

June 6, 2008

Faith Alkhatib
Flagler County Engineering
1769 East Moody Boulevard
Bunnell, FL 32110

Dear Ms. Alkhatib,

Thank you for meeting with me on Monday, introducing me to many of the people in Bunnell and organizing the walk through of the Sheriff's operations center. It was a pleasure to meet Sheriff Rick Staly and Chief Mark Strobridge during the walk through and I am grateful for their assistance. I also thank you for letting me participate in the workshop meeting.

Background

Based on the information from Monday's workshop and everyone's input at the meeting, you asked me to prepare a proposal for a Phase 2 of ESi's investigation into the air quality of the Sherriff's building located at 901 E. Moody Boulevard, Bunnell, Florida. It is evident from the workshop that the citizens in your County and particularly the employees that are experiencing health issues that they associate with the building are facing very difficult times. While ESi can assist in investigating issues relating to air quality in the building, there is little that the investigation may accomplish to change the perceptions of the building of some of the people.

Phase 2 Proposal

During the workshop, the following concerns were raised:

1. Residual radiation coming from the slab/under the slab and block walls from the old hospital in the areas that may have had some radiation present. Preliminary discussions with Cindy Becker at the Bureau of Radiation Control indicated that they may be able to help with. The request should come from the County and the Bureau would do the investigation. I have provided you the contact information for Ms. Becker and you can make further arrangements with her.
2. Heavy metals and other elements in the slab. ESi will test the surface of the slab as well as a former block wall using a high precision XRF (X-Ray Fluorescence) Analyzer that detects elements including heavy and light ferrous and non-ferrous metals. This screening will provide elemental data that is both qualitative (what is it?) and quantitative (how much is there?). The instrument being used in the investigations and analysis is the Thermo Niton Portable XRF Analyzer; model number XL3t900s, serial number 36951. The instrument is equipped with a silicon drift detector and the light filter provides detection of light elements. The elemental detection range for this instrument is magnesium (atomic number=12) to bismuth (atomic number=83).
3. Volatile organic compounds (VOCs) coming from under the slab (because of no moisture barrier and leaking drain pipes that were there when it was a hospital). The under-slab investigation will include two test locations – drill through the slab and extract an air sample from underneath the slab. Four additional samples will be taken above the slab including two above the boring locations and two additional inside the building as a control. That way, we can determine what is under the slab and how much is coming in to the building. EPA TO-15 method turnaround times are attached.

4. Moisture coming from the ground under the slab and causing mold growth – conduct interviews with employees and select test areas that they feel should be tested in addition to testing of HVAC filters collected and retained by your office; ESI will collect a total of 20 MycoMeter surface samples. The description of the method and analysis is included in attachments to this proposal.
5. The Sheriff's office interview with cleaning crew. Care in using cleaners and chlorine-based products that can cause all of the symptoms described.

ESi currently plans to drive up on the morning of June 14, 2018, start testing and stay overnight and wrap up the testing on the morning of June 15, 2018.

Discussion

During the workshop, I explained the importance of having a medical professional evaluate the employees and see if any medical evaluation can point to a particular set of potential causal agents that can cause the reaction in the affected employees. If we had that information today, we may be able to focus the investigation in a particular direction. We do not have that information and Sheriff Staly was not very confident that we can get that information quickly. Thus, if we decide to test further at this point, we will have to do it without the benefit of the medical evaluation. Trying to prove a negative is not scientifically defensible. Even with negative results, I cannot say that nothing in the building is causing the symptoms. I can only say that the levels of the contaminants that we tested are at X levels which is below/above accepted standard (when defined) and/or below/above levels that individuals would be exposed to in a typical home or comparable workplace environment.

Budget*

Travel (1/2 Rate)	10 hrs. SC @ 100.00 /hr.	\$1,000.00
Travel (1/2 Rate)	10 hrs. SMC @ 180.00/hr.	\$1,800.00
Equipment/Sample/Test Preparation	6.5 hrs. SC @ 200.00/hr.	\$1,300.00
Site Inspection/Testing 2 days x 5 hours/day	10 hrs. SC @ 200.00/hr.	\$2000.00
	10 hrs. SMC @ 360.00/hr.	\$3600.00
Data Analysis and Report Preparation	6.5 hrs. SC @200.00/hr.	\$1300.00
	5.5 hrs. SMC @ 360.00/hr.	\$1980.00
	3.0 hrs. RA @125.00/hr.	\$375.00
<small>(Key: SMC = Senior Managing Consultant, SC = Staff Consultant, RA = Research Analyst)</small>		
EMSL TO-15 Laboratory Analysis Standard 2 week TAT	6-TO15 @ 277.00	\$1662.00
TO-15 Mandatory FEDEX Shipping EST (both ways)	6 @80.00	\$480.00
MycoMeter Mold Samples & Wet Chemistry	20 @ \$50.00	\$1000.00
XRF Equipment Day Charge (1 Day)		\$375.00
Consumable Sampling/Test Supplies		\$250.00
Travel Expenses Vehicle/Meals/Lodging (estimated)		\$750.00

Total Estimated Project Budget **\$17872.00**

The inspection and testing will be accomplished based on the current ESI Fee and Charge Schedule. Prior authorization will be requested, and notification will be provided for any change in scope or services that affects the costs associated with the project. Please feel free to contact me with any questions.

Respectfully submitted,



Zdenek Hejzlar, Ph.D., CSP

***Notes:**

The above project budget is provided based on the anticipated project scope at this time, as the project scope changes and if/as additional request are made to ESI this budget can be revised and updated if requested. All services are provided in accordance with the Fee & Charge schedule in effect at the time the services are provided.

Most expenses, such as travel are beyond the control of ESI. Efforts are made to combine travel on projects and find most effective travel options and all savings are passed along to client. ESI purchases travel at rates that are generally refundable fares unless otherwise advised by client. Those expenses have been estimated at this time.

ESI does not mark-up travel expenses, however for other expenses that exceed \$500 per item a 10% handling charge is added. In addition, rather than billing for individual consumables and costs such as routine copies and shipping, WebEx fees, phone charges, insurance for storage of exemplar components, etc., a 2% administrative charge on professional time is added.

ATTACHMENT A



12750 Commonwealth Drive
Ft. Myers, FL 33913

ZDENEK (ZED) HEJZLAR, Ph.D., CSP
SENIOR MANAGING CONSULTANT

wesystems@engsys.com

Dr. Hejzlar is a Senior Managing Consultant with ESi, with over 28 years of experience in premises/occupational safety and various aspects of the environmental and toxic health fields. He directs multidisciplinary projects in human factors' systems safety and accident reconstruction related to a broad range of environmental and industrial issues, chemical and hazardous material dangers, risk assessment, fire/explosion, slip, trip, and fall, premises/occupational safety and health hazards. He also has extensive experience in textile and other polymeric material failure analysis and design applications. In addition to the litigation related projects, Dr. Hejzlar is involved in accident prevention consulting research in slip resistant shoe design and risk mitigation consulting with major cruise lines and resorts.

