



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 163RD RECONNAISSANCE GROUP (ANG)
MARCH AIR FORCE BASE, CALIFORNIA

REPLY TO
ATTN OF: SGPB (b) (6)
SUBJECT: Asbestos Sampling

8 Oct 93

TO: 148 CCSQ (b) (6)

1. The samples collected from the ceiling and wall tiles in building 5 rooms 4 and locker room had "no asbestos found" in accordance with EPA Interim Method 600/M4-82-020, Dec. 1982.
2. The sample was collected by (b) (6), Bioenvironmental Engineering Services, and submitted to Armstrong Laboratories, Brooks AFB TX for analysis.
3. I have attached a copy of the sample form and laboratory results.
4. If you have any questions please call the above extension.

(b) (6)

(b) (6) CA ANG
NCDIC, Bioenvironmental Engineering Services

2 Atch:
1. AF Form 2751
2. Lab Results



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 22D AIR REFUELING WING (AMC)

BEST AVAILABLE COPY

02 JUN 1993

FROM: 22 Medical Group 10FB
1916 Meyer Drive, Suite 3
March AFB, CA 93518-2040

SUBJECT: Asbestos Results from the 148th Combat Communications Squadron

TO: 163rd Environmental Management

ATTN: (b) (6)

1. Results received from an asbestos sample taken from the vacated 148th Combat Communications Squadron in Ontario ANG indicated greater than 75% crystalline asbestos.

2. A sample was collected on 4 May 1993 by (b) (6) of the 163rd Environmental Management Office. The sample was sent to Armstrong Laboratory at Brooks AFB, Texas. Results were received on 26 May 1993.

3. The results will be kept in the Bioenvironmental Engineering Services Office for review upon request. If you have any questions, please feel free to call (b) (6) at extension 3950.

(b) (6)

Deputy Chief, Bioenvironmental Engineering

To: (b) (6)
From: (b) (6)
Cc: (b) (6)
Subject: re: Antenna Farm Control, Building 3405
Attachment: BEYOND.RTF
Date: 1/26/99 6:31 PM

I concur. WADS and or the 452nd will have to take care of the problem.

From: (b) (6) on 1/26/99 4:11 PM:

Sir,

The text pertaining to the asbestos tiles states that "they must not be subjected to drilling, pulverized or grinding (except by asbestos certified personnel using proper protocols). There are significant portions of the tile that are currently broken, crumbling, and pulverized. These areas are mostly located on the side of and behind the equipment racks which happens to be where I spend most of my time doing maintenance. The broken and crumbling tiles are always underfoot, being further pulverized by unavoidable foot traffic. To make matters worse, when I have to bring in bulky and weighty test equipment, I have no where else to put it than over the asbestos hazard areas, thus causing even more damage and disturbance to the already damaged asbestos tiles. Finally, and one of the reasons I am so terribly concerned, the cooling fans from the communication equipment blow directly on the asbestos tiles which are broken, crumbling, and pulverized. They blow on them ALL THE TIME so the entire room could be a hazardous area. When I work on the equipment and disturb the broken, crumbling, and pulverized tile it seems logical to assume that the FANS blowing on the broken, crumbling, and pulverized tile would circulate the particles into the air. Asbestos is a "light as air" substance and the particles remain boyant and circulating the the air for long periods of time once disturbed. As such, I would be breathing air with a HIGHLY CONCENTRATED DOSE OF ASBESTOS CONTAMINATION when working on the equipment and brithing ASBESTOS CONTAMINATED AIR anytime I was in the building..

THIS IS NOT ACCEPTABLE

Now that I have confirmation that the tile contains asbestos, and since it meets the criteria you've spelled out as being hazardous, I will refrain from entering the building except in the case of emergencies. The regulations I've read require removal of the substance before a non "asbestos certified person" such as myself can work in the area. I need this issue to be looked at in more detail ASAP. My health is of utmost importance to myself and my family. As such, I'm not going to drop this issue lightly.

