

## **Ryan P. Vernon, CIT** **Project Manager**

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### **Years' Experience: 5**

### **Professional Summary:**

Mr. Vernon provides technical inspections, analysis, and reports towards the resolution of insurance claims. Mr. Vernon has been involved with building and systems inspections for multiple clients across New England and has experience with microbial, hazardous materials, asbestos sampling, thermal infrared photography, and building air quality evaluations specific to moisture and temperature management and building envelope assessments. Mr. Vernon uses experience, education and training to conduct complex investigations and on-site analysis to recognize, eliminate, and control occupational health hazards and diseases. Collects samples of dust, gases, vapors, and other potentially toxic materials for analysis. Investigates adequacy of ventilation, exhaust equipment, lighting, and other conditions that may affect occupant health, comfort, or efficiency.

### **Licenses and Certifications:**

Level 1 Certified Infrared Thermographer (CIT)  
Microbial Investigator & Remediation  
Asbestos Inspector, MA, AI900526  
HAZWOPER, OSHA, 40 Hour  
Performance Systems Academy, Multi-family TREAT

### **Project Experience:**

#### **Insurance Claims, New England**

Mr. Vernon has provided various cause and origin inspections for insurance carriers that include building envelope evaluations, roof ventilation, water intrusion and moisture and condensation issues. Investigations included visual inspection, sampling for microbial contamination, source identification of moisture intrusion, interpretation of results and remediation recommendations.

#### **Forensic/Engineering - HVAC and Building Systems Engineering Diagnostics**

Mr. Vernon has assisted in engineering diagnostic investigations of problematic HVAC systems under the guidance of a licensed professional engineer. The investigation identified and proposed correction of operational procedures, as well as failed components which caused indoor air quality issues within the office space. Business office mold cause and origin investigation resulting in HVAC modifications was performed within desired operational parameters while ensuring moisture control.

#### **LEED Compliance, USGBC**

Provided building investigations of Indoor Air Quality testing after construction and prior to occupancy protocols consistent with the "EPA Compendium of Methods for the

Determination of Air Pollutants” in Indoor Air as detailed in the LEED Reference Guide for New Construction and Major Renovations Section 3.2, 2009 Edition.

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## Project Experience (Continued),

### **Confidential Client, Braintree, MA, January thru March 2015**

Mr. Vernon conducted an initial baseline of personnel exposure and ambient levels for dust/particulate and for volatile organic compounds (VOCs) prior to and during spray foam insulation application at a confidential facility. Follow up area air sampling for the presence of methylene bisphenyl isocyanate (MDI) (a constituent of the Icynene two-part insulation MD-C-200 Component A) was also conducted. Samples were analyzed in accordance with using the mod. OSHA 47, HPLC/FL.

### **Confidential Client, Tenant Space, IAQ & Microbial Investigation**

One of the client's facilities located in Providence, RI incurred multiple floods during the past few years. It appeared that proper clean up did not occur in order to prevent microbial growth. EFI performed air quality measurements, moisture measurements, microbial sampling, and a visual inspection. Air quality parameters tested included relative humidity, temperature, carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO) and were collected using a direct read model TSI 7575 Q-Track IAQ meter. Moisture measurements were collected using a Protimeter moisture meter. During the investigation, EFI was able to identify and locate multiple sources of water intrusion and also observed water staining and visible microbial growth. EFI reported and provided remediation recommendations appropriate for what was found on site.

### **City of Boston, Boston, MA, 2015**

EFI was asked to conduct an investigation related to occupant concerns that included an investigation of overall indoor air quality, microbial concerns and other IAQ parameters. Mr. Vernon provided microbial testing and baseline air quality testing in comparison to ASHRAE guidelines for the office environment.

### **Confidential Client, Hospital in Boston, MA, 2015**

Used infrared thermography to identify and evaluate the extent of water impacted building materials. Mr. Vernon conducted a moisture mapping investigation to delineate the extent of water damage from burst pipes and failed HVAC condensate lines at a Hospital in Boston. The moisture mapping investigation was conducted within three buildings of the hospital. A joint effort was made between EFI and the clients Construction Safety Coordinator to identify moisture levels in all areas conducted during the investigation.

### **Johnson Controls, Lewiston, ME, 2011-2014**

Mr. Vernon was part of a four person team of staff professionals to conduct mold remediation and engineering diagnostic services of a four-story 160,000 sq ft office building that was converted from an industrial mill complex. EFI's diagnostic services of the HVAC system included proper balancing of moisture, RH and temperature control and allow the building systems and operations to facilitate such controls through proper use of existing and newly installed systems and followed by site testing to verify the efficacy of such installations.

As part of EFI's response in the HVAC duct insulation removal project, EFI conducted additional carpet dust samples sampling and the fabric office chairs within the building to test for bacteria.

Acoustic testing was also performed to monitor the potential noise impact of the remediation project which entailed the removal of interior duct insulation and replacement with insulation on the exterior of the duct trunks located in the occupied office spaces. EFI's acoustical testing included establishing a baseline for each floor, post-remediation testing after repair of certain identified duct damage, tightening of seals and seams and other HVAC repair to reduce noise, and performing noise testing of installed exterior duct insulation.

## **Project Experience (Continued),**

### **Agassiz School, Boston, MA, 2012**

Mr. Vernon assisted with the evaluation of building air flow/balancing which included a room by room airflow analysis based on ASHRAE standards, HVAC system diagnostic for condensation during cooling cycle and thermal imaging/moisture monitoring evaluation of the building envelope.

### **City of Haverhill Wastewater Division, Haverhill, MA, July-August 2012**

Responsible for the collection and reporting of airborne parameters and electromagnetic field testing throughout the Wastewater Treatment Plant. Using time-weighted averages, parameters included methyl mercaptan, hydrogen sulfide, ammonia, endotoxins and electromagnetic field testing to determine Permissible Exposure Limits established by the Occupational Safety and Health Administration (OSHA) and other applicable guidelines.

### **University of Massachusetts Dartmouth, Dartmouth, MA, 2012**

Conducted gravimetric vacuum filter testing throughout representative sites in the UMD Carney Library post construction. Visual inspection and photographs were part of the evaluation and reporting process. The testing and inspection was intended to evaluate the cleanliness of the ducts in accordance with the NADCA ACR 2006 Standard.

### **United States Border Patrol Stations, West Berkshire & Highgate Springs, VT United States Border Patrol Stations, Hodgdon & Orient, ME, 2012**

Conducted inspections of the potable water filtration and water treatment systems and offered recommendations for improvements at two Border Patrol Stations.

### **Fort Devens Salerno Housing Development, Weston & Sampson Engineers Devens, MA, 2012**

EFI provided asbestos inspections, design and abatement monitoring services for this project funded by MassDevelopment; it was a publicly bid abatement and demolition project. This large housing complex consisted of 70 buildings with 6 to 8 apartments per building, requiring a team of 4 EFI inspectors to perform the inspections.

## **Professional Experience:**

EFI Global, Inc. Project Manager, 2014 – Present

EFI Global, Inc. Mechanical Engineer, Technician, Wilmington, MA, 2011 – 2014

## **Specialized Education:**

Commercial HVAC Systems & IAQ, 2014  
Roof Seminar, Atlanta, GA 2011  
AutoCAD Software

## **Education:**

Bachelor of Science, Mechanical Engineering Technology, University of Maine, Orono, ME, 2010