

### *Curriculum Vitae of*

TODD A. REEDER, P.E., M.S.C., C.F.E.I.

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### SYNOPSIS

Mr. Reeder has a robust knowledge of thermodynamics, combustion, fluid dynamics, fire dynamics, energetics, and explosions. With his experience and expertise in these areas, Mr. Reeder performs cause and origin analysis of accidents related to fire, water, carbon monoxide, HVAC, pressure vessels, hydraulics, gas systems, plumbing systems, material handling, and mechanical failure. Having spent more than eight years in the solid rocket and aerospace industry prior to joining Palmer Engineering and Forensics, Mr. Reeder has led and participated in a variety of failure investigations and root cause analyses. Mr. Reeder has expertise in analyzing fluid flow and heat transfer for a wide array of situations and materials, including insulative and ablative materials. He has also developed proficiency in anisotropic heat transfer with composite materials. Mr. Reeder's graduate research was in the field of combustion—measuring and understanding the exhaust gas species of multiple combustible materials under different stoichiometric conditions. Related to this effort, he also developed expertise in radiative heat transfer, diffusion and premixed flames, and spectral measurements of gas species. In addition to his work in the thermal sciences, Mr. Reeder has also acquired professional experience in manufacturing with energetic materials, as well as project management. In these assignments, he has led initiatives to significantly reduce part defects while diligently maintaining the safety of team members and facilities. Mr. Reeder has authored or coauthored five journal and conference publications.

### EDUCATION

Brigham Young University	
M.S. Mechanical Engineering	2010
<i>Thesis: Corrosion-related Gas Measurements and Analysis for a Suite of Coals in Staged Pulverized Coal Combustion</i>	
Brigham Young University	
B.S. Mechanical Engineering	2008
<i>Thermal Fluids Emphasis</i>	

### REGISTRATION

Registered Professional Engineer in Utah, License No. 10984723-2202  
Certified Fire and Explosion Investigator (NAFI)

## EXPERIENCE

Palmer Engineering and Forensics, LLC, North Salt Lake, Utah Sr. Engineer	2020 – Pres
Northrop Grumman Propulsion Systems, Promontory, Utah Sr. Principal Energetics Manufacturing Engineer, Project Manager	2018-2021
Principal Energetics Manufacturing Engineer, Project Manager	2017-2018
Sr. Energetics Manufacturing Engineer	2017-2017
Sr. Engineer, Project Engineering	2015-2017
Sr. Engineer, Aerothermal Analysis	2015-2015
Engineer, Aerothermal Analysis	2013-2015 2000- 2005
Utah State University, Brigham City, Utah Adjunct Instructor – Mechanical Engineering Department <i>Numerical Methods for Engineers</i>	2015-2015
University of California, Merced, Merced, California Research Assistant – Mechanical Engineering Department	2010-2012
Brigham Young University, Provo, Utah Research Assistant – Mechanical Engineering Department	2007-2010

## PROFESSIONAL AFFILIATIONS

NAFI – National Association of Fire Investigators