(b) (6)

From: (b) (6) on 1/22/99 2:50 PM:

To: (b) (6)

Subject: Health Concerns with Antenna Farm Control, Building 3405

This letter is a follow-up to a site visit by the 163 ARW Bioenvironmental Engineering (BE) and Public Health (PH) Offices. The visit was to address the worker complaints of labored breathing and lung irritation after working in the building for more than an hour, and concern with possibly being exposed to asbestos from the floor tiles.

Finding:

1. The primary concern with the BE office is the asbestos containing floor tiles. Samples of the floor tiles were collected on 2 Nov 94 to determine the presence of asbestos prior to allowing a contractor to work. The results indicate that the floor tile contains 10-20% Chrysotile Asbestos. These floor tiles do not exhibit a health hazard in their present, tightly bound state; however, they must not be subjected to drilling, pulverized or grinding (except by asbestos certified personnel using proper protocols). These types of disturbance may release asbestos fibers from their binding material. Care must be taken not to damage tiles when moving equipment within the equipment room.
2. The sneezing and congestion is probably due to other dusts and molds in this building.
3. An administrative measure is currently being used to avoid the problem. Individual

components are removed and then taken to the 148th CBCS main shop on base for troubleshooting and repair

Recommendations:

1. Have a contractor remove the asbestos containing floor tile from the areas of the building frequented by the technicians. These areas are limited to the entry hallway and the equipment room.
2. All other rooms such as mechanical, other unused office areas and heating and air conditioning systems, which are no longer used and are abandoned in place need to be sealed off from the used areas to prevent unwanted airborne contaminants from being circulated in the building.
3. As a temporary control measure, a respirator will be issued to the full time technician. Call x-3340 to schedule fittest. All others should limit their time spent in the building by using administrative controls until corrections can be completed to the facility.
4. Please call if you have any more questions.

(b) (6) CAANG
163 ARW Bioenvironmental Engineering
(b) (6)

Watson, Lawrence (March ARB)

From: (b) (6) (March ARB)
Sent: Wednesday, January 27, 1999 5:03 PM
To: (b) (6) (March ARB)
Subject: FW: WADS site environmental problems

Please share and comment...thanks

From: (b) (6)
Reply To: (b) (6)
Sent: Tuesday, January 26, 1999 6:20 PM
To: (b) (6)
Cc: (b) (6)
Subject: WADS site environmental problems

I would suggest that you do not go back to the WADS site until this is resolved. It appears that some of the tiles are no longer in tact and may be in fact posing a health hazard.

(For cc addressees (b) (6) e-mail is provided.)

To: (b) (6)

Subject: Health Concerns with Antenna Farm Control, Building 3405

This letter is a follow-up to a site visit by the 163 ARW Bioenvironmental Engineering (BE) and Public Health (PH) Offices. The visit was to address the worker complaints of labored breathing and lung irritation after working in the building for more than an hour, and concern with possibly being exposed to asbestos from the floor tiles.

Finding:

1. The primary concern with the BE office is the asbestos containing floor tiles. Samples of the floor tiles were collected on 2 Nov 94 to determine the presence of asbestos prior to allowing a contractor to work. The results indicate that the floor tile contains 10-20% Chrysotile Asbestos. These floor tiles do not exhibit a health hazard in their present, tightly bound state; however, they must not be subjected to drilling, pulverized or grinding (except by asbestos certified personnel using proper protocols). These types of disturbance may release asbestos fibers from their binding material. Care must be taken not to damage tiles when moving equipment within the equipment room.
2. The sneezing and congestion is probably due to other dusts and molds in this building.
3. An administrative measure is currently being used to avoid the problem. Individual components are removed and then taken to the 148th CBCS main shop on base for troubleshooting and repairs.

