A C T

14953 W. 101st Terrace
Lenexa, Kansas 66215
(913) 492-1337 • Fax (913) 492-1392

February 4, 2019

Mr. Lyle Kreisel
Warrensburg R-VI School District
PO Box 638
201 South Holden Street
Warrensburg, Missouri 64093

Re: Report of Findings - Limited Indoor Air Quality Investigation & Microbial Air Sampling – Martin Warren Elementary School – Office #14 & Classroom #10

Dear Mr. Kreisel,

ACT is pleased to provide this letter report of findings associated with the limited indoor air quality investigation and microbial air sampling for total airborne and settled fungal spore, mycelia sampling performed in office room #10, and Classroom #14.

On January 29, 2019, ACT representative, George McDowell performed a limited visual inspection, comfort parameter measurements and microbial air sampling for total airborne and settled fungal spore, mycelia throughout office room #14, and classroom #10.

Visual Observations

The ACT representative conducted a limited visual inspection throughout each room/area listed above. The visual inspection results are as follows:

Office #14

There were no visible signs of any moisture staining, fungal growth or any other condition that could cause adverse indoor air quality effects.

Classroom #10

There were no visible signs of any moisture staining, fungal growth or any other condition that could cause adverse indoor air quality effects.

COMFORT PARAMETER MEASSURMENTS

The ACT representative collected comfort parameter measurements within Office #14, which was unoccupied at the time of the testing, and Classroom #10, which had a music class in session. Classroom 10 was occupied with 2 teachers, 25 elementary age students, the Warrensburg R-VI School District facilities department representative, and the ACT representative.

The measurements were collected using a hand-held TSI IAQ-Calc Indoor Air Quality Meter.

Carbon Dioxide

Measurement of carbon dioxide is used as an indicator of potential poor air circulation, limited fresh air intake and mixing, or over-occupancy. According to the guidelines published by ASHRAE, the indoor environment should be maintained below <700 parts per million above the outdoor ambient level. General outdoor air has a normal concentration of approximately 350 to 700 parts per million (ppm). The indoor environment generally reflects this level with any buildup associated with human respiration. The carbon dioxide levels in the rooms/areas tested are as follows;

Office #14	1,048 ppm
Classroom #10	*1,842 ppm**
Outdoors	**428 ppm**

As displayed above, the carbon dioxide measurement within Office #14 was within the acceptable range. The carbon dioxide measurement within Classroom #10 exceeded the ASHRAE recommended acceptable carbon dioxide level. The cause of elevated carbon dioxide levels is usually due to insufficient fresh air supply to the room/area based upon the occupancy levels of that room/area.

Temperature

Measurement and recording of the air temperature is used to determine comfort level parameters associated with the indoor environment. ASHRAE provides guidance on comfort ranges for temperature depending on season. These numbers generally range from 68° to 76° F during the winter months and from 72° to 80° F during the summer months. The ranges are dependent on available humidity with the lower end of the temperature range coinciding with the higher humidity's. The temperature readings in the areas tested are as follows;

Office #14	69.5 °
Classroom #10	71.3 °
Outdoors	**29.2 °**

As displayed above, the temperature measurements within Office #14 and Classroom #10 were both within the ASHRAE acceptable range.

Relative Humidity

Measurement and recording of the relative humidity is used to indicate comfort level parameters associated with the indoor air. Overly dry as well as overly humid air is indicators of air quality provided by the HVAC system. ASHRAE recommends maintaining the humidity between 30% and 70%, ideally between 40% and 60%. The relative humidity levels in the rooms/areas tested are as follows;

Office #14	39.5 %
Classroom #10	33.8 %
Outdoors	**26.8 %**

As displayed above, relative humidity measurements in Office #14 and Classroom #10 were within the recommended levels. Low relative humidity levels can lead to dry skin, irritated sinuses and throat and itchy eyes. Over an extended time frame, low humidity levels can dry out and inflame the mucous membrane lining in the respiratory tract, which can then lead to increased risk of colds, flu and infections.

