

INSPECTION REPORT



For the Property at:
2100 5TH AVE NORTH
GRAND FORKS, ND 58203

Prepared for: CHRIS ARNOLD
Inspection Date: Wednesday, December 11, 2019
Prepared by: Lars Knobloch



Nordic Companies Inc
3628 Pierce Street South
Fargo, ND 58104
701-566-1446

www.nordiccompaniesinc.com
lars@nordiccompaniesinc.com

TRUST THE NORSEMEN



December 18, 2019

Dear Chris Arnold,

RE: Report No. 6868, v.2
2100 5th Ave North
Grand Forks, ND
58203

Our services conform to the industry standards for mold sampling and interpretation. All recommendations for mold remediation are based on IICRCs S520 Standards and Reference Guide for Professional Mold Remediation. The samples collected are analyzed by the nation's leading environmental testing firm; EMSL Analytical, Inc. Our Consultant is a Certified Indoor Environmentalist (CIE), Certified ASHI Inspector (ACI), Certified Residential and Commercial Mold Inspector, and has 19 years experience in mold industry, inspection and construction. We do not offer contracting services; therefore, you know our opinions are unbiased. A complete mold specification can be developed by Nordic Environmental for an additional cost to help prevent mold remediation contractors from recommending an unneeded and overly expensive solution.

Thank you for your interest in Nordic Environmental. Please feel free to call should you have any questions.

Sincerely,

Lars Knobloch
on behalf of
Nordic Companies Inc

Nordic Companies Inc
3628 Pierce Street South
Fargo, ND 58104
701-566-1446
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lars@nordiccompaniesinc.com

AGREEMENT

2100 5th Ave North, Grand Forks, ND December 11, 2019

Report No. 6868, v.2
www.nordiccompaniesinc.com

PARTIES TO THE AGREEMENT

Company

Nordic Companies Inc
3628 Pierce Street South
Fargo, ND 58104

Client

Chris Arnold

Total Fee: \$1,195.00

This is an agreement between Chris Arnold and Nordic Companies Inc.

MOLD INSPECTION AGREEMENT

The assessment is based on findings of the physical inspection and testing. Findings are current and accurate for the date and time they were found, but do not reflect expected or predictable mold growth and infestation on and within the property. The report addresses only those areas physically inspected and sampled. The Consultant is not responsible or liable for the non-discovery of any water damage, water problems, mold contamination, or other conditions of the Subject Property which may occur or may become evident after the inspection and testing time and date. The Consultant is neither an insurer nor guarantor against water problems, mold problems or other defects at the Subject Property and improvements, systems or components inspected. The Consultant makes no warranty, expressed or implied as to the fitness for use of condition of the systems or components inspected. The Consultant assumes no responsibility for the cost of repairing any water problems, mold problems or any other defects or conditions.

The property owner is the one liable for correcting the source of the problem. The Consultant is not responsible or liable for any future water problems, mold problems or any other future failures or repairs. Remediation recommendations are suggested guidelines, not a detailed remediation protocol. More or less action may be necessary and will be determined by the remediation company chosen by the property owners or other responsible party.

The client requests the inspection of the Subject Property subject to the following limitations and conditions:

1. The inspection, testing, interpretations and recommendations will be performed following current industry standards.
2. The report is an opinion of the current condition of the property, based on the testing performed, and a visual inspection of the readily accessible areas of the building, and/or areas specified by the client.
3. The client understands and agrees that the liability of Nordic Environmental, its employees and agents, is limited to the Inspection Fee.
4. The written report will be available within 7 business days of the day the testing was completed.
5. The client agrees to pay the inspection fee in full no later than the day of the assessment

I, **Chris Arnold (Signature)** _____, **(Date)** _____, **have read, understood and accepted the terms of this agreement.**

Recommendations and Observations

PRELIMINARY INSPECTION \ Final Conclusions

Condition: • Fungal growth has been identified on pipe insulation in various locations in the school tunnels.