Recommendations:

1. Have a contractor remove the asbestos containing floor tile from the areas of the building frequented by the technicians. These areas are limited to the entry hallway and the equipment room.
2. All other rooms such as mechanical, other unused office areas and heating and air conditioning systems, which are no longer used and are abandoned in place need to be sealed off from the used areas to prevent unwanted airborne

contaminants from being circulated in the building.

3. As a temporary control measure, a respirator will be issued to the full time technician. Call x-3340 to schedule fittest. All others should limit their time spent in the building by using administrative controls until corrections can be completed to the facility.

4. Please call if you have any more questions.

(b) (6) CAANG
163 ARW Bioenvironmental Engineering
(b) (6)

----- Original Text -----

From: (b) (6) on 1/26/99 4:49 PM:

Sir,

It is apparent that I have been exposed to potentially hazardous levels of Asbestos at the WADS sight. I've got a fairly well established history of my potential exposure including pictures of the tiles and work area in question. I would like a more thorough evaluation of the risk of exposure from persons more qualified than (b) (6) of the 163rd. Though they are both

professional and helpful persons, their statements often contradict themselves

and their professional backgrounds are not specific enough to environmental health to warrant blind faith on my part.

I've spent many, many hours in the building (most of them working in the area where the broken, crumbling, and pulverized tiles are). I've continuously voiced my concern about the tile but it's always been played down, and is still

being played down. This is par for the course in our work environment but my health is too important to my family for me to simply shrug, along with everyone else. In the past 18 months I've developed a chronic respiratory condition in my chest which is at this time a perpetual nuisance. As a result of this I will be seeking medical advise from my doctors. I don't know if they

can detect asbestos poisoning after the fact or not, in fact I have little to no idea what they might say. I'll let you know after the medical exams.

The critical point here is that I fear that my health is in jeopardy. I need these issues to be looked at and documented. If, in the future, I am stricken by asbestos related ailments, I need to protect the welfare of my family.

What should I do at this point?

Thank you.

(b) (6)

(b) (6)

(b) (6)

x - 2449
x - 4563

(b) (6)

x - 6331

(b) (6)

(b) (6)

x 984-4654

(b) (6)

x - 3002

SWADS / WADS

22 JAN 99

To: (b) (6)

Subject: Health Concerns with Antenna Farm Control, Building 3405,

This letter is a follow-up to a site visit by the 163 ARW Bioenvironmental Engineering (BE) and Public Health (PH) Offices. The visit was to address the worker complaints of labored breathing and lung irritation after working in the building for more than an hour, and concern with possibly being exposed to asbestos from the floor tiles.

Finding:

1. The primary concern with the BE office is the asbestos containing floor tiles.

Samples of the floor tiles were collected on 2 Nov 94 to determine the presence of asbestos prior to allowing a contractor to work. The results indicate that the floor tile contains 10-20% Chrysotile Asbestos. These floor tiles do not exhibit a health hazard in their present, tightly bound state; however, they must not be subjected to drilling, pulverized or grinding (except by asbestos certified personnel using proper protocols). These types of disturbance may release asbestos fibers from their binding material. Care must be taken not to damage tiles when moving equipment within the equipment room.

2. The sneezing and congestion is probably due to the dust and molds in this building.

3. An administrative measure is currently being used to avoid the problem. Individual components are removed and then taken to the 148th CBCS main shop on base for troubleshooting and repairs.

Recommendations:

1. Have a contractor remove the asbestos containing floor tile from the areas of the building frequented by the technicians. These areas are limited to the entry hallway and the equipment room.

2. All other rooms such as mechanical, other unused office areas and heating and air conditioning systems, which are no longer used and are abandoned in place need to be sealed off from the used areas to prevent unwanted airborne contaminants from being circulated in the building.

3. As a temporary control measure, a respirator will be issued to the full time technician. Call x-3340 to schedule fittest. All others should limit their time spent in the building by using administrative

native controls until corrections can be completed to the facility.

