

Christopher C. Nail | Forensic Engineer, PE

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Servicing Central Arkansas

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Professional Summary:

Mr. Nail has nine years of experience in mechanical engineering with nine years in HVAC and Plumbing design, with an additional 18 years in construction experience. He specializes in mechanical failure. Mr. Nail has been a registered professional engineer since 2015.

Mr. Nail has experience in commercial and industrial HVAC systems including boilers, chillers, cooling towers, air separators, pumps, packaged and split systems, hydronic, geothermal, VAV, ERV, natural gas, fire sprinkler systems, domestic water, sewer, grease sewer, acid waste, compressed air, and propane systems. Mr. Nail also possesses experience in the field of accident reconstruction. Mr. Nail also has experience in installing, diagnosing, and repairing residential plumbing, HVAC, and associated electromechanical components.

Mr. Nail began performing forensic work in 2020 and has experience in investigations involving residential fires, building flooding, HVAC fires, inspecting hail damage, gas system testing, domestic water losses, fire sprinkler losses, fuel gas-based explosions, vehicle fires, and accident reconstruction.

Licenses and Certifications:

Professional Engineer, AR, #16926
Professional Engineer, TX, #137818
Professional Engineer, KS, #27633
Professional Engineer, OK, #31872
Professional Engineer, LA, #44831
Professional Engineer, MS, #31189
Professional Engineer, MO, #PE-2020027031
Professional Engineer, TN, #124228
Accreditation Commission for Traffic Accident Reconstruction (ACTAR) #3999
FAA Certified Small Unmanned Aircraft System (Drone) Airman, Certificate #4378003

Project Experience:

Confidential Insurance Client, Arkansas Sewer Plant HVAC Failure

Participated in examination of the HVAC system in a sewer plant fire. HVAC system had large buildup of black residue that was biological in nature. Examined the ductwork, fans, and heater and determined that the cause of fire was not the burner as originally indicated but in the dust collector. The black residue was determined to not be a contributing factor.

Confidential Insurance Client Arkansas, Office flooding from ceiling

Led investigating in an office building that flooded. Determined that the cause of the flood was galvanic corrosion of the domestic water pipe due to using dissimilar metals (galvanized water

pipe with brass couplings). Informed building owner that he had similar connections to replace since there were multiple connections of the same sort, and some were already leaking and close to failure.

**Confidential Attorney Client, Oklahoma
HVAC System Failure**

Led investigation of HVAC system failure. Determined cause of loss was disconnected hydronic coupling to water source heat pump which lead to successful subrogation for loss.

**Confidential Insurance Client, Arkansas
Residential Fire**

Assisted in examination of a house that caught fire with multiple origins being determined by the fire investigator with one of them located in the furnace closet. No mechanical failure modes were identified in the furnace, and samples were taken from the bottom of the closet underneath the furnace. These samples were lab tested and found to contain traces of gasoline.

**Confidential Insurance Client, Texas
Office flooding from ceiling**

Led investigation in an office that flooded. Determined that the cause of the flood was improper slope in a dry fire sprinkler system and improper installation of piping in the wet fire sprinkler

Professional Experience:

EFI Global, Forensic Engineer, 2020 – Present

HSA Engineering, Mechanical Engineer 2011-2020

Central Arkansas Water, Engineering Intern, summer 2009 and 2010

East-Harding Construction, General Labor, summer 2005, 2006, 2007, and 2008

Specialized Education:

Principles of Hydraulic and Pneumatic Systems, Continuing Education and Development, 2021

FAA Part 107 Test Prep & Training Course, Drone Pilot Ground School, 2020

EDR Use in Traffic Reconstruction – Level 1, University of North Florida, IPTM, 2020

ACTAR Test Preparation - Comprehensive, University of North Florida, IPTM, 2020

Fundamental Techniques of Crash Investigation, University of North Florida, IPTM, 2020

Residential Electrical Systems, International Association of Arson Investigators, 2020

Education:

Bachelor of Science, Mechanical Engineering, Arkansas Tech University, Russellville, AR

Associate of Science, Nuclear Technology, Arkansas Tech University, Russellville, AR