

Mitchell Duran, P.E. | Forensic Mechanical Engineer

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Professional Summary:

Mr. Duran is a licensed professional engineer with over 6 years of experience in mechanical engineering, including 2 years specifically in forensic engineering. He has performed forensic engineering investigations which have involved equipment and appliances, fire sprinklers, plumbing systems, automotive vehicles, and building envelopes. His other engineering experience includes oversight and operation of power plants, root cause failure analysis of rotating equipment and auxiliaries, and thermal modeling and performance analysis of environmental control systems.

Licenses and Certifications:

Professional Engineer, Montana, PEL-PE-LIC-87649

Professional Engineer, Idaho, P-22072

Professional Engineer, Colorado, PE.0062542

Professional Engineer, Utah, 13376059-2202

Professional Engineer, Texas, 148106

Professional Engineer, Washington, 22012213

Professional Mechanical Engineer, Arizona, 75865

Professional Engineer, Oregon, 98952PE

Professional Mechanical Engineer, Nevada, 029374

Professional Mechanical Engineer, California, 40041

Level I "Authorized Person", Reality Rope Access

Project Experience:

Property of Evelyn Aguilar, Canoga Park, CA

Building Envelope: Water Intrusion

Performed a forensic engineering investigation on a residential building to determine the cause and origin of water intrusion, and whether the cause was due to storm-related damage. The insured observed leaks from the ceiling after a recent storm.

Property of Peter Rubis, Vista, CA

Plumbing Appliances: Reverse Osmosis Water Filtration System Leak

Performed a forensic engineering investigation on a residential three-stage reverse osmosis water filtration system to determine what caused it to leak. The insured observed the leak after returning to the property.

Property of Christine Gridley, San Diego, CA

Plumbing Chemical Reactions: Copper Pipe Electrolysis

Performed a forensic engineering investigation on a residential water supply system to determine whether its pipes were affected by electrolysis from a below-grade sewage leak. The copper piping turned black in multiple locations.

Property of Christopher Johnson, Spanaway, WA

Equipment/Appliances: Garage Door Failure

Performed a forensic engineering investigation on a residential garage door to determine what caused it to fall on a vehicle parked underneath the garage door during the incident.

GMR Heavy Haul LLC, Independence, CA

Vehicle Engines: Diesel Fuel Injector Failure

Performed a forensic investigation on a Kenworth Conventional Tractor W900 to determine what caused the engine failure after the vehicle exhibited poor performance following refueling.

Property of Tara Henrickson, Saint Helens, OR

Plumbing Supply: Water Supply Pipe Leak

Performed a forensic engineering investigation on a residential water supply system to determine the cause and the duration of the leak after the insured observed higher-than-normal utility bills.

Property of Tyson Breinholt, Mesa, AZ

Vehicle Chassis: Trailer Frame Failure

Performed a forensic engineering investigation on a Weekend Warrior trailer frame to determine what caused the failure and whether it was due to a manufacturing defect. The insured observed a bent frame after being towed out of a sand dune.

Property of Sandi Grob, Kalispell, MT

Plumbing Freezes: Frozen Pipe Burst

Performed a forensic engineering investigation on a residential heating system to determine what caused it to leak and whether heat was maintained. The insured observed the leak after returning to the property.

Property of Edward Rembecky, Rancho Cucamonga, CA

Vehicle Crashes: Event Data Recorder Analysis

Performed a forensic engineering investigation on a Lexus RX 350 to determine whether mechanical failure or human error caused it to crash. The insured installed a left-foot gas pedal.

Excelbis Labs LLC, Santa Ana, CA

Equipment/Appliances: Mass Spectrometer Vibration Sensitivity

Performed a forensic engineering investigation on mass spectrometers to determine whether they could have been affected by vibration from nearby construction. Certain types of laboratory test equipment are sensitive to micro-vibration, which is very low vibration, usually below levels of human detection.

Property of Cole Juarez, Cherry Valley, CA

Fire Sprinklers: Fire Sprinkler Leak

Performed a forensic engineering investigation on a residential fire sprinkler system to determine what caused it to leak. The property was a newly-built manufactured home.

Property of Tyler Grasmick, Santa Monica, CA

Vehicle Transmissions: Transfer Case Failure

Performed a forensic engineering investigation on a Jeep Wrangler transfer case to determine whether it failed due to a manufacturing defect. The insured used the vehicle for both on-road and off-road driving.

Property of Michael Sena, Simi Valley, CA

Plumbing Drainage: Sewage Backup

Performed a forensic engineering investigation on a residential waste drainage system to determine whether it contains a dip or belly, and whether there is any resulting water damage to the property. The insured experienced recurrent sewage backups over multiple years.

Professional Experience:

Donan, Forensic Engineer, 2021 – 2023

City of Long Beach, Mechanical Engineering Associate, 2021 – 2023

Flowserve, On-Site Applications Engineer, 2019 – 2021

Honeywell Aerospace, Systems Engineer I, 2017 – 2019

Education:

Bachelor of Science, Mechanical Engineering, California State Polytechnic University Pomona, CA, 2017