



August 3, 2011

Jane Example
PO Box 1234
Anywhere, ST 11001



**Laboratory
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Occupational Medicine

Re: **3155 English Oak Dr.
Laboratory Analysis Report
Work Authorization # 05616- LLLLLL**

Dear Jane Example,

We appreciate the opportunity to provide you with our professional indoor environmental laboratory services. The following environmental assays were performed on the samples submitted by you:

- **Surface Microscopy (Allergen Screen Check Kit)** - precipitated fungal elements, insect biodebris, pollen, fibers, skin cell fragments, etc.

Please call me at 1-800-422-7873, ext. 301, should you have any questions. We look forward in assisting you to create a healthy indoor environment for you and your organization.

Sincerely,

Dr. Rajiv Sahay, CIAQP, FIAS
EDL Laboratory Director



Corporate Office

4911 Creekside Drive • Suite C • Clearwater, FL 33760 • (727) 572-4550 • Toll Free 1-800-422-7873 • Fax: (727) 572-5859
Email: laboratory@pureaircontrols.com • Website: www.pureaircontrols.com

Laboratory Analysis Report

Surface Microscopy

Tape Prep Assay

Client : **Building Health Check,L.L.C.**
Jobsite : **>UbY9I Ua d`Y**
Location : **3155 English Oak Dr.**

PACS ID# : **05616**
Work Order # : **LLLLLL**
Project Date : **8/3/2011**

Unit : **N/A**
Zone : **Bedroom**
Test Site : **Bookcase**
Diagnostic Tech : **LAB**
Sample Type: **TapePrep Assay**

Lab Sample# : **75061**
Field Sample# : **1**
Sample Date: **7/27/2011**
Sample Time: **8:47 PM**

Date Lab. Rec'd. : **8/3/2011**
Date Analyzed: **8/4/2011**
Date Issued : **08/04/11**
Sample Serial #: **21367**

<u>Particle Identification</u>	<u>Raw Count</u>	<u>Total Count (Cts/cm²)</u>	<u>Percent of Total Count</u>	<u>Remarks</u>
Opaque Particles	109	545	4.91 %	LOW
Skin Cell Fragments	199	9,950	89.6 %	HIGH
Insect Biodetritus	BDL	BDL	N/A	LOW
Total Fibers	96	384	3.46 %	HIGH
Manmade Fibers	96	384	3.46 %	
Total Pollen	1	4	0.0360 %	LOW
Quercus (Oak) Species	1	4	0.0360 %	
Total Fungal Elements/Spores	3	12	0.108 %	LOW
Dematiaceous Fungal Spore Elements	3	12	0.108 %	
Total "Other"	45	180	1.62 %	LOW
Reddish-Brown Particles	3	12	0.11 %	
Black Particles	42	168	1.51 %	
Total Counts:	453	11,100	100 %	

Method of Analysis: EDLAB SOP-7/13001

Remarks: **LOW** =At or Below Guidelines* **MODERATE** =Moderately Above Guidelines* **HIGH** =Significantly Above Guidelines*
* Please refer to Appendix-1 for Guidelines. Known Pathogens are significant and high priority irrespective of above referenced Guidelines.

BDL = Below Detection Limit: No particles were reported from the microscopically observed area on the specimen slide (at 10x10 or 10x40 magnification).

The results in this report apply only to the sample(s) specifically listed above and tested at Environmental Diagnostics Laboratory. Unless otherwise noted, samples were received in good condition. Laboratory-prepared Quality Control (QC) samples are analyzed with the samples routinely; however, unless a blank (control) is received, the result for the control is not compared. Quantitative data is based on 3 significant figures; Grand Total may not equal 100% due to rounding.

Quality Controlled By : 

Approved By : 
Rajiv R. Sahay, Ph.D.



Opaque Particles Identified from Tape Prep Assays



Client : **Building Health Check,L.L.C.**
Jobsite : **>UbY9I Ua d`Y**

PACS ID# : **05616**
Work Order # : **LLLLLL**

Opaque Particles

These particles may originate from inorganic or organic sources in nature. However, it appears opaque when observed under light microscopy. It has various shape and sizes. It may be regular or irregular in shape. On an average it can be measured less than one micron to well over fifty microns with some exceptions. Commonly these particles include but are not limited to dust & debris, paint, combustions, emission, ash, silica and others.

