wire Sleeve
7094030794154501	1.1	1.3	88	N/A	Calibration Check
1.63	1.1	1.4	88	N/A	NIST Std. = 1.63

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

CESAD-EN-FL 20 January 1995

Fort McClellan LBP Survey Summary
3600 Series Family Housing Group

Unit 3673B

Type Building: Three Bedroom Duplex
Date Constructed: 1959
Type Construction : Brick and Wood

Survey Summary

1. Unit 3673B is typical of Units 3610 - 3673 (referred to as the 3600 Series Family Housing Group) located on Wirans, Church and Morton Roads.

2. On the interior of this unit, positive levels of lead-based paint were detected on the window sashes and window wells (see field XRF readings).

3. Except for the doors, all painted exterior wood components (e.g., door casings, window casings, window aprons, porch ceilings, porch trim, etc.) should be considered positive for lead-based paint (see floorplan). All painted metal porch supports should be considered positive for lead-based paint as well.

4. A photograph of Unit 3673B appears below.

CESAD-EN-FL 20 January 1995

Field XRF Readings for Quarters 3673B
Ft. McClellan, AL

Date Surveyed: 07 March 1994
Surveyors: JS, BL

ID#	K-Shell mg/cm^2	L-Shell mg/cm^2	Time seconds	Condition	Comments
		Exterior XRF Readings			
3673B.1	**6.5**	0.6	25	Good	White Wood Porch Ceiling
3673B.2	**4.3**	0.4	25	Good	White Metal Porch Support
3673B.3	**1.9**	0.1	25	Good	White Wood Door Casing
3673B.4	**3.2**	0.3	25	Good	White Wood Porch Trim
3673B.5	**5.9**	0.5	25	Good	White Wood Window Casing
3673B.6	**2.2**	0.4	25	Good	White Wood Window Apron
		Interior XRF Readings			
		Room 1 (Kitchen)			
3673B.1.1	-0.3	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3673B.1.2	0.1	-0.1	25	Good	White Wood Cabinet
3673B.1.3	0.2	-0.1	25	Good	White Sheetrock Wall
3673B.1.4	**2.8**	0.3	25	Good	White Wood Window Well
3673B.1.5	**1.9**	0.6	25	Good	White Wood Window Sash
3673B.1.6	0.2	-0.1	25	Good	White Wood Window Sill
3673B.1.7	-0.6	-0.1	25	Good	White Wood Baseboard

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm^2. K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3673B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
Room 2 (Living Room/Dining Room/Hallway)					
3673B.2.1	0.1	-0.1	25	Good	White Wood Window Casing
3673B.2.2	0.7 [1]	-0.1	103	Good	White Wood Window Apron (Inconclusive-Scrape Sample Taken)
3673B.2.3	0.2	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3673B.2.4	-0.3	-0.1	25	Good	White Sheetrock Wall
3673B.2.5	-0.2	-0.1	25	Good	White Wood Baseboard
3673B.2.5	-0.0	-0.1	25	Good	Duplicate
7094030794151501	0.6	0.6	103	N/A	Calibration Check
3673B.2.6	-0.6	-0.1	25	Good	White Wood Shelf Support
3673B.2.7	0.5	-0.0	103	Good	White Wood Shelf
3673B.2.8	0.3	-0.1	25	Good	White Wood Door
Room 3 (Master Bedroom/Bath)					
3673B.3.1	-0.3	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3673B.3.2	-0.0	-0.2	25	Good	White Sheetrock Wall
3673B.3.3	-0.5	-0.1	25	Good	White Wood Window Sill
3673B.3.4	-0.2	-0.1	25	Good	White Wood Door Casing
3673B.3.5	-0.6	-0.1	25	Good	White Wood Shelf Support

[1] Lab analysis negative (Result = 0.07% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

Field XRF Readings for Quarters 3673B (continued)
Ft. McClellan, AL

ID#	K-Shell mg/cm²	L-Shell mg/cm²	Time seconds	Condition	Comments
		Room 4 (Child's Bedroom)			
3673B.4.1	0.2	-0.1	25	Good	White Masonite Door
3673B.4.2	0.3	-0.1	25	Good	White Metal Door Track
3673B.4.3	0.3	-0.0	103	Good	White Wood Shelf
3673B.4.4	-0.4	-0.1	25	Good	White Wood Baseboard
3673B.4.5	0.3	-0.1	25	Good	White Wood Door Jamb
		Room 5 (Child's Bedroom)			
3673B.5.1	0.0	-0.1	25	Good	White Wood Shelf Support
3673B.5.2	0.7 [1]	-0.1	103	Good	White Metal Door Track (Inconclusive-Scrape Sample Taken)
3673B.5.3	-0.2	-0.1	25	Good	White Masonite Door
3673B.5.4	0.2	-0.1	25	Good	White Wood Door
3673B.5.5	0.3	-0.1	25	Good	White Wood Baseboard
		Room 6 (Hallway/Bath)			
3673B.6.1	0.3	-0.1	25	Good	White Wood Window Casing
3673B.6.2	-0.4	-0.1	25	Good	White Sheetrock (Plaster?) Ceiling
3673B.6.3	-0.1	-0.1	25	Good	White Sheetrock Wall
3673B.6.4	-0.3	-0.1	25	Good	White Wood Attic Scuttle
7094030794160001	0.3	0.6	103	N/A	Calibration Check

[1] Lab analysis negative (Result = 0.05% Lead, Action Level $\geq$ 0.5% Lead).

Positive XRF Readings (if any) appear in **Bold**.

K-shell and L-shell columns are lead concentrations in mg/cm². K-shell is total lead (multi-layered paint surfaces) and L-shell is essentially surface paint films. All positive results are based on K-shell readings as per HUD guidelines.

ATTACHMENT 4

NCRs LICENSE TERMINATING LETTER AND FINAL REPORT FOR BUILDING 3192

ATTACHMENT 4

NCRs LICENSE TERMINATING LETTER AND FINAL REPORT FOR BUILDING 3192

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-3415

October 19, 1998

Commandant
ATTN: AZTM-CM-AHP
U.S. Army Chemical School
Ft. McClellan, Alabama 36205

SUBJECT: TERMINATION OF LICENSE NO. 01-02861-0401-02861-04 (REFERENCE: CONTROL NO. 257737; DOCKET NO. 030-14759030-14759)

Dear Commandant:

On December 1, 1997, you contacted the U. S. Nuclear Regulatory Commission and indicated that you wished to terminate your NRC radioactive materials license. The NRC staff has reviewed your Allied Technology Group remediation and closeout survey report dated December 1996, Industrial Radiation Survey No. 27-MH-6999-97, Facility Close-out Verification Survey, Fort McClellan, AL, 17-22 August 1997 report dated February 6, 1998, July 16, 1998 memorandum providing additional sample analysis results, and NRC Form 314, Certificate of Disposition of Materials dated December 5, 1997. The NRC performed confirmatory surveys and observed decommissioning work in progress as documented in NRC Inspection Report Nos. 01-02861-04/97-01, 98-01, and 98-02, dated October 7, 1997, April 21, 1998, and May 22, 1998, respectively. Sample analysis results of soil, water, and clay samples obtained during these inspections are contained in the enclosure to this letter.

Based on its review, the staff has concluded that Buildings 3182 and 3192 and the surrounding fenced area at Fort McClellan, Alabama is suitable for unrestricted use in that residual radioactive material attributable to licensed activity does not exceed current NRC criteria.

If there are any errors or questions, please notify this office (ATTN: Ms. Diane Heim at (404) 562-4723) so that we can provide appropriate corrections and answers.

Sincerely,

Orysia Masnyk Bailey

Orysia Masnyk Bailey, License Reviewer
Division of Nuclear Materials Safety

Enclosures: 1. NRC Materials License Termination
2. Sample Analysis Results

cc w/encls: (See page 2)

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License No.
01-02861-04

Docket or Reference No.
030-14759

Amendment No. 17

Commandant
U.S. Army Chemical School
ATTN: AZTM-CM-AHP
Ft. McClellan, Alabama 36205

In accordance with Certification of Disposition of Materials dated December 5, 1997, License No. 01-02861-04, is hereby terminated.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

ORYSIA MASNYK BAILEY

Date OCT 19 1998

By Orysia Masnyk Bailey
Region II, Division of Nuclear Materials Safety
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303

N:\ACTIVE\1-02861T.WPD

SAMPLE ANALYSIS RESULTS
DEPARTMENT OF THE ARMY - FORT MCCLELLAN
MARCH 9-12, 1997

SOIL AND WATER GAMMA ANALYSIS FOR Co-60 AND Cs-137

LOCATION	Cs-137 picocuries per gram)	Co-60 (picocuries per gram)
Grid M-18 (soil)	0.15 ± 0.02	0.10 ± 0.02
Grid M-28 (soil)	0.46 ± 0.02	<0.03
Grid P-20 (soil)	0.169 ± 0.013	0.025 ± 0.008
Grid K-21 (soil)	0.51 ± 0.02	0.18 ± 0.02
Grid H-17 (soil)	0.235 ± 0.015	0.62 ± 0.02
Grid K-26 (soil)	0.208 ± 0.015	0.029 ± 0.013
left side museum door (soil)	5:17 ± 0.05	0.19 ± 0.02
middle museum door (soil)	1.90 ± 0.04	0.30 ± 0.02
Grid Z-18 (soil)	0.044 ± 0.010	0.03 ± 0.02
Well #2 depth 13 feet (water)	< 0.05	<0.04
Well #6 depth 17 feet (water)	<0.04	< 0.05
Well #11 depth 2 feet (water)	<0.03	<0.04
Well #7 depth 2 feet (water	<0.04	<0.04
hot cell trench (clay)	0.035 ± 0.02	0.15 ± 0.02
Summerall Gate (dirt)	<0.02	0.094 ± 0.010

Two soil samples were obtained on April 15, 1998, for analysis for Sr-90 contamination. These were taken from the area where Building 3180 stood. Sample #1 contained 0.02 ± 0.51 picocuries per gram of soil of Sr-90, and sample #2 contained 0.08 ± 0.46 picocuries per gram.

FORT McCLELLAN

Anniston, Alabama

FINAL REPORT

DECEMBER 1996

ALLIED TECHNOLOGY GROUP

5.2 Survey Results
5.2.1 Building 3192 Classroom
5.2.2 Building 3192 Hot Cell Interior and Exterior
5.2.3 Building 3192 Office, Shower, Foyer, and Air Conditioning Room
5.2.4 Building 3192 Drain Piping Removal
5.2.5 Building 3192 Verification Survey
5.2.6 Building 3182 Military Police Museum
5.2.7 Storm Drains and Sewers
5.2.8 Outside Grounds
5.2.9 Quality Assurance Survey
5.2.10 Various Releases
5.2.11 Releases for Shipping and Disposal
5.2.12 Miscellaneous Surveys
5.3 Waste Brokerage

6.0 RECOMMENDATIONS

7.0 REFERENCES

ACRONYMS

TABLES Instrumentation for Radiological Surveys

APPENDICES

Appendix A Detailed Work Procedure
Appendix B Health & Safety Plan
Appendix C Quality Assurance Plan
Appendix D Daily Training & Safety Meetings
Appendix E Bioassay Report
Appendix F Dosimetry Report
Appendix G RWP Log / Radiation Work Permit
Appendix H Daily Instrument Response Checks / Performance Log
Appendix I Instrument and Source Calibrations

VOLUME II

Appendix J Radiation and Contamination Survey Log
Radiation Survey Reports
Appendix K Air Sample Data and Analysis
Appendix L Final Release Survey Log
Final Release Surveys - Tools, Equipment, Supplies, Miscellaneous Materials

VOLUME III

Appendix M Final Release Surveys - Classroom West Wall, North Wall, South Wall, East Wall, Trusses/Ceiling Beams, Ceiling, Floor
Appendix N Final Release Surveys - Hot Cell Trench, Ledge, Walls, Tube Sheet, Manipulator Arms, Floor, Ceiling, Entry Way, and Exterior
Appendix O Final Release Surveys - Building 3192 Office, Shower, Foyer and Air Conditioning Room
Appendix P Final Release Surveys - Museum
Appendix Q Quality Assurance Survey - FM-010

ACRONYMS

ATG	Allied Technology Group, Inc.
BOA	Basic Order Agreement
CFR	Code of Federal Regulations
cpm	counts per minute
DAC	Derived Air Concentrations
DCF	Defense Consolidation Facility
DEH	Fort McClellan Department of Environment and Housing
dpm	disintegrations per minute
HEPA	High Energy Particulate Absorbent
HSP	Health and Safety Plan
IOC	Industrial Operations Command
NIST	National Institute of Standards Technology
NRC	Nuclear Regulatory Commission
OSHA	Occupational Safety and Health Administration
pCi	picocuries
QA	Quality Assurance
RSO	Radiation Safety Officer
RWP	Radiation Work Permit
TCLP	Toxicity Characteristic Leaching Process
TLD	Thermoluminescent Dosimeter

isotopes of radium, thorium, and their associated daughter products were evident. Under the concrete apron, various areas showed saturation immediately beneath the concrete and other areas did not. Certain core holes in this area drained dry when surface water was introduced. Other core holes remained filled, or maintained water levels at varying depths.

Possibly, various fill materials were used during initial construction. This could have resulted in subsurface "lenses" underneath the concrete and asphalt. Contamination may have leached into the soils through these "lenses".

2.2 Site History

Department of Defense documents suggested that significant strontium 90 contamination existed in an area adjacent to Building 3180. This contamination dated back to 1959. In 1973, an effort was made to remove this contamination, but certain quantities remained. In 1986, Chem-Nuclear removed a leaking underground storage tank and associated piping to reduce the concentration of cobalt 60 and cesium 137. Additional remediation has been performed by Base personnel from 1985 to the present.

The Hot Cell in Building 3192 was extensively contaminated in the late 1950's or early 1960's when sources containing powdered cobalt 60 were segmented. Because of an inadequate ventilation system, this contamination migrated out of the Hot Cell into the building and the surrounding grounds.

The Military Police Museum was contaminated with cesium 137. This was due to leaking piping and sources.

2.3 Site Conditions at the Completion of the Pre-remediation Survey

Only cobalt 60 contamination was found in Building 3192. Contamination was located in and around the Hot Cell, its contents, and the shield door. Maximum contamination levels (100,000 dpm/100cm^2) were found on the crane components. Both cobalt 60 and cesium 137 were detected in the surrounding grounds. Samples from the grounds outside of the fenced area indicated that there was no migration of activity from the grounds surrounding Building 3192. Work was stopped due to lack of funding.

2.4 Site Conditions at the Termination of the Initial Remediation

During the Building 3192 remediation, fixed contamination radiation levels ranging from 100 to 130 μR/hr above background in the vicinity of the east doorway of the Military Police Museum were detected. The isotope of interest was determined to be cesium 137 inside of the museum.

2.5 Identity of Contaminants and Release Criteria

Based upon knowledge of site history, previous characterizations and surveys, and NRC correspondence, the significant radiological contaminants were known to be:

CONTAMINANT		AREA
Cesium	^{137}Cs	Building 3182 and Grounds
Cobalt	^{60}Co	Building 3192 and Grounds

On the basis of contaminants, per U.S. NRC Regulatory Guide 1.86 and 10 CFR 20, the surface contamination guideline release values for Buildings 3182 and 3192 were:

Fixed Contamination	Loose Contamination
5,000 dpm $\beta\gamma$/100cm^2	1,000 dpm $\beta\gamma$/100cm^2

- Removing the ventilation system.
- Remediating the classroom.
- Characterizing and remediating the outside grounds.
- Surveying, decontaminating (as required), and releasing of miscellaneous loose classroom items.
- Surveying and sampling the east storm drain and the west sewer.

Contamination in the east doorway of the Military Police Museum (Building 3182) was also determined during this phase of the project. Project activities were stopped in late December (1995) due to a lack of funding.

ATG remobilized in June of 1996 to complete the efforts in Building 3192 and to decontaminate the Military Police Museum. Major activities consisted of:

- Regridding, surveying, and confirmation sampling of outside areas.
- Performing a Quality Assurance Survey of the outside areas.
- Decontamination and release of the Hot Cell.
- Surveying and releasing the classroom.
- Collecting five (5) additional soil samples on the east side of the building.

Building 3182 activities consisted of:

- Constructing a ventilated enclosure over the Military Police Museum rear doorway and adjacent interior surfaces.
- Gridding, surveying, and decontaminating the Military Police Museum.
- Core sampling underneath the building to ensure contamination had not leached into the foundation and/or soil.

Brokering

Final brokerage of the waste will be performed upon completion of the waste stream profile for Envirocare.

3.2 Organization and Responsibility

IOC Point of Contact	Mr. Mike Styvaert, Health Physicist
Fort McClellan Point of Contact	Mr. John May, Health Physicist
ATG Project Director	Mr. William Haney
ATG Project Manager	Mr. Frank Whitaker
ATG Project Health & Safety	Mr. Chad Becker
ATG Radiological Control Supervisor	Mr. Neal Whatley
ATG Corporate Health Physicist	Mr. Thomas O'Dou, Mr. Joel Cehn

- NUREG/CR-2082, "Monitoring for Compliance with Decommissioning Termination Survey Criteria".
- NUREG/CR-5849, "Manual for Conducting Radiological Surveys in Support of License Termination", Draft, June 1992.
- U.S. Code of Federal Regulations, Title 10, "Energy".
- U.S. Code of Federal Regulations, Title 29, "Labor".
- U.S. Code of Federal Regulations, Title 40, "Protection of the Environment".
- Allied Technology Group Health and Safety Plan, Fort McClellan.
- U.S. Nuclear Regulatory Guide 1.86.
- NRC Memorandum "Evaluation of Acceptability of Proposed Decommissioning Activities", from John W.N. Hickey, Chief Operation Branch, Division of Fuel Cycle, Medical, Academic and Commercial Use Safety to William E. Cline, Chief Nuclear Materials Safety and Safeguards Branch Region II, dated May 06, 1987.
- Fort McClellan, Delivery Order 0077.

Prior to working in and around any area at Fort McClellan, a prejob survey was performed to determine the levels of potential contamination that existed in the work area. Personnel performing the surveys were supervised by the ATG Radiological Controls Supervisor.

Results of the prejob surveys were used to assemble and issue a Radiological Work Permit (RWP) to accomplish the necessary work in specific areas. A copy of all project RWP's have been archived and stored in the project files.

A Quality Assurance survey was performed at the completion of remediation activities. Locations of elevated activity were decontaminated and re-surveyed. The Quality Assurance survey was conducted in accordance with NUREG/CR-5849. Smears and surveys were taken at the intersections of the grid lines.

Radiological Surveys of Fort McClellan areas are included as part of this report in:

Appendix J	Radiation Survey Reports
Appendix K	Air Sample Data and Analysis
Appendix L	Final Release Surveys - Tools, Equipment, Supplies, Miscellaneous Materials
Appendix M	Final Release Surveys - Classroom West Wall, North Wall, South Wall, East Wall, Trusses/Ceiling Beams, Ceiling, Floor
Appendix N	Final Release Surveys - Hot Cell Trench, Ledge, Walls, Tube Sheet, Manipulator Arms, Floor, Ceiling, Entry Way, and Exterior
Appendix O	Final Release Surveys - Building 3192 Office, Shower, Foyer and Air Conditioning Room
Appendix P	Final Release Surveys - Museum
Appendix Q	Quality Assurance Survey - FM-010

Museum and the concrete apron on the south side of the museum. The samples were taken at depths of 1 foot, 2 feet, and 4 feet. The 4 foot sample was taken under the building foundation to determine if contamination had leached underneath the building.

