SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number

06003337

FINAL REPORT

Name: Professional Environmental Solutions
Address: 2415 ILA Road
Commerce, GA 30530

Customer Job ID:
Customer P.O.:
Customer Job Name: (Report Amended 6/12/06)

Collected Date: 6/9/2006
Received Date: 6/12/2006 10:35:02 AM
Report Date: 6/12/2006 2:55:51 PM
Analyst: Tracey, Melissa

Direct Identification Analysis

SanAir ID: 06003337-001 Sample #: 1 ID: Red Pins

D3-Direct ID Analysis on Tape
Quantitative Direct ID

Fungi	Estimated Amount	
Ascospores	Rare	65 spores/cm sq.
Basidiospores	Light	135 spores/cm sq.
Cladosporium species	Rare	14 spores/cm sq.

SanAir ID: 06003337-002 Sample #: 2 ID: Yellow Pins

D3-Direct ID Analysis on Tape
Quantitative Direct ID

Fungi	Estimated Amount
No Fungi Detected	

SanAir ID: 06003337-003 Sample #: 3 ID: Green Pins

D3-Direct ID Analysis on Tape
Quantitative Direct ID

Fungi	Estimated Amount
No Fungi Detected	

SanAir ID: 06003337-004 Sample #: 4 ID: Random

D3-Direct ID Analysis on Tape
Quantitative Direct ID

Fungi	Estimated Amount	
Alternaria species	Rare	1 spore/cm sq.
Ascospores	Rare	77 spores/cm sq.

Certification

Signature: Melissa Tracey
Date: 6/12/2006

Reviewed: L. Claire Macdonald
Date: 6/12/2006

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Direct Identification Analysis

SanAir ID: 06003337-005 Sample #: 5 ID: Random 2

D3-Direct ID Analysis on Tape
Quantitative Direct ID

Fungi	Estimated Amount	
Ascospores	Rare	35 spores/cm sq.
Penicillium species	Light	225 spores/cm sq.

Certification

Signature: Melissa Tracey
Date: 6/12/2006

Reviewed: L. Claire Macdonald
Date: 6/12/2006

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ORGANISM DESCRIPTIONS

ALTERNARIA SPECIES - This genus compromises a large number of saprobes and plant pathogens. Outdoors it may be isolated from samples of soil, seeds, and plants. It is one of the more common fungi found in nature, extremely widespread and ubiquitous. Conidia are easily carried by the wind, with peak concentrations in the summer and early fall. It is commonly found in outdoor samples. It is often found in house dust, carpets, textiles, and on horizontal surfaces in building interiors. Often found on window frames. In humans, it is recognized to cause type I and III allergic responses. Because of the large size of the spores, it can be deposited in the nose, mouth and upper respiratory tract, causing nasal septum infections. It has been known to cause Bakerâ€™s asthma, farmerâ€™s lung, and hay fever. It has been associated with hypersensitivity pneumoniti, sinusitis, deratomycosis, onychomycosis, subcutaneous phaeohyphomycosis, and invasive infection. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchiospasms, chronic cases may develop pulmonary emphysema. Certain species of Alternaria have the capability to produce tenuazonic acid and altertoxin, both mycotoxins.

ASCOSPORES - One of the major classes of fungal organisms. Ascospores are ubiquitous in nature and are commonly found in the outdoor environment. This class contains the "sac fungi" and yeasts. Some ascomycete spores can be identified by spore morphology, however; some care should be excercised with regard to specific identification. They are identified on tape lifts and non-viable analysis by the fact that they have no attachment scars and are sometimes enclosed in sheaths with or without sacs. Some fungi that belong to the ascomycete family are the sexual forms of Penicillium/Aspergillus, Chaetomium sp. and Pleospora sp. This group contains possible allergens, mycotoxin producers and opportunistic human pathogens. Rain and high humidity may rupture the ascus, dispursing the spores, which is why during these weather conditions there is a great increase in counts.

BASIDIOSPORES - One of the major classes of fungal organisms. This class contains the mushrooms, shelf fungi, puffballs, and a variety of other macrofungi. They are agents of wood rot, which may destroy the structure wood of buildings, and have the potential to produce a variety of toxins. Members of this family produce type I and III fungal hypersensitivity reactions. It is extremely difficult to identify a specific genera of mushrooms by using standard culture plate techniques. Some basidiomycete spores can be identified by spore morphology; however, some care should be exercised with regard to specific identification. Spores disseminate during rain or in times of high humidity. Rarely reported as opportunistic pathogens.

CLADOSPORIUM SPECIES - The most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter and are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is a common allergen. It is commonly found on the surface of fiberglass duct liner in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint and textiles. Often found in dirty refrigerators and especially in reservoirs where condensation is collected, on moist window frames it can easily be seen covering the whole painted area with a velvety olive green layer. It can cause mycosis. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchiospasms, chronic cases may develop pulmonary emphysema. Some species produce a mycotoxin, epicladosporic acid, that acts in an immunosuppressive manner. Illnesses caused by this genus can include phaeohyphomycosis, chromoblastomycosis, hay fever and common allergies.

PENICILLIUM SPECIES - Penicillium spores are ubiquitous in the environment. A wide number of organisms have been placed in this genera. Identification to species is difficult. Often found in aerosol samples. Commonly found in soil, food, cellulose, and grains. It is also found in paint and compost piles. Commonly found in carpet, wallpaper, and in interior fiberglass duct insulation. It may cause hypersensitivity pneumonitis and allergic alveolitis in susceptible individuals. It is reported to be allergenic (skin). Penicillium species also produce a wide variety of mycotoxins including but not limited to ochratoxin, patulin, and citrinin. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchiospasms, chronic cases may develop pulmonary emphysema. Both Penicillium and Aspergillus spores share similar morphology on non-viable analysis and therefore are lumped together into the same group. Only through the visualization of reproductive structures can the genera be distinguished.

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D3 Analysis Information

Results for direct identification analyses (D3) are quantitative. Estimates of mycelial growth as rare, light, moderate, or heavy are provided in addition to the counts, to provide a better overall picture of the sampled area. These estimates apply only to Quantitative Direct Analysis (D3).

Rare.....No signs of active growth. No mycelial fragments seen.

Light.....Possible active growth. Some mycelial fragments seen.

Moderate…….Probable active growth. Mycelial fragments throughout.

Heavy.....Significant active growth. Mycelial fragments throughout.