Areas of Specialization

Industrial and Premises Safety
Environmental and System Safety Consulting
Textile and Polymeric Material Failures
Chemical and Physical Hazard Investigations
Fire/Explosion
Chemical Risk Analysis

Education

Ph.D., Occupational Safety and Health Engineering. Columbia Southern University, 1999
M.S., Business Administration. University of South Florida, 1990
B.S., Textile Chemistry. Philadelphia College of Textiles and Science, 1980

Certifications

Certified Safety Professional (CSP) #13230, Board of Certified Safety Professionals
X-ray Florescence Registration, Florida JR 44809000
Certified Walkway Auditor Safety Specialist WACH (Walkway Auditor Certificate Holder), ANSI/NFSI
Certified Fire and Explosion Investigator (CFEI), National Association of Fire Investigators
Certified Mold Assessor, Florida Department of Business Regulation MRSA 329

January 2018

Appointments and Professional Affiliations

Dr. Hejzlar taught technical professional courses in environmental and safety risk management, property condition assessments and occupational safety and health. Projects include deployment, health and safety, risk evaluations, training and standards development for the U.S. Department of Defense, property evaluations for the U.S. Department of Agriculture, Technical Professional Training for ASTM, RIFS and HAZWOPER training for clients in Asia, and environmental risk training for World Bank Group members in Europe. Dr. Hejzlar has also been appointed and served as panel expert for the Transportation Research Safety Board. In addition to numerous technical papers on accident investigation, ASTM has published his three editions of technical manual on the Phase I and Phase II process and CD-ROM computer based assessment training. He served for over 10 years including chairmanship on the Committee for Publications for ASTM International overseeing publications of ASTM's industry technical journals. Dr. Hejzlar is involved in standards development related to safety of walkways surfaces and in tribometry research. He is an NFSI Certified Walkway Auditor Safety Specialist and ANSI/NFSI Walkway Auditor Certificate Holder. He chairs the ANSI/NFSI B101.9 Subcommittee developing standard for "Identification and Elimination of Interior and Exterior Trip Hazards on Walking Surfaces, Stairs, and Ramps."

American Chemical Society (ACS)

Member, 1993 – 2015

The American Institute of Chemists (AIC)

Certified Chemical Engineer (CChE), National Certification Commission in Chemistry and Chemical Engineering, 1993 – 2005

Certified Professional Chemist (CPC), National Certification Commission in Chemistry and Chemical Engineering, 1993 – 2005

American National Standards Institute (ANSI)

ANSI/NFSI Standards Committee B101 on Safety Requirements for Slip, Trip and Fall Prevention, Member, 2013 – present

ANSI/NFSI B101.4 Test Method for Measuring the Wet Barefoot Condition of Flooring Materials or Products, Member, 2014 – present

ANSI/NFSI B101.7 Standard Test Method for Lab Measurement of Footwear Outsole Material Slip Resistance, Member, 2014 – present

ANSI/NFSI B101.9 Identification and Elimination of Interior and Exterior Trip Hazards on Level and Un-Level Walking Surfaces, Stairs, Steps and Ramps, Chairman, 2014 – present

American Railway Engineering and Maintenance-of-Way Association

Member Committee 13 – Environmental, 2007 – 2012

American Society of Safety Engineers (ASSE)

Professional Member

American Society for Testing and Materials (ASTM)

Committee C11 on Gypsum and Related Building Materials and Systems
 Subcommittee C11.01 on Specifications and Test Methods for Gypsum Products
Committee F13 on Pedestrian / Walkway Safety and Footwear
Committee E30 on Forensic Sciences
Committee E34 on Occupational Health and Safety
Committee E35 on Pesticides and Alternative Control Agents
 Sub Committee E35.26 Safety to Man, Chair 2007 – 2009
Committee C15 on Manufactured Masonry Units
Committee F15 on Consumer Products
Committee E50 on Environmental Assessment, Risk Management and Corrective Action
 Data Collection Requirements for Military Deployments
 Task Force Chairman, 2004 – 2009
 Environmental Health Site Assessment for Military Developments Standard
 Development Task Force Chairman, 2001 – 2003
 Environmental Assessment Phase II Training Development
 Task Group Chair, 1998 – 1999
 Environmental Assessment Phase I Training Development
 Task Group Member, 1993 – present
Committee on Publications - Appointed Member, 2005 – 2010
 Vice Chair, 2010 – 2013
 Chairman, 2014 – 2017

City of Fort Myers Brownfields Advisory Board

Vice Chairman / Member, appointment by the Mayor and the City Council, 2001 – 2005

Florida Department of Financial Services

Education Section CE – 2-20, General Lines Property Casualty Approved Instructor, 2007 – 2009

The National Academies

Advisers to the Nation on Science, Engineering and Medicine, Transportation Research Safety
 Board, Cooperative Research Programs Advisory Expert on Project Panel HM-06,
 2007 – 2010

National Association of Fire Investigators

Member

National Floor Safety Institute (NFSI)

Certified Walkway Auditor Safety Specialist
Member, 2013 – present

Texas Region IV

Region IV Texas Mold Licensing Training Development, Task Group for Assessors and Remediation Professionals Contributing Member, 2003 – 2004

Texas House Bill 329 / Texas Department of Health / Texas Mold Rules and Regulations Task Group Contributing Member on behalf of Texas Region IV School District, 2003

U.S. DOD/ASTM

Task Group Leader on Military Deployment Assessment Standards, ASTM/DOD, 2002 – 2009

Positions Held

Engineering Systems Inc., Fort Myers, Florida

Senior Managing Consultant, 2010 – present

Senior Consultant, 2005 – 2009

Director of Environmental Programs, 2001 – 2005

K.C. Breen & Associates, Inc., Fort Myers, Florida

Director of Environmental Management, 1993 – 2001

Director of Research, 1990 – 2001

Parker Seal/Parker Hannifin, Naples, Florida

Quality Assurance and Engineering Manager, 1986 – 1990

Quality Assurance Manager, 1984 – 1986

Madison Bay Marina Campground & Restaurant, Madison, Maryland

Owner Operator / Consultant, 1982 – 1984

Polymer Corporation, Reading, Pennsylvania

Engineering Specialist, 1980 – 1982

Scholler Brothers, Inc., Philadelphia, Pennsylvania

Research Laboratory Chemist, 1979 – 1980

Scottish College of Textiles, Galashiels, Scotland

Laboratory Chemist Trainee, 1976 – 1977

BASF, Ludwigshafen, West Germany

Laboratory Technician, 1976

S.A. Fine Worsteds Co., Capetown, South Africa

Finishing Foreman, 1974 – 1975



Continued Education

CMA - NORMI® Certified Mold Assessor for FL Mold License Requirements
Estero, Florida, July 2016