Carbon Monoxide

Measurement of the levels of carbon monoxide is used to determine problems associated with air intake contamination or contamination potentials from other sources within the facility. Environmental Protection Agency's (EPA) National Ambient Air Quality Standard (NAAQS) recommended level not to exceed 9 ppm for a 24-hour exposure.

The carbon monoxide level for Office #14, and Classroom #10 tested was 0 ppm, which is well below the EPA recommended level.

Fungal Spore Air Sampling

In an attempt to assess the existing levels of airborne fungal spores and mycelia in air counts, ACT collected one (1) air sample within each room. An additional ambient air sample was collected outdoors. ACT utilized Allergenco D cassettes and a Zefon Bio-Pump calibrated to 15.0 liters of air collection per/minute. The collected samples were sent to SanAir Technologies Laboratory in Powhatan, Virginia for analysis.

Sample Results

Sample #01 – Office #14 – The overall "total" fungal spore types identified in the indoor location where the air sample was collected were found to be at or below the outdoor "ambient" level for that day and time of sampling. The result of the analytical testing have led ACT to conclude that elevated levels of airborne mold spores were not identified, at the time of sampling.

Sample #02 – Classroom #10 – The overall "total" fungal spore types identified in the indoor location where the air sample was collected were found to be at or below the outdoor "ambient" level for that day and time of sampling. The result of the analytical testing have led ACT to conclude that elevated levels of airborne mold spores were not identified, at the time of sampling.

Sample #03 – Ambient, Outdoors

See the attached laboratory report.

Conclusions

The comfort parameter measurements were generally within ASHRAE guidelines, however, the relative humidity level measurement within Classroom #10 was below the recommended acceptable level. It appears that the source of the elevated carbon dioxide levels is from insufficient fresh air levels introduced into the classroom from the HVAC system.

The results of the total airborne fungal spore analysis for the samples collected indicate airborne levels at or below the outdoor "ambient" level for that day and time of sampling. The result of the analytical testing have led ACT to conclude that elevated levels of airborne mold spores were not identified, at the time of sampling.

There was no adverse indoor air quality issues observed or detected that should cause adverse health effects.

Recommendations

- It is recommended that the HVAC system associated with the basement level Classroom #10 be evaluated by a professional to determine methods that additional fresh, supplied air can be introduced into Classroom.

Limitations

This inspection and testing was performed for the client in an attempt to gather baseline data associated with adverse indoor air quality and microbial growth in the locations where inspection, testing and samples (air samples) were collected. ACT cannot assure that indoor air quality issues and/or microbial growth is not present in other areas of the structure that were unobservable to inspector. ACT cannot guarantee and does not warrant that the information presented in this limited microbial investigation has revealed all potentially adverse microbial conditions affecting the structure. Finally, ACT cannot warrant that the scope of work for the testing will satisfy any legal defense in connection with existing environmental laws or regulations. At present, no environmental laws or regulations exist for fungal growth and its potential for health related affects in humans. Due to the extremely complex nature of the science of mycology (mold and bacteria types) and the fact that fungal growth and exposure is a natural component of our daily lives, dose/response relationships are difficult to correlate.

Please feel free to contact me, at 913-492-1337, with any questions you may have regarding this letter report of findings.

Sincerely,
ACT

George S. McDowell

George S. McDowell

Attachments – Laboratory Analytical Report

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report prepared for ACT

Report Date: 1/31/2019

Project Name: Martin Warren Elementary

SanAir ID#: 19004362

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com

SanAir ID Number
19004362
FINAL REPORT
1/31/2019 9:57:10 AM

Name: ACT
Address: 15001 W. 101st Terrace
Lenexa, KS 66215
Phone: 913-492-1337

Project Number:
P.O. Number:
Project Name: Martin Warren Elementary
Collected Date: 1/29/2019
Received Date: 1/30/2019 10:40:00 AM

Dear George McDowell,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Wednesday, January 30, 2019 via FedEx. The final report(s) is enclosed for the following sample(s): 03, 01, 02.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

L. Claire Macdonald

L. Claire Macdonald
Microbiology Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Air Cassette Analysis
- Disclaimers and Additional Information

Sample conditions:
- 3 samples in Good condition.