These particulates are significant from a health/allergy point of view especially in case of respiratory disorder.



Fibers Identified from Tape Prep Assays



Client : **Building Health Check,L.L.C.**
Jobsite : **>UbY9I Ua d`Y**

PACS ID# : **05616**
Work Order # : XXXXXX

Manmade Fibers

Man-made fibers may come from natural raw materials like cellulose or from synthetic chemicals like rayon, nylon, etc. In indoor environments, some important sources of man made fiber include carpet, cellulose based building materials, clothing, paper and paper products, etc. Size of these fibers varies from a few microns to a several centimeters; however, an average size range may be 1 micron to over 500 microns.

Health implications of these particles are not well described, however some of the man-made fibers are important from an allergy point of view especially for dermal allergy.



Pollen Species Identified from Tape Prep Assays



Client : **Building Health Check,L.L.C.**
Jobsite : **>UbY9I Ua d`Y**

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Quercus (Oak) Species

A very large genus in North America that can be divided into five natural classes which may correspond to allergenic classes. The classes are 1) true white oak found predominately in the southeast; 2) chestnut oaks found in the eastern states; 3) true red oaks found in mid-Atlantic to the southeastern states; 4) willow oaks found in the southeastern states to central Florida; and 5) live oaks found in the California and Arizona, the northwest, and the southeastern coastal states. The live oaks have been reported as causing severe pollinosis (an allergic reaction (hay fever) resulting in a type I, antibody-mediated hypersensitivity) in California and the Gulf Coast states.



Spores / Fungal Elements Identified from Tape Prep Assays



Client : **Building Health Check,L.L.C.**
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Dematiaceous Fungal Spore Elements

Fungal spores that are brown to black. No identification to genus level can be made.

Other Material Identified from Tape Prep Assays

Client : **Building Health Check,L.L.C.**
Jobsite : **Jane Example**

PACS ID # : **05616**
Work Order # : **XXXXXX**

Black Particles

These microscopic particles may originate from an organic source material. They greatly vary in their shape and sizes depending on their origin. However, an average size ranges between 1-micron to 5-micron with some exceptions. It may be regular or irregular in shape. In the indoor environment some important source/cause of these particles includes but are not limited to combustion, burning of oil & candles, chimney shoot, automobile exhaust, neoprene (rubber compound that applied to the inside surface of fiber glass duct liner), and other organic materials emitted by copier machines, printers, abraded paints etc.

These particles may influence health and hygienic condition of dwellers.