Walkway Auditor Certificate Holder (WACH) Course Assessment, National Floor Safety Institute (NFSI)
Southlake, Texas, February 2015

Premises Safety Training - Slip, Trip, and Fall, Engineering Systems, Inc.
Ft. Myers, Florida, June 2014

Computer Fire Modeling, National Association of Fire Investigators
Sarasota, Florida, August 2013

Walkway Auditor Safety Specialist Certification Training, National Floor Safety Institute
Southlake, Texas, February 2013

Field Service and Maintenance Marathon Training School on RAMJET Compactors and Vertical Bailers
Vernon, Alabama, May 2011

Thermo Fisher Scientific Niton XRF Analyzer Operational Training Course, Thermo Fisher
July 2009, Florida Certificate Number 11:250038000000 eXD8a

National Fire, Arson & Explosion Investigation Training Program
National Association of Fire Investigators, National Fire Protection Association
Denver, Colorado, Spring 2009

Pedestrian / Bicycle Crash Investigations, IPTM, University of North Florida
Jacksonville, Florida, Summer 2006

Residential Inspection Seminar
Houston, Texas, Winter 2005

MycoMeter Mold Assessment and Testing and Training Course
Ft. Myers, Florida, Spring 2004

Mold: Effective Defense Strategies Seminar
Houston, Texas, Spring 2003

Hazardous Substances Workshop and Bioterrorism Training
Tampa, Florida, Spring 2003

40 Hour Hazardous Waste Operations and Emergency Response Course
Tampa, Florida, Winter 2000

Publications / Presentations

- "Carbon Monoxide Poisoning," Brochure for U.S. Coast Guard, © 2017 National Marine Manufacturers Association - Development Peer Review
- "Reducing the Risk of Slip and Fall Accidents on Cruise Ships," Z. Hejzlar, speaker, presented at Slips, Trips, and Falls International Conference 2017, Toronto Rehabilitation Institute, June 2017
- "Manual 43 Technical Aspects of Phase I / II Environmental Site Assessments, Third Edition," Publisher ASTM, Library of Congress ISBN 978-0-8031-7043-8, April 2015
- "3rd Annual Southwest Florida Brownfield Symposium," Florida Department of Environmental Protection, Z. Hejzlar - speaker, presented at Lee County Public Education Center, Ft. Myers, Florida, March 20, 2015
- "Manual 73 Safety and Occupational Footwear," Z. Hejzlar as ASTM COP representative, ASTM, April 2014
- "Evaluation of the Dynamics of Heel Contact in Flip-flop Sandals Under Dry and Wet Conditions," Z. Hejzlar, International Conference on Fall Prevention and Protection, Tokyo, Japan, October 2013
- "Risk Assessment of Walkway Surfaces Using Dynamic and Static Coefficient of Friction Tribometers and Update on Slip Resistance Measurement Standards," Z. Hejzlar speaker, presented at American Society of Safety Engineers (ASSE), Ft. Myers, Florida, August 2013
- "Evaluation of the Dynamics of Heel Contact in Flip-flop Sandals Under Dry and Wet Conditions in Heel Plant Portion of Gait Cycle Using High-Speed Video," Z. Hejzlar, ASTM International Committee of Publications Annual Meeting, September 2012
- "Analyzing the Risk of Daily Life-Revisited for Consumer and Recreational Products," K. C. Breen, W. J. Fischer, Z. Hejzlar, International Legal Guide, Global Legal Group, May 2011
- "Applications of X-Ray Fluorescence in Corrosive Drywall Investigations - The Use of X-Ray Fluorescence (XRF) in Detecting and Evaluating Sulfur Impacts on Exposed Copper," Z. Hejzlar, K. Klosinski, R. Granica, meeting on Materials Science & Technology 2010, symposium proceedings on Failure Analysis and Prevention Editor(s), MS&T Publications Department, October 2010
- "Applications of X-Ray Fluorescence to Confirm Sulfur Impact of Corrosive Drywall," Z. Hejzlar, Journal of Testing and Evaluation, Vol. 39, No. 1, Paper ID JTE 103027, August 2010
- "X-Ray Fluorescence in Corrosive Drywall Investigations: Strontium Levels in Several Corrosive and Non-Corrosive Drywalls and Effects of Drywall Finish on XRF Strontium Detection," Z. Hejzlar, Journal of Testing and Evaluation, Vol. 39, No. 1, Paper ID JTE 103087, July 2010
- "Industry Update: Foreign Drywall," Z. Hejzlar speaker presentation Cape Coral Construction Industry Association Cape Coral, Florida, May 2010
- "Materials Analysis - Portable X-Ray Fluorescence," Z. Hejzlar speaker presentation, Technical Symposium on Corrosive Imported Drywall, UF, USF, Hinckley Center and FL DOH, Tampa, Florida, November 2009
- "Applications of Portable X-Ray Fluorescence in Problematic Drywall Investigations," Z. Hejzlar / Engineering Systems Inc., J. Pesce / Thermo Fisher Scientific, poster presentation, Technical Symposium on Corrosive Imported Drywall UF, USF, Hinckley Center and FL DOH, Tampa, Florida, November 2009