SanAir Technologies Laboratory

Name: ACT
Address: 15001 W. 101st Terrace
Lenexa, KS 66215
Phone: 913-492-1337

Project Number:
P.O. Number:
Project Name: Martin Warren Elementary
Collected Date: 1/29/2019
Received Date: 1/30/2019 10:40:00 AM

SanAir ID Number
19004362
FINAL REPORT
1/31/2019 9:57:10 AM

Analyst: Acharya, Uttam

Air Cassette Analysis

ND = None Detected. Blank spaces indicate no spores detected.

SanAir ID Number	19004362-001			19004362-002			19004362-003			
Analysis Using STL	105C			105C			105C			
Sample Number	01			02			03			
Sample Identification	Room 14			Room 10			Ambient - Outdoors			
Sample Type	Air Cassette - Allergenco-D			Air Cassette - Allergenco-D			Air Cassette - Allergenco-D			
Volume	75 Liters			75 Liters			75 Liters			
Analytical Sensitivity	13 Count/M^3			13 Count/M^3			13 Count/M^3			
Background Density	1+			2			2			
Other	**Raw Count**	**Count/M^3**	**%**	**Raw Count**	**Count/M^3**	**%**	**Raw Count**	**Count/M^3**	**%**	
Mycelial Fragments							2	27	n/a	
Fungal Identification	**Raw Count**	**Count/M^3**	**%**	**Raw Count**	**Count/M^3**	**%**	**Raw Count**	**Count/M^3**	**%**	
Aspergillus/Penicillium	2	27	67	1	13	20	10	133	43	
Basidiospores							4	53	17	
Cladosporium species	1	13	33	2	27	40	3	40	13	
Smuts/Myxomycetes				2	27	40	2	27	9	
Torula species							4	53	17	
TOTAL	**3**	**40**		**5**	**67**		**23**	**307**		

Signature: Uttam Acharya Date: 1/31/2019 Reviewed: Johnathan Wilson Date: 1/31/2019

SanAir Technologies Laboratory

SanAir ID Number
19004362
FINAL REPORT
1/31/2019 9:57:10 AM

Name: ACT
Address: 15001 W. 101st Terrace
Lenexa, KS 66215
Phone: 913-492-1337

Project Number:
P.O. Number:
Project Name: Martin Warren Elementary
Collected Date: 1/29/2019
Received Date: 1/30/2019 10:40:00 AM

Organism Descriptions

The descriptions of the organisms presented are derived from various reference materials. The laboratory report is based on the data derived from the samples submitted and no interpretation of the data, as to potential, or actual, health effects resulting from exposure to the numbers of organisms found, can be made by laboratory personnel. Any interpretation of the potential health effects of the presence of this organism must be made by qualified professional personnel with first hand knowledge of the sample site, and the problems associated with that site.

Mycelial Fragments - A mycelium (plural = mycelia) is the "body" of a fungus. It is a collective term for hyphae (singular = hypha), which are the tubular units of the mycelium usually composed of chitin. The terms hyphae and mycelial fragments are used interchangeably. [This information was referenced from the mycology text "The Fifth Kingdom"]In some cases a fungal identification cannot be obtained due to lack of sporulation. Only the mycelial fragments are present, and cannot be identified without the distinguishing characteristics of the spores or the structures they grow from.
Health Effects: Allergic reactions may occur in the presence of spores (conidia) or mycelial/hyphal fragments.

Aspergillus/Penicillium - These spores are easily aerosolized. Only through the visualization of reproductive structures can the genera be distinguished. Also included in this group are the spores of the genera Acremonium, Phialophora, Verticillium, Paecilomyces, etc. Small, round spores of this group lack the necessary distinguishing characteristics when seen on non-viable examination.
Health Effects: Can cause a variety of symptoms including allergic reactions. Most symptoms occur if the individual is immunocompromised in some way (HIV, cancer, etc). Both Penicillium and Aspergillus spores share similar morphology on non-viable analysis and therefore are lumped together into the same group.

