

The following samples were collected
from JFK Library rooms:

- Middle Level
- Upper Level

Date, March 22nd and 25th

LABORATORY REPORT

TO: Mountain Consulting Services
Ron Knutson
9922 E Montgomery Drive Suite 9
Spokane Valley WA 99206

PHONE: (509) 924-9236 **FAX:** (509) 924-2287 **E-MAIL:** rknutson@mountainconsultingllc.com

SUBJECT: Particle Identification
SPECIMEN: Six Sets of Three Tapelifts
REFERENCE: JFK

INTRODUCTION

Six sets of tapelifts were received to assess the presents of glass fiber and possible sources. Not limited to only identifying glass fibers we will also report on particles present throughout the samples.

The tapelifts were placed on clean microscope slides and immersed in acetone for about two hours and then removed. The slides with the tapelifts were rinsed with clean acetone as they were removed from the immersion tank. The tapelifts were allowed to dry for twenty minutes in a laminar flow Clean Work Station and then mounted using a synthetic resin (Shurmount). The completed mounts were analyzed using analytical light microscopy. The materials identified are listed in decreasing order of frequency, the most common materials first. The significance of a material's location in the list is not necessarily related to its health impact because some materials have a greater health impact at low levels than other materials do at high levels. In the case of glass fiber, the clearance level is typically considered to be 2 per square inch.

RESULTS

Samples A-G from the Interior Duct Supply contained metal flake particles, possibly from the substrate of the surface sampled, skin flakes, natural minerals, clothing fibers, charred wood, plant debris, pollen, starch and glass fibers. The particle loading was low for all the duct samples.

The particles in the remaining samples included skin flakes, paper fiber, clothing fiber, natural minerals, plant parts, tire wear, starch, shoe wear, pollen, charred plant material, fungal spores, insect debris, cleaning debris, pet dander, feather barbules, wear metals, paint flakes, paint spheres, and glass fiber. Glass fibers were found on six of the nineteen samples submitted. M23C and M23D contained glass fiber counts that are associated with health complaints. M23C contained 32 short glass fibers and M23D contained 25 short glass fibers per sq. inch. Samples containing 13 or more short glass fibers (fibers under 500um in length) is associated with health complaints. Sample U05 had 10 glass fibers per sq. inch. Sample E from the interior duct supply contained 5 short glass fibers per sq. inch. Although these samples are under the amount of glass fibers associated with health complaints these samples would not pass as clearance samples.

Sample ID	Glass Fiber Count	Particles Present
A-Interior Duct Supply	X	Skin Flakes, Clothing Fibers, Natural Minerals, Metal Flake, Fungal Spores, Pollen
B-Interior Duct Supply	X	Metal Flake, Skin Flakes (Low Particle Loading)
C- Interior Duct Supply	X	Metal Flake, Paint, Skin Flakes, Natural Minerals, Charred Wood
D- Interior Duct Supply	X	Metal Flake, Natural Minerals
E- Interior Duct Supply	5	Skin Flakes, Metal Flake, Clothing Fibers, Plant Debris, Natural Minerals
F-Interior Duct Supply	X	Natural Minerals, Paint, Skin Flakes, Metal Flake (Low Loading)
G- Interior Duct Supply	X	Metal Flakes, Natural Minerals, Skin Flakes
L23- Front of Control Panel on Podium	X	Skin Flakes, Clothing Fibers, Natural Minerals Pollen, Starch,
L37-Front of Phone #0101	1	Skin Flakes, Clothing Fibers, Natural Minerals, Pollen, Bird Feather Barbules, Starch, Glass Fiber
L03-On USB Hub	X	Skin flakes, Clothing Fibers, Natural Minerals, Ink, Paper Fibers
U18A- Top of Paper Towel Disp.	2	Skin Flakes, Clothing Fibers, Natural Minerals, Ink, Starch
U18B-Front of Phone Display	X	Skin Flakes, Natural Minerals, Clothing Fibers, Hair
U05-Back of Mount Stand Center	10	Skin Flakes, Clothing Fibers, Bird Feather Barbules, Dog Dander, Paper Fibers, Plant Debris
M23A-On File Cab	X	Skin Flakes, Natural Minerals, Metal Flakes, Clothing Fibers, Pollen
M23C-On top of Desk Case L Side	32	Skin Flakes, Clothing Fibers, Natural Minerals, Plant Debris
M23D-On Book Shelf Mid Shelf on L	25	Skin Flakes, Clothing Fibers, Natural Minerals, Paint, Bird Feather Barbules
M23-Top of High Cub Wall @ Entry 2 Redman Area	X	Skin Flakes, Clothing Debris, Natural Minerals
M20-Front of File on Brown Cab	X	Skin Flakes, Clothing Fibers, Natural Minerals, Plant Debris, Paint
M14-Face of Phone	X	Skin Flakes, Clothing Fibers, Natural Minerals