- "Problematic Drywall Impacts in U.S. Residential Construction: Investigating Problematic Drywall Issues," Z. Hejzlar, J. McDougal, M. L. Hanks, M. Underwood, July 2009
- "Science of Drywall," Z. Hejzlar, presented at Harris Martin Chinese Drywall Conference, Orlando, Florida, June 2009
- "Technical Guide for the Collection of Environmental Sampling Data Related to Environmental Health Site Assessments for Military Deployments (NMCPHC TM-PM 6490.2 also USACHPPM as the TG-317)," Co-author FDPMPU Program Science & Technology, Navy & Marine Corps Public Health Center
- "Manual 43 Technical Aspects of Phase I / II Environmental Site Assessments, Second Edition" Publisher ASTM, Library of Congress ISBN 978-0-8031-4273-2, September 2007
- "Use of ASTM Risk Based Corrective Action Standards with Innovative Management Approaches to Achieve Timely Site Closures," Railroad Environmental Conference, University of Illinois, Chicago, Illinois, October 2007
- "Documentation and Preservation of Information in Claims Investigations Using the ASTM Standards," Catmando Inc. Tampa, Florida, February 2007
- "Innovative Site Remediation Technologies Training Course," presented to Geo-Environmental Technology Research Center, Tokyo, Japan, April 2004
- "Environmental Health Site Assessment Process for Military Deployments," ASTM Standard Guide E2318-03, Co-author
- "Technical Aspects of Mold Investigations," presented to Nationwide Insurance, Plantation, Florida, March 2003
- "Environmental Assessment - Train the Trainer," presented to Geo-Environmental Technology Research Center, Tokyo, Japan, January 2003
- Department of Defense Deployment Assessment Training, various Military Installations in the U.S. and abroad, 2003 – 2009
- 40 Hour Hazwoper Training, presented to ECO Solutions, Seoul, Korea, April 2001
- "Remedial Investigations Feasibility Study - EPA Methodology Applications in Asia," presented to ECO Solutions/KARICO Poil-dong, Seoul, Korea, March 2001
- "Training the Trainer - Applications of ASTM Standards," presented to ECO Solutions, Seoul, Korea, December 2000
- "Computer Based Technical Course Developed for ASTM Environmental Site Assessments for Commercial Real Estate," ASTM, CD-ROM Format
- "Solving Environmental Management Risk Issues for Clients in European Countries," presented to Zurich Insurance Company internal technical training, Zurich, Switzerland
- "Environmental Aspects of Commercial Real Estate Transactions Management," presented to ARVIDA Realty Continuing Education, Bonita Springs, Florida, November 2000
- "Solving Environmental and Brownfields Issues for Clients," presented to Professional Business Brokers Association, Ft. Myers, Florida, October 2000

“ASTM Standards in Products and Personal Injury Litigation,” presented to Lee County Bar Association, Ft. Myers, Florida, March 2000

“Technical Aspects of Quick Response Assessments Course,” presented to DEP Hazardous Materials Response Department, New York, New York, January 2000

“The Use of ASTM Standards in Forensic Investigations,” *The Chemist*, 1999

“Manual 43 Technical Aspects of Phase I / II Environmental Site Assessments,” publisher ASTM, Library of Congress ISBN 0-8031-2084-2, December 1999

“Human Factors of Slips and Falls,” presented at Challenges Conference sponsored by the Florida Department of Health, Lee Memorial Health Systems and Florida Injury Prevention for Seniors, Ft. Myers, Florida, April 1998

“Developments in Alternate Marine Transportation,” SAE 951892, Society of Automotive Engineers, Costa Mesa, California, August 1995

Phase I and Phase II Environmental Site Assessment Training Courses, ASTM Technical Professional Training system, various locations worldwide, 3-5 courses per year, 1994 – present

“Investigation and Analysis of Marine Accidents,” SAE 930658, Society of Automotive Engineers, Detroit, Michigan, March 1993, Reprinted with permission by the Society of Accident Reconstructionist

“Operator and Environmental Factors Associated with Off-Road Equipment Risk,” SAE 921711, Society of Automotive Engineers, Milwaukee, Wisconsin, September 1992



DERREK-IAN G. VERLAAN, ASP, CFEI, CVFI
STAFF CONSULTANT

dgverlaan@engsys.com

Mr. Derrek-Ian Verlaan has been performing scientific investigation, research, and consulting for over 20 years. His consulting practice areas include construction, safety, environmental, and fire.

Mr. Verlaan investigates residential and commercial property losses related to structural, fire, water damage, mold, and corrosive drywall. As part of the ESi catastrophe response team, he conducts construction and safety consulting, origin, cause and damage assessment for large scale commercial and residential property losses resulting from natural disasters, fires, and explosions. He performs safety consulting and manages safety projects related to premises liability, slip, trip, and fall incidents, occupational safety and health, and research. Mr. Verlaan's fire investigation experience includes origin and cause for property, vehicles, commercial vehicles, and marine fires, as well as investigation, research, and project management in support of subrogation and litigation claims. He performs and manages projects related to Phase I and II Environmental Site Assessments, soil and groundwater testing, remediation, mold, indoor and outdoor air quality assessments, environmental litigation, and research. Mr. Verlaan's technical and mechanical background includes marine, powersports (ATV/UTV/PWC/motorcycle), automotive, HVAC, electrical, industrial, and hydraulic equipment.

Areas of Specialization

Construction Consulting/Property Loss
Safety Consulting and Accident Investigation
Fire / Explosion
Environmental Consulting
Mechanical Evaluation

Education

B.S., Vocational and Technical Studies, Building Construction, University of West Florida, 1988

January 2018

Certifications

Associate Safety Professional (ASP) #27740, Board of Certified Safety Professionals
Certified Mold Assessor, Florida Department of Business & Professional Regulation, MRSA 405
Certified Vehicle Fire Investigator (CVFI), National Association of Fire Investigators, International, Registration #14921-7830v
Certified Fire and Explosion Investigator (CFEI), National Association of Fire Investigators, International, Registration #14921-783
HAAG Certified Inspector (HCI), Residential and Commercial Roofing
ID#: 201304360

Professional Affiliations

American Society of Safety Engineers (ASSE)

Member

American Society for Testing and Materials (ASTM)

Member Committee E50, Environmental Assessment, Risk Management, and Corrective Action

National Association of Fire Investigators (NAFI)

Member

Real Estate Investment Society of Southwest Florida

Member, 2009 – 2013

Positions Held

Engineering Systems Inc., Ft. Myers, Florida

Staff Consultant, 2005 – Present

Senior Environmental Technologist/Associate Consultant, 2001 – 2004

K.C. Breen and Associates Inc., Ft. Myers, Florida

Senior Environmental Technologist/ Research Technician, 1994 – 2001

Fort Myers Cycle Honda, Yamaha, Suzuki, Ft. Myers, Florida

Service Manager, Service Advisor, Lead Technician, 1991 – 1994

Southern Cross Water Sports, Ft. Myers Beach, Florida

Owner / Operator, Rental Safety and Rider Training, 1989 – 1991

Precision Machining Inc., Pensacola, Florida

Industrial Equipment Installation, Diagnostics, Upgrades and Service, 1988 – 1989

Quality Car Stereo, Pensacola, Florida

Custom mobile audio systems design, fabrication and installation, 1987 – 1988

Frank Kellar's Stereo, Pensacola, Florida

Store Manager, retail electronics sales, 1986 – 1987

Sunshine Jr. Food Stores, Pensacola, Florida

Maintenance Technician, South District 40 stores, HVAC, refrigeration, plumbing and electrical, 1984 – 1985