The air sample collected in Mr. Selk's office had elevated levels of Aspergillus/Penicillium. This may be a direct result of the mold condition in the tunnel below, however, the mold that was identified in the inspection of November 27th identified actual growth of Cladosporium on pipe insulation below Mr. Selk office. With this, it possible or more likely that there is an underlying source of mold in the office itself. Nordic Environmental recommends that a visual inspection shall be completed in Mr. Selk's office prior to mold remediation.

The mold spore count in all other samples was extremely low indicating that the air quality in these areas are not impacted by air borne mold spores.

Nordic Environmental highly recommends taking action to prevent or limit moisture/water and fungal growth in the tunnels for the future. It is crucial to ensure proper drainage along the schools foundation and install long extensions on all downspouts.

Furthermore, a permanent solution for discharging water from the tunnels needs to be established (e.g., a permanent discharge pipe shall be installed through the concrete floor and discharged through the exterior wall).

In addition, when replacing the pipe insulation we do not recommend using fiberglass with paper jacketing as the paper is a great food source for fungal growth. Other options such as PVC jacketing should be explored. It should also be considered to install hygrometers in the tunnels so temperature and humidity levels can be monitored.

Fungal growth in the tunnels shall be removed by following the recommendations in this report.

INDICATOR MEASUREMENTS \ Temperature

Condition: • 65-70F

Location: Room D-3

Condition: • 65-70F

Location: Room D-1

Condition: • 65-70F

Location: Room 101

Condition: • 70-75F

Location: Library

Condition: • 70-75F

Location: Selk office

Condition: • 70-75F

Location: Admin office

Condition: • 70-75F

Location: Room 104

Condition: • 70-75F

Location: Room B-4

MOLD

2100 5th Ave North, Grand Forks, ND December 11, 2019

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APPENDIX

Condition: • 70-75F

Location: B-3A

Condition: • 70-75F

Location: Room C-4

INDICATOR MEASUREMENTS \ Humidity

Condition: • 10-15%

Location: Library

Condition: • 15-20%

Location: Room D-3

Condition: • 15-20%

Location: Room 104

Condition: • 15-20%

Location: Room B-4

Condition: • 15-20%

Location: Room B-3A

Condition: • 20-25%

Location: Room D-1

Condition: • 20-25%

Location: Room 101

Condition: • 20-25%

Location: Selk office

Condition: • 20-25%

Location: Admin office

Condition: • 25-30%

Location: Room C-4

SAMPLING \ Chain of Custody

Condition: • See Appendix

SAMPLING \ Laboratory Results

Condition: • See Appendix

INTERPRETATIONS \ Samples with Acceptable Levels

Condition: • Samples in locations below had normal or acceptable levels of airborne mold spores when comparing to the Environmental Analysis Associates Inc, Air-O-Cell Method Interpretation Guide 2014 and other industry guidelines.

Location: Room C-4, Room D-3, Room D-1, Room 101, Library, Admin Office, Room 104, Room B-4, Room B-3A

INTERPRETATIONS \ Samples with Elevated Levels

Condition: • Sample had elevated levels of Aspergillus/Penicillium when comparing to the Environmental Analysis

Associates Inc, Air-O-Cell Method Interpretation Guide 2014 and other industry guidelines.

Location: Selk Office

MOLD REMEDIATION \ Construct Containment

Condition: • Containment shall be established at each tunnel access door. Access doors that won't be used shall be sealed off with tape.

MOLD REMEDIATION \ Engineering Controls

Condition: • The buildings air handling system shall be turned off during the mold remediation process. Contractor shall attempt to create a negative pressure in the tunnels at all times. If negative air cannot be maintained, additional air scrubbers shall be used.

Condition: • Air scrubbers with HEPA filters shall be operating in the affected areas.

MOLD REMEDIATION \ Cleaning/Removal of Mold

Condition: • Contractor shall remove pipe insulation impacted by or suspected to be impacted by fungal growth.

MOLD REMEDIATION \ Material Removal Procedures

Condition: • All removed pipe insulation must be bagged in 6-mil or greater bags. The exterior of the bag shall be wiped down and HEPA vacuumed before being removed from the tunnels. Contractor is responsible for the safe disposal of mold and other construction debris.

