

Ambient Asbestos Annual Air Monitoring

FY 2006

**Customs House
Denver, Colorado**

**Prepared For
General Services Administration**

**Prepared By
U.S. Public Health Service
Federal Occupational Health
Denver, Colorado**

October 13, 2006

INTRODUCTION

This report summarizes the results of the Ambient Asbestos Air Monitoring for FY 2006 as requested by the General Services Administration (GSA) at the Customs House, in Denver, Colorado. The samples were collected and the report prepared by Ms. Deborah A. Fernandez, Certified Air Monitoring Specialist, a representative of Federal Occupational Health (FOH). FOH in accordance with the Memorandum of Agreement and Specification between the GSA and FOH conducted the sampling on July 24, 2006.

EVALUATION CRITERIA

FOH and GSA have agreed to use the Colorado Department of Public Health and Environment's Regulation 8 as an equivalent or most stringent standard of exposure level for asbestos. When Phase Contrast Microscopy (PCM) is used as the method of analysis the Maximum Allowable Asbestos Level (MAAL) is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m³). The (MAAL) when using Transmission Electron Microscopy (TEM) analysis is 70 structures per square millimeter (s/mm²). FOH and GSA have agreed to use the TEM method as analysis is specific to asbestos whereas all fibers are counted when analyzing by PCM.

METHODS

Air flow sampling pumps were fitted with 25 millimeter air sampling cassettes with 0.45 μ mixed cellulose ester filters (MCEF). The air sampling pumps were pre-calibrated at approximately 9.5 liters per minute (L/min). Fifteen samples were collected; two in the childcare area, two on the 1st floor, three on the 2nd floor, three on the 3rd floor, three on the 4th floor, two on the 5th floor at random sections of the floors (see Drawings). Pumps were run to filter a minimum 1200 liters of air. The air sampling pumps were post-calibrated at the end of the sampling period.

The samples were subsequently analyzed by the National Environmental Reference Laboratory (NERL) pursuant to the protocol in 40 C.F.R. Part 763, Appendix A of Subpart E (EPA 1995). Sampling was conducted during normal working hours.

RESULTS

A total of 15 samples were collected in the building. All 15 TEM samples were non-detectable for asbestos.

CONCLUSIONS

No asbestos structures were detected as analyzed by TEM in any of the 15 samples collected.

RECOMMENDATIONS

None

Asbestos Air Monitoring Results

**Customs House
Denver, Colorado**

July 24, 2006

**U.S. Public Health Service
Federal Occupational Health**

Summary:

Results from TEM analysis of the 15 air samples collected were no asbestos structures detected. The Public Health Service and GSA have agreed to use the Colorado Department of Public Health and Environment's Regulation 8 as equivalent or most stringent standard of ambient asbestos exposure level. The maximum allowable asbestos level in Regulation 8 is 70 structures per millimeter squared as collected and analyzed by Transmission Electron Microscopy (TEM).

SAMPLE LOCATIONS

SAMPLE RESULTS



Federal Occupational Health Service
PO Box 25145
Bldg 41, Ent E-1, Rm 190
Denver Federal Center
Denver Co 80225-0145
Phone: 303-236-0076 x 603
Fax: 303-236-3440

August 10, 2006

LGN T0682849

Deborah Fernandez
Federal Occupational Health
Building 41, Room 190, DFC
Denver, CO 80225-0145

Dear Ms. Fernandez:

Enclosed are the results of the analysis of 15 air samples from General Services Administration Custom House quarterly air monitoring, Denver, submitted to the Federal Occupational Health Environmental Laboratory Asbestos/Fine Particle Analytical Division in Denver, CO, for transmission electron microscopy (TEM) analysis. The samples were received at this facility July 25, 2006, and were analyzed according to AHERA (40 CFR Part 763) protocol. The TEM results, which pertain only to those materials submitted for testing, are summarized in the enclosed report.

Details of this report are not discussed with any person or agency not associated with you or the GSA. This report may not be used to claim product endorsement by the National Voluntary Laboratory Accreditation Program (NVLAP) of the National Institute of Standards and Technology (NIST) or other U.S. Government agency.

Please call (303) 236-3455 ext. 603 if you have questions about this work, or other analytical services.

ANALYST

LABORATORY DIRECTOR

MARK A. STEINER MS
Geologist/Microscopist

CDR DEBRA FLAGG, MS, IH
Chief of Operations

FOHEL/AFPAD TRANSMISSION ELECTRON MICROSCOPY BRANCH

AIRBORNE ASBESTOS ANALYSIS RESULTS

AGENCY: General Services Administration

LGN: T0682849

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Sample Description

| Sample Number | Sample Date | Description/Location/PCM LGN |
|---------------|-------------|------------------------------|
| DF072406-01 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-02 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-03 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-04 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-05 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-06 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-07 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-08 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-09 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-10 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-11 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-12 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-13 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-14 | 7/24/06 | US Customs, Denver, Colorado |
| DF072406-15 | 7/24/06 | US Customs, Denver, Colorado |