Surface

Samples (about two kilograms each) of surface soil (2-6 inches) were collected. A microR survey was performed for each grid area. Particular attention was paid to areas with elevated microR readings. A minimum of four (4) samples were taken for every $100m^2$ ($900\ ft^2$) of affected area. Samples were taken at the intersections of the three meter grid areas. A minimum of one (1) background sample was taken for every $100m^2$ ($900\ ft^2$) of non-affected grid area. Samples were taken from grid area centers when possible. There were 112 confirmatory surface samples taken. Sample results were all below the guideline limits. There were 64 samples from affected areas and 48 from non-affected (background) areas.

3.5.6 Special Measurements and Samples

During the characterization, paint was analyzed for lead and tile was analyzed for asbestos. Sludge and water from the sewer manhole was subjected to Gamma Spectroscopy Analysis.

Ten (10) samples of lead shielding, paint, concrete, soil, rad trash, insulation, miscellaneous metals, mineral oil, tile, and mastic were subjected to Gamma Spectroscopy and TCLP analysis.

3.6 Background Level Determinations

Background exposure rates were measured with microR meters.

3.7 Sample Analysis

Smears for removable contamination were analyzed for gross alpha and gross beta activity. Soil samples were analyzed for cobalt 60 and cesium 137 by Gamma Spectroscopy.

3.8 Data Interpretation

Data conversions and evaluations were performed following the guidance in NUREG/CR-5849. Measurement data is in units of $dpm/100cm^2$ or cpm (surface activity), $\mu R/hr$ (exposure rates), and pCi/g (soil concentrations) for comparison guidelines. Values were adjusted for contributions from natural background.

Additional remediation and/or further sampling and measurements were performed where guidelines were not met.

3.9 Records

All original survey data has been archived at the ATG Oak Ridge office and will be held until such time as authorized for disposal. Soil samples remain at the laboratories that performed the analyses.

4.0 DESCRIPTION OF WORK

4.1 General

The Detailed Work Procedure, Radiological Remediation of Fort McClellan Hot Cell and Grounds (Appendix A), the Health and Safety Plan (Appendix B), and the Quality Assurance Plan (Appendix C) for Project Number USA 023-94, Delivery Order 0077 were drafted in the ATG Oak Ridge,

was also verified for subcontractors or other personnel who actually participated in site remediation efforts, before being allowed to commence work.

Subcontractors or other personnel who physically participated in site remediation efforts were also verified to meet these requirements before engaging in work activities.

4.4 Radiological Safety

Radiological controls consisted of, but were not limited to, contamination surveys, radiation surveys, air sample surveys, and posting boundaries of radiological work areas. Surveys of all affected materials and areas were performed to determine specific radiological conditions. All personnel on site performed work under the guidance and direction of a Radiation Work Permit (RWP).

The isotopes of concern were cobalt 60 and cesium 137. These are the only isotopes identified by NRC Correspondence on the subject of decommissioning these areas of Fort McClellan.

Airborne contamination concentration limits were set at 25% of the Derived Air Concentration (DAC) limit for the most restrictive isotope of concern on site (cobalt 60) as specified in 10 CFR 20, "Standards for Protection Against Radiation", Appendix B "Concentrations in Air and Water Above Natural Background". The DAC airborne concentration value was $9.0E^{-09}$ μCi/ml for Co^{60} and the concentration limit was set at $2.0E^{-09}$ μCi/ml.

Personnel working with or handling radioactive material provided separate entry and exit bioassay urine samples for the purpose of determining internal dose assessment of the individual. The laboratory analysis of these samples is provided in Appendix E, 'Bioassay Report'. No personnel showed any levels above the detection limits of the two isotopes of concern.

All personnel working with or handling radioactive materials were also issued TLDs (thermoluminescent dosimeters) for the purpose of determining the external dose received while conducting project activities. No substantial whole body dose was anticipated as the original characterization surveys had shown the highest dose rate to be 290 μR/hr. Cobalt 60 and cesium 137 are strong gamma emitters and thus easily detected. The dose received for this project was 0.000 person-rem. The documentation for the results of the whole body monitoring program are contained in Appendix F, 'Dosimetry Report'.

The following guideline for acceptability of activities for decommissioning are restated here, based on Nuclear Regulatory Commission guidance in a memo from John W.N. Hickey, Chief Operations Branch, Division of Fuel Cycle, Medical, Academic and Commercial Use Safety to William E. Cline, Chief Nuclear Materials Safety and Safeguards Branch Region II on the subject of "Evaluation of Acceptability of Proposed Decommissioning Activities (for Fort McClellan, Alabama, facility) dated May 06, 1987.

External Radiation

The gamma exposure at one (1) meter above the ground surface shall not exceed 10 μR/hr above background for an area of greater than 30 feet by 30 feet and shall not exceed twenty 20 μR/hr above background for any discrete area (i.e., less than 30 feet by 30 feet).

Sample Contamination Levels

Concentration criteria developed for cobalt 60 and cesium 137 for situations in which subsurface contamination may be present, such as when burials of material have been made.

The General Radiation Work Permits for the site, FM-001, Pre-Job Characterization and FM-002, General Entry, were written. These RWPs allowed initial work to ≤10,000 DPM/100 cm^2 (see Appendix G 'RWP Log/Radiation Work Permit'), to begin. A general survey was performed of Building 3192, the outside grounds, the concrete apron and pad, the back of Building 3192, and the Military Police Museum exterior. Higher general area dose rates were noted in the back (south) of the museum. The walls of these buildings also showed higher dose rates. Surveys of other buildings showed that this phenomena is due to the natural thorium in the building brick and mortar. The results of these surveys are documented in Appendix J, 'Radiation and Contamination Survey Reports'.

An additional crew of thirteen (13) reported to work on Monday, November 13, 1995 for a total of twenty (20) personnel on site for this first phase of the remediation. The requirements of 29 CFR 1910.120 were met by all individuals. Training was conducted on the Fort McClellan Detailed Work Plan, Health and Safety Plan, and Quality Assurance Plan. TLDs were issued and bioassay urine samples were obtained. The ATG crew worked until Saturday, December 21, 1995 when a lack of funding caused the project to be suspended. Upon exit of these individuals, all TLDs were collected and read. Bioassay urine samples were collected for radiological analysis.

June/July 1996

An ATG crew of eighteen (18) arrived on site June 24, 1996 and worked until August 1, 1996. OSHA requirements for training and medical certification were verified in accordance with the requirements already specified. TLDs were issued and retrieved from these personnel and entry and exit bioassay urine samples were obtained and analyzed for internal radiological ingestion/inhalation.

B-25 and B-12 boxes were shipped to Fort McClellan to support the remediation effort. Eventually fifteen (15) B-25 boxes and forty-five (45) B-12 boxes would be obtained and shipped to the site. One (1) B-25 box remained from a previous Fort McClellan remediation.

This report is written for each remediation area. The events of remediation will be written in one time line although there were two phases to the work effort.

4.6 Building 3192 Hot Cell, Classroom, Office, Shower, Foyer, and Air Conditioning Room

All removable items were surveyed and released. This included drums, miscellaneous materials and trash. The manipulator arms from the Hot Cell were disassembled and released. The classroom chairs were unbolted, surveyed, and released from the area. An area outside of the classroom was surveyed and prepared as a laydown area.

Scaffolding was set up to remove the ceiling tile (non-asbestos per the Base). RWP FM-102, Overhead in Bldg. 3192, was in place during the removal of the false ceiling overhead, bracing, supports, framework, and other components of the ceiling. Lee Jaye of Fort McClellan Environmental Engineering was contacted to verify that this ceiling had been sampled (along with 200 other ceilings) and verified not to contain asbestos. The false ceiling, supports, and framework were surveyed and released.. Six hundred sections of tile were removed, surveyed (by surface scans and smears), then released.

RWP FM-103, Duct Work Removal, was created for the removal of the ductwork in the overhead. Respirators and full protective clothing were required for the initial cuts of the duct work. Negative ventilation of the system was achieved with HEPA units. Contamination was not found in the initial cuts. After several sections were cut and the absence of contamination was established, respirator requirements were dropped. All duct work above the classroom, associated supports, and framework was removed, surveyed and released.

Activities then moved into the Foyer area between the Hot Cell and the Classroom where work to remove, survey and release all ductwork continued. Finally, all ductwork and equipment such as the

Termination'. The criteria as defined in CR-5849 was followed and is detailed in section 3.5 of this report. Areas were worked in parallel with other remediation activities in the building. The first area surveyed and released was the classroom and overhead, then the area between the classroom and the foyer of the building (some interference--wood partitions had to be removed in this area) and then the foyer, office, shower, entrance, air conditioning room, and finally the hot cell area. All areas surveyed in the final release surveys were below the guideline limits. Trench areas in the hot cell, foyer, air conditioning room, and shower were sampled and analyzed for activity. These samples were below the guideline limits.

The leaded glass shield windows were removed from their casing in the south wall of the hot cell. These window casings were jack-hammered out and the windows pushed out. There were three (3) seperate glass sections seperated by mineral oil between each section. The mineral oil was drained into a 55-gallon drum prior to the removal of the lead shield windows. Each window section weighed approximately 500 pounds. Leaded glass windows showed no smearable contamination but had 300 ccpm fixed contamination. This appears to be natural radioactivity from thorium. These leaded glass windows were labeled as radioactive material and turned over to the Fort McClellan Radiological Safety Officer, John May. The mineral oil and water mixture that had existed between each of the window sections was sampled and sent out for analysis.

The drain piping which ran from floor drains in the building, the old sink room, the heating and ventilation room, the hot cell, and the hot cell trench area was the next area to be remediated. This drain piping was removed by jack-hammering. The drain piping was three (3) to six (6) inches below the floor of the hot cell. The concrete in the hot cell area was high density, and thicker than the concrete in the foyer area of the building. The drains of the drain piping read 150 μR/hr. The piping itself was contaminated from 75 μr/hr. to 800 μR/hr. This piping was removed in the building and placed into B-12/B-25 boxes. This piping was removed up to the north wall. The piping outside of the building will be discussed in a seperate section. Ground water seeping into the excavation area often interfered with work in this area and caused significant delays.

The source tubes were used to store sources during the operational days of the hot cell. These tubes were steel shells, approximately six (6) to eight (8) inches in diameter set into concrete with a steel cover plate over the concrete. There were twenty (20) source tubes in a four (4) by five (5) array. The source tubes ranged from twenty-four (24)" deep to fifty (50)" deep. The source tubes were contaminated from 150 ccpm to 1500 ccpm. These tubes were deconned by mechanical agitation. A wire wheel on a drill was used to abraid the surface of the tubes to removed the contamination. Survey and release of these tubes was performed with a 2" x 2" NaI tube. The tops of the tubes were a concrete and lead cap matrix. These caps were surveyed and removed from the hot cell and placed into the steel drum containing the lead paint, due to the lead and radioactive contamination for separate disposal. The steel cap over the top of the source tube could not be decontaminated using decon solutions and wipe down. The cap was removed with a gas torch, surveyed, and placed into a radioactive shipping container. The top of the concrete block that the source tubes were imbedded in had contamination on the top of the block. The residual contamination on top of the concrete was removed by the use of a jack-hammer, scabbling, and wipe down decontamination. The concrete block and source tubes were surveyed and released in the final release survey of the hot cell.

The remaining contamination in the walls, floor, and ceiling of the hot cell (following the lead paint removal) was removed by jack-hammering, scabbling, and wipe down decontamination. Scaffolding was constructed to reach higher, inaccessible areas of the hot cell. All entrys to the hot cell were sealed during jack-hammering and negative ventilation was maintained on the hot cell. Particulate airborne activity was mitigated by water misting. A preliminary release survey of this area was performed. Several area had to be remediated (jack-hammered and scabbling)again due to imbedded contamination.

were taken in the west sewer area. Sample results were below the guideline limts. One (1) soil samples was taken by the sewer outlet and found to be below guideline limits.

Although the samples taken at this time were within the guideline limits, the presence of detectable contamination in the west storm sewer, and the positive samples detected in the initial characterization effort justified the removal of this storm drain. The storm drain was then excavated by backhoe and placed into a B-25 box. A confined space entry had been planned for this area but by removing the storm drain this was not necessary. Upon the removal and disposal of the storm drain, surveys and samples of the soil and exit drain piping did not show the presence of any radioactivity above the established release criteria.

The entry piping into the storm drain was excavated and disposed of as radioactive material. The entry drain only ran approximately 10 feet toward the valve control pit and tank area. This area had been remediated previously by Chem-Nuclear personnel and by base personnel under the direction of Greg Komp, the Radiological Safety Officer at that period.

This area was then filled in with soil. The area was then gridded and surveyed and sampled for release as detailed in section 4.9, 'Outside Grounds'. Cobalt 60 and cesium 137 activity was confirmed to be below guideline limits with the rest of the outside area during the final release survey in accordance with the guidance of CR-5849.

4.9 Outside Grounds

Based on the original characterization sampling results from Chem-Nuclear Corporation performed in 1983, and subsequent resampling performed in 1994 by Allied Technology Group, soil was remediated from the southern boundary of the concrete apron, on both sides of the walkway, and on the southern side of the roadway leading into the enclosure area. (See Appendix R, 'Original Characterization Gamma Spectroscopy'). A trench of approximately 1 foot wide by 1 foot in depth was excavated from this area. Samples were taken in each grid quadrant (grid quadrants were established as 10 feet by 10 feet). All samples results were below the release limits outlined in section 2.5 of this document and are provided in Appendix T, 'Laboratory Sample Results - Soil'.

As detailed in Section 4.8 ('Storm Drains and Sewers') of this report, samples were taken of the excavated area following the removal of the west storm drain and sewer. The excavated soil from this area was sampled following the removal of the storm drain, sewer brick, and related material. Upon receipt of certified laboratory results which confirmed Co^{60} and Cs^{137} levels below the established NRC criteria limits, the area was filled back in and a grid pattern established for final release surveys.

The entire fenced-in enclosure behind Building 3182 (Military Police Museum), was gridded in a pattern of ten (10) foot by ten (10) foot squares. An alpha-numeric nomenclature was used to uniquely identify each grid square. The alpha nomenclature ran in a north to south direction while the numeric nomenclature ran in an east to west direction. A one (1) inch by one (1) inch NaI detector (micro-R meter) was placed in an array of ten instruments and each square foot of the ten (10) foot by ten (10) foot pattern within the fenced confined area was surveyed and the associated alpha-numeric location and dose rate was documented. A one meter general area survey was performed in each grid area. A quality assurance survey was performed at the intersection of each grid pattern. These quality assurance surveys are documented in Appendix Q, 'FM-010, 'Outside Area Surveys' and 'Quality Assurance Surveys'.

Four random samples were taken outside of the fenced area in the north, south, east, and west pattern. The results of these samples showed no detectable levels of Cs^{137} or Co^{60}. A minimum of four (4) samples were taken in every ten (10) meter by ten (10) meter grid pattern of the affected area in accordance with the requirements of CR-5849, 'Manual for Conducting Radiological Surveys in Support of License Termination'. Any anomalies identified in the survey (three times background) were sampled, otherwise the samples drawn were in a random patten within the grid. Three 10 foot

5.1.1 Building 3192 Classroom

- November 1994: One (1) sample of paint from the classroom walls was analyzed for lead and radioactive materials. The presence of lead was confirmed on the hot cell walls and ceiling in the form of lead based paint. The scope of these work activities was to remove only the amount of lead necessary to lower the contamination levels in these areas to those levels that meet the criteria for release. The classroom floor tile and mastic was tested for asbestos. Asbestos content was between 1% and 5%. The floor tile and mastic were left in place.

- November / December 1995: No samples were taken in the classroom during this time period.

- June / July 1996: No samples were taken in the classroom during this time period.

5.1.2 Building 3192 Hot Cell Interior and Exterior

- November 1994: One (1) sample of paint from the Hot Cell walls was analyzed for lead and radioactive contamination. The presence of lead and cobalt 60 in excess of guideline limits was confirmed. This paint was removed during the remediation and will be disposed of at Nuclear Sources and Services, Inc.

- November / December 1995: One (1) sample of a mineral oil and water mixture was taken from the Hot Cell window. The presence of cobalt 60 and cesium 137 in excess of guideline limits was confirmed. The oil was drained into a 55 gallon drum and remains for brokerage.

- June / July 1996: Eight (8) soil samples were taken in various areas around the Hot Cell drain piping. Analysis results were below guideline limits for both cobalt 60 and cesium 137. Four (4) confirmatory soil samples were taken inside the Hot Cell and one (1) confirmatory soil sample was taken outside of the Hot Cell doorway. Sample results were below guideline limits.

5.1.3 Building 3192 Office, Shower, Foyer, and Air Conditioning Room

- November 1994: No samples were taken during this time period.

- November / December 1995: No samples were taken during this time period.

- June / July 1996: Five (5) soil samples were taken from areas around various building drains. Analysis results were below guideline limits for both cobalt 60 and cesium 137 for four (4) of the samples. A soil sample taken from an area surrounding the outside portion of the clean shower drain line contained cobalt 60 in excess of guideline limits. The drain line and surrounding soil was removed. Five (5) confirmatory soil samples were taken in various sections of Building 3192. Sample results were below guideline limits.

5.1.4 Building 3182 - Military Police Museum

- November 1994: No samples were taken during this time period.

- November / December 1995: No samples were taken during this time period.

- June / July 1996: Six (6) concrete samples were taken. Four (4) samples from the floor were found to contain cesium 137 in excess of guideline limits. One (1) sample of grout also contained cesium 137 in excess of guideline limits. These areas were scabbled and chiseled out. One (1) background sample was taken. The sample result was below the guideline limits.

lead, tile, mastic, insulation, and miscellaneous metals and trash. This full profile analysis was done to characterize the waste for final disposal at Envirocare.

At the request of the sample laboratory, Mountain States Analytical, the waste streams were re-sampled in November 1996. Previous samples of lead paint, mastic, tile, and the miscellaneous metal samples were of insufficient volume for a complete analysis. The re-samples were drawn with sufficient volume to successfully run the required analysis. This resampling was done to avoid problems with disposal into Envirocare.

Results of this re-sampling effort confirm the presence of methylene chloride in the lead paint and tile/mastic samples.

5.2 Survey Results

Copies of all November/December 1995 and June/July 1996 surveys are included in this report as:

Appendix J	Radiation Survey Reports
Appendix K	Air Sample Data and Analysis
Appendix L	Final Release Surveys - Tools, Equipment, Supplies, Miscellaneous Materials
Appendix M	Final Release Surveys - Classroom West Wall, North Wall, South Wall, East Wall, Trusses/Ceiling Beams, Ceiling, Floor
Appendix N	Final Release Surveys - Hot Cell Trench, Ledge, Walls, Tube Sheet, Manipulator Arms, Floor, Ceiling, Entry Way, and Exterior
Appendix O	Final Release Surveys - Building 3192 Office, Shower, Foyer and Air Conditioning Room
Appendix P	Final Release Surveys - Museum
Appendix Q	Quality Assurance Survey - FM-010

Initial characterization surveys were included in the Interim Report and not included in this Final Report. The surveys included in Appendix J, 'Radiation Survey Reports', cover a wide range of project activities.

5.2.1 Building 3192 Classroom

- November/December 1995: Five (5) surveys were to facilitate the remediation of the east wall, ceiling tile (non-asbestos), work in the overhead, and the free release of ductwork. Six (6) final release surveys were performed to release the north wall, east wall, south wall, west wall, floor, and ceiling of the classroom.

- June/July 1996: Three (3) Final Release Surveys were performed to release the trusses, upper and lower beams, and ceiling stack vent. One (1) QA Free Release Survey of the entire classroom was performed.

5.2.2 Building 3192 Hot Cell Interior and Exterior

- November/December 1995: Twelve (12) surveys were performed to facilitate remediation of the Hot Cell interior/exterior and to release the Hot Cell roof and door.