(b) (6) CAANG
163 ARW Bioenvironmental Engineering

(b) (6)

To: (b) (6) 3ARG
From: (b) (6)
Cc:
Subject: re: Antenna Farm Control, Building 3405
Attachment: BEYOND.RTF
Date: 1/29/99 4:22 PM

(b) (6)

I need to be fitted with the filter this Tuesday. Is there any particular time in the morning that I should walk over to your building?

(b) (6)

From: (b) (6) on 1/22/99 2:50 PM:

To: (b) (6)

Subject: Health Concerns with Antenna Farm Control, Building 3405

This letter is a follow-up to a site visit by the 163 ARW Bioenvironmental Engineering (BE) and Public Health (PH) Offices. The visit was to address the worker complaints of labored breathing and lung irritation after working in the building for more than an hour, and concern with possibly being exposed to asbestos from the floor tiles.

Finding:

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2. The sneezing and congestion is probably due to other dusts and molds in this building.
3. An administrative measure is currently being used to avoid the problem. Individual components are removed and then taken to the 148th CBCS main shop on base for troubleshooting and repairs.

Recommendations:

1. Have a contractor remove the asbestos containing floor tile from the areas of the building frequented by the technicians. These areas are limited to the entry hallway and the equipment room.
2. All other rooms such as mechanical, other unused office areas and heating and air conditioning systems, which are no longer used and are abandoned in place need to be sealed off from the used areas to prevent unwanted airborne contaminants from being circulated in the building.
3. As a temporary control measure, a respirator will be issued to the full time technician. Call x-3340 to schedule fittest. All others should limit their time spent in the building by using administrative controls until corrections can be completed to the facility.
4. Please call if you have any more questions.

(b) (6) CAANG
163 ARW Bioenvironmental Engineering

To: [REDACTED]
Cc: [REDACTED]
From: [REDACTED]
Certify: [REDACTED]
Subject: WADS Bldg. 3405 Environmental concerns UPDATE
Date: Thursday, October 22, 1998 at 8:27:47 am PDT
Attached: None

In my previous Email concerning the WADS building 3405, item six (6) has an update.

The original message reads:

6. Severe Fire hazard in the "Antenna Farm" North of building 3405. This condition has been reported to the 452nd CE. I verbally submitted two requests for action to the 452nd CE. A third notice was issued by the March ARB fire department in response to a safety inspection conducted in late August to early/mid September. As of 21 October no action has been taken.

In response to my request for action, [REDACTED] of the 452nd CE, phone (909) 655-2449, contacted [REDACTED]. She reports that there are too many obstacles in the "back lot" or "antenna farm" area of the WADS site for mowing to be accomplished. These obstacles include concrete rubble and building foundations. This information is being forwarded to WADS SC today.

[REDACTED]
148th CBCS, Ground Radio Maintenance

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 163RD AIR REFUELING GROUP (ANG)
MARCH AIR FORCE BASE, CALIFORNIA

14 April 94

MEMORANDUM FOR 148th CCSO

ATTENTION: (b) (6)

FROM: 163rd Medical Squadron/SGPB

SUBJECT: Asbestos sampling inside four drawer safe.

1. Analysis of the sample collected from the four drawer safe located in the warehouse shows: "no asbestos found" in accordance with EPA Interim Method 600/M4-82-020, Dec. 1982.
2. The sample was collected by (b) (6), Bioenvironmental Engineering Services, and submitted to Armstrong Laboratories, Brooks AFB TX for analysis.
3. I have attached a copy of the sample form and laboratory results.
4. If you have any questions please call X-3340.