Sun Ray Motel, Cottages and Restaurant, Pensacola Beach, Florida

Maintenance Technician, Construction, Maintenance and Remodeling Restaurant Equipment, HVAC, plumbing and electrical, 1982 – 1984

Continued Education

CMA - NORMI® Certified Mold Assessor/CEU for FL Mold License Requirements

Estero, Florida, July 2016

Excel Tribometers, LLC

CXLT Certification Program, Tampa, Florida, March 10, 2016

National Association of Fire Investigators, International (NAFI)

Vehicle Fire, Arson, & Explosion Investigation Science & Technology Seminar
Certified Vehicle Fire Investigator (CVFI), Lexington, Kentucky, September 2015

American Society of Safety Engineers (ASSE)

ASP (Associate Safety Professional) Workshop, Atlanta, Georgia, August 2015

National Association of Fire Investigators (NAFI)

Advanced National Fire, Arson, & Explosion Investigation Training Program
Certified Fire and Explosion Investigator (CFEI), Sarasota, Florida, July 2014
Recertification

Mold, Moisture and Standards of Practice

Florida CMA/CEU Course# 000090, National Organization of Remediators and Mold Inspectors (NORMI), Ft. Myers, Florida, March 11, 2014

HAAG Certified Inspector (HCI)

Residential and Commercial Roofing Certified Inspector Program, No. 201304360, April 20, 2013

National Association of Fire Investigators (NAFI)

Advanced National Fire, Arson, & Explosion Investigation Training Program
Certified Fire and Explosion Investigator (CFEI), Sarasota, Florida, August 2009

Environmental Site Assessments for Commercial Real Estate

ASTM E1527-05/AAI, Orlando, Florida, 2006

Due Diligence at Dawn Workshop Series

AAI and Liability: Prepare Preserve and Protect, Orlando, Florida, 2005

Indoor Air Quality Association (IAQA), Certified Mold Remediator (CMR)

Certification No. CMR 02160, Tampa, Florida, 2002

MycoMeter-test Training Program, MycoMeter-test Certified

Certification No. US 0067DK, Ft. Myers, Florida, 2002

40 Hour Hazardous Waste Operations and Emergency Response (HAZWOPER)

Tampa, Florida, 2001

Environmental Site Assessment for Commercial Real Estate

ASTM E1527-00, Clearwater, Florida, 1999

Publications/Presentations

"3rd Annual Southwest Florida Brownfield Symposium," Florida Department of Environmental Protection, D. Verlaan - speaker, presented at Lee County Public Education Center, Ft. Myers, Florida, March 20, 2015

Content contributor: Manual 43 Technical Aspects of Phase I / II Environmental Site Assessments, Publisher ASTM, Library of Congress ISBN 978-0-8031-4273-2, September 2007

Miscellaneous

PADI Open Water SCUBA Course and Certification

Fort Myers, Florida, 1998

The Nikon School of Photography

Miami, Florida, 1996

Motorcycle Safety Foundation Rider Course

Fort Myers, Florida, 1991

ATTACHMENT B



TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

STANDARD OF CARE

ESi shall perform its services under its engagement with Client in a workmanlike manner, and in accordance with applicable industry and professional standards, using reasonable care and skill, consistent with that ordinarily exercised by members of the profession under similar circumstances, and in compliance with any applicable laws, rules, or regulations (hereinafter referred to as the "Performance Standard"). All professional findings and opinions offered by ESi personnel will be subjected to an internal quality review by another qualified ESi consultant. ESi makes no representation or warranty, express or implied, that its services will achieve a specific result.

Occasionally, an engagement will require ESi to provide design or engineering services that exceed the Performance Standard. The normal ESi consulting fee schedule does not apply in these circumstances. If the Client wishes ESi to assume any increased liability or responsibility beyond the Performance Standard, a separate written agreement which defines the responsibilities of the parties must be executed.

ESi's commitment to perform in accordance with the performance standard is the only warranty concerning the services and any deliverables, and is made for the benefit of the client only and is in lieu of all other warranties and representations, express or implied.

The client waives any right of contribution, and shall indemnify and hold harmless ESi, its agents, employees, and consultants from and against all claims, damages, losses, and expenses arising out of or resulting from or in connection with the performance of work which is reasonably deemed to comply with the performance standard or which results in whole or in part from client's negligence or the negligence of client's agents.

NOTICE

The Client agrees to inform ESi promptly and in sufficient time to allow a timely response by ESi, of any court filing, motion, or ruling of any judicial, administrative or public body which may affect ESi, including but not limited to: Daubert motions, motions intended to limit the scope of testimony, and discovery requests that call for the dissemination of confidential ESi information.

The Client agrees to promptly notify ESi of all parties involved in an investigation or lawsuit, so that ESi can perform a comprehensive conflict check. If a material conflict of interest develops, or the Client breaches any requirements of professional conduct during the course of the project, ESi may, at its sole discretion, terminate work on the project immediately, by providing written notice to the Client.

BILLING

Projects are billed monthly, with summary invoices that set forth fees and incurred expenses. ESi will only provide detailed invoices at the Client's request. ESi terms are 'Net 30' days from the invoice date. Any disputed charges must be brought to our attention within 30 days of the invoice date. All undisputed charges, on any invoice, shall be paid within the applicable 30-day period.

An administrative fee of 2% is assessed on professional service fees to cover the cost of routine copies, postage, local mileage (less than 50 miles), CDs, DVDs, external storage (less than 16GB), and any other single pass through expense with a cost of \$25.00 or less. If any unpaid balance remains 60 days after the invoice date, ESi may charge interest at a rate of 1 1/2% per month on the unpaid amount. If payment is not received in a timely manner, ESi may, upon notice to the Client, suspend services under this agreement until all amounts due to ESi for services, expenses, and charges are paid in full. ESi also reserves the right to pursue all available collection efforts.

In general, ESi will charge for services on an hourly basis; however, in some cases, special billing such as flat fee or fixed price arrangements may apply. The Client may request a schedule of professional staff billing rates and a list of administrative and service fees applicable to a particular engagement. Please note that all rates are reviewed and adjusted on a yearly basis.

Travel is billed at cost, without mark-up or premium. Non-local travel by automobile will be charged at the prevailing IRS-approved rate. For professional staff, all travel time is billed at the full rate. Specific hourly or daily use rates will apply when highly specialized equipment or software is utilized during the course of the project. Any single project expense that exceeds \$500.00 will be billed at cost plus 10%; however, the Client may avoid this markup by prepaying the expenses or obtaining such equipment, project supplies, or outside services independently. Depending on the nature of the assignment, ESi reserves the right to require an advance on expenses or a retainer fee.

