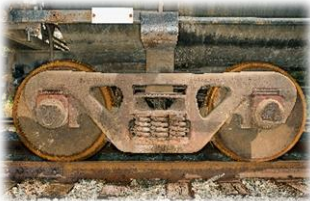




With our broad experience solving problems and investigating issues associated with the railroad industry, Professional Analysis' experts are uniquely positioned to thoroughly and effectively bring resolution to any matter that may arise. When supporting the freight and passenger rail industries, our engineers, scientists and professionals focus on developing innovative solutions by identifying the root cause, not just treating the symptoms.



Utilizing our extensive experience evaluating systems, and the components that create these systems, we have repeatedly demonstrated why our clients continue to entrust us with their complex projects. Ranging from a single fastener failure to a full-scale derailment, Professional Analysis has the expertise to inspect, research, and investigate any railroad industry need.



The diversity of our materials, mechanical, electrical, civil, environmental and chemical professionals allows us to customize the response to fit our clients' needs. Our ability to quickly and efficiently integrate our understanding of the freight and passenger rail industries with our technical knowledge leads to long-term solutions.

## Services

- Vehicle / pedestrian accident reconstruction
- Root cause analyses / failure analyses
- Material and metallurgical analyses
- Mechanical systems analyses
- Corrosion analyses
- Fire and explosion analyses
- Aerial (Drone / UAS) inspections and laser scanning for accident scene documentation
- Hazardous materials and contamination analyses
- Derailment investigations
- Specialized testing and demonstrations
- Electrical system analyses / electrocution investigations
- Intellectual property / patents



## Practice Area Leaders

### ***James F. Lane, P.E. – Senior Engineer, Materials/Metallurgy***



Mr. Lane has over 25 years of consulting experience in materials engineering, failure analysis and engineering investigations, including litigation support. His focus has been on metallurgy, property/structure relationships, stress states and corrosion of both ferrous and non-ferrous materials. He has expertise in the determination of root cause and problem resolution, and extensive experience designing and conducting field and laboratory testing. His background also extends to the areas of materials characterization, fractography, metallography and mechanical testing. With specific experience focusing on Mechanical and Engineering systems failure analysis, Mr. Lane has supported a wide range of industry members, including: Class I railroads and their suppliers, local and regional railroads and their suppliers, light rail and the public transportation sector.

### ***Timothy M. Hicks, P.E. – Principal Engineer, Mechanical***



Mr. Hicks performs investigations and failure analysis from a mechanical engineering perspective. His projects have involved design analysis, product liability, intellectual property, manufacturing, accident investigation and reconstruction, fire cause and origin, testing, and project management. His vehicle experience includes railroad equipment, commercial vehicles, automobiles, motorcycles, buses, agricultural, and construction equipment. Specific rail industry experience includes vehicle and pedestrian accident investigations, rail car investigations, maintenance equipment and rail yard accidents, and scene documentation.

### ***Johannes C. Laun, P.E. – Senior Engineer, Fire/Electrical***



Mr. Laun is an electrical engineer, physicist, and fire investigator. He has extensive experience with electrical power distribution systems, including switchgear, transformers, circuit breakers and cabling for all voltage levels and plant sizes. He has conducted numerous investigations concerning electric shock/electrocutions, arc flash incidents, explosions, and fires. Mr. Laun has additional experience with analyzing railroad communication signals and systems, analyses of failures in optical track and measurement systems, and locomotive battery systems.