Basidiospores - From the Subphylum Basidiomycotina which contains the mushrooms, shelf fungi, and a variety of other macrofungi. They are saprophytes, ectomycorrhizal fungi or agents of wood rot, which may destroy the structure wood of buildings. 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. The release of basidiospores is dependant upon moisture, and they are dispersed by wind.
Health Effects: Many have the potential to produce a variety of toxins. Members of this group may trigger Type I and III fungal hypersensitivity reactions. 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 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.
Health Effects: It is a common allergen. 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. Illnesses caused by this genus can include phaeohyphomycosis, chromoblastomycosis, hay fever and common allergies.
References: Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis, 2001.

Smuts/Myxomycetes - Smuts and Myxomycetes are parasitic plant pathogens. They are typically grouped together due to their association with plants, the outdoors and because they share similar microscopic morphology.
Health Effects: Can produce type I fungal hypersensitivity reactions.
References: Martin, G.W., C.J. Alexopoulos, and M.L. Farr. The Genera of Myxomycetes. Iowa City, Iowa: University of Iowa Press, 1983.

SanAir ID Number
19004362
FINAL REPORT
1/31/2019 9:57:10 AM

Name: ACT
Address: 15001 W. 101st Terrace
Lenexa, KS 66215
Phone: 913-492-1337

Project Number:
P.O. Number:
Project Name: Martin Warren Elementary
Collected Date: 1/29/2019
Received Date: 1/30/2019 10:40:00 AM

Organism Descriptions

The descriptions of the organisms presented are derived from various reference materials. The laboratory report is based on the data derived from the samples submitted and no interpretation of the data, as to potential, or actual, health effects resulting from exposure to the numbers of organisms found, can be made by laboratory personnel. Any interpretation of the potential health effects of the presence of this organism must be made by qualified professional personnel with first hand knowledge of the sample site, and the problems associated with that site.

Torula species - Torula is a saprophyte and therefore often found on plant material. It may be found on wood-containing products/materials.
Health Effects: Reported to produce type I fungal hypersensitivity.
References: Ellis, Martin B., Ellis, Pamela, Microfungi on Land Plants: An Identification Handbook. England, The Richmond Publishing Co. Ltd., 1997.

Additional Information

Air Cassette Analyses

Air cassette reports indicate the genus and concentration of viable (living) and non-viable mold spores detected on the slide (A2 Analysis). Whether or not these spores are viable cannot be determined using this type of analysis. However, keep in mind that spores can remain allergenic even after cellular death. Other possible allergens include dander, pollen and fibers which are included in air cassette reports for the A1 Analysis. A1 and A2 analyses are performed on several types of air cassettes. Light microscopy at a 400 to 1000x magnification is used for air cassette sample analysis. SanAir always analyzes 100% of the impacted slide.

Explanation of Background Densities

The background density of an air cassette aids in the overall interpretation of results as it indicates the level of background debris present (e.g. dander, pollen, fibers, insect parts, soot, fly ash, etc.). Excessive background debris may mask the presence of fungal spores thereby reducing the accuracy of the count. It may also serve as an alert that the volume of air pulled was too high or too low. The following table explains background densities.

Air Cassette Density	Amount of Particulate on Slide	Explanation
1	Insignificant	Should not skew any counts
1+	Low	Should not skew any counts
2	Low to Moderate	Should not skew any counts
2+	Moderate to High	May cause occlusion of small spores
3	High	May cause occlusion of small to medium spores
3+	Very High	Will cause occlusion of spores
4	Overloaded	Level of particulate too high to perform analysis

A Note About the Fungal Spores

In some instances certain groups of fungi cannot be identified due to a lack of distinguishing characteristics. These fungi will be categorized as ñunknown sporesò on the final report.