- June/July 1996: Eighteen (18) surveys were performed to facilitate remediation of the Hot Cell interior/exterior. This included pipe removal, jackhammering, scabbing, and soil sampling. Sixteen (16) Final Release Surveys were performed to release the trench, ledge, walls, tube sheet,

The next part of the Quality Assurance Survey consisted of individual grid (100 ft^2) surveys. Ten (10) microR meters were attached to a plank, background readings for each meter were recorded, and 100 surface scan readings were taken in each grid (sub-grids being 1 ft^2). Approximately 50,000 readings were taken and recorded. If an individual reading was in excess of three (3) times the established background reading. it was considered an anomaly. Six (6) anomalies were identified. Soil and/or concrete was sampled, then excavated in the area of the anomaly. This area was then resurveyed to determine if guideline limits were met. If they were not, the area was further excavated and resampled until guideline limits were met. Twelve (12) soil/concrete samples were taken as a result of the Quality Assurance Survey. One of these samples was found to contain 60.4 pCi/g of cesium 137. This area was again excavated and surveyed.

Confirmatory soil and concrete sampling overlapped the QA Survey. Confirmatory samples were drawn from area that were already dispositioned by the QA Survey.

5.2.10 Various Releases

Unconditional Release Surveys are used to free release items for unrestricted use in accordance with Regulatory Guide 1.86. Items such as tools, heavy equipment, and scaffolding are typically wiped down (if necessary) and surveyed to document that free release criteria has been met.

Additionally, items that are removed during remedial activities are free released when possible. These items may have removable activity or no activity. For example, the classroom chairs, Hot Cell manipulator arms, drop ceiling components, electrical components, and the Hot Cell Door from Building 3192 were free released.

Finally, to document that remediation efforts were successful, a Free Release Survey of affected buildings and grounds are performed to document that guideline limits have been met. This was previously discussed in this report.

Conditional Release Surveys are used to document the radiological conditions of an item that does not meet the free release guidelines. Glass blocks from the Hot Cell were not free released. Shipping containers (i.e., B-12 boxes, B-25 boxes, 55 gallon drums) are also subject to a conditional release. In this case, the conditional release documents that shipping and burial requirements for contamination and dose rates have been met. (See Section 5.2.11, Releases For Shipping and Disposal).

- November/December 1995: A total of thirteen (13) Conditional and Unconditional Release Surveys were performed during this time period.

- June/July 1996: Thirty-nine (39) Unconditional Release Surveys were performed during this time period.

5.2.11 Releases for Shipping and Disposal

- November/December 1995: A total of forty-seven (47) Conditional Release Surveys for shipping and disposal were performed. Forty-six (46) B-12 and B-25 boxes were surveyed. In addition, a 55 gallon drum of lead paint chips (removed from the Hot Cell) was surveyed.

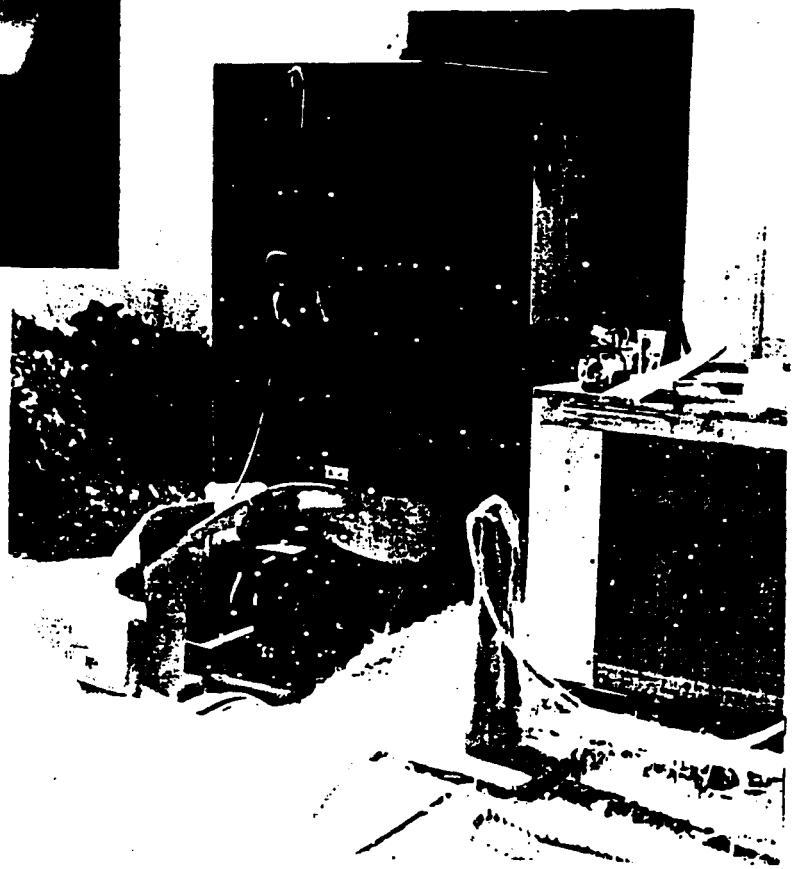
- June/July 1996: Twelve (12) B-12 and B-25 boxes were surveyed. All of the shipping containers remain at Fort McClellan and are awaiting brokerage. Three (3) surveys from this activity are missing. These boxes will be opened, inspected, and surveyed prior to brokerage.

NUREG/CR-5849, "Manual for Conducting Radiological Surveys in Support of License Termination", Draft, June 1992.

Allied Technology Group Health and Safety Plan, Fort McClellan.

NRC Memorandum "Evaluation of Acceptability of Proposed Decommissioning Activities", from John W.N. Hickey, Chief Operation Branch, Division of Fuel Cycle, Medical, Academic and Commercial Use Safety to William E. Cline, Chief Nuclear Materials Safety and Safeguards Branch Region II, dated May 06, 1987.

Fort McClellan, Delivery Order 0077.



PICTORIAL

PICTORIAL

ATTACHMENT 5

BIOLOGIAL ASSESSMENT REPORT

BIOLOGICAL ASSESSMENT

Disposal and Reuse
of
Fort McClellan, Alabama

April 1998

C7788.11

1 April 1998

BIOLOGICAL ASSESSMENT: DISPOSAL AND REUSE OF FORT MCCLELLAN, ALABAMA

Submitted to:
U.S. Army Corps of Engineers
Mobile District
109 St. Joseph Street
Mobile, Alabama 36628

Submitted by:
Harland Bartholomew and Associates, Inc.
400 Woods Mill Road South, Suite 330
Chesterfield, Missouri 63017

Prepared by:
3D/International, Inc.,
Environmental Group
781 Neeb Road
Cincinnati, Ohio 45233
(513) 922-8199

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List of Acronyms

List of Acronyms

BA	Biological Assessment
BLM	Bureau of Land Management
BRAC 95	Defense Base Closure and Realignment Act of 1995
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DESMP	Draft Endangered Species Management Plan
DoD	Department of Defense
EBS	Environmental Baseline Survey
EE/CA	Engineering Evaluations/Cost Analysis
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FMC	Fort McClellan (Main Post and Pelham Range)
FMCRP	Fort McClellan Comprehensive Reuse Plan
FMRRA	Fort McClellan Reuse and Redevelopment Authority
FWS	U.S. Fish and Wildlife Service
NPDES	National Pollution Discharge Elimination System
PDF	Project Design Feature
RI/FS	Remedial Investigation/Feasibility Study
SWPPP	Stormwater Pollution Prevention Plan
USFS	U.S. Forest Service
UXO	Unexploded Ordnance

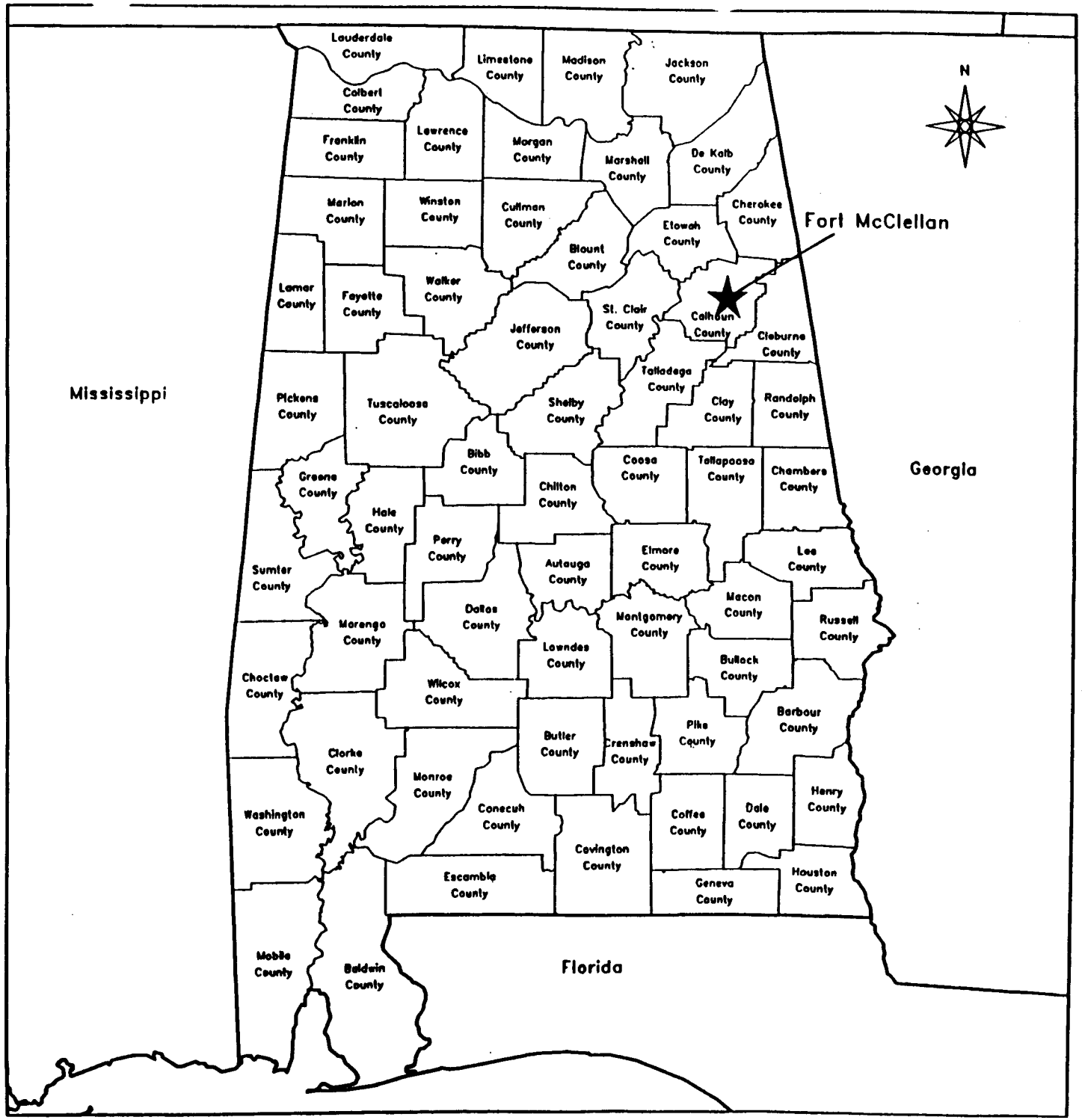
Section 1
Introduction

Section 1:

Introduction

Fort McClellan, Alabama, was recommended for closure by the Defense Base Closure and Realignment Commission in July 1995. This recommendation was accepted by the President and Congress and became legally binding under provisions of Public Law 101-510 on 28 September 1995. Approximately 17,360 acres (7025 hectares) on Main Post have been declared surplus property for disposal by the Army and available for reuse by others. In addition, approximately 1140 acres (461 hectares) of BLM property on Main Post, currently leased by the Army, may also be disposed by the Army as an interrelated action. The Army will retain all of Pelham Range (22,245 acres) and portions of the Main Post cantonment area (approximately 409 acres) for use by the Army Reserve and Alabama Army National Guard.

An Environmental Impact Statement (EIS) is currently in preparation to analyze environmental effects of disposal and reuse alternatives for the surplus property. The Army's proposed action is disposal, while reuse is an interrelated action of others (non-Army). Reuse planning is the responsibility of the Fort McClellan Reuse and Redevelopment Authority (FMRRA) of Alabama, a locally charted entity. In addition to the Army's proposed action of disposal, there is also the Army's interim period between closure of Fort McClellan and disposal of surplus property. During this period there will be caretaker, environmental investigations and remediation, unexploded ordnance investigations and removals, and other actions necessary to prepare the property for transfer. These actions have potential to affect threatened and endangered species.



BIOLOGICAL ASSESSMENT
DISPOSAL AND REUSE OF
FORT McCLELLAN, ALABAMA

FIGURE 1-1. Location of Fort McClellan, Alabama.

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Section 2
Description of the Proposed Action

Section 2:

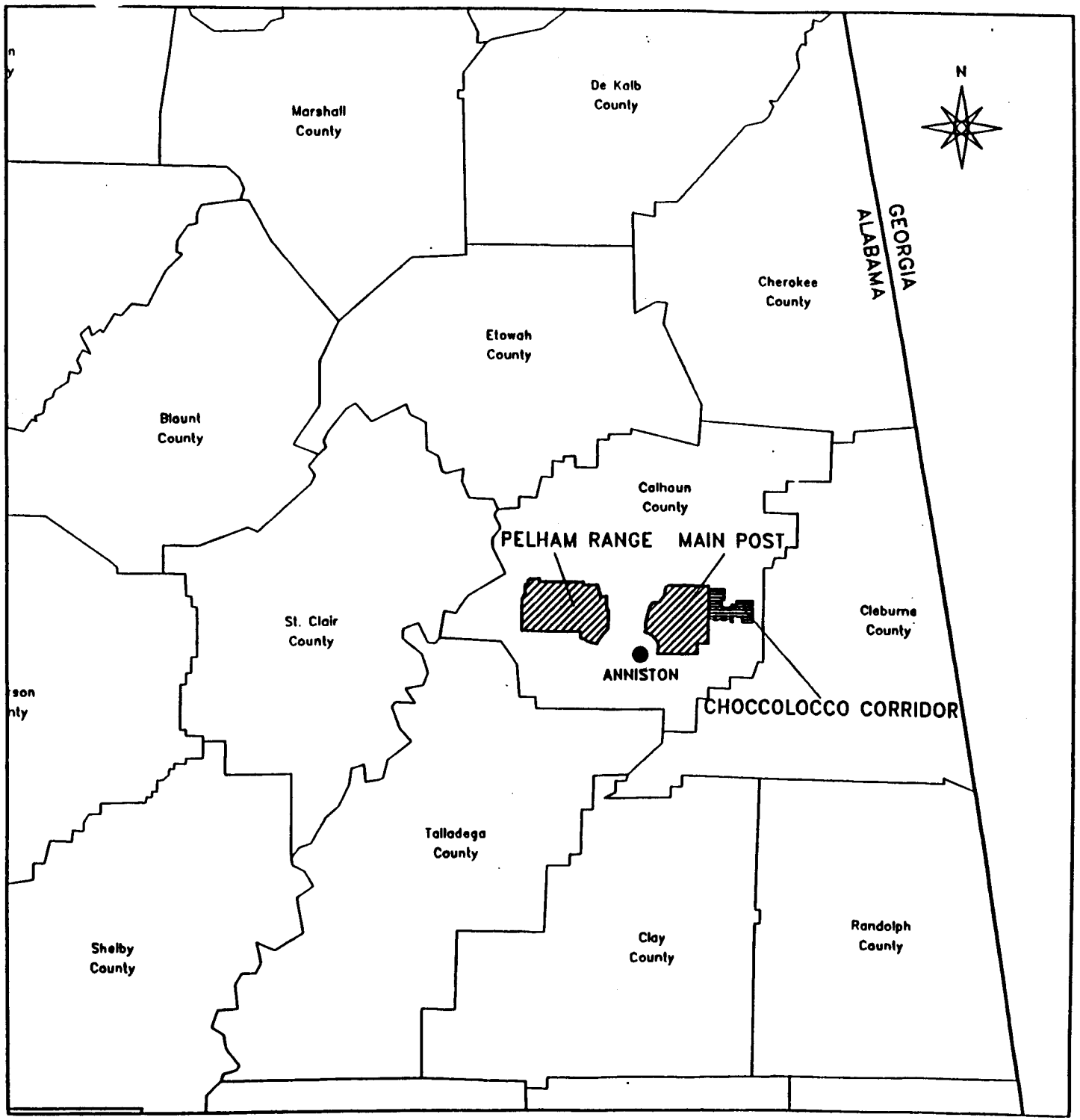
Description of the Proposed Action

2.1 INTRODUCTION

Under provisions of the Base Closure and Realignment Act of 1990 (Public Law 101-510), the 1995 Commission recommended closure of FMC, except for land and facilities required for a Reserve Component enclave and minimum essential facilities as required to provide auxiliary support to the chemical demilitarization operation at Anniston Army Depot, Alabama. Consistent with this Congressional mandate, the Army will cease performance of active missions at FMC no later than 12 July 2001.

Pursuant to the Defense Base Closure and Realignment Act of 1990 and recommendations of the Defense Base Closure and Realignment Act of 1995 pertaining to FMC, continuation of operations at the Installation is not feasible. Surplus property at FMC will be disposed or placed in caretaker operations after closure. The Army's preference is to dispose of surplus property.

Depending upon numerous factors, disposal of excess property at FMC is expected to occur as a single event transferring all excess property to one or more owners, or over time with multiple transactions involving the same or different owners. Regardless of the method of disposal, timing, or identity of new owners, reuse of excess property at FMC is reasonably foreseeable. This BA addresses effects of actions required to accomplish the Army's preferred



BIOLOGICAL ASSESSMENT
DISPOSAL AND REUSE OF
FORT McCLELLAN, ALABAMA

FIGURE 2-1. Location of Fort McClellan property within Calhoun County, Alabama.

Fort McClellan

Land Leased By FMC From The Alabama Forestry Commission

Miles
0 10 20

3D/INTERNATIONAL, INC.

TABLE 2-1. Fort McClellan Army National Guard/Reserve Component enclave property on Main Post.

Area Description	Estimated Size of Area	
	Acres	Hectares
1000 Area, Battalion Headquarters, Parking	24.4	9.9
Building 2290 (Dispensary)	1.4	0.6
Buildings 2281 / 2282	3.4	1.4
Joint Information Center	1.8	0.7
Battalion Headquarters	0.3	0.1
2200 Area and Triangle	53	21.4
Operations and Maintenance Shop # 10	5.4	2.2
Post Cemetery	3.4	1.4
U. S. Army Enclave	18	7.3
Military Operations in Urbanized Terrain Site	7.5	3
Chemical Defense Training Facility	26.5	10.7
Chemical stockpile Emergence Preparedness Program / Emergency Operations Center / Range Control	2	0.8
Boiler Plant	0.5	0.2
Chapel	1.5	0.6
1600 /1700 / 1800 Area	256	103.6
Prisoner of War Cemetery	4	1.6
TOTAL	409.1	165.5

these resources may be incorporated as deed encumbrances or covenants during land transfer. The encumbrances placed on parcels of land will depend on the resources present.

After FMC is closed, all excess land will be placed in caretaker status until transfer of ownership. In addition to caretaker activities, the Army may conduct environmental restoration as appropriate before disposing of property.

2.4.1 Caretaker Status

Existing facilities and support equipment and systems at FMC are major assets encouraging and facilitating reuse after the Army completes its disposal action. Following closure, FMC facilities and equipment will be subject to caretaker operations until transfer to new owner(s) occurs. Under caretaker status, the Army will care for vacated facilities, conduct environmental restoration, and as circumstances arise, make interim leasing arrangements to the extent allowed by regulation and available funding.

In consultation with the FMRRA, the Army will determine required levels of maintenance and repair of the Installation's facilities and equipment. Initial levels of maintenance will not exceed the standard of maintenance and repair in effect on the date of closure approval, will not be less than maintenance and repair required to be consistent with government standards for excess and surplus properties, and will not require any property improvements, including construction, alteration, or demolition, except when demolition would be required for health, safety, or environmental purposes, or would be economically justified in lieu of continued maintenance expenditures (DoD 1995).