MOLD REMEDIATION \ Final Polishing

Condition: • Upon completion of removing and cleaning all impacted pipe insulation, the tunnels shall be cleaned. It is recommended to HEPA vacuum all surfaces.

MOLD REMEDIATION \ Post Remediation Verification

Condition: • .

Consultant will perform a visual inspection of the work area prior to any materials being replaced or containment being removed. Consultant will:

- look for visual signs of remaining mold
- detect any musty odors
- inspect the wall cavity for active moisture problems
- verify that the containment is clean, and free of dust and debris

If any problems are encountered, Contractor shall rectify the problem, at no additional cost to Owner. If no problems are encountered, Consultant will proceed to perform air sampling. Negative air machines will stay on during the sampling, until the remediation is verified as being successful. Air samples will be collected in the containment, outdoors, and in an immediately adjacent area. Samples will be having a turnaround time of 24 hours.

Consultant will interpret the samples and deem if the area needs to be re-cleaned. If re-cleaning is required, all the post remediation verification steps outlined above will be repeated. Owner and Contractor shall negotiate who will be responsible for paying fees associated with the additional set of air sampling.

DEFINITIONS \ Report Definitions

Condition: • Containment or a Critical Barrier.

Typically established with the use of heavy plastic. The main goal when creating this physical barrier is to completely isolate the work area from any adjacent, non-affected areas. For example, if mold is present in one room of your home and the adjacent areas have not been affected, the room must be isolated. Depending on the layout, the doorway would be completely sealed with plastic. All HVAC systems or shared airways between other rooms would be taped or covered in plastic. In essence, any area that could allow air communication between the work area and other non-affected areas

should be properly sealed.

Condition: • Negative Air Machine.

A negative air machine uses ducting to remove contaminated air from a sealed containment area. The filtered air is exhausted outside of the containment area. This creates negative air pressure (a vacuum effect), which helps limit the spread of contaminants to other areas inside the structure.

Condition: • Air Filtration Device/Air Scrubber.

An air scrubber is a portable filtration system that removes particles, gasses, and/or chemicals from the air within a given area. These machines draw air in from the surrounding environment and pass it through a series of filters to remove contaminants. The size and complexity of an air scrubber system will depend on the size of the space being serviced, as well as the range, type, and size of contaminants that must be removed from the area.

Air scrubbers are especially important on restoration jobs where airborne contaminants are present or will be created/disturbed during the restoration process, such as mold, dust, asbestos, lead, chemical fumes, etc. These hazardous particles can settle on carpet, upholstery, and furnishings, or be drawn into the HVAC system and contaminate other parts of a building.

If these contaminants are not removed, they will have a negative effect on the indoor air quality (IAQ) of the worksite. While naturally occurring particles, such as human skin cells, animal hair, and dirt, are nearly always present, toxic gases released by sewage-borne bacteria and mold spores can cause adverse human health effects when inhaled. In short, these contaminants can compromise the quality of the entire restoration job.

Condition: • HEPA vacuuming.

HEPA is a type of filter attached to a vacuum that can trap a large number of very small particles that other vacuum cleaners would simply recirculate back into the air of your home.

FUNGAL INFO \ Explanation**Condition:** • Aspergillus

(Hyphomycetes) Teleomorph: Emericella (Ascomycetes), Eurotium (Ascomycetes) Found in soil, compost piles, decaying vegetation, stored grain, and other kinds of organic matter. Can be found indoors in water-damaged buildings. A few species can cause aspergillosis in humans with compromised or defective immune systems. Most people are naturally immune to this infection of the lung. Aspergillus fumigatus is the most common cause of aspergillosis, followed by A. flavus and A. niger. Some species are able to produce mycotoxins, depending on the strain, substrate, and/or food source. Other species are used in the manufacture of food, such as A. oryzae or A. soyae for soy sauce.