Results of TEM Analysis

| Sample Number | Volume (liters) | Particulate Loading | # Asbestos Structures | Asbestos /sq. mm | Asbestos /cc |
|---------------|-----------------|---------------------|-----------------------|------------------|--------------|
| DF072406-01 | 1287.0 | L | ND | 0 | <0.0045 |
| DF072406-02 | 1530.0 | L | ND | 0 | <0.0044 |
| DF072406-03 | 1512.0 | L | ND | 0 | <0.0045 |
| DF072406-04 | 1413.0 | L | ND | 0 | <0.0048 |
| DF072406-05 | 1332.0 | L | ND | 0 | <0.0043 |
| DF072406-06 | 1254.0 | L | ND | 0 | <0.0046 |
| DF072406-07 | 1242.0 | L | ND | 0 | <0.0047 |
| DF072406-08 | 1368.0 | L | ND | 0 | <0.0049 |
| DF072406-09 | 1368.0 | L | ND | 0 | <0.0049 |
| DF072406-10 | 1368.0 | L | ND | 0 | <0.0049 |
| DF072406-11 | 1276.0 | L | ND | 0 | <0.0046 |
| DF072406-12 | 1275.0 | L | ND | 0 | <0.0046 |
| DF072406-13 | 1335.0 | L | ND | 0 | <0.0043 |
| DF072406-14 | 1223.0 | L | ND | 0 | <0.0048 |
| DF072406-15 | 1269.0 | L | ND | 0 | <0.0046 |

ND - None Detected. L - Light. M - Moderate.

Comments: The AHERA clearance value is 70 asbestos structures/mm².
Blank samples 16 and 17 not analyzed.

Analyst: _____
 Mark A. Steiner

Date: 8/10/06

Sample #: DF072406-01 Type of Analysis: AHERA
Total Area Analyzed: 0.0665 sq. mm Analytical Sensitivity: 0.0045 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 um | Excluded Structures | Structures for Concentration |
|------------------|-----------------|-------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Sample #: DF072406-02 Type of Analysis: AHERA
Total Area Analyzed: 0.0665 sq. mm Analytical Sensitivity: 0.0044 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 um | Excluded Structures | Structures for Concentration |
|------------------|-----------------|-------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments: The excluded structure is a gypsum fiber.

Sample #: DF072406-03 Type of Analysis: AHERA
Total Area Analyzed: 0.0665 sq. mm Analytical Sensitivity: 0.0045 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 um | Excluded Structures | Structures for Concentration |
|------------------|-----------------|-------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Analyst: _____
Mark A. Steiner

Date: 8/10/06

Sample #: DF072406-04

Type of Analysis: AHERA

Total Area Analyzed: 0.0570 sq. mm

Analytical Sensitivity: 0.0048 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | 0 | 0 | 0 | 0 |

Comments:

Sample #: DF072406-05

Type of Analysis: AHERA

Total Area Analyzed: 0.0665 sq. mm

Analytical Sensitivity: 0.0043 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | 0 | 1 | 0 | 0 |

Comments:

Sample #: DF072406-06

Type of Analysis: AHERA

Total Area Analyzed: 0.0665 sq. mm

Analytical Sensitivity: 0.0046 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | 0 | 0 | 0 | 0 |

Comments:

Analyst: _____
Mark A. Steiner

Date: 8/10/06

Sample #: DF072406-07

Type of Analysis: AHERA

Total Area Analyzed: 0.0665 sq. mm

Analytical Sensitivity: 0.0047 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Sample #: DF072406-08

Type of Analysis: AHERA

Total Area Analyzed: 0.0570 sq. mm

Analytical Sensitivity: 0.0049 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Sample #: DF072406-09

Type of Analysis: AHERA

Total Area Analyzed: 0.0570 sq. mm

Analytical Sensitivity: 0.0049 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Analyst: _____
Mark A. Steiner

Date: 8/10/06

Sample #: DF072406-10

Type of Analysis: AHERA

Total Area Analyzed: 0.0570 sq. mm

Analytical Sensitivity: 0.0049 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Sample #: DF072406-11

Type of Analysis: AHERA

Total Area Analyzed: 0.0665 sq. mm

Analytical Sensitivity: 0.0046 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Sample #: DF072406-12

Type of Analysis: AHERA

Total Area Analyzed: 0.0665 sq. mm

Analytical Sensitivity: 0.0046 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Analyst: _____
Mark A. Steiner

Date: 8/10/06

Sample #: DF072406-13

Type of Analysis: AHERA

Total Area Analyzed: 0.0665 sq. mm

Analytical Sensitivity: 0.0043 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Sample #: DF072406-14

Type of Analysis: AHERA

Total Area Analyzed: 0.0665 sq. mm

Analytical Sensitivity: 0.0048 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Sample #: DF072406-15

Type of Analysis: AHERA

Total Area Analyzed: 0.0665 sq. mm

Analytical Sensitivity: 0.0046 s/cc

| Asbestos Mineral | Structure Types | Structures > 5 μ m | Excluded Structures | Structures for Concentration |
|------------------|-----------------|------------------------|---------------------|------------------------------|
| None | | 0 | 0 | 0 |

Comments:

Analyst: _____
Mark A. Steiner

Date: 8/10/06