Typical activities that will continue during the caretaker phase include the maintenance of fenced areas to ensure adequate security, mowing and weed control on grounds within the cantonment area for aesthetics and fire protection, and trimming and maintenance of trees and brush to avoid interference with roadways, fences, or buildings. Diseased trees and vegetation will be identified and removed as appropriate. Irrigation and erosion control will be addressed as necessary. Natural resources management, hunting, and wildlife management would also be continued at a lower level of effort. The level of security at Fort McClellan would be the same as town and county jurisdictions within the surrounding area.

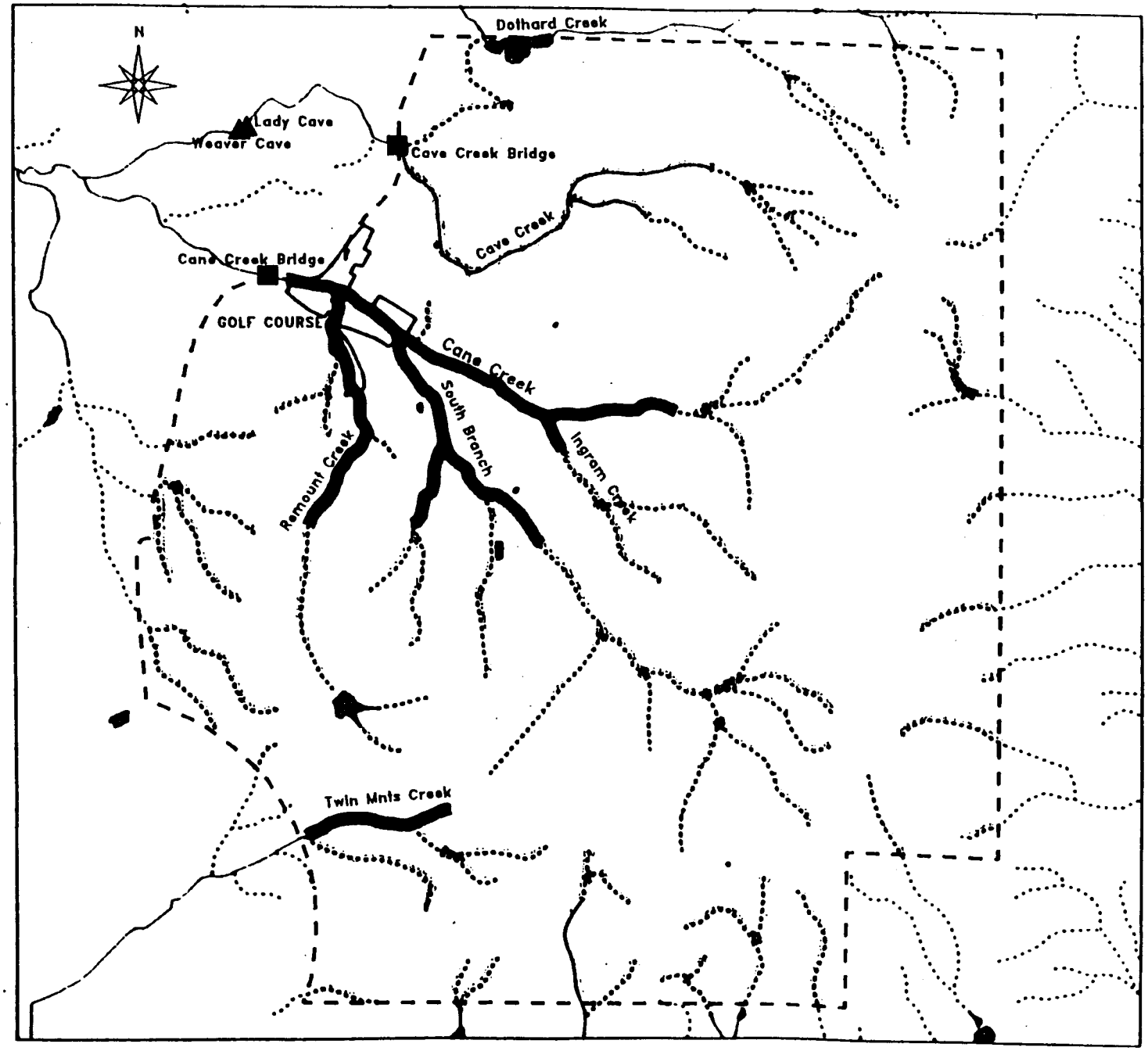
Accordingly, a draft final reuse plan was provided to the Army by the FMRRA in June 1997. The draft final reuse plan prepared by the FMRRA represents the Medium-High Intensity Reuse (MHIR) level described in the DEIS. Medium-High Intensity is the more probable and attainable level of development for FMC based upon FMRRA analysis of the existing market and ability to absorb additional development. The Army has adopted the FMRRA reuse plan as their preferred reuse alternative to be analyzed in the EIS.

The FMRRA draft final reuse plan provides a balance of public and private reuses of the excess property, including residential, office, retail, industrial, training/education, recreation and open space uses; and, retention of certain community facilities. Approximately one-half of the existing 6,083,000 square feet (565,110 square meters) of building space on Main Post is proposed for retention, including the Post Headquarters and adjacent administration buildings; the Military Police School facility; selected instructional, recreational and housing facilities; the Independent School; and the Commissary. Less than 4000 of the 18,500 acres comprising the disposal area is proposed for development, with the remaining area reserved for passive recreation and open space.

2.6 RELATED PROJECT DESIGN FEATURES

In addition to activities necessary to accomplish disposal and reuse of excess property, the Army proposes certain activities to protect gray bats utilizing the property. Project design features (PDFs) described in this section are an integral part of the proposed action. To minimize or avoid potential adverse effects to gray bats, each PDF addresses particular activities associated with disposal and reuse of excess property at FMC (Table 2-2). The Army commits to PDFs intended to protect gray bats during pre-disposal activities (Table 2-2).

Project design features intended to protect gray bats following transfer of excess property will be incorporated into deeds (Table 2-2). "Reuse PDFs" notify new property owners of the presence of gray bats and identify measures necessary to protect gray bats. The wording of reuse PDFs is shown as it will appear in deeds to the FMC golf course and properties within 50 feet of streams identified as moderate quality foraging habitat for gray bats (Cane, Dothard, Remount, South Branch, Ingram, and Twin Mountains creeks) when these properties are transferred out of Army ownership (Figure 2-3).



BIOLOGICAL ASSESSMENT
DISPOSAL AND REUSE OF
FORT McCLELLAN, ALABAMA

FIGURE 2—3. Streams on Main Post providing moderate quality foraging habitat for gray bats.

- Golf Course
- Main Post
- Moderate Quality Streams
- Low Quality Streams
- Gray Bat Roost under Bridge
- Gray Bat Roost in Cave

Note : No high quality habitat on Main Post.

Miles
0 0.5 1 1.5

3D/INTERNATIONAL, INC.

property involves removal of trees within this 50-foot zone, the Army will consult with the FWS. The FWS has previously concurred that tree clearing outside of this zone or along streams designated as low quality foraging habitat will not affect gray bats, and no consultation is required for such projects (3D/I 1996b). The Army also will consult the FWS if any activity requires alteration of water quality, water flow, or bank stability within streams providing high or moderate quality habitat for gray bats (Figure 2-3).

2.6.3 Project Design Feature Number 3

Pesticide use on Main Post will decrease as Army presence is reduced during caretaker status. However, the FMC golf course will maintain its current level of pesticide use until disposal. Due to the frequency of pesticide use and proximity of the golf course to known roosts and suitable foraging habitat, protective guidelines have been established for pesticide use on the FMC golf course. Appendix B contains a list of pesticides that are expected to be used on the golf course. A product summary, including use guidelines, for each of these pesticides also is included in Appendix B. The product summaries in Appendix B provide background information on each pesticide. Use guidelines listed within the product summaries were primarily derived from product labels, material safety data sheets, and manufacturer's comments, and address both human health and environmental concerns.

Fort McClellan will implement the following guidelines to avoid effects to gray bats from pesticide use on the golf course.

- Do not spray pesticides directly onto or into streams, lakes, ponds, or other bodies of surface water.
- Do not allow pesticides to drift onto water, and do not apply when weather conditions favor drift or runoff from treated areas.
- Do not apply within 20 feet (6 meters) of banks or natural levees associated with streams, lakes, ponds, or other bodies of surface water. Illoxan® should not be applied within 100 feet (30 meters) of surface water.
- Apply pesticides only during daylight hours.
- Apply pesticides only for approved uses.

- Construction shall follow Alabama Clean Water Law requirements for construction activities.

- All erosion and sediment control measures are to be in place prior to, or as the first step in construction.

- All areas disturbed by construction activities shall be seeded and mulched or sodded and fertilized unless the area is to be paved or built upon.

2.6.7 Project Design Feature Number 7

Project Design Feature No. 7 advises new property owners of the presence of gray bats and identifies measures necessary to prevent take of gray bats. The following paragraphs will be placed in deeds for parcels within 50 feet of streams identified as moderate quality foraging habitat for gray bats (Figure 2-3).

> Gray bats *(Myotis grisescens)* are known to forage near (insert name of stream(s) with high or moderate quality foraging habitat on this parcel, as shown on page 14 of this BA) ~~or on this parcel of land~~ and are known to roost in caves and under bridges in the vicinity. This parcel has been identified as suitable gray bat foraging habitat. Gray bats are listed as endangered by the U.S. Fish and Wildlife Service (FWS) and are afforded federal protection under the Endangered Species Act (ESA) of 1973, as amended. Section 9 of the ESA prohibits private landowners from "taking" (harm, harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) endangered species.
>
> The following measures will limit potential take of gray bats on this parcel. Failure to follow these measures could subject the violator to criminal sanctions of the ESA.
>
> - Gray bats are known to use man-made structures in the vicinity of this parcel. Prior to removing or altering the structure of a bridge, abandoned building, or cistern, the structure should be checked for the presence of gray bats. The FWS will be contacted if bats are found to be present.

- Do not apply within 20 feet (6 meters) of banks or natural levees associated with streams, lakes, ponds, or other bodies of surface water. Illoxan® should not be applied within 100 feet (30 meters) of surface water.
- Apply pesticides only during daylight hours.
- Apply pesticides only for approved uses.
- Follow all use and disposal directions as specified on labels.

Section 3
Scope of Analysis

Section 3:

Scope of Analysis

3.1 EFFECTS ANALYSIS AREA

The effects analysis area is defined as all surplus property within Main Post boundaries, including BLM property, and four known gray bat roosts outside Main Post boundaries (Weaver Cave, Lady Cave, Highway 21 bridge over Cave Creek, and Highway 21 bridge over Cane Creek). Effects to gray bats within this area are assessed. This BA does not assess effects of activities on property retained for the National Guard/Reserves.

The BLM may elect to have the Army dispose of the 1140 acres of public domain land within Main Post. The BLM property is included in the effects analysis area. This BA analyzes disposal of BLM property by the Army as an interrelated action.

3.2 EFFECTS ANALYSIS APPROCH

This BA focuses upon aspects of the proposed action with reasonable potential to affect gray bats. We assess potential effects of the Army's preferred alternatives for disposal and reuse of excess property at Fort McClellan. Potential impacts to gray bats analyzed in this BA are characterized in Table 3-1.

Section 4
Natural History, Status, and Distribution of Gray Bats *(Myotis grisescens)*

Section 4:

Natural History, Status, and Distribution of Gray Bats *(Myotis grisescens)*

4.1 LEGAL STATUS

Gray bats were listed as endangered by the FWS on 28 April 1976 and are protected under the ESA, as amended (Public Law 93-205). A recovery plan for gray bats was formulated by a FWS-sponsored recovery team (Brady et al. 1982). The recovery plan outlines three primary objectives: (1) prevent disturbance to important roost habitat, (2) maintain, protect, and restore foraging habitat, and (3) monitor population trends.

4.2 PHYSICAL DESCRIPTION

The pelage of gray bats is uniformly gray from the base to the tip of the hair. They have a forearm length of 1.6 to 1.8 inches (40 to 46 millimeters) and a wingspan of 10.8 to 11.8 inches (275 to 300 millimeters; Barbour and Davis 1969). A characteristic distinguishing this species from its congeners is the attachment of the wing membrane to foot at the ankle. In other species of myotine bats, wing membranes attach to the foot at the base of the toe. Additional distinguishing characteristics of gray bats include notched toenails and lack of a keeled calcar (Brady et al. 1982, Barbour and Davis 1969).

Gray bats utilize open flyways over streams. Gray bats generally forage close to the water surface (Clawson 1984). Foraging usually occurs below treetop height, often lower than 6.5 feet (2 meters) (LaVal et al. 1977). Gray bats foraging over a lake in Missouri were observed feeding from water level up to approximately 4.9 feet (1.5 meters), and occasionally as high as 9.8 feet (3 meters) (Clawson 1984). Large streams and rivers typically provide an abundant food source and ample flight space. Gray bats will use smaller streams if there is enough prey and if the stream corridor provides a clear flyway. Dense, overgrown vegetation along small streams commonly reduces or eliminates open space over the water.

Clawson (1984) observed gray bats foraging adjacent to bluffs near a lake, but concentrations of foraging gray bats were found over deep water in the center of the lake and over shallow, weedy areas. Gray bats foraged alone or in pairs, rarely in groups of three or more (Clawson 1984, LaVal et al. 1977).

LaVal et al. (1977) used a helicopter to observe gray bat foraging activity. The bats foraged over water with brief forays into riparian vegetation. The use of riparian forest likely accounts for the presence of terrestrial-based insects in their diet. The bats tended to be concentrated in groups of two or three adjacent to heavily wooded bluffs and hillsides. Few bats were observed foraging adjacent to pastures. LaVal and LaVal (1980) reported some or all gray bats from a maternity cave may switch from one foraging area to another during the course of a season, even when the change involves flying the opposite direction over pastures to a different body of water.

4.4.1.2 Prey

The diet of gray bats has been characterized from fecal analysis. Gray bats consume both aquatic and terrestrial-based insects. Clawson (1984) analyzed fecal samples taken from reproductively active gray bats captured at four Missouri caves. He identified 53 families comprising 13 orders of insects in the fecal pellets. Size of prey ranged from 0.08 to 1 inch (2 to 25 millimeters), but most were small, 0.08 to 0.4 inches (2 to 10 millimeters). Abundance of terrestrial and aquatic forms was variable due to variation in availability in the habitat occupied by the bats. Overall, Diptera (flies), Coleoptera (beetles), and Homoptera (plant hoppers) were the most frequently observed prey in the diet. Hymenoptera (wasps) and Plecoptera (stoneflies) were less frequent prey items. Ephemeroptera (mayflies) appeared to be a rare

4.4.1.3 Foraging Travel Distance

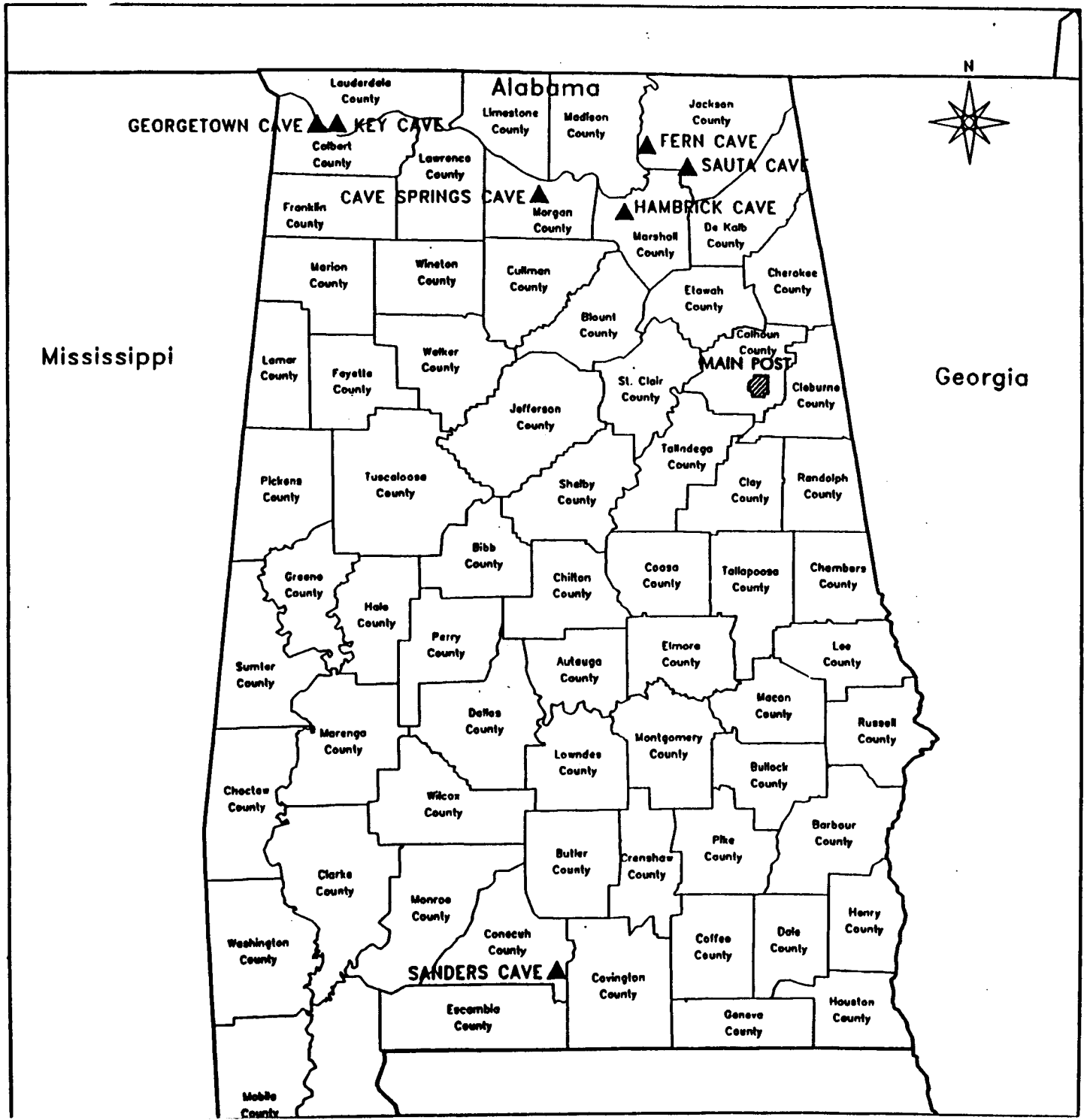
Gray bats are known to fly up to 22 miles (35 kilometers) in a single night to forage over large bodies of water (Tuttle 1976). During summer mist netting over streams in eastern Missouri, gray bats were recaptured a mean distance of 6.9 miles (11.1 kilometers) from the cave in which they were banded (LaVal et al. 1977). Bats netted over streams were later recaptured at caves a mean distance of 7.8 miles (12.5 kilometers) from the stream site where they were banded (LaVal et al. 1977). LaVal and LaVal (1980) reported a maximum upstream dispersal distance of 12.4 miles (20 kilometers) from a cave. They also reported gray bats flying cross country as far as 15.4 miles (24.8 kilometers) from a cave to a lake. Gray bats released from Hambrick Cave on Guntersville Reservoir, Alabama, were detected with radiotelemetry at sites up to 18.6 miles (30 kilometers) from the release point (Thomas and Best in press).

Gray bats may fly from summer caves for some distance before foraging. After reaching a suitable foraging area, a gray bat may remain within a limited portion of stream or lake for the remainder of the evening. While observing gray bats foraging along a Missouri stream, LaVal et al. (1977) noted foraging areas of individuals seemed to be less than 0.6 miles (1 kilometer) in length.