Condition: • Penicillium

(Hyphomycetes) Many species are common contaminants on a variety of substrates. May be found indoors in air samples, carpet dust, or on wallpaper. Some species are able to produce mycotoxins, as summarized below. Human pathogenic species are rare, only limited to P. marneffei, which causes disease in immunocompromised individuals. Some species are used for commercial production, such as P. chrysogenum for the antibiotic penicillin, P. griseofulvum for the antibiotic griseofulvin, and P. roquefortii for blue cheese.

Description

Areas Inspected: • A visual inspection was not in the scope of work for this assessment

Attendees: • School Custodian

Occupancy: • Building was occupied

Building type: • Public school

Approximate age of building: • 55-60 years

Structure: • Slab on grade

Interior finishes: • Masonry block • Gypsum board walls • Suspended ceiling tiles • Carpet flooring • Vinyl flooring

HVAC system: • The heating system is radiant hot water heat installed in tunnels below the school. Hot air is radiating from the tunnels through supply vents installed above the tunnels throughout the building. The air handler for the heating system was not operating at the time of the assessment.

Inspection conducted by: • Lars Knobloch, Certified Indoor Environmentalist (CIE)

Inspection authorized by: • Chris Arnold. Mr. Arnold is the Director of Buildings and Grounds at Grand Forks Public Schools.

Scope of work: • .
Collecting total spore air samples



Room D-1



Room 101



Library

Scope of work: • .

Measuring temperature and relative humidity indoors and outdoors

Scope of work: • .

Interpreting the results and providing recommendations

Background: • Microbial growth was identified on pipe insulation in the tunnels below the school. See previous inspection report delivered December 03, 2019 for more information.

Tools and Equipment: • .

ZEFON'S BIO-PUMP PLUS - Air sampling • .

TSI AIR CALC - Measurements for Relative humidity, Carbon monoxide, Carbon dioxide, Dew point

Sampling Methodology: • .

AIRBORNE MOLD TESTING:

Airborne mold testing was performed utilizing Zefon Internationals Air-O-Cell sampling cassettes following all manufacturer-supplied recommended sampling procedures.

The Air-O-Cell is a direct-read total particulate air sampling device. It works using the inertial impaction principle similar to other spore trap devices. It is designed for the rapid collection and analysis of airborne particulate including bio-aerosols such as mold spores, pollen, insect fragments and skin cell fragments.

The method involves drawing a known quantity of air through a sterile sampling cassette. Subsequent to sampling, the cassette is sealed and transferred to a microbiology laboratory under chain of custody protocol for microscopic analysis. This method collects and enumerates both viable and non viable mold spores.

• . .

AIR-O-CELL CASSETTE:

The Air-O-Cell spore trap cassette is used with a portable air pump (15 liters/minute for 1 to 10 minutes) to collect airborne aerosols including mold, pollen and other airborne particulates. Air is drawn through a small opening at the top of the cassette and spores are trapped on a sticky coated glass slide inside the cassette. These cassettes are efficient at collecting spores as small as 2.6m.

• .

Inspection Methods and Limitations

Statement of Limitations: • .

The following assessment is based on findings of the physical inspection and testing. Findings are current and accurate for the date and time they were found, but do not reflect expected or predictable mold growth and infestation on and within the property. This report addresses only those areas physically inspected and sampled.

Nordic Environmental is not responsible or liable for the non-discovery of any water damage, water problems, mold contamination, or other conditions of the Subject Property which may occur or may become evident after the inspection and testing time and date. Nordic Environmental is neither an insurer nor guarantor against water problems, mold problems or other defects at the Subject Property and improvements, systems or components inspected.

Nordic Environmental makes no warranty, expressed or implied as to the fitness for use of condition of the systems or components inspected. Nordic Environmental is not responsible or liable for any future water problems, mold problems or any other future failures or repairs. Remediation recommendations are suggested guidelines, not a detailed remediation protocol. More or less actions may be necessary and will be determined by the remediation company chosen by the property owners or other responsible party.