(b) (6)

CA ANG
Bioenvironmental Engineering
Services

Attachment:

1. Af Form 2751
2. Report of Analysis

cc:

163 MEDS/SGP w/o atch
163 SPTG/CC w/o atch

DEPARTMENT OF THE AIR FORCE
148th Combat Communications Squadron (ANG)
Ontario ANGS, CA

FROM: 148th Combat Communications Squadron/CC
1280 S. Tower Drive
Ontario, CA 91761-7627

15 Mar 1993

SUBJ: Asbestos Survey

TO: 163RG/SGB

1. The 163RG/DE will soon be starting a number of building modification projects here at Ontario ANGS. We suspect that there is asbestos in or near the areas they are scheduled to be working. Request a survey be done to identify any asbestos hazards that may be present.

2. (b) (6) 163RG/DEM has plans of the projects. You may also call me if you have any questions. My extension is 3559 off the March AFB exchange.

(b) (6)

CA ANG

cc To (b) (6)

22d SGPB on 31 MAR 93

They will try to help out, but are having HSERI soon & can't commit resources to take samples. Agmt is if they research plans, proj designs & designate locs to sample, we will do so. JUN 93

(b) (6) CA ANG, BSC
OIC, Bioenvironmental Engineering Services

SPM

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 163RD AIR REFUELING GROUP (ANG)
MARCH AIR FORCE BASE, CALIFORNIA

04 Oct 1994

MEMORANDUM FOR 163 MEDS/SGP 148 CBCS/CC 222CBCS/CC

FROM: 163rd MEDICAL SQUADRON/SGPB

SUBJECT: Industrial Hygiene Summary of the 147th, 148th and 222nd CBCS.

1. 163rd ARG Bioenvironmental Engineering Services (BES) has been compiling data and industrial hygiene information during site visits during the past year to the 147th, 148th and 222nd CBCS industrial shops. The purpose of the survey was to provide assessment of the current working conditions, identifying health deficiencies and make corrective recommendations. This is a report of our findings for your review and action. The Occupational Safety and Health Administration (OSHA) and AFR 161-33 allow employees the opportunity to observe workplace monitoring and to have access to the records of such monitoring. Therefore, it is important that all employees be briefed on the contents of this report. Risk Assessment Codes (RACs) will be assigned to all health hazards and deficiencies (such as inadequate warning signs, missing MSDS's etc.) in accordance with AFR 127-12.

2. Findings/Recommendations: At the three CBCS's, potential health hazards include; radio frequency, chemicals used for cleaning, and hazardous noise from power tools, trucks, forklifts and power generators. There were no biological hazards identified. Employee information and training on hazards associated with their job is required per AFOSH Standard 161-21, Hazard Communication.

a. Chemical Usage:

(1) Hazard Communication (HAZCOM) Program: This program is implemented to inform workers of the hazards and precautionary measures for the chemicals used in your workplace, thereby minimizing the potential for injury and illness.

(2) Material Safety Data Sheets (MSDS's):

(a) You are required to maintain an MSDS for each chemical that you use, and that MSDS must be for the specific manufacturer that you have on hand.

(b) These MSDS's are useful training documents, but must be used with care. Keep in mind possible symptoms listed on the MSDS are associated with overexposure and as such should be used as a warning of a problem. Also, protective equipment and respiratory protection recommended may not apply to your specific use of a chemical. To help you prioritize your training and corrective actions (if required), we have divided your hazardous

materials into two categories: insignificant and significant hazards. Insignificant hazards, as a rule, will not require respiratory protection based on your current usage and/or the material toxicity, nor will they require any changes in your work practices. Significant hazards on the other hand may require air sampling to determine respiratory requirements or a modification to your work practices.

b. Insignificant Hazards: Most of the items used in your shops do not present a hazard based on the method and/or the protective equipment which is currently in use.

c. Significant Hazards:

(1) Finding: The cleaning compounds used in your shop should be replaced with less toxic cleaners. They contain chemical constituents that are health hazards and/or are environmentally unsafe. Included with this letter is a list of these constituents ("EPA-17"). The use of these items is being phased out.