4.4.2 Roosting Requirements

With few exceptions (3D/I 1997, Grigsby 1965, Gunier and Elder 1971), gray bats roost in caves year-round (Barbour and Davis 1969). Because of unique habitat requirements, ≤5% of available caves are used as roosts by gray bats (Tuttle 1979). The majority of the population hibernates in five or six caves (Barbour and Davis 1969). Gray bats appear to prefer summer roost caves within 0.6 mile (1 kilometer) of a large river or lake, and rarely roost in caves >2.5 miles (4 kilometers) from these features (Tuttle 1976). Gray bats are intolerant of disturbance and may desert a cave if disturbed (Tuttle 1979). Tolerance level of gray bats using atypical roosts such as bridges is undocumented. During winter, gray bats congregate in large, tight clusters on the cave ceiling. These clusters are sometimes several layers thick (Barbour and Davis 1969). Gray bats tend to select roost sites in hibernacula with a temperature between 7 and 10°C.

In late March or early April, gray bats begin leaving hibernacula, and males and females migrate to summer transient caves (LaVal and LaVal 1980). By the middle of May pregnant



BIOLOGICAL ASSESSMENT
DISPOSAL AND REUSE OF
FORT McCLELLAN, ALABAMA

FIGURE 4-1. Alabama caves historically used by gray bats during summer.

▲ Cave Location

Miles
0 14 28

3D/ENVIRONMENTAL

(Figure 4-1). Sanders Cave in Conecuh County currently contains a large population of the southeastern myotis *(Myotis austroriparius)*, but gray bats have not been documented there in over 20 years (Hudson 1995). Sanders Cave is located more than 124 miles (200 kilometers) south of Fort McClellan (Figure 4-1).

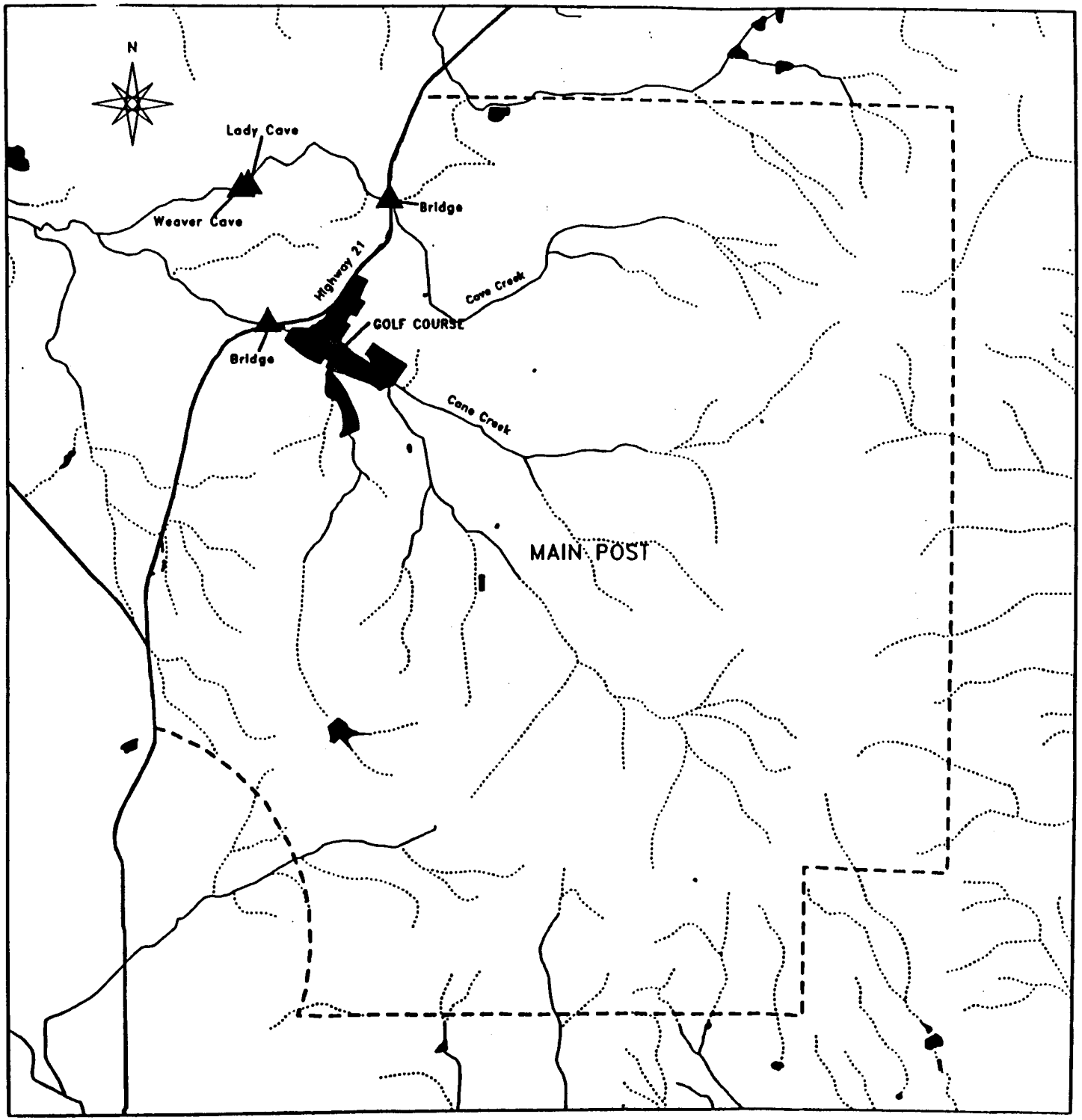
4.7 GRAY BAT OCCURRENCE NEAR FORT MCCLELLAN

During August 1995, 3D/International, Inc. (3D/I) captured two post-lactating female gray bats along Choccolocco Creek in the Choccolocco State Forest (3D/I 1996a). The capture site is approximately 2 miles (3.3 kilometers) from the eastern boundary of Main Post (Figure 4-2).

There is an historical record of a gray bat captured in Anniston (Hall 1981). No data exist describing the gender or season of capture for this specimen.

In July 1997, 3D/I found gray bats roosting in four locations near Main Post (Figure 4-3). The Highway 21 bridge over Cane Creek approximately 160 feet (50 meters) outside Main Post served as a bachelor roost for at least seven adult males during the maternity season (4 July 1997), and served as a transient roost for at least 17 gray bats (males and females) on 29 July 1997. A single gray bat of unknown sex was found under the Highway 21 bridge over Cave Creek approximately 160 feet (50 meters) outside Main Post on two occasions during summer 1997.

On 29 July 1997, 3D/I discovered adult male, adult female, and juvenile gray bats roosting in Weaver Cave and Lady Cave, both located approximately 1 mile (1.5 kilometers) from the northwestern boundary of Main Post (Figure 4-3). Two clusters (n = 4, 6) and one solitary gray bat were found in Weaver Cave. Two clusters (n = 6, 7) of gray bats were found in Lady Cave. Additional gray bats may roost in reaches of the caves not investigated. The time of year and mix of ages and sexes in these colonies indicates these bats were transitory. Weaver Cave and Lady Cave had previously been investigated for the presence of gray bats during the maternity season (early July 1997), but no individuals or sign of gray bats were found (3D/I 1997). These caves may serve as roosts for maternity colonies in the future.



BIOLOGICAL ASSESSMENT
DISPOSAL AND REUSE OF
FORT McCLELLAN, ALABAMA

FIGURE 4-3. Known gray bat roosts on or near Fort McClellan.

▲ Gray bat roosts

Miles
0 0.5 1 1.5

3D/INTERNATIONAL, INC.

Section 5
Relevant Studies Completed on Fort McClellan

Section 5:

Relevant Studies Completed on Fort McClellan

This BA analyzes potential for, and magnitude of, direct, indirect, and cumulative effects based upon the best available scientific and commercial data, including studies described in this document. Fort McClellan has completed studies to:

- Assess the location and quality of suitable gray bat habitat on FMC
- Document presence and distribution of gray bats on FMC
- Assess the environmental fate of certain training chemicals used on FMC
- Identify roost sites used by gray bats foraging on FMC

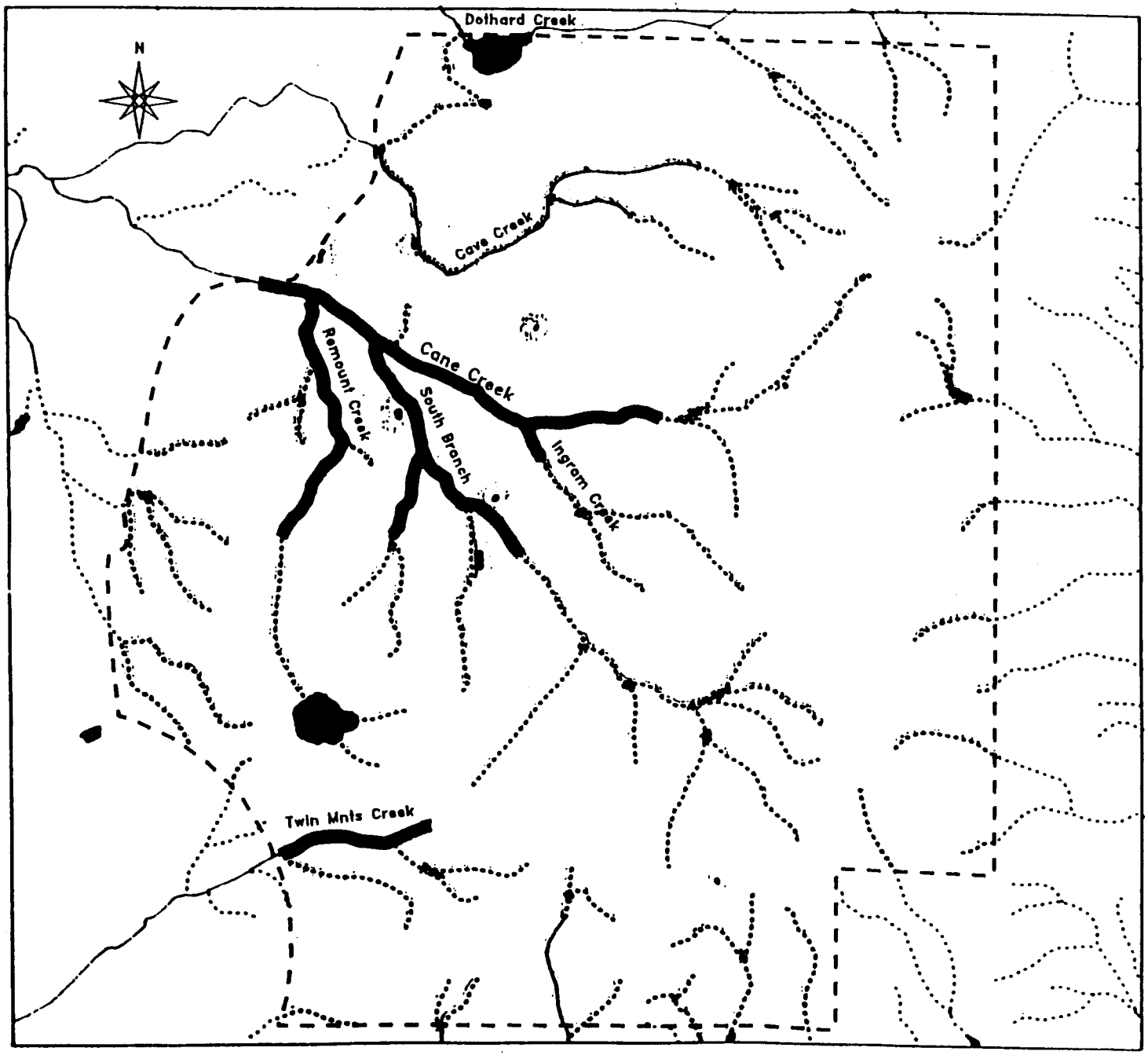
This assessment incorporates results of these studies to identify potential effects of disposal and reuse of the Installation on gray bats.

5.1 LITERATURE REVIEW AND HABITAT CHARACTERIZATION

To assess the current status of gray bats on and near Fort McClellan, 3D/I reviewed published and unpublished literature pertaining to cave locations and bat occurrence in Calhoun and surrounding counties (3D/I 1996a). 3D/International also solicited information regarding these

TABLE 5-1. Names and locations of caves within 22 miles (35 kilometers) of gray bat capture sites on Main Post (3D/I 1996a, Varnedoe 1973).

Cave Name	County	Location Relative to Main Post Capture Sites		
		Distance		Direction
		kilometers	miles	
Unnamed Cave	Calhoun	0.9	0.6	North
Little Weaver Cave	Calhoun	1.0	0.6	North
Weaver Cave	Calhoun	1.9	1.2	Northwest
Lady Cave	Calhoun	1.9	1.2	Northwest
Meadows Cave	Calhoun	5.0	3.1	Northwest
Erby Cave	Calhoun	11.0	6.8	North
Oxford Cave	Calhoun	12.7	7.9	South
Wilson Cave	Calhoun	14.3	8.9	North
Cedar Mountain Cave	Calhoun	17.9	11.2	Northwest
Maxwellborn Cave	Calhoun	18.1	11.3	Northeast
Daugette No.2 Cave	Calhoun	18.8	11.7	Northeast
Daugette No.1 Cave	Calhoun	18.8	11.7	Northeast
Baswell Cave	Calhoun	20.0	12.4	West
Millers Cave	Calhoun	20.7	12.9	Southwest
Green Valley Cave	Calhoun	25.1	15.6	Northwest
Small Cave	Etowah	25.1	15.6	Northwest
Lin and Randys Pit	Calhoun	25.3	15.7	Northwest
Short Cave	Calhoun	25.3	15.7	Northwest
Greens Creek MT. Cave	Calhoun	25.4	15.8	Northwest
Joint Cave	Etowah	25.5	15.8	Northwest
Little Sink Cave	Etowah	25.5	15.8	Northwest
Crawl Cave	Etowah	25.5	15.9	Northwest
Abrupt End Cave	Etowah	25.6	15.9	Northwest
Quarry Side Cave	Etowah	26.3	16.3	Northwest
Mule Glove Pit	Etowah	26.3	16.3	Northwest
Zuber Quarry No.1 Cave	Etowah	26.3	16.4	Northwest
Cedar Tree Pit	Etowah	26.4	16.4	Northwest
Zuber Quarry No. 2 Cave	Etowah	26.4	16.4	Northwest
Coluin Cave	Etowah	26.4	16.4	Northwest
Coluin Pit No.2	Etowah	26.4	16.4	Northwest
Spiral Cave	Etowah	26.5	16.5	Northwest
Robertson Cave	Calhoun	26.6	16.5	Northeast
Wrights Cave	Calhoun	26.8	16.6	Northeast
Dulaney Cave	Talladega	26.8	16.6	Southwest
Merit Cave	Etowah	33.1	20.5	Northwest



BIOLOGICAL ASSESSMENT
DISPOSAL AND REUSE OF
FORT McCLELLAN, ALABAMA

FIGURE 5-2. Quality of habitat for foraging gray bats on Main Post.

Excess Property

Moderate Quality Habitat

Low Quality Habitat

Note : No high quality habitat on Main Post.

Miles
0 0.5 1 1.5

3D/INTERNATIONAL, INC.

during summer 1995. 3D/International conducted additional investigations of this cistern during June and July 1996 and July 1997; no bats or fresh sign was found within the cistern (3D/I 1996b, 1997).

From 25 June to 17 July 1996, mist net surveys were conducted at 17 sites on Pelham Range and Main Post (3D/I 1996b). A total of 102 bats of five species were captured, including four gray bats (one lactating female and three adult males). On Pelham Range, a lactating female and an adult male gray bat were captured over Cane Creek near the eastern boundary. Two adult male gray bats were captured over Cane Creek near the golf course on Main Post (Figure 5-3).

5.3 RADIOTELEMETRY STUDIES OF GRAY BATS AT FORT MCCLELLAN

3D/International tracked gray bats captured on FMC to determine roost locations (3D/I 1997). Mist nets were used to capture gray bats foraging on Main Post and Pelham Range (Figure 5-3). Four gray bat roosts, two caves and two bridges, were successfully located during this study.

An adult male gray bat captured over Cane Creek near the FMC golf course was tracked to a roost site under a bridge (3D/I 1997). This gray bat was found roosting with approximately six other adult males during the maternity season (4 July 1997) under the Highway 21 bridge over Cane Creek approximately 160 feet (50 meters) outside the Baltzell gate to Main Post (Figure 3-4). One of the bats found in this colony had a red arm band (band number 1862). 3D/International confirmed this bat was one captured near the FMC golf course during 1996. On 29 July 1997, during the transitory season following the maternity season, approximately 17 gray bats (males and females) were found roosting under the bridge. The gray bats were roosting in holes on the underside of the concrete bridge.

During this study an additional bridge roost was found while searching for roosting gray bats. On two occasions (3 & 29 July 1997), a gray bat was observed roosting on the Highway 21 bridge over Cave Creek (Figure 5-4). The bridge is approximately 160 feet (50 meters) outside the western boundary of Main Post. This study establishes knowledge of gray bats using man-made structures in Alabama. The study also documents use of a bridge during maternity and transitory seasons.

3D/International tracked two post-lactating females and one adult male captured over Cane Creek on Pelham Range to the region of Weaver Cave and Lady Cave (Figure 5-4). Previous investigations of these caves (4 July 1997) revealed no gray bats. On 29 July 1997, 3D/I discovered gray bats roosting in both caves. Seven gray bats, including the adult male and one of the post-lactating females with transmitters, were roosting in Weaver Cave. Thirteen gray bats were roosting in Lady Cave. The clusters of gray bats in these caves contained a mix of adult males, adult females, and juveniles.

5.4 ENVIRONMENTAL FATE OF FOG OIL AT FORT MCCLELLAN

3D/International assessed the environmental fate of certain chemicals used in training at Fort McClellan (3D/I 1996c). This study was completed to support the Biological Assessment for relocation of Fort McClellan training activities to Fort Leonard Wood. Soil, water, and vegetation samples were collected and analyzed for the presence of chemicals used during military training. Insects and bats also were collected and analyzed for presence of these chemicals in body tissues to determine potential effects to endangered bat species. Gray bats were first discovered on Fort McClellan during this study in August 1995. Gray bats were captured on Pelham Range and Choccolocco Creek (Figure 5-3).

Section 6
Affected Environment

Section 6:

Affected Environment

6.1 PHYSIOGRAPHY AND SURFACE DRAINAGE

All but the eastern most portion of FMC lies within the Valley and Ridge physiographic province of the Appalachian Highlands. The portion of FMC west of Choccolocco Creek lies within the Piedmont province. The lower elevations [700 feet (210 meters) above mean sea level (MSL)] occur along Cane Creek, near Baltzell Gate Road, while the maximum elevations [2063 feet (619 meters) above MSL] occur on Choccolocco Mountain, which traverses the installation and the area in a north-south direction, with the steep easterly slopes grading abruptly into Choccolocco Valley. The western slopes are more gradual, with the southern extension maintaining elevations up to 900 feet (270 meters) above MSL near the western installation boundary. The northern extension decreases in elevation in the vicinity of Reilly Army Airfield. The central portion of FMC is characterized by flat to gently sloping land.

The Choccolocco Mountains, located in the eastern portion of FMC, form a major surface water divide. Choccolocco Creek and its tributaries drain this portion of FMC and flow southward to the Coosa River. FMC west of the drainage divide is drained by three creek systems, Cane, Choccolocco, and Tallasseehatchee creeks (Figure 6-1).

6.1.1 Surface Water

The Cane Creek watershed is among six major watersheds occurring within Calhoun County. Cane Creek, with its tributaries (Cave, Remount, South Branch, and Ingram creeks), originates on FMC (Figure 6-1). Cane Creek flows westerly across Main Post and Pelham Range and drains the majority of the installation [approximately 20 square miles (52 square kilometers)].