Currently there are no Federal regulations for evaluating potential health effects of fungal contamination. This information is subject to change as more information regarding fungal contaminants becomes available. This document was designed to follow currently known industry guidelines for the interpretation of microbial sampling, analysis and remediation. Since interpretation of mold analysis report is scientific work in progress, it may as such be changed without notice.

This Mold Testing Report prepared by Nordic Environmental is based on information supplied by the client and on conditions readily observable or measurable on the date of this study. Any inspection and/or testing conducted by Nordic Environmental are not meant to determine whether a building is safe or unsafe for occupants in regard to indoor air quality.

Indoor building conditions vary constantly, therefore the findings and results presented in this report should be considered relative to and representative of the conditions that existed at the time of the inspection and testing. The results and recommendations presented herein should not be relied upon exclusively for the prevention of all possible, injuries or losses. These services are a supplement to, and not a substitute for, the clients responsibility for protecting the health and safety of employees, students, residents and others and for complying with applicable laws and regulations. Nordic Environmental warrants that its work is performed in a competent and professional manner. No other warranties are expressed or implied. • .

No outdoor sample was collected for background control due to snow coverage and low temperatures. Nordic Environmental will use statistics, experience, and samples collected from non-suspected contaminated areas to interpret the results of the air samples.

END OF REPORT

APPENDIX

2100 5th Ave North, Grand Forks, ND December 11, 2019

Report No. 6868, v.2

www.nordiccompaniesinc.com

MOLD

APPENDIX

OrderID: 161925487



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

161925487
EMSL Order Number (Lab Use Only):

EMSL ANALYTICAL, INC.
14375 23RD AVE NORTH
MINNEAPOLIS, MN 55447

PHONE: (763) 449-4922
FAX: (763) 449-4924

Company : Nordic Companies		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to Is Different please note in Comments**			
Street: 3628 Pierce Street S		Third Party Billing requires written authorization from third party			
City: Fargo	State/Province: ND	Zip/Postal Code: 58104	Country: USA		
Report To (Name): Lars Knobloch		Fax #:			
Telephone #: 701-566-1446		E-mail Address: lars@nordiccompaniesinc.com; miranda@nordiccompaniesinc.com			
Project Name/ Number: <u>VALLEY MIDDLE SCHOOL</u>					
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> E-mail		PO#	State Samples Taken:		
Turnaround Time (TAT) Options* - Please Check					
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input checked="" type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour	<input type="checkbox"/> 72 Hour	<input type="checkbox"/> 96 Hour
<input type="checkbox"/> 1 Week	<input type="checkbox"/> 2 Week				
*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements					
Non Culturable Air Samples (Spore Traps)					
<input type="checkbox"/> M001 Air-O-Cell	<input type="checkbox"/> M173 Allegro M2	<input type="checkbox"/> M004 Allergenco	<input type="checkbox"/> M032 Allergenco-D	<input type="checkbox"/> M172 Versa Trap	
<input type="checkbox"/> M049 BioSIS	<input type="checkbox"/> M003 Burkard	<input type="checkbox"/> M043 Cyclex	<input type="checkbox"/> M002 Cyclex-d		
<input type="checkbox"/> M030 Micro 5	<input type="checkbox"/> M174 MoldSnap	<input type="checkbox"/> M176 Relle Smart	<input type="checkbox"/> M130 Via-Cell		
Other Microbiology Test Codes					
<input type="checkbox"/> M041 Fungal Direct Examination	<input type="checkbox"/> M014 Endotoxin Analysis	<input type="checkbox"/> M029 Enterococci			
<input type="checkbox"/> M005 Viable Fungi ID and Count	<input type="checkbox"/> M015 Heterotrophic Plate Count	<input type="checkbox"/> M019 Fecal Coliform			
<input type="checkbox"/> M006 Viable Fungi ID and Count (Speciation)	<input type="checkbox"/> M180 Real Time Q-PCR-ERMI 36	<input type="checkbox"/> M133 MRSA Analysis			
<input type="checkbox"/> M007 Culturable Fungi	<input type="checkbox"/> Panel	<input type="checkbox"/> M028 <i>Cryptococcus neoformans</i> Detection			
<input type="checkbox"/> M008 Culturable Fungi (Speciation)	<input type="checkbox"/> M018 Total Coliform (Membrane Filtration)	<input type="checkbox"/> M120 <i>Histoplasma capsulatum</i> Detection			
<input type="checkbox"/> M009 Gram Stain Culturable Bacteria	<input type="checkbox"/> M020 Fecal <i>Streptococcus</i> (Membrane Filtration)	<input type="checkbox"/> M033-39 Allergen-Testing			
<input type="checkbox"/> M010 Bacterial Count and ID - 3 Most Prominent	<input type="checkbox"/> M210-215 <i>Legionella</i> Detection	<input type="checkbox"/> M044 Group Allergen (Cat, Dog, Cockroach, Dustmites)			
<input type="checkbox"/> M011 Bacterial Count and ID - 5 Most Prominent	<input type="checkbox"/> M026 Recreational Water Screen	<input type="checkbox"/> Other See Analytical Price Guide			
<input type="checkbox"/> M013 Sewage Contamination in Buildings	<input type="checkbox"/> M027 Mycotoxin Analysis				
Preservation Method (Water):					
Name of Sampler: Lars Knobloch			Signature of Sampler:		
Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
2860 9391	ROOM C-4	AIR	M001	150L	12/11/19 11:10am
2860 9377	ROOM 4200 D-3				11:25am
2860 9404	ROOM D-1				11:40am
2860 9393	ROOM 101				11:55am
2860 9417	LIBRARY				12:15pm
2860 9420	SELK OFFICE				12:35pm
2860 9405	ADMIN OFFICE				12:50pm
2860 9448	ROOM 104				1:05pm
2860 9397	ROOM B-4				1:20pm
2860 9406	ROOM B-3A				1:35pm
Client Sample # (s):		Total # of Samples: 10			
Relinquished (Client):		Date: 12/11/19	Time: 13 A 9 01		
Received (Client):		Date:	Time:		
Comments:					