From time to time, a project will require members of our technical staff to present the results of our findings in a written report, deposition, or court proceeding. In these cases, the project will be charged the standard applicable rates and associated costs. In some instances, a minimum charge may apply. If ESi is subpoenaed or asked to provide testimony on a project, the actual time and expenses associated with the preparation and testimony will be charged to the project. The Client is responsible for any fees and costs associated with services provided by ESi staff. After ESi has been paid in full, ESi will assist the Client in obtaining reimbursement from other parties, where appropriate.

ARTIFACTS RECEIVED BY ESi FOR EXAMINATION AND TESTING

ESi takes reasonable steps to protect artifacts, (e.g. materials, parts, equipment) from loss. However, it must be recognized that there is a degree of risk with even the best control system. ESi will identify and track artifacts in its possession to maintain control and traceability. Large items, which cannot be readily accommodated in the usual ESi storage areas, may be stored in another secured warehouse or fenced lot. The Client will be billed regularly for artifact handling and storage, both on and off ESi premises. A schedule of handling and storage fees is available upon request. All evidence is stored under the condition that the Client agrees to hold ESi harmless in the event of a loss. ESi's insurance policy covers the cost of replacement, and not the value that may be associated with research, litigation, or historical value. If the Client requires special handling or insurance protection, specific arrangements can be made upon written request to the Project Manager.

Upon completion of ESi's work on a project, to the extent ESi has not otherwise received instructions from the Client, ESi will send an Artifact Disposal Form to the Client via certified mail. An Artifact Disposal Form will also be sent to the Client if artifact storage fees are unpaid for a period of 60 or more days after invoicing. An executed copy of the Artifact Disposal Form must be received by ESi within 45 business days of receipt, and should advise ESi whether to dispose of or return the artifact(s). If no response is received within 45 business days, ESi may dispose of the artifact(s) in its sole discretion. The Client will be billed for technician time and expenses related to artifact delivery or disposal.

CONFIDENTIALITY AND WORK PRODUCT

It is ESi policy to keep the nature and scope of our client engagements confidential. ESi agrees to treat the Client's confidential information with the same degree of care that ESi accords its own confidential information, and in no case, less than reasonable care. The term "confidential information" shall be deemed to include all information not generally known to ESi's and Client's competitors and which they have taken reasonable steps to ensure such confidentiality.

All ESi work product is intended solely for use on behalf of the Client, and no other party may use ESi work product without ESi's express written consent. For the purpose of this document, ESi work product means all reports, laboratory test data, animations, visual work product, calculations, estimates, concepts, ideas, theories, notes, and other documents or information prepared and captured in any form or medium by ESi, its staff, consultants, and/or its affiliates in the course of providing engineering consulting services to the Client.

Upon notification of a project closing, ESi will return all protected or confidential documents to the Client, and dispose of the remaining file materials. ESi will retain its work product.

WAIVER OF CONSEQUENTIAL DAMAGES

The Client and ESi mutually agree to waive all claims of consequential damages arising from disputes, claims, or other matters related to this engagement.

GENERAL

In the event any dispute arises, ESi and Client will negotiate in good faith to resolve such dispute prior to seeking relief in mediation. If the dispute has not been resolved by negotiation within 45 days after delivery of the initial notice of negotiation, the parties shall endeavor to settle the dispute by mediation under the then current CPR Mediation Procedure.

This engagement cannot be assigned without ESi's express prior written consent. No waiver of ESi's rights under any provision in these terms and conditions should be construed as a waiver of any other term or condition hereunder. Likewise, failure to immediately enforce a provision in these terms and conditions does not preclude ESi's right to enforce the provision at a later time.

This Agreement contains the entire agreement between the parties with respect to the subject matter of the Agreement and supersedes all prior agreements and understandings, both oral and written, between the parties with respect to the subject matter of the Agreement.

Any modifications to these terms and conditions shall be made in writing. In the absence of any such modifications, addenda, or other written agreements, these terms and conditions shall govern the actions of ESi and the Client with respect to this engagement.



**2018 FEE SCHEDULE
FLORIDA OPERATIONS STAFF**

Principal	Kevin C. Breen	\$425 per hour
Sr. Managing Consultant	Zdenek Hejzlar	\$360 per hour
Sr. Managing Consultant	Mel A. Underwood	\$260 per hour
Sr. Managing Consultant	Kevin Bedsworth	\$260 per hour
Sr. Managing Consultant	Greg Davis	\$260 per hour
Sr. Consultant	Mike Hanks	\$335 per hour
Sr. Consultant	Andrew W. Johnson	\$250 per hour
Sr. Consultant	Casey D. Breen	\$250 per hour
Sr. Consultant	Donald L. Fowler	\$225 per hour
Sr. Staff Consultant	Aaron D. Miller	\$250 per hour
Sr. Staff Consultant	Dave Fortenbaugh	\$200 per hour
Staff Consultant	Neil Cichy	\$250 per hour
Staff Consultant	Derrek Verlaan	\$200 per hour
Staff Consultant	Jared McGillicuddy	\$200 per hour
Staff Consultant	Jennifer Odelbraski	\$180 per hour
Staff Consultant	Steven Faupel	\$180 per hour
Staff Consultant	Grant Wilcox	\$160 per hour
Sr. Technologist /Research Assistant		\$160 - \$180 per hour
Technologist/Research Analyst		\$100 - \$130 per hour
Technical/Research Assistant		\$80 - \$130 per hour

Rates effective June 1st, 2018

STORAGE CHARGES FOR ARTIFACTS

ESi has the capability to store and maintain artifacts for projects in a systematic manner. Artifacts are cataloged and stored in a reasonably secure manner. In the event that artifacts are damaged or destroyed, insurance only covers replacement of like items and does not address any unique value that the artifact may have as evidence. If special insurance or handling of artifacts is desired, please discuss with ESi Project Manager. All artifact charges are in advance and the cost includes initial and final processing time as well as storage and tracking costs.

Size	Cost*
Shoe Box	\$300/year
File Box	\$600/year
Pallet	\$500/quarter
Other	To Be Determined

ESi reviews and updates our Fee Schedule on an annual basis. The applicable fees for all professional services are based on the Fee Schedule in effect when the services are provided.

ATTACHMENT C



EMSL ANALYTICAL, INC.

www.EMSL.com

800-220-3675

EMSL ANALYTICAL, INC.
Price Quote
Engineering Systems, Inc.
Customer ID: ENGI99
Quote Number: 322018340322
Quoted: June 05, 2018



Locally Focused.....
.....Nationally Recognized.