South Branch receives runoff from the south-central portion of Main Post, then joins Cane Creek before leaving Main Post on the western boundary. Cane Creek receives surface runoff from the central portion of Main Post. The north-central portion of Main Post is drained by Cave Creek, which leaves Main Post on the northwestern boundary. A small portion of the area along the northern installation boundary and north of the Cave Creek watershed, drains into the Tallasseehatchee Creek watershed (including its southern tributaries, Little Tallasseehatchee, Weaver's and Dothard creeks). Dothard Creek has headwaters originating both on and off the installation and drains the area around Reilly Lake (Figure 6-1). These creek systems originate on the western side of the Choccolocco Mountains and flow west through Main Post. They are fed by springs originating from underlying limestone strata.

Choccolocco Creek occurs to the east of the Choccolocco Mountains, passing along the eastern and southern portions of FMC. The Choccolocco Creek drainage includes four small tributaries originating near the southern boundary (Faison, Davis-Silver, Royal-Davis, and Twin Mountains creeks).

Surface water features other than streams and creeks within Main Post boundaries include Lake Yahou [13.5 acres (5.4 hectares)], Reilly Lake [8.5 acres (3.4 hectares)], Cappington Ridge [0.3 acres (0.12 hectares)], and Duck Pond [0.5 acre (0.2 hectares)]. Surface drainage is collected in small, independent networks that drain areas varying from 20 to 60 acres (8 to 24 hectares; Science Applications International Corporation 1993).

Freshwater springs occur throughout Calhoun County, often appearing along the trace of thrust faults (Moser and DeJarnette 1992). On FMC, the springs appear as seeps and include the Marcheta Orchid Seep, Bains Gap Seep, Cave Creek Seep, and Marcheta Hill Crow Poison Seep. Unmapped springs and seeps potentially occur over much of the FMC area. Karst features, including sinkholes, have been identified in the area of FMC (U.S. Army Corps

biological surveys. Parameters examined included ammonia, carbon dioxide, chloride, dissolved oxygen, hardness, nitrites, pH, temperature, and turbidity. Ammonia concentrations ranged from 0.0 to 0.1 mg/l. Carbon dioxide levels varied from a low of 5 mg/l to a high of 20 mg/l. Chloride concentrations varied from lows of 15 mg/l at several stations to a high of 30 mg/l at an effluent dumpsite several meters below the Highway 21 bridge. Dissolved oxygen values ranged from a low of 6 mg/l to highs of 11.0 mg/l at the two stations closest to the headwaters. Nitrite values were low and ranged from 0.0 mg/l at several locations to a high of 1.2 mg/l. Values for pH were usually alkaline (7.4 to 8.2 pH units) at all stations except the one closest to the headwaters where the waters were slightly acidic (6.3 to 6.5 pH units). Temperatures ranged from 11.0° to 21.1°C. Only one station, that was closest to the mouth, had any measurable turbidity with a concentration of 1.0 NTU (Weninegar 1993).

Surface water quality data was collected as part of a multifaceted study done to characterize the geochemical signature of mineralized and highly altered rocks at FMC (Tucker et al. 1995). Results show the streams sampled to generally be of good water quality. Several of the springs sampled had slightly alkaline, mineralized water. One spring, on Range 21 had slightly elevated lead and copper values averaging about 16 and 6.1 parts per billion (ppb), respectively (Tucker et al. 1995). The study also stated that high levels of heavy metals could be a natural result of mineralization of the rocks and soils of the area. The study concluded that since springs and seeps are particularly influenced by the chemical composition of associated rocks and soils, high lead values at some sites could be the result of these nonanthropogenic processes (Tucker et al. 1995).

6.1.3 Geologic Structure

Fort McClellan lies almost entirely in the Valley and Ridge physiographic province of the Appalachian Highlands, where southeastward dipping thrust faults with associated minor folding are the predominate structural features. Consolidated rocks ranging in age from Precambrian to Pennsylvanian have sharply folded into northeastward-trending synclines and anticlines complicated by thrust faults that have a general northeastward-trending strike and southeasterly dip. These thrust faults are the predominant structural features of the Calhoun County area. The extreme eastern portion of FMC lies within the Piedmont physiographic province.

The Jacksonville Fault is a major thrust fault within the fold and thrust belt of the Appalachian

Topography ranges from relatively level areas through much of the developed part of Main Post to hills and mountainous ridges. The oak-pine forest region dominates the general area containing Main Post. The area is transitional between north central deciduous forests and southern pine forests.

Most of the forested areas of Main Post have been cut in the past, leaving only very small stands of original timber in more rugged areas of the Choccolocco Mountains. The Alabama Natural Heritage Program (1994) conservatively identified eight general upland ecosystem community types occurring on FMC. Upland Ecological Plant Community Types for FMC include: Typic Mesophytic Forest; Piedmont Monadnock Forest; Interior Calcareous Oak-Hickory Forest; Basic Oak-Hickory Forest; Loblolly Pine-Shortleaf Pine-Oak Forest; Xeric Virginia Pine Ridge Forest; Dry Virginia Pine-Oak Forest; and Mountain Longleaf Pine Forest.

Forest types on Main Post vary according to local topography, soils, and ecological successional stage. An active tree planting program has been in operation for nearly 40 years. The forestry program at FMC has modified the commercial forest land cover through harvesting, thinning, strip disking, applying fertilizer and lime, prescribed burning, and planting activities.

The forest block on Main Post is ecologically important due to its large size and unfragmented condition, diversity and uniqueness of species and communities, rare species of animals and plants present, and general lack of exotics and disturbance. Decreased logging frequencies and periodic range fires that have allowed the plant communities to be maintained under natural conditions add to the ecological importance of this complex.

Virginia pine *(Pinus virginiana)* is found along ridges, and longleaf pine *(Pinus palustris)* occurs along the lower slopes of hills and ridges. Short-leaf pine *(Pinus echinata)* is most commonly encountered on more infertile soils.

Upland hardwoods are dominated by oak and hickory species. Mountainous hardwoods are dominated by chestnut oak *(Quercus prinus)*, scarlet oak *(Q. coccinea)* and pignut hickory *(Carya glabra)*. Hardwoods on upland slopes and hills are dominated by southern red oak *(Quercus falcata)*, post oak *(Q. stellata)*, chestnut oak, black oak *(Q. velutina)*, blackjack oak *(Q. marilandica)*, pignut hickory, and dogwood *(Cornus florida)*. American beech *(Fagus grandifolia)*,

(3D/I 1996b). Baswell Cave, Weaver Cave, Little Weaver Cave, and an unnamed cave approximately 164 feet (50 meters) south of Little Weaver Cave were entered and searched for gray bats or guano accumulation. No gray bats were found during the winter searches; however, gray bats were found roosting in Weaver Cave an Lady Cave on 29 July 1997 (3D/I 1997).

Gray bats occasionally roost in man-made structures (Barker 1986, Grigsby 1995, Hays and Bingman 1964). A colony of six adult male gray bats were found using the Highway 21 bridge over Cane Creek and a single gray bat was found using the Highway 21 bridge over Cave Creek (3D/I 1997). Both bridges are located just outside the western boundary of Main Post.

6.3.2 Foraging

Although no critical habitat for gray bats exists on or near Main Post, removal or degradation of suitable habitat in areas known to be used by gray bats may constitute take, which is prohibited by the ESA. 3D/International (1996a) characterized suitability of habitat on Main Post and Pelham Range to support foraging gray bats. Six streams and two lakes on Main Post were characterized as providing moderate quality habitat for gray bats (Figure 5-2). All other streams and ponds on Main Post provide low quality habitat due to their small size and lack of flight space. Of the six moderate quality streams, only Cane Creek is known to be used by gray bats (3D/I 1996b).

6.4 CURRENT MANAGEMENT GUIDELINES

The Draft Endangered Species Management Plan (DESMP) for FMC addresses the current status and management of endangered species found on the Installation (Garland 1996). The DESMP provides for protection of gray bat foraging habitat through protection of riparian forest. Forest management guidelines in the DESMP state only floodplain terraces that contain a major pine component undergo timber harvesting. The DESMP states management will focus on maintaining existing forested corridors along Cane Creek. These guidelines are to be revised and updated to include information attained from studies of gray bats completed after the DESMP was written.

Section 7
Effects Analysis/Discussion

Section 7:

Effects Analysis/Discussion

7.1 EFFECT OF DISPOSAL AND REUSE ACTIVITIES TO GRAY BATS

Because specific actions that will occur during the caretaker period, during disposal, and following encumbered disposal are not fully characterized, this analysis reflects avoidance of effects through application of PDFs (Section 2.6). These PDFs are an integral part of the proposed action.

Below, we assess the likelihood of direct, indirect, and cumulative effects to gray bats. We focus upon effects to summer and winter roosting habitat and summer foraging habitat, and exposure to unsafe concentrations of environmental contaminants.

7.1.1 Direct Effects

7.1.1.1 Roost Habitat

In general, activities that affect gray bats at maternity caves or hibernacula have potential to be most harmful to the species because large numbers of gray bats congregate at such roost sites. Four roost sites have been identified near FMC (3D/I 1997): Weaver Cave, Lady Cave, the Highway 21 bridge over Cane Creek, and the Highway 21 bridge over Cave Creek (Figure 5-4). These roosts support bachelor and/or transient roost sites located outside Installation boundaries. Because there are no known roosts within Installation boundaries, no caves exist

The Army will avoid effects to foraging habitat by protecting forest within 50 feet of streams providing moderate quality foraging habitat (Figure 5-2). Prior to disposal, the Army will consult with the FWS if construction, remediation, or other ground-disturbing activities are necessary within this 50-foot buffer zone.

Project Design Feature No. 7 advises future property owners that suitable foraging habitat for gray bats is present on their property and removal of trees within 50 feet of streams may constitute take of gray bats. Direct effects to gray bat foraging habitat from reuse are unlikely if protective measures in PDF No. 7 are employed by future landowners.

7.1.1.3 Exposure to Environmental Contaminants

In general, the potential for gray bats to be exposed to environmental contaminants used by the Army on FMC will be reduced as activities on Main Post move into caretaker status, environmental restoration is completed, and land is transferred to non-Army ownership.

The potential for Army environmental restoration activities to affect gray bats will be determined through site-specific assessments during the RI/FS phase. Environmental restoration procedures defined in Army Regulation 200-1 commit the Army to site-specific analyses and Section 7 consultation if assessments completed at the time of remediation indicate a likelihood of exposures exceeding safe levels (PDF No. 6). Screening level risk assessments will be completed to determine the likelihood of unsafe exposure. Potential exposure routes to be considered will include ingestion of contaminated prey and inhalation or dermal absorption of vapors or contaminated dust.

Pesticide use on Main Post will decrease as Army presence is reduced during caretaker status. However, the FMC golf course will maintain its current level of pesticide use until disposal. Pesticides use on the golf course was analyzed to determine potential adverse effects to gray bats. Guidelines for proper use of each pesticide used on the golf course were developed from product labels, material safety data sheets, and gray bat exposure risk factors (PDF No. 3). Pesticides are applied during daylight hours using broadcast spreaders, hand sprayers, and boom sprayers. Application method and timing eliminate potential inhalation and dermal absorption effects to foraging and roosting gray bats. Applying pesticides listed in Appendix B in accordance with protective measures in PDF No. 3 will prevent potential effects to gray bats due to ingestion of contaminated aquatic-based prey. Additionally, protective measures in

benign activities, including misplacement of culverts in streams, poorly designed bridge crossings, unbridged road crossings, and individually minor but cumulatively damaging changes in watersheds. The Army proposes no activities requiring stream channel alterations.

Project Design Feature No. 7 advises future property owners that suitable foraging habitat for gray bats is present on their property and changes to stream morphology or water quality may result in adverse effects to gray bats. Indirect effects to gray bats from reuse are unlikely if protective measures in PDF No. 7 are imployed by future landowners.

7.1.3 Cumulative Effects

Effects of the proposed action are described in this BA. Because the proposed action includes future "state and non-federal actions," the distinction between the direct and indirect effects analyzed above, and cumulative effects as defined by the ESA (see 50 CFR Ch. IV Part 402, Subpart A, Section 402.02) is less apparent than in a BA addressing site-specific actions.

Because the proposed action, including reasonably foreseeable future state and private actions will not affect gray bats, the proposed action will not contribute to cumulative effects of activities in the action area; no cumulative effects are anticipated. Federal actions not addressed in this analysis require action-specific assessment for ESA compliance.

7.2 STATEMENT OF FINDING

Disposal and reuse of Ft. McClellan is not likely to adversely affect gray bats in the action area.

Section 8
Literature Cited

Section 8:

Literature Cited

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Appendix A
Correspondence with the U.S. Fish and Wildlife Service

Appendix A:

Correspondence with the U.S. Fish and Wildlife Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE
2001-A Highway 98
P. O. Drawer 1190
Daphne, Alabama 36526

IN REPLY REFER TO

July 25, 1996

Mr. Robert B. Bax
Vice President, Harland Bartholomew and Associates, Inc.
400 Woods Mill Road South
Suite 330
Chesterfield, MO 63017

Dear Mr. Bax:

This replies to your July 19, 1996 letter to Ms. Noreen K. Clough, Regional Director, U. S. Fish and Wildlife Service (Service) concerning a notification of intent to prepare an Environmental Impact Statement (EIS) for Fort McClellan, Alabama. This will confirm our receipt of your letter and to notify you that the Daphne Field Office at the letterhead address will serve as lead office for the Service on this issue. I plan to attend the prescoping meeting you have scheduled for August 6, at Fort McClellan.

You asked for a preliminary identification of key issues that should be considered in the EIS. At this time, we have identified on a preliminary basis two general issues, with many potential associated possible issues.

One major issue is the potential impact of alternatives on species listed by the Service as endangered or threatened. Information is already in the hands of the U. S. Army (Army) regarding these species and we understand that the Army is supporting information gathering on some species. The EIS should examine both impacts to listed species as a result of the Army possibly releasing this land as well as any needs for listed species recovery that might be forgone as a result of an ownership change. Likely direct and indirect impacts, including both on base and off base, should be considered.

The second major issue is the potential loss of the unique long leaf pine ecosystem found on large parts of the Main Post tract of land. This tract has been described as the best remaining example of the montane long leaf pine ecosystem in the world, thanks to the periodic fires that have run through the area as an indirect effect of military activities. Careful attention should be devoted in the EIS process to assembling information and expertise so that the value of this ecosystem and its needs are fully factored into the decision process. One important component from the Service's viewpoint is the value of the area to neotropical migratory birds and other avifauna that use the area. The Service believes it important that these natural values be sustained into the future, regardless of land ownership.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
2001-A Highway 98
P. O. Drawer 1190
Daphne, Alabama 36526

IN REPLY REFER TO:

February 6, 1997

Mr. Bill Garland, Biologist
Office of the Directorate of the Environment
Fort McClellan
Fort McClellan, Alabama 36205-5000

Dear Mr. Garland:

This concerns the document entitled *Investigations for the Presence of Gray Bats* (Myotis grisescens) *at Fort McClellan, Alabama* dated November 25, 1996 conducted by 3D/Environmental (3D/E) and a meeting at this office involving yourself, representatives of 3D/E and Sharon Delchamps of my staff on January 21, 1997.

Based on the study results and meeting discussions, we have the following comments and recommendations:

1. We concur with page 25 of the report which states that Endangered Species Act Section 7 consultation between Fort McClellan and this office will be conducted for actions requiring tree clearing within 50 feet of streams designated as high or moderate quality gray bat foraging habitat and for actions outside the stream border suspected of affecting gray bats. For low quality gray bat foraging habitat, Section 7 will not be conducted.

2. As discussed in the meeting, we recommend that a radiotagging study be conducted for the gray bat on Main Post, particularly the golf course, to further aid in delineating foraging and roosting areas. We understand this study will take place during the summer of 1997. This will be the last effort to quantify this species and habitat utilization on Fort McClellan. No further gray bat studies on Pelham Range will be required.

3. The results of the study entitled *Environmental Fate of Fog Oil at Fort McClellan* conducted by 3D/E dated August 6, 1996 show that the components in the fog oil to be used on Fort McClellan are neither persistent in soils and water nor bioaccumulative in receptor organisms. Therefore, Section 7 consultation will not be required for fog oil exercises conducted at Fort McClellan. However, we recommend notifying our office immediately should the fog oil components or training exercises show adverse effects to this species or its habitat.

Should you require further information, please contact Ms. Delchamps at 334/441-5181 ext. 31.

Sincerely,

Larry E. Goldman
Field Supervisor

DEPARTMENT OF THE ARMY
U.S. ARMY CHEMICAL AND MILITARY POLICE CENTERS & FORT McCLELLAN
FORT McCLELLAN, ALABAMA 36205-5000

REPLY TO
ATTENTION OF

May 1, 1997

Directorate of Environment

Mr. Larry E. Goldman
Field Supervisor
U.S. Fish and Wildlife Service
P.O. Drawer 1190
Daphne, AL 36526

Dear Mr. Goldman:

Fort McClellan was recommended for closure by the Defense Base Closure and Realignment Commission during the summer of 1995. These recommendations became law under signature of the President on September 28, 1995. Approximately 18,500 acres on Main Post have been declared surplus property available for disposal by the Army and for reuse by others. The Army will retain all of Pelham Range (22,245 acres) and portions of the Main Post cantonment area (427 acres) for use by the Army Reserve/National Guard.

An Environmental Impact Statement (EIS) is currently in preparation to analyze the environmental effects of disposal and reuse alternatives for the surplus property. The Army's proposed action is disposal while reuse is a secondary action of others (non-Army). Reuse planning is the responsibility of the Fort McClellan Reuse and Redevelopment Authority of Alabama which is a locally chartered entity. A public scoping meeting was held on September 25, 1996, to obtain input from review agencies, interested groups and concerned individuals. U.S. Fish and Wildlife Service (USFWS) comments regarding this scoping meeting were provided in a letter to Mr. Robert Bax, dated July 25, 1996.

Fort McClellan would like to open informal discussions under Section 7 of the Endangered Species Act (ESA). While the Army intends to prepare a Biological Assessment (BA) to include listed species, early discussions will facilitate and ensure that all concerns are included in the consultation process. The attached Description of Proposed Action and Alternatives (DOPAA) provides a preliminary overview of the Army's proposed action of disposal and possible reuse alternatives. Irrespective of the reuse alternative, we believe the real key and focus of consultations should be the disposal action and the types of protection measures (deed covenants) to be placed on the specific parcels of property for protection of threatened and endangered species or their

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Fort McClellan looks forward to working with your office to assure the Army fulfills their obligations under Section 7 of the ESA. By initiating discussions early in the closure and disposal process, the Army can insure that all concerns involving endangered and threatened species are considered in assessing and selecting appropriate actions during the interim period and appropriate protection measures for disposal and reuse alternatives. If you should have any questions or require additional information, please contact the undersigned or Mr. Luke Owen at (205) 848-3539/5663.

Sincerely,

Ronald M. Levy
BRAC Environmental Coordinator

Enclosure

Copies Furnished:

U.S. Army Training and Doctrine Command, ATTN: Mr. David Taylor
U.S. Army Corps of Engineers, ATTN: Mr. Curtis Flakes

United States Department of the Interior

FISH AND WILDLIFE SERVICE
2001-A Highway 98
P. O. Drawer 1190
Daphne, Alabama 36526

IN REPLY REFER TO:

May 27, 1997

Commander
U.S. Army Chemical and Military Police Centers & Fort McClellan
ATTN: ATZN-EM (Ron Levy)
Fort McClellan, AL 36205-5000

Dear Mr. Levy:

Thank you for the letter, dated May 1, 1997, concerning the disposal and possible reuse of Fort McClellan. The Service would welcome the opportunity to open informal discussions under Section 7 of the Endangered Species Act. Fort McClellan represents an important landscape scale remnant of the mountain longleaf pine ecosystem. Main Post on Fort McClellan has been described as the finest remaining example of this very rare cover type. We commend the Army for including both federally listed species, as well as, those species undergoing status reviews in these discussions.