Reddish-Brown Particles

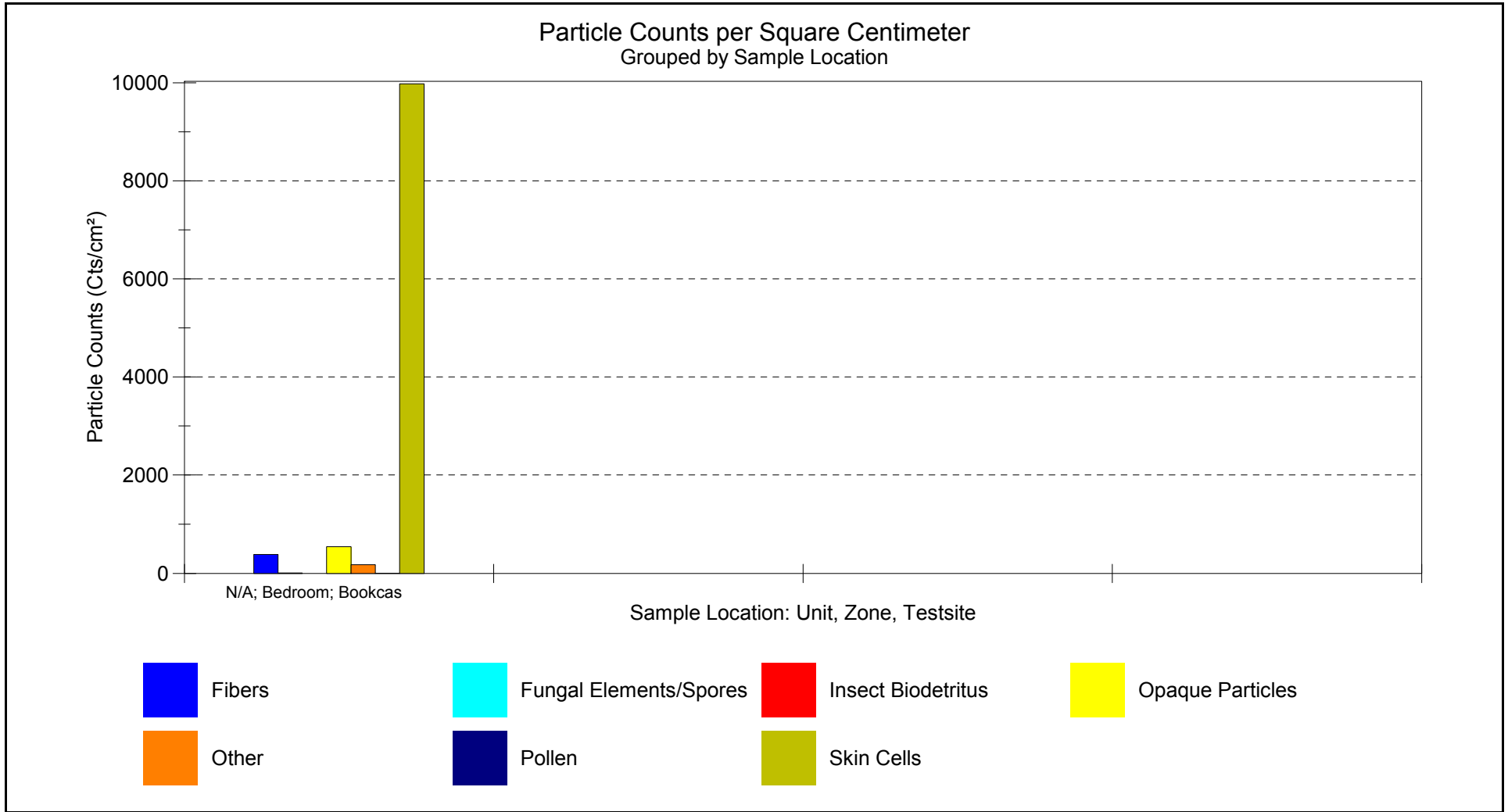
These microscopic particles may originate from in-organic or organic source materials. In indoor environments these particles mainly come by rusting, coarse, weathering of materials etc. They may also be released into the environment due to deterioration of wood or wood products, art and sculpture work etc. These particles greatly vary in their shape and sizes. It can be measured from a few micron to over 100-microns. This particle may be the indicator of moisture problem in indoor environment.

The health implications of this material are not well established however; it may be significant from a health and hygiene point of view.

Laboratory Analysis Chart Surface Microscopy (Tape Prep Assays)

Client: **Building Health Check,L.L.C.**
Jobsite: **Jane Example**
Location: **3155 English Oak Dr.**