The genera *Aspergillus* and *Penicillium* are typically composed of small, round spores that are difficult to distinguish from each other; therefore, they are grouped into the category *Aspergillus* / *Penicillium*. Other fungi that produce spores of similar characteristics may also be placed into this category, including *Paecilomyces*, *Gliocladium*, and *Trichoderma*, among others.

Stachybotrys and *Memnoniella* spores are coated with a sticky ñslimeò layer that may inhibit aerosolization.

Any genus of fungi detected on an air cassette with a high raw count (i.e. exceeding 500 spores) may be estimated. Any estimate higher than 12,000 spores will be reported as >12,000.

Understanding the Air Cassette Report

Each sample has 3 columns of information provided. The left is the raw count which is the number of spores for that fungal type detected on the trace. The middle column is the count per cubic meter (Count/m^3) which is the raw count converted based on the total volume pulled for that sample. It represents the number of spores that should be expected in a cubic meter of air from the location in question *if* the spores were distributed evenly throughout the air. This column is helpful for interpreting results when the samples were pulled at different total volumes. In other words, the raw count of a cassette pulled at 75 liters should not be compared to the raw count of a cassette pulled at 150 liters because there may be higher counts associated with the higher volume. By comparing the ñCount/m^3ò columns the difference in volumes are accounted for.

Revision Date: 2/5/2018

The limit of detection is the lowest spore count detectable with reasonable certainty, and it is calculated this way using a raw count of one. Keep in mind there are 1,000 liters in a cubic meter.

1 x (1,000 / Total Volume in Liters)

How to calculate the count per cubic meter:

Raw Count x (1,000 / Total Volume in Liters)

The last column on the right shows the percentage for which each spore type comprised the total spore count.

Understanding the Air Cassette Graph (If included in the final report)

The graph is a visual representation of the baseline sample (usually the outdoor air sample) compared individually against each indoor sample. Each spore type found on the indoor sample is compared to what was found outdoors per cubic meter.

The graph shows the percentile representation of each indoor spore count derived by dividing the indoor Count/m^3 by the outdoor Count/m^3. If the percentage is below 50% of the outside count, then the bar is below 50 on the chart, which corresponds to ñWithin 50% of Baseline Count/m^3.ò If the percentage is between 50 and 100%, then the bar on the chart will stop between 50 and 100, which corresponds to ñCount/m^3 comparable to Baseline.ò If the percentage is greater than 100%, then the bar will be above 100 on the chart, which corresponds to ñCount/m^3 higher than Baseline.ò

Each organism is given a threshold level for the Count/m^3. If this threshold level is not met in an inside sample, then the organism will not be graphed on the chart. This is used to prevent the graph from showing every spore type that is commonly found outside and doesnôt typically indicate a possible moisture problem inside. For example, most common outdoor spores (e.g. ascospores, basidiospores, and *Cladosporium*) have a threshold level of 100. Therefore, in order to show up on the chart, the inside Count/m^3 must be above 100. On the other hand, fungi that may indicate water damage (e.g. *Stachybotrys*, *Ulocladium*, *Chaetomium*, *Memnoniella*, etc.) are given lower threshold levels. These fungi have a higher water activity value and therefore require more moisture to grow. *Stachybotrys* and *Chaetomium* have threshold values of 14 and 30, respectively, as even a low count of those types of spores may indicate an issue with excess moisture.

Keep in mind that this graph is to be used only as a tool in the inspection of a building. Visual examination and knowledge of water damage, past remediation, and weather conditions, among other elements, is essential in the decision regarding the indoor air quality of a building.

Assistance with Remediation Projects

more information pertaining to interpretation of results is available on our website www.sanair.com

For assistance in a remediation project you may consult the Institute of Inspection, Cleaning and Restoration Certificationôs (IICRC) S500 and S520 protocols. The S500 is a reference guide for water-damage restoration and the S520 pertains specifically to mold remediation. Other standards and guidelines regarding Indoor Air Quality that may assist in remediation projects:

AIHA (Recognition, Evaluation, and Control of Indoor Mold)
AIHA (The Facts About Mold)
NADCA (ACR 2006)
IESO (Standards of Practice for the Assessment of Indoor Air Quality)
EPA (Mold Remediation in Schools and Commercial Buildings)
New York City Department of Health and Mental Hygiene (Guidelines on Assessment and Remediation of Fungi in Indoor Environments)

Disclaimer

SanAir Technologies Laboratory does not make contamination corrections to reports based upon analysis of laboratory and/or field blanks.