Please contact Mr. Bill Garland of my office, (334) 441-5181 ext. 33, to coordinate the meeting time and place. We look forward to participating in these discussions and formulating a plan that insures the protection of endangered/threatened species, and the future of lands they inhabit.

Sincerely,

Larry E. Goldman
Field Supervisor

DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

REPLY TO
ATTENTION OF:

July 24, 1997

Environment and Resources Branch
Planning and Environmental Division

Mr. Larry Goldman
U.S. Fish and Wildlife Service
Post Office Drawer 1190
Daphne, Alabama 36526

Dear Mr. Goldman:

Please find enclosed the minutes from our July 1, 1997, meeting in the Mobile District. The meeting involved discussions of procedures to comply with the Endangered Species Act as related to the Fort McClellan Base Realignment and Closure action and the Disposal and Reuse Environmental Impact Statement.

Thank you and Mr. Bill Garland for contributing to a positive and successful meeting. We look forward to continuing to work with you to address the fish and wildlife concerns at Fort McClellan.

Sincerely,

Curtis M. Flakes
Chief, Environment and
Resources Branch

Enclosure

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Contact Memorandum

EIS for Disposal and Reuse of Fort McClellan, Alabama

Memo Number: 31
Person Contacted: See List Below
Organization: US Fish & Wildlife Service
Location: Mobile, Alabama
Date: July 1, 1997
Subject: T&E Species Coordination

A meeting was held at the US Army Corps of Engineers, Mobile District Offices on July 1, 1997 to discuss procedures to be used to comply with the Endangered Species Act as part of the EIS for the Disposal and Reuse of Fort McClellan (FMC), Alabama. Meeting participants included:

Name	Organization	Phone	Fax
B. David Taylor	HQ US Army Training & Doctrine Command, BRAC Office Fort Monroe, VA	757-727-4350	757-727-4374
Larry E. Goldman	US Fish & Wildlife Service Daphne, AL	334-441-5181 Ext. 30	334-441-6222
Curtis M. Flakes	US Army COE, Mobile	334-690-2693	334-690-2727
Brian Peck	US Army COE, Mobile	334-690-2750	334-694-3815
Bill Garland	US Fish & Wildlife Service Daphne, AL	334-441-5181	334-441-6222
John Esson	TRADOC Env. Office, Ft. Monroe	757-727-3335	757-727-2362
Karen Tyrell	3D/International	423-922-4305	423-922-8495
Ron Levy	BRAC Env. Coordinator Fort McClellan, AL	205-848-3539	205-840-5517
Russ Romme	3D/International	513-922-8199	513-922-9150
Greg Knauer	Parsons Engineering Science, Inc.	314-576-7330	314-576-2702
Bob Bax	Parsons Harland Bartholomew & Associates, Inc.	314-434-2900	314-576-2702

Introductions & Meeting Objective. All parties introduced themselves. Mr. Flakes (COE Project Manager for the Fort McClellan Disposal and Reuse EIS) provided introductory comments. He stressed the desire of the Mobile Corps to enter into a "partnering" relationship with the USFWS for the successful completion of an EIS for the Disposal and Reuse of Fort McClellan and related Endangered Species Act compliance. He confirmed that the primary goal of this coordination meeting was to discuss and agree on an approach to compliance that

Contact Memorandum
EIS for Disposal and Reuse of Fort McClellan, Alabama

and environmental impacts to the public and regulatory agencies. This process will be fully documented in the EIS.

The alternative structure was described in detail, including provisions for a No Action Alternative which involves maintaining surplus lands in "caretaker" status after closure but prior to disposal. It was noted that caretaker status could have an impact on T&E species at FMC. For example, if cessation of military operations reduced the occurrence of fires on training lands, and if no controlled burns were conducted under caretaker status (over long periods of time) fire-maintained habitat that potentially supports T&E species could be degraded or lost.

The approach to property disposal was described including consideration of "encumbered" and "unencumbered" disposal alternatives. Several examples were provided to help explain this process. It was explained that reuse alternatives to be considered in the EIS were all based on the most current reuse plan developed by the FMRRA. Furthermore, reuse alternatives are based on general "intensity-based" levels of redevelopment rather than site-specific, detailed reuse plans. It was noted that this intensity approach is used by the Army due to the uncertainty of future reuse actions.

A copy of the Preliminary Draft Environmental Impact Statement (PDEIS) (June 1997) was provided to Mr. Goldman at the conclusion of this coordination meeting. It was explained that this is an internal working document that is currently being reviewed by various Army entities, and that information within the document should not be released to any other parties at this time. No formal review by the FWS is required or requested. However, it was noted that any comments or concerns that may be identified by the FWS on the PDEIS should be directed by Mr. Flakes at the Mobile COE, and that any such comments would be fully considered as the Army proceeds with the preparation of the Draft EIS to be released to the public at a later date. In order to be considered by the Army review team, comments from the FWS should be provided no later than July 18, 1997. Comments received after that date will not be discussed by the total Army review team, but will still be considered and incorporated to the extent possible.

Mr. Bax noted that the PDEIS reuse alternatives were based on the latest plan provided by the FMRRA. Therefore, the plan focused on approximately 7,200 acres of land primarily within the existing cantonment area at FMC. Minimal definition of proposed reuse of approximately 10,000 acres of more remote training areas has been provided to date. It was agreed by all that the Army must inform the FMRRA that the EIS team needs additional details regarding the proposed reuse of the "natural" land areas at FMC. If this definition is not forthcoming in time to be incorporated in the DEIS, the EIS team will take the initiative to define the type and extent of land use activities to occur for these lands under the low, medium and high intensity reuse alternatives.

In order to allow for the concept currently being considered by the FWS (as summarized below), the Low Intensity Reuse Alternative would logically be defined as establishing a major part of these lands as a preserve area through a Public Benefit Conveyance (under direction of the state, a trust for public land, the Nature Conservancy, or some other entity). This alternative would result in very minimal human access and use, and would include provisions to continue land management procedures (such as prescribed burning) as required to protect and

Contact Memorandum

EIS for Disposal and Reuse of Fort McClellan, Alabama

lands)

The FWS has a written preliminary document (presented as an ecosystem preservation project) that describes this option. Mr. Goldman indicated that this was not the traditional type FWS refuge project but that the Service has adopted ecosystems in principle. Under this option, the Army could grant a Public Benefit Conveyance to the US Department of Interior, who could then lease the property to the Alabama Game & Fish Commission. This preliminary document is currently under review by the FWS Atlanta office and that the Regional director had not made a decision. He noted that the State of Alabama has lost a considerable part of their lands that are available to the public for hunting, and that a preserve at FMC could help offset these losses. The timing of a final decision by FWS on this issue is unknown at this time. Therefore, the EIS will need to proceed on the basis of best available information. Mr. Taylor indicated that he was confident that the Army would support such a proposal and he would begin to lay the foundation for Headquarters, Department of the Army support of such a project. He noted that support of such a concept from the FMRRA and inclusion in their reuse plan would also facilitate acceptance by the Army. Mr. Taylor noted that FMRRA has hired Jacksonville State University to conduct a study on a wildlife refugee concept.

Discussion of T&E Issues. A variety of issues were discussed at this point to ensure that all parties had a common understanding. It was agreed that the existing information on the environment at FMC, in association with additional information to be provided by ongoing studies referenced above should be adequate to support the EIS and specifically, compliance with the Endangered Species Act. It was agreed that the BA would only address the gray bat, and that other species of interest or concern would be addressed in the EIS. It was understood by all that the BA will focus primarily on property disposal, which is the action to be taken by the Army. Protection of listed species from various reuse activities that could occur will be discussed primarily as recommendations to be included in the EIS for consideration by future owners, and the requirement for any such future owners to comply with the provisions of the Endangered Species Act as they apply to private (non-federal) property owners. It was agreed that the goal of the EIS/BA study team is to complete the BA prior to completion of the Draft EIS, and to reflect the findings of the BA in the Draft EIS. Finally, it was agreed that the BA for the proposed action may conclude with informal consultations with the FWS. Formal consultation and formulation of a Biological Opinion are not anticipated at this time. However, this could change based on the results of ongoing studies and surveys.

There was also discussion of the potential impact of environmental remediation and ordnance removal on T&E, other species of concern, and potential ecological damage in general. Mr. Taylor suggested that FWS should be actively involved in the public and regulatory review process for these actions.

Summary of Approach to Ensure Compliance with Endangered Species Act (ESA). Based on discussions that occurred during this meeting, Mr. Romme led the group through the key elements of the approach to be used to ensure that the Army's planned property disposal action complies with the provisions of the ESA. This approach is described below:

Goal. Conclude ESA compliance through the completion of a Biological Assessment within the established EIS schedule. Tentative completion date for the BA of September 1,

Appendix B
Product Summary and Guidelines for Pesticides Used on FMC Golf Course

Appendix B:

Product Summary and Guidelines for Pesticides Used on FMC Golf Course

Fort McClellan currently (1998) uses or anticipates using the following pesticides on the FMC golf course until the property is disposed.

Pesticide	Active Ingredient	Application Method	Target Pest	Areas Used	Manufacturers	Phone Nos. for Information
Daconil® 2787	Chlorothanil, Tetrachloroisophthalonitrile	Broyhill boom sprayer	Brown Patch	Greens and Tees	SDS Biotech Corporation (Agricultural Chemicals Business)	(440) 357-4182
Dursban 50W	Chlorpyrifos: (O,O-diethyl O-3,5,6-trichloro-2-pyridinylo	Broyhill boom sprayer	Armyworms and Cutworms	Greens and Tees	DowElanco	(800) 352-6776
2,4-D Amine 4	Dimethlyamine salt of 2,4-Dichloro-phenoxyacetic acid	Broyhill boom sprayer	Weeds	Fairways	Riverside/Terra Corporation	(712) 277-1340
MSMA (Red Panther Super Juice)	Monosodium Acid Methane-arsonate	Broyhill boom sprayer	Weeds	Fairways	Green Light	(800) 424-9300
Pendimethalin (Pendulum® Herbicide)	N-(1-ethylpropyl)-3, 4-dimethyl-2,6-dimitrobenxamine	Broadcast spreader	Weeds	Fairways	American Cyanamid	(973) 683-3100
Illoxan® 3EC	2-[4-(2,4-dichloro-phenoxy) phenoxy] propanoate	Broyhill boom sprayer	Goose grass	Greens and Tees	AgrEvo	(800) 843-1702
Koban 30	Etridiazole	Broyhill boom sprayer	Crown and root rot (Pythium)	Greens and Tees	The Scotts Company	(703) 527-3887
Dimension®	Dithiopyr	Broyhill boom sprayer	Crabgrass	Fairways, Greens, and Tees	Rohm and Haas Company	(215) 592-3000
Roundup®	Ethoxylated Tallowamines	Handpump sprayer	Winter Weeds	Fairways	Monsanto Company	(314) 694-6661

Product Summary and Guidelines

for

Daconil® 2787 Fungicide

Daconil® 2787 is a broad-spectrum fungicide formulated for use on golf course greens, tees, and fairways. Fort McClellan's golf course uses this fungicide to control and treat Brown Patch. This protectant fungicide affects fungal spore germination. The fungicide is never absorbed into the plant. The active ingredient, chlorothanil, disrupts glutathion metabolism in the fungus. Daconil adheres to the plant (turf) and dissipates in about seven days. The fungicide is usually removed from the turf when mowing occurs. If the fungicide enters the soil, it binds to soil particles and may be present (undegraded) for up to 28 days. Biodegradation is dependent upon weather, temperature, sunlight, and microbes present. This product remains active for about seven days after application.

Health Hazards

Daconil® is corrosive and can cause severe eye damage. If ingested, it can cause irritation of the gastrointestinal tract. Daconil is considered an irritant of the respiratory tract, and chronic (repeated exposure) inhalation exposure can cause mild bronchial irritation. Chronic exposure to the skin has resulted in dermal irritation. This fungicide is not oncogenic, teratogenic, or carcinogenic.

Environmental Hazards

Daconil may decompose under fire conditions emitting toxic gases and vapors. This fungicide is toxic to fish, aquatic invertebrates, and marine/estuarine organisms. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

Personal Protective Equipment

Respiratory = NIOSH approved dust respirator or pesticide respirator

Eye = Chemical goggles or face shield

Skin = Protective rubber gloves

Product Summary and Guidelines

for

Dursban 50W

Dursban 50W is a specialty insecticide formulated to control various pests injurious to tress, turf, and ornamental plants. It is an organophosphate insecticide with chloropyrifos as the active ingredient. This product affects insects by ingestion and contact through cholinesterase inhibition in the insect's metabolism. Dursban 50W is effective on over 140 pests. Fort McClellan uses this insecticide on the golf course to control and treat armyworm and cutworm infestations. Dursban binds tightly to organic matter in the soil and will not leach from the soil after application, even during heavy rainfall.

Health Hazards

Dursban may cause slight eye irritation and pain. Dursban can cause skin irritation. Ingestion of large amounts may result in serious injury or death. Single exposure to Dursban dust is not likely to be hazardous, but repeated or prolonged exposure may cause lung irritation or chemical pneumonia. Dursban is not known to be oncogenic, teratogenic, mutagenic, or carcinogenic.

Environmental Hazards

Dursban may decompose under fire conditions, emitting toxic gases and vapors. Dursban is toxic to birds and other wildlife. Dursban is extremely toxic to fish and aquatic invertebrates. Runoff from treated areas may be hazardous to aquatic organisms. Dursban is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow drift to blooming crops or weeds if bees are visiting the treated areas.

Personal Protective Equipment

Respiratory = MSHA/NIOSH approved dust respirator or pesticide respirator if applying in confined spaces

Eye = Chemical goggles or face shield

Skin = Waterproof gloves, long-sleeved shirt and long pants

Product Summary and Guidelines

for

2,4-D Amine 4

2,4-D Amine 4 is a postemergent herbicide. The active ingredient in 2,4-D Amine 4 is dimethylamine salt of 2,4-dichlorophenoxyacetic acid. Fort McClellan uses this herbicide to control weeds on golf course fairways. The herbicide is absorbed into the plant and residue or excess is biodegraded after three days. Besides biodegradation, 2,4-D Amine 4 is degraded by ultra violet light. The rain fastness of this herbicide is approximately six hours, but is dependent upon soil type, weather conditions, and temperature at the time of application.

Health Hazards

2,4-D amine 4 is corrosive and can cause severe, irreversible eye damage (blindness). This herbicide can be absorbed through skin and cause skin irritation. If ingested, 2,4-D Amine 4 can be absorbed through the stomach and intestinal wall. Avoid breathing mists or vapors during application. Inhalation may cause upper respiratory irritation. Excessive exposure may cause liver, kidney, blood, gastrointestinal, muscular, and respiratory effects.

Environmental Hazards

2,4-D amine 4 may decompose under fire conditions emitting toxic gases and vapors. This herbicide is toxic to aquatic invertebrates. Runoff from treated areas may adversely affect aquatic invertebrates and nontarget plants. This product may injure cotton, beans (certain legumes), other vegetables, and ornamentals. Treatment of aquatic weeds with 2,4-D Amine 4 can reduce the water's oxygen content, which may cause fish to suffocate.

Personal Protective Equipment

Respiratory = Use approved respirator when required

Eye = Chemical goggles or face shield

Skin = Coveralls over a long sleeved shirt and long pants, waterproof gloves, chemical resistant footwear plus socks, chemical resistant apron during mixing.

Product Summary and Guidelines

for

MSMA (Red Panther Super Juice)

MSMA (monosodium acid methanearsonate) is a postemergent herbicide. The active ingredient, monosodium acid methanearsonate) is mixed with a surfactant. MSMA works particularly well on grassy weeds. Fort McClellan uses this herbicide to control weeds on the golf course fairways. The herbicide's phytotoxic properties are quickly activated upon contact with soil. This herbicide works best on young actively growing weeds. It is absorbed into the plant and the soil. The herbicide remains active for approximately ten days after application.

Health Hazards

MSMA can cause mild eye damage. MSMA herbicide can be absorbed through skin and cause skin irritation. If ingested, MSMA can cause burning of the throat and stomach, intense abdominal pain, and gastrointestinal irritation. Avoid breathing mists or vapors during application. Inhalation may cause upper respiratory irritation, dizziness, stupor, vomiting, diarrhea, convulsions, paralysis, or death.

Environmental Hazards

MSMA may decompose and emit arsenic in the presence of acids and certain metals. This herbicide is toxic to aquatic organisms. Runoff from treated areas may adversely affect aquatic invertebrates and nontarget plants. Arsenic in this herbicide may accumulate in biota if used extensively.

Personal Protective Equipment

Respiratory = Use NIOSH approved dust and mist respirator when required

Eye = Chemical goggles or face shield

Skin = Coveralls over a long sleeved shirt and long pants, chemical resistant gloves, chemical resistant footwear plus socks, chemical resistant apron during mixing.

Product Summary and Guidelines

for

Pendimethalin (Pendulum® WDG Herbicide)

Pendimethalin (Pendulum Herbicide) is a root and shoot inhibitor. The active ingredient is N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzene amine. This herbicide works inside the plant. It is a pre-emergent herbicide. Pendimethalin attaches to the roots of emergent weeds. It binds to the organic component of the soil. Generally, pendamethalin has a 14 to 21 day residual time, but this is dependent upon the organic content of the soil and other environmental characteristics of the area to be treated. Soil moisture is an extremely important factor in the ability of this herbicide to function. Pendimethalin comes in various forms; Fort McClellan uses the form coated on a fertilizer (Scotts 14-0-14).

Health Hazards

Pendimethalin is an eye irritant. This herbicide can be absorbed through skin and cause skin irritation. Single doses to skin may cause irritation. Ingestion of Pendimethalin may cause diarrhea, vomiting, and nausea. Ingestion or inhalation may cause nose, throat, or mouth irritation. Pendimethalin is reported to be nogenotoxic, nonteratogenic, and nononcogenic.

Environmental Hazards

Combustion of Pendimethalin may produce oxides of carbon and nitrogen. Pendimethalin is toxic to fish. Because Pendamethalin contains ethylene dichloride, it is regulated as a hazardous waste in the Untied States. Runoff from treated areas may adversely affect aquatic invertebrates and nontarget plants.

Personal Protective Equipment

Respiratory = Use pesticide cartridge respirator when required

Eye = Chemical goggles or face shield

Skin = Chemical resistant gloves, long-sleeved shirt and pants, shoes plus socks and chemical resistant apron

Product Summary and Guidelines

for

Illoxan® 3EC Herbicide

Illoxan® is used for postemergent control of goosegrass (silver crabgrass) in Bermuda grass turf at golf courses. This herbicide is absorbed through leaves of the target pest and disrupts cellular function inside the plant. The active ingredient is diclofop-methyl. Little residue is left to enter the soil because of foliar absorption. If Illoxan is sprayed onto the soil, it will bind to the soil until biodegraded. Illoxan remains active for seven to fourteen days after application. Illoxan does not bioaccumulate.

Health Hazards

Illoxan® can cause eye damage. Illoxan herbicide can be absorbed through skin and cause skin irritation and prolonged exposure may lead to dermatitis. If ingested, Illoxan can cause muscle weakness, tremors, diarrhea, and weight loss. Avoid breathing mists or vapors during application. Inhalation may cause upper respiratory irritation, dizziness, vomiting, and loss of consciousness. Diclofop-methyl has been shown to cause cancer in laboratory rats. No embryotoxic or fetotoxic effects are noted for this product.

Environmental Hazards

Illoxan® is toxic to fish. This herbicide is toxic to aquatic organisms. Runoff from treated areas may adversely affect aquatic invertebrates and nontarget plants.

Personal Protective Equipment

Respiratory = Use NIOSH approved cartridge type respirator when required

Eye = Chemical goggles or face shield

Skin = Fabric coveralls over a long sleeved shirt and long pants, chemical resistant gloves, chemical resistant footwear plus socks, chemical resistant apron during mixing.