(2) Recommendation: Use the list we provided is to help you identify, phase out and replace cleaning compounds which contain constituents listed as "EPA-17".

d. Air Sampling: No air sampling was done at this time. Hazards appear to be controlled by methods and protective equipment used.

e. Respiratory Protection Program:

(1) Findings:

(a) Personnel who paint vehicles are required to wear air purifying respirators when performing these tasks.

(b) High Efficiency Particulate Air (HEPA) Filters are being used by personnel who perform maintenance on vehicle brake systems to eliminate possible exposures to asbestos fibers while performing brake maintenance.

(c) Vehicle Maintenance personnel have been identified on the Respiratory Protection Program (RPP) and have completed the required initial medical evaluations, training and fit testing.

(2) Recommendation: The "Enclosed Cylinder/HEPA Vacuum System Method" is recommended by OSHA for use in brake/clutch repairs as an engineering control to remove all asbestos particles greater than .3 microns using the vacuum will eliminate the need use of respirators during these tasks.

f. Noise: The below listed data was collected and compiled from surveys at your location and other Combat Communication units supported by my office.

(1) Findings: Hazardous noise equipment and personnel exposure is as follows:

(1) Findings: Below is a list of emitters and their Estimated Hazard Distances.

<u>EQUIPMENT</u>	<u>ESTIMATED HAZARD DISTANCE (ft)</u>
TSC-60	13.1
TSC-93B	232.1
TSC-94A	1306.1
TSC-102	1.6
TRC-97A	328.7
TRC-170	261.1
TRC-176	0.5
GRC-171	0.5
GRC-206	1.2
URC-119	6.5

(2) Recommendations:

(a) Personnel should continue to observe the Technical Orders that cover these operations.

(b) Set-up warning signs and barricades around these emitters, as required, to ensure no unauthorized entry occurs.

3. This report should be briefed to all employees, as this constitutes the required worker notification of exposure. Please keep this report. This, and subsequent annual survey reports should be used as part of your initial and recurring occupational safety and health briefings for your workers. Please call us if you have any questions, or if you would like to review the technical data upon which we based our findings or recommendations. Also let this office know if any major changes occur in your operations within the next 12 months which could affect the health of workers.

(b) (6)

(b) (6) CA ANG
Bioenvironmental Engineering
Services

CC:
147CBCS/SE
222CBCS/SE
163SE
163SPTG/CC

<u>EQUIPMENT</u>	<u>SOUND LEVEL (dBA)</u>
5 Ton Truck (M923)	
Background	50
at idle	69
windshield wipers on at idle	80
at 55 MPH	88
window up	86
level road	97
climbing hill	87
15K Forklift	
idle	80
medium engine speed	87
high engine speed	91
3/4in drive Pneumatic Wrench	103
3KW Generator	
control panel	98
fuel tank	97
	84 dBA hazardous noise contour line at 15 feet
10KW Generator	
control panel	93
	84 dBA hazardous noise contour line at 24 feet.
30KW Generator	
control panel	100
	84 dBA hazardous noise contour line at 20 feet
TRC-170 Communications Van	
operator area #1	83
operator area #2	87
operator area #3	84
TSC-93 Communications Van	
operator area #1	76
operator area #2	76

(2) Hazardous Noise by definition is: noise having the potential to expose personnel to an 8-hour equivalent continuous A-weighted (dBA) sound level greater than 85dB.

(3) Recommendation: Continue to enforce the use of hearing protection when working near hazardous noise producing equipment, and make sure your full-time personnel receive their annual hearing test.

g. Radiation: Radiofrequency equipment inventory was validated for accuracy.



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 163RD AIR REFUELING WING

13 July 1999

MEMORANDUM FOR 148 CCS/LGMBW

ATTENTION: (b) (6)

FROM: 163 SPTG/BE

SUBJECT: Indoor Air Quality in Building 3405 (WADS Antenna Farm)

1. Due to complaints of mild upper respiratory distress and health concerns of workers who maintain and repair the radio equipment inside building 3405, an airborne asbestos survey was conducted to determine their potential exposure to asbestos from broken and loose floor tiles in the radio room.

a. Air sampling was performed on 5-6 May 99, IAW "OSHA ID-160 and NIOSH Manual of Analytical Methods". Air pumps were placed on workbenches and areas where preventive and unscheduled maintenance would be performed by a technician. Survey personnel were (b) (6) (b) (6) 163 SPTG/BE and SSG (b) (6) 148 CBCS/LGMBW.