This report is the sole property of the client named on the SanAir Technologies Laboratory chain-of-custody. Neither results nor reports will be discussed with or released to any third party without our client's written permission. The information provided in this report applies only to the samples submitted and is relevant only for the date, time and location of sampling. SanAir assumes no responsibility for the method of sample procurement. Evaluation reports are based solely on the sample(s) in the condition in which they arrived at the laboratory and on the information provided by the client on the COC. SanAir will not provide any opinion on the safety of a building as visual inspection and knowledge of water damage, past remediation and weather conditions during sampling, among other elements, is essential in this decision. All samples are disposed of after 90 days unless otherwise requested by the client. SanAir is accredited by AIHA-LAP, LLC in the EMLAP program. Refer to our accreditation certificate or www.aihaaccreditedlabs.org for an up to date list of the Fields of Testing for which we are accredited.

This report does not constitute endorsement by AIHA-LAP, LLC/NVLAP and/or any other U.S. governmental agencies; and may not be certified by every local, state and federal regulatory agency.

SanAir Technologies Laboratory
1551 Oakbridge Dr. STE B
Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Microbiology
Chain of Custody
Form 68, Revision 5, 1/20/2017

SanAir ID Number: 19004362

Company: Asbestos Consulting Testing	Project Number:	Phone #: 913-492-1337
Address: 15001 W. 101st Terrace	Project Name: Martin Warren Elementary	Phone #: 913-915-4685
City, State, Zip: Lenexa, KS 66215	Date Collected: 1/29/2019	Fax #:
Samples Collected By: George McDowell	P.O. Number:	Email: gmcdowell@actenvironmentalkc.com
Account #: 1567		Email:

Sample Types		Analysis Types	Turn Around Time
AC	Air Cassette	**A1** - Identification and Enumeration of Fungal spores, plus total dander, fiber, and pollen count	3/6/24/48 Hour
		A2 - Identification and Enumeration of Fungal spores only	3/6/24/48 Hour
T B S	Tape Bulk Swab	**D1** - Direct Identification of Fungi	3/6/24/48 Hour
		D2 - Direct Identification of Mites, Insects, Pollen, etc.	3/6/24/48 Hour
		D3 – Direct Identification and Enumeration of Fungi	3/6/24/48 Hour
AP B S	Air Plate Bulk Swab	**C1** - Culture Identification and Enumeration of Fungi only	5-10 Days
		C2 - Culture Identification and Enumeration of Bacteria only	2-4 Days
		C3 - Culture Identification and Enumeration of Fungi and Bacteria	5-10 Days
		C4 - Culture Identification and Enumeration of Thermophilic Bacteria with C2 or C3 analysis	2-4 or 5-10 Days
D	Dust	**DA1** – Dust Mite Allergen Test	3/6/24/48 Hour

SanAir offers *Legionella* testing and other specialized culture analyses. Please call for details, COC and pricing.

Sample #	Sample Identification	Sample Type	Analysis Type(s)	Turn Around Time	Flow Rate (Liters/min)	Total Volume (L) or Area (in^2)	Time Start – Stop	
01	Room 14	AC	A2	24 Hr		75 L		
02	Room 10	AC	A2	24 Hr		75 L		
03	Ambient - Outdoors	AC	A2	24 Hr		75 L		

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	1/29/2019	4:30 pm	MC	JAN 30 2019	10:40AM

If no technician is provided, the primary contact for your account will be selected. Unless scheduled, the TAT for all samples received after 3 pm Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged at 150% of the 3 hr. TAT rate. There is a minimum charge of $100 for weekend work. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.