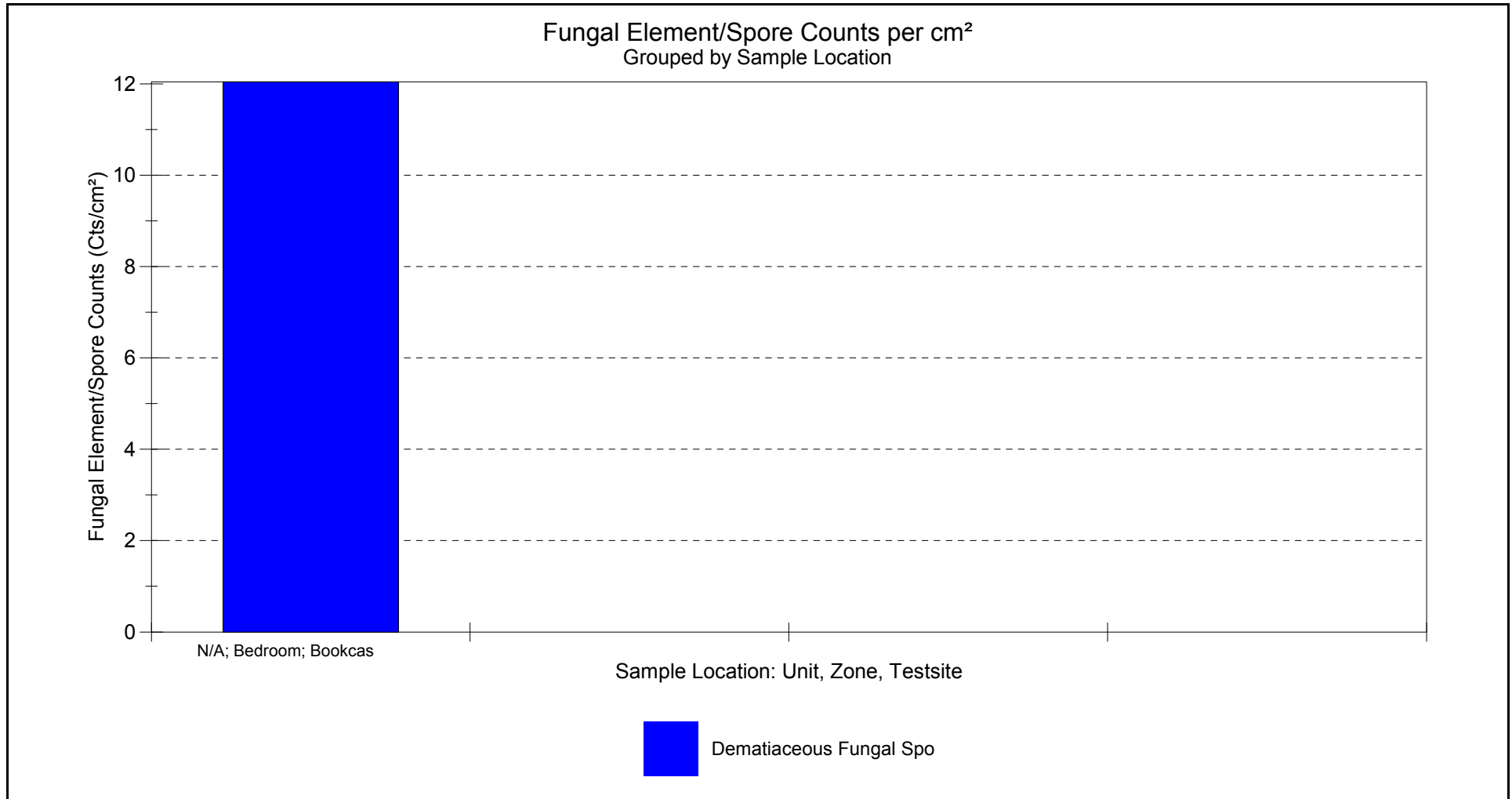
Work Order: **XXXXXX**
PACS ID#: **05616**
Project Date: **8/3/2011**
Date Issued: **8/4/2011**



Laboratory Analysis Chart Surface Microscopy (Tape Prep Assays) Fungal Elements/Spores

Client: **Building Health Check,L.L.C.**
Jobsite: **Jane Example**
Location: **3155 English Oak Dr.**

Work Order: **XXXXXX**
PACS ID#: **05616**
Project Date: **8/3/2011**
Date Issued: **8/4/2011**





Client: **Building Health Check,L.L.C.**
Jobsite: **Jane Example**
Location: **3155 English Oak Dr.**
PACS ID#: **05616**
Work Order #: **XXXXXX**