Microlab Northwest, LLC
7609 140th PL NE, Redmond, WA 98052
Phone: 425.885.9419
Web: www.Microlabnw.com
E-Mail: Russ.c@microlabnw.com

Report #: 100-19
Date: April 16, 2019

CONCLUSION

Six out of the nineteen samples contained short glass fibers (less than 500um in length) all together. Samples E and U05 did not meet the 2 glass fibers per sq. inch clearance requirement. Samples M23C and M23D exceeded the amount of glass fibers that is usually associated with health complaints. M23C contained 32 short glass fibers and M23D contained 25 short glass fibers per square inch. All the samples contained normal to low particle loading.

Thank you for this opportunity to be of service. If I can provide any further assistance, please contact me.

Signed: Heidie Crutcher
Heidie Crutcher, Analyst

Signed: ERC
E.R. Crutcher, Consultant

CHAIN OF CUSTODY RECORD



Microlab Northwest

7609 140th Pl NE, Redmond, WA 98052
Phone: (425) 885-9419

MLNW LOG #

100-19

Company: Mountain Consulting Services
Contact: Ross Knutson
Address: 9922 B MONTGOMERY DRIVE, SUITE 9
Spokane Valley WA 99206

Phone: 509 924 9236 FAX: 509 924 2267
E-Mail: RKnutson@mountainconsultingllc.com
PO#: _____ Job Reference: JFK

PRIORITY: 24 hour One Week Four Weeks
(CIRCLE ONE)

SAMPLE ID	DESCRIPTION	ANALYSIS REQUESTED	Collected	
			Date	Time
A	Interior Duct supply	Particle ID	3/22	
B	Interior Duct supply	Particle ID	3/22	
C	Interior Duct supply	Particle ID	3/22	
D	Interior Duct Return	Particle ID	3/22	
E	Interior Duct Return	Particle ID	3/22	
F	Interior Duct Return	Particle ID	3/22	
G	Interior Duct Return	Particle ID	3/22	
L23	front of control Panel on Position	Particle ID	3/25	
L37	Front of Phone # 6101	Particle ID	3/25	
L03	on USB Hub	Particle ID	3/25	
M10A	Top of Paper Tower Disp	Particle ID	3/25	
M10B	Front of Phone Display	Particle ID	3/25	
M05	Back of Mount Stand cfm Center	Particle ID	3/25	
M23A	on File Cab	Particle ID	3/25	
M23L	on Top of Desk Case L Side	Particle ID	3/25	
M23D	on Body Shell m.s. Shell on L	Particle ID	3/25	

Relinquished By: Richard Dawson Date/Time: 4/13
 Received By: MOMO MATHANAOZ Date/Time: 4/19/19
 Relinquished By: _____ Date/Time: _____
 Received By: _____ Date/Time: _____