2. Survey Procedures:

a. Static air samples were taken 5 May 99 in the radio room to determine a baseline.

b. Aggressive air samples were taken on 6 May 99 by disturbing the air using a 2.5 horsepower shop vacuum cleaner to blow as much dust and loose floor tiles as possible. Loose and broken tiles were pushed against the wall by using air pressure from the vacuum cleaner. Some tiles/pieces were further broken during this process. The room was then vacated for the duration of the air pump run time. The pump "Behind Radios on Floor" was located in the direct airflow of the shop vacuum cleaner as loose tiles and pieces were being blown.

c. Sampling Equipment Used:

Air Sampling Pumps		
Manufacturer	Model	Serial Number
SKC	Aircheck 52	565887
SKC	Aircheck 52	547433
SKC	Aircheck 52	546607
Calibrator		
Gillian	D800285	15623-H

3. Findings:

a. Asbestos containing floor tiles are considered a *Category II. Nonfriable Material*, and do not pose a hazard unless subjected to drilling, pulverizing or grinding.

b. Sample Results and Limits:

Permissible Exposure Limits	
OSHA	0.1 fiber/cc
ACGIH	0.1 fiber/cc
29 CFR 1926.1101	0.1 fiber/cc
AHERA	0.01 fiber/cc
Calculated TWA	0.005 fiber/cc

Air Sample Results by Location and Method			
Locations	<i>Behind Radios on Floor</i>	<i>West Work Bench</i>	<i>East Work Bench</i>
Sample Numbers	EX990147	EX990148	EX990149
Static Method	0.0038 fiber/cc	0.0004 fiber/cc	<0.0002 fiber/cc
Sample Numbers	EX990150	EX990151	EX990152
Aggressive Method	0.0046 fiber/cc	0.0068 fiber/cc	0.0061 fiber/cc
Pump Run Time Range		373-384 minutes	6.22-6.4 hours

Supporting Sample of Floor Tile and Mastic	
Floor Tile	5-10% Chrysotile
Mastic	No Asbestos Found

c. An 8-hour Time Weighted Average (TWA) was calculated using the highest reading of 0.0068 fiber/cc. Personnel would be exposed to 0.005 fiber/cc if working in this room for an 8-hour day. This is well below the OSHA Permissible Exposure Limit (PEL) of 0.1 fiber/cc IAW 29 CFR 1926.1101 (k)(9), and the AHERA limit of 0.01 fibers/cc which is the clearance level for room occupation.

d. Illnesses associated with asbestos exposure have been extensively studied for many years. It is important to recognize that the majority of people who have developed a disease as a result of asbestos exposure were asbestos workers. These workers were frequently exposed to high concentrations for long periods of time.

4. Recommendations:

a. Avoid unnecessary disturbance of the floor tiles.

b. Contact organizations responsible for the building's upkeep, maintenance and operation to clean the facility and remove rodent carcasses, droppings, bird feathers and dust.

c. Have responsible organization isolate and seal off rooms that were abandoned in place by the previous occupants from the areas currently being used. To reduce exposures from other airborne contaminants such as dusts and pollens, seal gaps and holes in walls and ceilings that allow dust and rodents to enter from outside.

5. Any questions regarding this survey should be directed to me at DSN 947-3340.

(b) (6)

(b) (6) CA ANG
Bioenvironmental Engineering

148TH CBCS/CC
163RD SPTG/CCE
163RD MDS/SGP
163RD MDS/SGPM
163RD SEG