Controlled Document - Microbiology COC - R2 - 1/12/2010

APPENDIX

2100 5th Ave North, Grand Forks, ND December 11, 2019

Report No. 6868, v.2
www.nordiccompaniesinc.com

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EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250
Tel/Fax: (317) 803-2997 / (317) 803-3047
http://www.EMSL.com / indianapolislab@emsl.com

EMSL Order: 161925487
Customer ID: NORD25
Customer PO:
Project ID:

Attn: Lars Knobloch
Nordic Environmental
3628 Pierce St. South
Fargo, ND 58104

Phone: (701) 566-1446
Fax:
Collected: 12/11/2019
Received: 12/13/2019
Analyzed: 12/16/2019

Project: VALLEY MIDDLE SCHOOL

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	161925487-0001			161925487-0002			161925487-0003		
Client Sample ID:	2860 9391			2860 9377			2860 9404		
Volume (L):	150			150			150		
Sample Location	ROOM C-4			ROOM D-3			ROOM D-1		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria (Ulocladium)	1*	7*	3.7	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	4	90	48.1	-	-	-	2	40	59.7
Basidiospores	3	70	37.4	1	20	100	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	1	20	10.7	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	1*	7*	10.4
Rust	-	-	-	-	-	-	1	20	29.9
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	9	187	100	1	20	100	4	67	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	2	-	-	1	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	3	-	-	1	-	-	3	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nathan Husted, Microbiology Laboratory Manager
or other approved signatory

No discernable field blank was submitted with this group of samples.