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CHAIN OF CUSTODY RECORD



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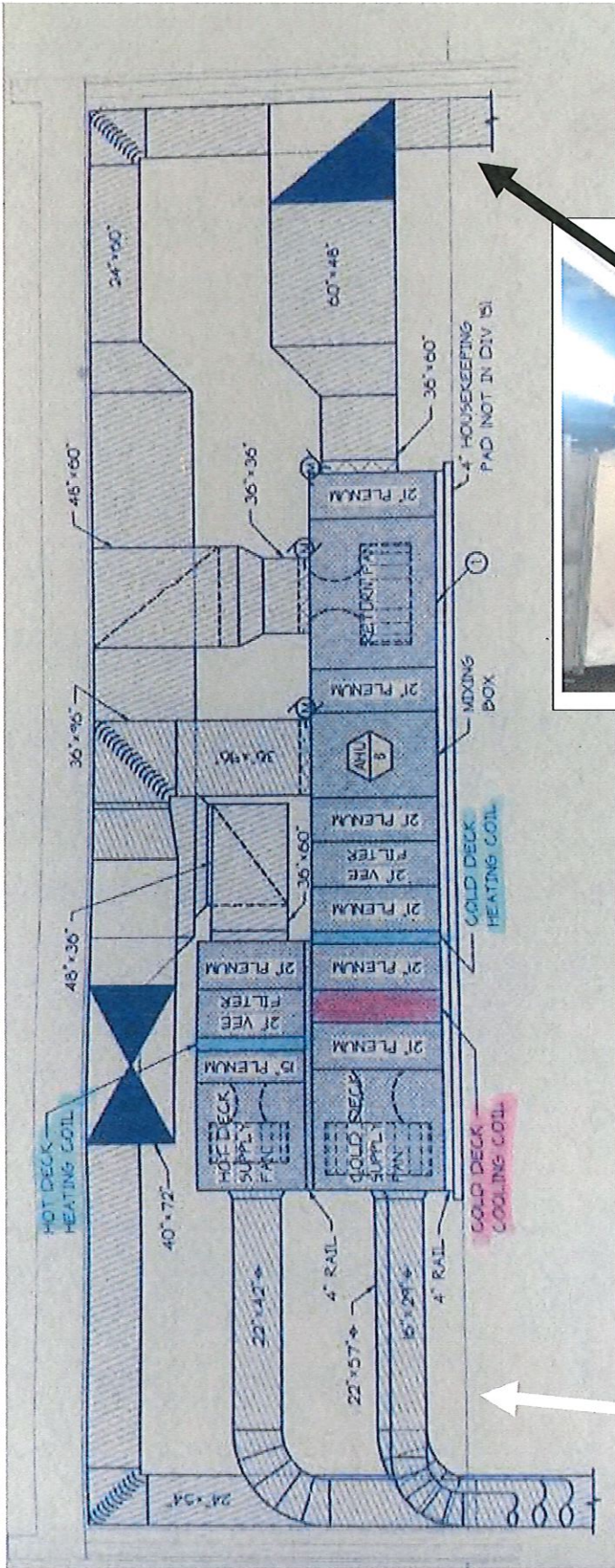
Phone: 509 924 9236 FAX: 509 924 2287
E-Mail: rknutson@mountainconsultingllc.com
PO#: _____ Job Reference: TPK

PRIORITY: 24 hour One Week Four Weeks
(CIRCLE ONE)

SAMPLE ID	DESCRIPTION	ANALYSIS REQUESTED	Collected	
			Date	Time
M23	Top of High Cab Will @ Entry 2 Redmond Ave	Powder BD	3/25	
M20	Front of truck on brown Cab	Powder BD	3/25	
M14	Face of Phone	Powder	3/25	

Relinquished By: Chad Johnson Date/Time: 4/3
Received By: _____ Date/Time: _____
Relinquished By: _____ Date/Time: _____
Received By: _____

P 2012



(Letters)
Corresponds to
inside hatches
where samples
were collected.