Product Summary and Guidelines

for

Koban 30 Fungicide

Koban 30 is a preventative and curative fungicide that controls crown rot and root rot caused by Pythium. The active ingredient is 5-ethoxy-3-trichloromethyl-1,2,4-thiadiazole (etridiazole). This fungicide remains active approximately seven to ten days after application. It is effective as a seed treatment. Koban 30 is intended for use on ornamental turf subject to Pythium blight, damping off, cottony blight, and Pythium root and crown rot. Fort McClellan uses this fungicide to control Pythium on the greens and tees at the golf course.

Health Hazards

Koban 30 is a slight eye irritant. Koban herbicide can be absorbed through skin and cause skin irritation, and prolonged exposure may lead to dermatitis. Prolonged exposure to Koban 30 may lead to liver damage. Ingestion of large amounts can cause throat irritation, nausea, and diarrhea. Avoid breathing mists or vapors during application. Inhalation may cause upper respiratory irritation. Etridiazole has been shown to cause cancer in laboratory rats. Mutagenic effects were seen in bacteria mutagenicity tests conducted with etridiazole.

Environmental Hazards

Koban 30 may release toxic chlorine and oxides of sulfur and nitrogen when heated. Koban 30 is toxic to fish and aquatic organisms. Runoff from treated areas may adversely affect aquatic invertebrates and nontarget plants.

Personal Protective Equipment

Respiratory = Use NIOSH approved cartridge type respirator when required

Eye = Chemical goggles or face shield; protective eyewear

Skin = Fabric coveralls over a long sleeved shirt and long pants, chemical resistant gloves, chemical resistant footwear plus socks, chemical resistant apron during mixing, cleaning, or loading.

Product Summary and Guidelines

for

Dimension® Herbicide

Dimension® is a turf herbicide that provides selective control of certain annual grasses and broadleaf weeds. It is formulated for use on established lawns, ornamental turf including golf course fairways, roughs, tee boxes, and putting greens. Dimension® herbicide remains active for up to 17 days in the soil after application. The active ingredient in Dimension® is dithilopyr (3,5-pyridinesdicarbthioic acid). Dimension® is absorbed by plants and interrupts mitosis. Soil microbes eventually degrade any residual herbicide that remains in the soil. Fort McClellan uses this herbicide to control crabgrass on fairways, greens, and tees at the golf course.

Health Hazards

Dimension® may cause substantial but temporary eye damage. Dimension® herbicide can be absorbed through skin and cause skin irritation, dermatitis, and reddening. Repeated exposure to Dimension may lead to kidney effects, liver effects, blood disorders, thyroid damage, and adrenal effects. Ingestion of large amounts can cause throat irritation, nausea, and diarrhea. Inhalation may cause upper respiratory irritation, dizziness, headache, nausea, drowsiness, slurred speech, stupor, and unconsciousness.

Environmental Hazards

There are no known hazardous decomposition products from Dimension®. Dimension® is toxic to fish. This herbicide is toxic to aquatic organisms, including shrimp and oysters. Runoff from treated areas may adversely affect fish and aquatic invertebrates in neighboring areas.

Personal Protective Equipment

Respiratory = Use NIOSH approved cartridge type respirator when required

Eye = Chemical goggles or face shield; protective eyewear

Skin = Fabric coveralls over a long sleeved shirt and long pants, chemical resistant gloves, chemical resistant footwear plus socks, chemical resistant apron during mixing, cleaning, or loading.

Product Summary and Guidelines

for

Roundup® Herbicide

Roundup® is a herbicide that provides selective control of many annual and perennial grasses and broadleaf weeds. This herbicide is water-soluble and mixes readily with water to be applied as a foliar spray for the control and destruction of most herbaceous plants. The active ingredient, glysophosphate (isopropyl amine salt of N-phosphonomethhyl glycine), is absorbed by the plant and attaches to growth sites within plant cells. The plant dies due to lack of certain amino acids. There is little or no residual from this herbicide and any of the product that is sprayed onto or reaches the soil will bind to the soil. The rainfastness of this herbicide is approximately two hours. Biodegradation rate in soil is approximately 45 to 60 days. Fort McClellan uses this herbicide to control winter weeds on fairways at the golf course.

Health Hazards

Roundup® may cause temporary eye damage or conjunctivitis. Roundup® herbicide can be absorbed through skin and cause skin irritation and dermatitis. Ingestion can cause gastrointestinal discomfort, nausea, vomiting, and diarrhea. Inhalation may cause upper respiratory irritation.

Environmental Hazards

There are no known hazardous decomposition products from Roundup®. Roundup® is moderately to slightly toxic to most species of fish. Roundup® is reported to be practically nontoxic to bees and crayfish.

Personal Protective Equipment

Respiratory = Use NIOSH approved cartridge type respirator when required

Eye = Chemical goggles or face shield; protective eyewear

Skin = Fabric coveralls over a long sleeved shirt and long pants, chemical resistant gloves, chemical resistant footwear plus socks, chemical resistant apron during mixing, cleaning, or loading.

ATTACHMENT 6

RESPONSE TO COMMENTS BY ADEM, EPA AND JPA

Draft Finding of Suitability to Lease
JPA Master Lease
Fort McClellan, Alabama
Response to Comments
By Alabama Department of Environmental Management

Reference: *Comments By Chris Johnson, ADEM, November 5, 1999*

General Comments

Comment 1: **All requested property, as defined in the Master Lease FOSL, which contains CERFA Category 5, 6, & 7 property should be excluded from the subject FOSL. Please revise all text, figures and tables accordingly.**

Response: All text, tables, and figures will be revised to exclude Category 7 property. CERFA Category 5 and 6 properties were not included in the Draft Master Lease FOSL.

Comment 2: **All requested property, as defined in the Master Lease FOSL, that is suspect or known to contain Ordnance and Explosives Waste (OEW) should be excluded from the subject FOSL. OEW areas should be defined according to the Final Archives Search Report dated July 1999. Please revise all text, figures and tables accordingly.**

Response: All text, tables, and figures will be revised to exclude Property suspected or known to contain Unexploded Ordinance, and the Final Archives Search Report dated 1999 will be utilized to define UXO areas.

Comment 3: **All requested property, as defined in the Master Lease FOSL, that is suspect or known Chemical Warfare Materiel (CWM) Training Areas should be excluded from the subject FOSL. CWM Training Areas should be defined according to the Final Archives Search Report dated July 1999. Please revise all text, figures and tables accordingly.**

Response: All text, tables, and figures will be revised to exclude Chemical Warfare Material (CWM) Sites. The Final Archives Search Report dated 1999 will be utilized to define CWM sites.

Comment 4: **All requested property, as defined in the Master Lease FOSL, that suspect or known to contain rifle, pistol, and artillery ranges should be excluded from the subject FOSL. Such areas should be defined according to the Final Archives Search Report dated July 1999. Please revise all text, figures and tables accordingly.**

Response: All text, tables, and figures will be revised to exclude property suspected or known to contain rifle, pistol, and artillery ranges. The Final Archives Search Report dated 1999 will be utilized to define rifle, pistol, and artillery ranges.

Comment 5: **The maps provided with the FOSL are extremely difficult to use to determine if the subject lease property violates the above comments, especially comments 2, 3, & 4. Please revise all maps by depicting the "range issues" as defined by the Archives Search Report (July 1999). Therefore, one can understand the spatial relationship between the property being requested under the Master Lease and the property that must be excluded from the lease (i.e. UXO, CWM sites, CERFA Cat 5-7, small arms ranges, etc.) ADEM recommends using a grid-coordinate system such as the type used with the EBS or ASR maps. ADEM warrants that the Joint Powers Authority and any and all tenants under this lease must be aware of the environmental conditions of adjacent properties. More importantly, the tenants under this lease must be aware of the location of all known or suspect hazardous waste sites (i.e. Category 5-7, OE, CWM, artillery ranges, etc.) and they certainly must be aware of the associated land use controls that are or will be in place for such sites.**

Response: An additional map will be generated that depicts Category 5-7, UXO, artillery ranges, and CWM sites with an overlay of the requested JPA Master Lease Property.

Specific Comments

Comment 1: **Page 1, Section 1.0. Last sentence: Delete the word "or " and replace with "and".**

Response: The text will be revised accordingly.

Comment 2: **Page 3, Section 3.0. 2nd sentence: ADEM provided a conditional concurrence to the EBS and CERFA Letter Report. Either delete this sentence or provide the conditions of the concurrence in this sentence. In addition, the FMC Archives Search Report has been revised as of July 1999. Please revise.**

Response: The sentence referencing ADEM concurrence letter will be revised to include the word 'conditional'. The July 1999 Archive Search Report will be referenced.

Comment 3: **Page 5, Section 3.7. 1st sentence: What does the "W" stand for?**

Response: Part of the Army nomenclature for radiological laboratories included alphabets; the Calibration Laboratory was known as Laboratory W.

Comment 4: **Page 6, Section 3.9. This sentence is incorrect based on the information provided in the Draft FOSL.**

Response: Areas suspected or known to contain UXO will be removed from the JPA Master Lease Property.

Comment 5: **Page 6, Section 4.0. 2nd sentence. This sentence is misleading. Please define "no hazards to the leasing of the Property". ADEM warrants that environmental conditions on adjacent property may or may not present hazards to human health and the environment. Currently, the BCT is investigating such property (i.e.**

Category 7, UXO, CWM, and small arms ranges) to determine its environmental condition. Meanwhile, ADEM must assume the property poses a risk to human health and the environment, therefore the appropriate measures (i.e. Land Use Controls) must be put in place to keep the public safe from these areas.

Response: The sentence will be deleted from the text.

Comment 6: Page 7, Section 6.0. The exact location of the archeological property (site 1CA60) should be identified on a figure for clarification to the reader, the lessee, etc.

Response: A figure will be generated that shows the exact location of archeological site 1CA60.

Draft Finding of Suitability to Lease
JPA Master Lease
Fort McClellan, Alabama
Response to Comments
By U.S. Environmental Protection Agency, Region IV

Reference: *Comments By Bart Reedy, EPA, November 23, 1999*

General Comments:

Comment 1: **Discussions amongst the Base Closure Team members indicate that you are aware that several properties are incorrectly identified in the lease as a Category 1 property. Further, those discussions indicate that your office will remove all property that is not a Category 1 property (Including CERFA qualified) from the lease. Please inform both EPA and ADEM of the buildings and parcels that will be removed from the lease.**

Response: The following Parcels and associated buildings will be removed from the JPA Master Lease FOSL:

Parcel	Buildings
76(3)	349, 352, 353, 354, 355, 356
95(7)	900, 901, 916, 917, 925, 926, 927, 939, 941, 954,976
97(7)	3155, 3168
29(7)	3268, 3269

Comment 2: **There is concern that the data bases used to delineate UXO contamination are not in agreement. As the installation and not the regulatory community has access to these data bases, EPA can only rely on the Army interpretation of the data. Therefore, please provide a written statement clearly stating that all property covered by this lease is free from UXO. This Army deceleration also need appear in the lease and associated documentation. Please note that this comment is not asking for a data recitation, or a GIS printout, but a clear Army statement.**

Following on with the UXO concern, it is EPA's opinion that following installation's reevaluation or confirmation of the UXO containing property boundaries, the Army needs to reconfirm with JPA the presence and aerial extent of the protection buffers built into this lease. If the JPA has reuse plans for a particular parcel that abuts or is close to a known range, the safety concerns by the Army should be clearly stated and documented.

Response: All text, tables, and figures will be revised to exclude Property suspected or known to contain Unexploded Ordinance, and the Final Archives Search Report dated 1999 will be utilized to define UXO areas.

Page 6, Section 3.9 states that the land proposed for lease is not known or suspected to

contain unexploded ordnance. Upon revision of the tables, text and figures this statement remains correct.

Comment 3: **The Restoration Advisory Board (RAB) has given the Army clear feedback that preservation of the Historic Buildings and paintings is important. The Army is encouraged to put forth additional effort to ensure that buildings and paintings are afforded the protection they deserve. EPA supports the RAB request and encourages the Army to provide for additional protection in the lease, especially for the Prisoner of War paintings and unique Army structures. Further comments on this issue follow.**

Response: The Army has conducted briefings to the RAB explaining the Army's action for the preservation of historic buildings. In addition, Attachment 1, Environmental Protection Provision, Paragraph 21 is part of the Programmatic Agreement presented to the RAB and signed off by the State Historic Preservation Office (SHPO).

Specific Comments:

Comment 1: **Section 3.1, Environmental Condition of Property Categories. This section states that all the land proposed for lease is Environmental Condition of Property (ECP) Category 1, areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas). Please verify that only ECP Category 1 property is included in the Master Lease, or carve out such property as is not ECP Category 1.**

Response: All property that is not Category 1 property will be excluded from the JPA Master Lease FOSL (refer to list of buildings to be excluded in Response to General Comment 1 above).

Comment 2: **Section 3.1, Environmental Condition of Property Categories. In addition, the BCT has agreed to the ECP categories of the property based upon current information. If information should come to light indicating that property has, in fact, been contaminated by migration to the property from adjacent properties or by any other means, the property should be evaluated to determine whether it should be removed from the master lease. If the property is determined to be something other that ECP Category 1 property, it should, likewise, be evaluated. One indication that it should be removed would be if insufficient protection is afforded to human health and the environment by the Environmental Protection Provisions (Attachment 1). A clause effecting such ability for subsequent carve out should be included in the Environmental Protection Provisions, Attachment 1.**

Response: The concern raised by the comment has been adequately addressed in Section 4.0, second sentence that reads "however, in the event that remedial action is found to be necessary that has not been taken on the date of the lease, the United States will conduct the appropriate remedial action" and in the Environmental Protection Provisions, Attachment 1, Paragraphs 5 and 8.

Comment 3: **Section 3.9, Unexploded Ordnance. Please verify that all property covered by this lease is free from all UXO. Discussions amongst the BCT have validated the**

concern that some of the maps and other data bases used for delineation of UXO containing property are incongruent. Please refer to the opening paragraphs of this letter for additional information.

Response: All text, tables, and figures will be revised to exclude Property suspected or known to contain Unexploded Ordinance utilizing the Final Archives Search Report dated 1999.

Comment 4: Section 7.0, Natural Resource. Please revise the second sentence, deleting "or" before "land clearing" and adding the phrase "or any other activities which will result in a discharge to wetlands" after "land clearing."

Response: The text will be revised accordingly.

Comment 5: Attachment 1, Environmental Protection Provisions, Paragraph 15. This paragraph provides information regarding wetland protection. In addition to citing Executive Order 11990 and the National Environmental Policy Act, it would be prudent to cite Sections 401 and 404 of the Clean Water Act for applicability of permits to activities which will impact a wetland.

Response: The Environmental Protection Provision, Paragraph 15 will be revised accordingly.

Comment 6: Attachment 1, Environmental Protection Provisions, Paragraph 16. Paragraph 14 of the MOU between DoD and EPA on the review process to reach a finding of suitability to lease prohibits any subsurface excavation, digging, drilling or other disturbance of the surface without Government approval. The Army has modified MOU Paragraph 14 to allow for an exception from this prohibition in the instance of replacement or repair of existing utilities and normal building maintenance. Please remove the exceptive language, restoring the paragraph to its original form and effect.

Response: The exception will be removed from the EPP, Paragraph 16.

Comment 7: Attachment 1, Environmental Protection Provisions, Paragraph 21. There are 57 building on Fort McClellan that are eligible for inclusion on the National Register of Historic Places. The Army has been given feedback from the Restoration Advisory Board (RAB) that preservation of these buildings is very important. A more rigorous effort from the Army to preserve the more unique buildings and the Prisoner of War paintings has been requested by the RAB. Therefore, please schedule a briefing for the RAB, explaining the proposed Army action, the alternatives then available to the JPA under this lease, and the protection afforded and more importantly, not afforded. This detailed briefing should occur before the lease is consummated to allow for modifications as expressed by the RAB.

Response: The Army has already conducted a briefing to the RAB explaining the Army's action for the preservation of historic buildings. In addition, Attachment 1, Environmental Protection Provision, Paragraph 21 is part of the Programmatic Agreement presented to the RAB and signed off by the State Historic Preservation Office (SHPO).

Comment 8: Attachment 1, Environmental Protection Provisions. Please add the following language from the DoD/EPA MOU:

The Lessee shall strictly comply with the hazardous waste permit requirements under the Resource Conservation and Recovery Act, or its Alabama equivalent. Except as specifically authorized by the Government in writing, the Lessee must provide at its own expense such hazardous waste management facilities, complying with all laws and regulations. Government hazardous waste management facilities will not be available to the Lessee. Any violation of the requirements of this condition shall be deemed a material breach of this Lease.
This paragraph is very similar to EPP Paragraph 11, but while Paragraph 11 addresses hazardous waste *storage* facilities, this added paragraph addresses *management* facilities. Both paragraphs are required by the MOU.

Response: Paragraph 11 will be revised to include management facilities.

Draft Finding of Suitability to Lease
JPA Master Lease
Fort McClellan, Alabama
Response to Comments
By Joint Powers Authority

Reference: *Comments By Miki Schneider, JPA, October 14, 1999*

Ms. Schneider has received a map/list (dated October 1999) from the Army prepared by Sgt. Scheitlin that contains more buildings than those listed in the Draft JPA Master Lease FOSL 1(IT, September 1999) and eliminates some buildings that are presented in the Draft FOSL 1 document. The map also lists some buildings as Category 7 that are shown as Category 1 in the Draft FOSL 1 document. Ms. Schneider's specific comments follow below:

Comment 1: **Buildings shown as Category 7 on the October Sgt. Scheitlin map but presented as Category 1 in Draft FOSL document (IT, 1999):**
349
352
916
917
918
925
941
954
3155
3168
3268
3269

Response: The above referenced buildings are within Category 7 areas (currently undergoing site investigations) and therefore will not be included in the JPA Master Lease FOSL 1.

Comment 2: **Most of the 400 series buildings are included on Sgt. Scheitlin's October map but are not included on the Master Lease List. The buildings included on the map are as follows: 407, 408, 417, 449, 459, 451, 452, 461, 466, 465, 467, 463, 464, 462, 453, 415, 443, 441, 440, 446, 448, 447, 446, 444, 445, and 448.**

Response: Although the buildings appear on Sgt. Scheitlin's map/list, all of the 400 series buildings above have been or are scheduled for demolition (per fax from Suzan Prater- Real Estate, FTMC).

Comment 3: **Buildings that are presented in the JPA Master Lease list (IT, September 1999) but not on Sgt. Scheitlin's October list/map:**
901
976

Response: Both buildings are within category 7 areas and will not be included in the JPA Master Lease.

Comment 4: **Buildings shown as Category 1 on the October 1999 Sgt. Scheitlin's map/list but are**

shown as Category 7 in the BCP and the EBS:
3293
1928
1929
1740
1876
2051
2109

Response: Buildings 3293, 1929, and 2109 will be included in the JPA Master Lease FOSL 1- they are Category 1 buildings. The Category 7 classifications in the BCP and EBS refers to the USTs associated with each of the buildings.

Buildings 1740, 1876, 2051 are within Category 7 areas and will not be included in the JPA Master Lease FOSL 1.

Comment 5: **All personnel shelter buildings, toilet/shower, concrete pads, playgrounds and fields are missing from the IT map, please include. Other buildings missing from the map include:**
4353
4358
5713
TR09
TR10
TR11
TR12
TR13

Response: Maps will be revised to include all the missing buildings.

Comment 6: **Add Building 141, 143, 144 to FOSL 2**

Response: Requested buildings will be included in JPA Master Lease FOSL 2

Comment 7: **Add a note that explains that multiple buildings (e.g. 25 A and 25B) are presented on the map as 25 or present all the units of the building.**

Response: The level of detail that would show building units for buildings with multiple units would render the map unreadable with too much detail. A note will be added to the document indicating that buildings with multiple units are shown as single units.