Quote Submitted to:
Derrek Verlaan
Engineering Systems, Inc.
12750 Commonwealth Drive
Fort Myers, FL 33913
(239)482-0500
dgverlaan@esi-fl.com

Quote Submitted by:
Tad Looney
EMSL Analytical, Inc.
Pasadena, CA

Industrial Hygiene/IAQ Laboratory Services

Volatil Organic Compounds (VOC's)	1 Day	2 Day	3 Day	4 Day	1 Wk	2 Wk
Volatil Organic Scan by GC/MS w/Library Search via USEPA TO-15. Results only.	\$871.00	\$693.00	\$554.00	\$416.00	\$348.00	\$277.00
Volatil Organic Scan by GC/MS w/Library Search via USEPA TO-15 with Full Deliverable Package.	\$1,190.00	\$946.00	\$757.00	\$568.00	\$474.00	\$379.00

This unit price quote includes Customer Specific pricing which takes into account types of samples typically and/or routinely submitted, volume of workload expected, and client payment history and/or credit rating. Any/all work performed will be in accordance with EMSL Analytical, Inc. Terms and Conditions included herein. Quote is not valid if work is not submitted within 30 days. If samples are submitted to EMSL within thirty days of the quote date, then these prices are valid through December 31, 2018 or for the duration specified in a formal agreement by and between EMSL and customer. EMSL reserves the right to adjust pricing at our sole discretion based on (but not limited to) the customer's non-compliance with net 30 day payment terms, change in scope of work including but not limited to an amount/volume of work less than described at the time of the quote, and/or non-compliance with the EMSL terms and conditions included herein.

ATTACHMENT D

THE ENVIRONMENTAL TECHNOLOGY VERIFICATION
PROGRAM



ETV Verification Statement

TECHNOLOGY TYPE:	RAPID FUNGI DETECTION	
APPLICATION:	ANALYSIS OF FUNGI IN AIR	
TECHNOLOGY NAME:	Mycometer[®]-test	
COMPANY:	Mycometer A/S	Mycometer, Inc.
ADDRESS:	Lersoe Parkallé 40 2100 Copenhagen Denmark	5002 MacDill Avenue Tampa, FL 33611
PHONE:	+45 3916 1072	813-434-6998
WEB SITE:	<u>www.mycometer.com</u>	<u>www.mycometer.com</u>
E-MAIL:	<u>info@mycometer.dk</u>	<u>lrogers@mycometer.com</u>

The U.S. Environmental Protection Agency (EPA) has established the Environmental Technology Verification (ETV) Program to facilitate the deployment of innovative or improved environmental technologies through performance verification and dissemination of information. The goal of the ETV Program is to further environmental protection by accelerating the acceptance and use of improved and cost-effective technologies. ETV seeks to achieve this goal by providing high-quality, peer-reviewed data on technology performance to those involved in the design, distribution, financing, permitting, purchase, and use of environmental technologies. Information and ETV documents are available at www.epa.gov/etv.

ETV works in partnership with recognized standards and testing organizations, with stakeholder groups (consisting of buyers, vendor organizations, and permittees), and with individual technology developers. The program evaluates the performance of innovative technologies by developing test plans that are responsive to the needs of stakeholders, conducting field and laboratory tests (as appropriate), collecting and analyzing data, and preparing peer-reviewed reports. All evaluations are conducted in accordance with rigorous quality assurance (QA) protocols to ensure that data of known and adequate quality are generated and that the results are defensible.

The Advanced Monitoring Systems (AMS) Center, one of six verification centers under ETV, is operated by Battelle in cooperation with EPA's National Risk Management Research Laboratory. The AMS Center evaluated the performance of a rapid fungi detection technology. This verification statement provides a summary of the test results for Mycometer[®]-test developed by Mycometer A/S and distributed in the United States by Mycometer, Inc.

VERIFICATION TEST DESCRIPTION

Rapid technologies (results available same day of testing) to detect fungi from matrices such as surfaces, bulk material, air, or water are of interest to improve the efficiency of delineating and documenting fungal contamination in buildings and water systems, and for monitoring progress during cleanup and remediation processes. Traditional methods of analysis can take up to seven days for results. Technologies providing same day or near “real-time” results indicating changes in air quality would help to control diseases associated with fungal outbreaks, expedite remediation efforts, and protect public health.

The verification test of the Mycometer[®]-test technology was conducted from May 19 through June 9, 2011 at Battelle in Columbus, Ohio. Technology operation, sample handling, and analyses were performed according to the vendor’s instructions.

For this verification, the Mycometer[®]-test technology was verified for repeatability and inter-assay reproducibility by detecting fungi in air samples. Linearity was assessed using dilutions of stock cultures in dechlorinated tap water. The linearity test for fungi was a modification of test procedures in place for air and surface samples. In addition, sustainable operational factors such as ease of use, required reagents, analysis time, laboratory space, and utilities required were reported.

QA oversight of verification testing was provided by Battelle and EPA. Battelle and EPA QA staff conducted technical systems audits of the testing and Battelle QA staff conducted a data quality audit of at least 10% of the test data. This verification statement, the full report on which it is based, and the quality assurance project plan for this verification test are available at www.epa.gov/etv/centers/center1.html.

TECHNOLOGY DESCRIPTION

The Mycometer[®]-test rapid fungi detection technology is based on fluorogenic detection of enzyme activities found predominantly in a taxonomic group of organisms. A sample (e.g., filter or swab) is contacted with a test solution containing a synthetic enzyme substrate. The enzyme present in the fungal cells hydrolyzes the synthetic enzyme substrate. When the synthetic substrate molecule is cleaved into two molecules by the enzyme, one of the molecules can be made to fluoresce upon excitation with ultraviolet (UV) light (365 nanometers). The amount of fluorescence is measured using a handheld fluorometer after processing for a reaction time based on the ambient temperature. This fluorescence semi-quantitatively correlates to a measure of the fungal biomass. Fluorescence measurements can be captured electronically and may be downloaded to a computer or can be transcribed by hand. The sample preparation and analyses can be performed on site in less than one hour.