End of Report

APPENDIX 1

IEQ PARAMETERS	GUIDELINES			UNITS
	LOW	MODERATE	HIGH	
Comfort				
Temperature - Summer	73-79 ¹			°F
Temperature - Winter	68-74 ¹			°F
Relative Humidity	30-60 ¹			%
Carbon Dioxide	700 + Outside Air ²			ppm + Outside Air
Microbiology				
Bioaerosol - Bacteria, CFU	175 ³	176 - 349	350	CFU/m ³
Bioaerosol - Fungi, CFU	350 ³	351 - 699	700	CFU/m ³
Bulk - Bacteria	50000	50001 - 99999	100000	CFU/m ³
Bulk - Fungi	75000	75001 - 149999	150000	CFU/m ³
Swab - Bacteria	170000	170001 - 339999	340000	CFU/m ³
Swab - Fungi	3000	3001 - 5999	6000	CFU/m ³
Water - Bacteria	40000	40001 - 79999	80000	CFU/m ³
Water - Fungi	30	31 - 59	60	CFU/m ³
AirOCell				
Opaque Particles	35000	35001 - 69999	70000	cts/m ³
Skin Cell Fragments	7500	7501 - 14999	15000	cts/m ³
Insect Biodetritus	200	201 - 599	400	cts/m ³
Fibers	500	501 - 999	1000	cts/m ³
Fibers - Fiberglass	5	6 - 9	10	cts/m ³
Pollen	15	16 - 29	30	cts/m ³
Fungal Elements	1000	1001 - 1999	2000	cts/m ³
Other	6000	6001 - 11999	12000	cts/m ³
BioScan				
Opaque Particles	3000	3001 - 5999	6000	cts/cm ²
Skin Cell Fragments	600	601 - 1199	1200	cts/cm ²
Insect Biodetritus	4	5 - 7	8	cts/cm ²
Fibers	120	121 - 239	240	cts/cm ²
Fibers - Fiberglass	4	5 - 11	12	cts/cm ²
Pollen	4	5 - 7	8	cts/cm ²
Fungal Elements	50 ⁵	51 - 99	100	cts/cm ²
Other	650	651 - 1299	1300	cts/cm ²
Allergen Screen				
Dust Mites - Der p 1	-	-	-	µg/g
Dust Mites - Der f 1	-	-	-	µg/g
Dust Mites Group 1 (Der p1 + Der f1)	2 ^{6,7,8,11}	3 - 9	10	µg/g
Dust Mites Group 2	0.2 ¹²	0.3 - 0.9	1.0	µg/g
Cat (Fel d 1)	0.2 ^{7,9,11}	0.3 - 0.9	1.0	µg/g
Dog (Can f 1)	0.2 ^{7,9,11}	0.3 - 0.9	1.0	µg/g
Mouse (Mus m 1)	n/a	-	n/a	µg/g
Rat Protein	n/a	-	n/a	µg/g
Cockroach (Bla g 1)	1 ^{10,11}	1.1 - 7.9	8	Units/g
Cockroach (Bla g 2)	0.2 ^{10,11}	0.3 - 0.9	1	µg/g
Horse	n/a	-	n/a	µg/g
Endotoxins	n/a	-	n/a	µg/g
"Other"				
Airborne Particulates	25000	25001 - 49999	50000	p/l (prtcls. per liter of air)
Moisture Content	0-35 ¹³	36-50	51-100	%

n/a = not enough data

References:

- ANSI/ASHRAE Standard 55-2004
- ANSI/ASHRAE Standard 62.1-2010
- Mold. June 2005; Harris Martin Columns.
- CDC (Centers for Disease Control) Guidelines - TBD
- Ind. J. Aerobiol 2008; Vol. 21, No.1: 13-23
- J. Allergy Clin Immunol 1989; 83:416-427
- Amer Rev Respir Dis 1990; 141:361-367
- Amer Rev Respir Dis 1993; 147:573-578
- Amer J Res Crit Care Med 1997; 155:94-98
- J. Allergy Clin Immunol 1997; 100:S1-S24
- Pediatric Allergy Principles and Practice 2003; 261-68
- Indoor Biotechnologies, Ltd., "Rapid Test for Dust Mites" Guidelines,
- Tramex Moisture Meter Manufacturer Recommendations