Samples received in good condition unless otherwise noted. High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. *** Denotes particles found at 300X. *- Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The report reflects the samples as received. When the information supplied by the customer can affect the validity of the result, it will be noted on the report.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN AIHA-LAP, LLC--EMLAP Accredited #157245

Initial report from: 12/16/2019 09:22:39

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

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EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250
Tel/Fax: (317) 803-2997 / (317) 803-3047
http://www.EMSL.com / indianapolislaboratory@emsl.com

EMSL Order: 161925487
Customer ID: NORD25
Customer PO:
Project ID:

Attn: Lars Knobloch
Nordic Environmental
3628 Pierce St. South
Fargo, ND 58104

Phone: (701) 566-1446
Fax:
Collected: 12/11/2019
Received: 12/13/2019
Analyzed: 12/16/2019

Project: VALLEY MIDDLE SCHOOL

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	161925487-0004			161925487-0005			161925487-0006		
Client Sample ID:	2860 9393			2860 9417			2860 9420		
Volume (L):	150			150			150		
Sample Location:	ROOM 101			LIBRARY			SELK OFFICE		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	3	70	77.8	301	6570	99.1
Basidiospores	1	20	42.6	1	20	22.2	2	40	0.6
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	1	20	42.6	-	-	-	1	20	0.3
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	1*	7*	14.9	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	3	47	100	4	90	100	304	6630	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	2	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	2	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nathan Husted, Microbiology Laboratory Manager
or other approved signatory

No discernable field blank was submitted with this group of samples.

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Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN AIHA-LAP, LLC--EMLAP Accredited #157245

Initial report from: 12/16/2019 09:22:39

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

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APPENDIX

2100 5th Ave North, Grand Forks, ND December 11, 2019

Report No. 6868, v.2
www.nordiccompaniesinc.com

MOLD

APPENDIX



EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250
Tel/Fax: (317) 803-2997 / (317) 803-3047
http://www.EMSL.com / indianapolislab@emsl.com

EMSL Order: 161925487
Customer ID: NORD25
Customer PO:
Project ID:

Attn: Lars Knobloch
Nordic Environmental
3628 Pierce St. South
Fargo, ND 58104

Phone: (701) 566-1446
Fax:
Collected: 12/11/2019
Received: 12/13/2019
Analyzed: 12/16/2019

Project: VALLEY MIDDLE SCHOOL

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	161925487-0007			161925487-0008			161925487-0009		
Client Sample ID:	2860 9405			2860 9448			2860 9397		
Volume (L):	150			150			150		
Sample Location	ADMIN OFFICE			ROOM 104			ROOM B-4		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	1	20	42.6
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	5	100	58.8	1	20	42.6	-	-	-
Basidiospores	3	70	41.2	1	20	42.6	1	20	42.6
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	1*	7*	14.9
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	1*	7*	14.9	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	8	170	100	3	47	100	3	47	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	2	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Nathan Husted, Microbiology Laboratory Manager
or other approved signatory

No discernable field blank was submitted with this group of samples.

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Initial report from: 12/16/2019 09:22:39

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Attn: Lars Knobloch
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3628 Pierce St. South
Fargo, ND 58104

Phone: (701) 566-1446
Fax:
Collected: 12/11/2019
Received: 12/13/2019
Analyzed: 12/16/2019

Project: VALLEY MIDDLE SCHOOL

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	161925487-0010		
Client Sample ID:	2860 9406		
Volume (L):	150		
Sample Location:	ROO0M B-3A		
Spore Types	Raw Count	Count/m ³	% of Total
Alternaria (Ulocladium)	-	-	-
Ascospores	-	-	-
Aspergillus/Penicillium	-	-	-
Basidiospores	1	20	74.1
Bipolaris++	-	-	-
Chaetomium	-	-	-
Cladosporium	-	-	-
Curvularia	-	-	-
Epicoccum	-	-	-
Fusarium	-	-	-
Ganoderma	-	-	-
Myxomycetes++	1*	7*	25.9
Pithomyces++	-	-	-
Rust	-	-	-
Scopulariopsis/Microascus	-	-	-
Stachybotrys/Memnoniella	-	-	-
Unidentifiable Spores	-	-	-
Zygomycetes	-	-	-
Total Fungi	2	27	100
Hyphal Fragment	-	-	-
Insect Fragment	-	-	-
Pollen	-	-	-
Analyt. Sensitivity 600x	-	22	-
Analyt. Sensitivity 300x	-	7*	-
Skin Fragments (1-4)	-	1	-
Fibrous Particulate (1-4)	-	1	-
Background (1-5)	-	2	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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