According to the vendor, the Mycometer[®]-test for fungi is designed to measure both viable and non-viable spores, hyphae and fungal particles such as hyphal fragments in air, on surfaces, or in bulk materials to give a representation of the contamination in the environment. Although the Mycometer[®]-test cannot distinguish between fungal genera or viable/non-viable fungi, it provides a semi-quantitative measure of the total fungal biomass present. Air samples can be collected with traditional air sampling pumps onto filter media. Typically 300 liters of air are collected by sampling 20 liters per minute (LPM) for 15 minutes, or 15 LPM for 20 minutes. Surface samples are collected by swabbing a nine square centimeter area and bulk material samples are weighed. Enzyme substrate is added to the filter, swab, or bulk material and the fungal enzyme reacts with the substrate to release a fluorescent product. The amount of fungi in the sample is estimated by measuring the fluorescence produced. For the Mycometer[®]-test, the type and material of the air sampling filter cartridge are critical for both sampling and the enzyme reaction (which take place directly on the filter). It is important, therefore, to use the filters provided by the vendor. The vendor provides a proficiency certification training program that is included with the fluorometer kit (on a flash drive) and is mandatory for use of their technology to document understanding and proper training.

VERIFICATION RESULTS

Table 1 summarizes the linearity results for Mycometer[®]-test using two fungal cultures in water, *Aspergillus flavus* ATCC 58870 and *Cladosporium herbarum* ATCC 58927.

Table 1. Linearity Results for Mycometer[®]-test Adjusted Fluorescence vs. Total Spores Tested

Test Organism	Total Spores Tested	Range of Average Adjusted Fluorescence Units (fu)	Slope	Y-intercept	Coefficient of Determination (R ²)
<i>A. flavus</i> ATCC 58870	3.1 x 10 ⁵ to 6.2 x 10 ⁶	218 to 4322	0.0007	20.637	0.9979
<i>C. herbarum</i> ATCC 58927	4.8 x 10 ⁵ to 9.6 x 10 ⁶	125 to 3389	0.0004	-135.25	0.9976

Adjusted fluorescence = sample fluorescence reading – blank fluorescence reading

Table 2 summarizes the repeatability results for Mycometer[®]-test using eight replicates of one fungal culture in air, all analyzed by one person.

Table 2. Mycometer[®]-test Repeatability: Air Containing *A. Flavus*

Test Iteration	Adjusted Fluorescence Units (fu)
	<i>A. flavus</i> (6.2 x 10 ³ spores/L) n=8
Average	334
Standard Deviation	27
RSD (%)	8.0

Table 3 summarizes the inter-assay reproducibility results for Mycometer[®]-test using eight replicates of one fungal culture in air split into four samples each for analysis by two people with two different fluorometers.

Table 3. Mycometer[®]-test Inter-Assay Reproducibility: Air Containing *A. Flavus*

Test Iteration	Adjusted Fluorescence Units (fu)	
	<i>A. flavus</i> (6.2 x 10 ³ spores/L) n=4	
	Analyst 1	Analyst 2
Average	291	307
Standard Deviation	25	15
RSD (%)	8.7	4.7
RPD (%)	5.3	

Operational Factors. The verification staff found that the Mycometer[®]-test was easy to use. A Mycometer A/S representative came to Battelle to train the verification staff in the use of the Mycometer[®]-test reagents and operation of the fluorometer. This training lasted one day and staff felt it was more than sufficient to be comfortable using the reagent kits and fluorometer without assistance. This on-site training focused on the technology operating protocols for air and water matrices. While the operational aspects of this training were similar to the proficiency certification program, the proficiency certification program also focuses on understanding the principles behind the technology as well as additional applications.

The fluorometer is provided in a hard-cover carrying case. The carrying case has dimensions of 45 cm wide × 15 cm deep × 32 cm high (17.5 in wide × 6 in deep × 12.5 in high) and weighs approximately 7.2 kilograms (16 pounds). Included with the fluorometer is a black calibration cuvette, a 100 µL automatic pipette, a timer, two test racks, a calculator, a thermometer, and training materials. The fluorometer operates on four AAA batteries and has push-button operation. Testing staff found that the display was easy to read and surfaces were easy to wipe clean. The fluorometer required a calibration check once daily with the black cuvette provided with the fluorometer and a calibration standard provided in the reagent kit. Both an instruction manual and a quick reference card were provided for the Mycometer[®]-test. Verification staff found that the instructions provided were not always consistent between the manual and the quick reference. For example, the manual indicated that the blank sample for air testing was to be a blank filter processed alongside the test filters, while the quick reference guide indicated that the blank was to be an aliquot of the substrate combined with the developer.

The Mycometer[®]-test reagents are sold in lots of 10 for air assays and lots of 20 for surface assays. Each reagent kit included the sampling media (filter for air samples), enzyme substrate, developer, and calibration standard, all of which were clearly labeled for identification and storage conditions. Syringes and cuvettes used for processing were also included. All containers and packaging were easy to open; however, verification staff found there was packaging waste involved with the different components, particularly if multiple kits were needed to analyze the required number of samples. All reagents were ready for use with the exception of the enzyme substrate which required re-hydration. Each sample resulted in approximately 5 mL of liquid waste from the substrate and developer used to process the sample. Based on the expiration date stamped on the kits, the shelf life of the kits received for testing was over one year from receipt date. Several kit components required refrigeration. Once rehydrated, the enzyme substrate could be stored in a refrigerator for up to one week or at -18 °C for up to 6 months. All components needed to prepare and analyze a sample were included either in the reagent kit or the fluorometer kit. No other laboratory equipment was needed for processing air samples. For air sample collection, however, a sampling pump must be obtained. The recommended air sampling pumps (Gast 3-30 LPM IAQ Pump w/Tubing & Rotameter) are commercially available. Pricing for the fluorometer and reagent kits can be obtained from the provided vendor contacts. Verification testing staff found they were able to collect and analyze eight air samples in one hour, given the availability of enough air sampling pumps to generate eight air samples simultaneously.

For data reduction, a laptop or personal computer is needed. Mycometer provides an Excel spreadsheet for quantification of mold/fungi in air that converts fluorescence unit values into a 'Mycometer-Air' value and provides suggested interpretation guidelines based on the resulting value obtained. The Mycometer-Air value calculation converts the fluorescence reading to fluorescence units (fu) per volume of air measured in cubic meters. This can be used to standardize the results for consistent comparison and interpretation if there are slight variations in the air volume sampled. Because all sample volumes used in verification testing were the same, conversion of results to a Mycometer-Air value were not needed for verification testing. In addition, the interpretation guidelines associated with the Mycometer-Air values were not verified as part of this test.

Signed by Tracy Stenner
Tracy Stenner
Manager
Environmental Solutions Product Line
Energy, Environment, and Material Sciences
Battelle

01/06/2012
Date

Signed by Cynthia Sonich-Mullin 02/01/2012
Cynthia Sonich-Mullin
Director
National Risk Management Research Laboratory
Office of Research and Development
U.S. Environmental Protection Agency