

EDUCATION

2010 **Bachelor of Science, Mechanical Engineering**
The University of Texas, Austin, TX

EXPERIENCE

July 2022
to Present **Engineering Design & Testing Corp.**
Birmingham, Alabama

Consulting Engineer

Specialized consulting and root cause analysis in areas of mechanical systems, machinery, pressure vessels, and piping design. Investigation and analysis of mechanical fractures of materials and components. Fire and explosion cause and origin. Assessment of fire damage related to mechanical equipment. Preparation of repair and/or replacement cost estimates. Investigation of product defects.

January 2011
to June 2022 **Dril-Quip, Inc.**
Houston, TX

Engineering Lead

Lead engineer for team of four investigating and correcting field problems. Spearheaded design, drawing creation and any required testing of new product concepts. Trained and mentored younger engineers to assist in creation of new products. Drove development and ultimate installation of new flagship product line of subsea wellhead equipment including conception of twenty unique designs and completion of requisite industry testing for each new ideation.

Project Engineer

Consulted with largest and most active customer. Closely coordinated with customer engineering representation in all actions including day-to-day activities, product qualification and field problem investigation. Completed procedures and reports for all testing activities. Executed companywide initiative to develop comprehensive Advanced Product Quality Planning program. Constructed lasting global framework for documentation of risk assessment and risk mitigation used by the engineering, manufacturing, and quality departments.

Design Engineer

Coordinated with sales department on day to day product needs and questions. Collaborated with senior engineers to design new product components and associate tools. Validated new designs both empirically and through engineering calculation. Fulfilled customer specified engineering requirements put forth in new sales orders. Reviewed customer supplied specifications and determined appropriate path forward on product design.

Plant Engineer

Coordinated with customers on proposed path forward regarding critical safety parts. Fielded immediate issues and problems within manufacturing process. Handled disposition of all generated Non-Conformance Reports (NCRs).

EXPERIENCE

Field Experience and Consulting Activity (partial list)

Oil and Gas Industry – 11 years of experience in product development and maintenance

- Manufacturing Defects and Deficiencies
- Offshore and Subsea Product Failure Analysis
- Continuous Product Improvement Developments
- Risk Assessment for New Product Developments

Vehicle Crash – Ford Transit Van — *Mobile, AL*

Investigate fitness of vehicle control systems before crash.

Galvanizing Kettle Leak – Large Loss Failure Analysis and Scope of Damage — *Kosciusko, MS*

Determine root cause of leak in galvanizing kettle and document related damage.

Takata Air Bag – Failure Analysis — *Birmingham, AL*

Consult on apparent failure mode/s of airbag inflator using provided remnants.

Diesel Generator Fire — *Tuscaloosa, AL*

Determine origin and cause of fire event at a newly commissioned genset.

Residential Fire — *Sullivan, MO*

Determine origin and cause of fire event resulting in multiple casualties at a residential site.

Water Damaged Elevator — *Panama Beach, FL*

Evaluate malfunctioning elevator car and confirm reported water damage claims.

HVAC System – *UNA Campus – Florence, AL*

Investigate of HVAC controls systems in multiple locations on campus that led to freezing coils.

Residential HVAC System Evaluation – *Chattanooga, TN*

Investigation into HVAC issues after large square footage renovation project

Heavy Truck Tire Blowout – *Argo, AL*

Evaluate tractor tire remnant to determine cause of failure.

Damaged Diesel Generators – *New Orleans, LA*

Determine cause of damage to multiple generators operated by City of NOLA.

HVAC Systems – *UAB Campus – Birmingham, AL*

Investigate cause of frozen HVAC air handlers across multiple locations on campus.

Heavy Equipment Fire – *Front Loader – Guntersville, AL*

Determine origin and cause of fire on a Caterpillar 910 compact loader.

Restaurant Explosion – *Austin, TX*

Consult on cause of explosion in pollution control device.

HVAC System evaluation – Montgomery, AL

Evaluate cause of high humidity in new build residential apartment building

REGISTRATIONS and CERTIFICATIONS

Registered Professional Engineer in Texas (#134424)
Registered Professional Engineer in Alabama (#51645)
Registered Professional Engineer in Mississippi (#33229)
Registered Professional Engineer in Georgia (#PE049254)
Registered Professional Engineer in Kentucky (#38099)
Registered Professional Engineer in Tennessee (#127065)
Registered Professional Engineer in Arkansas (#21238)
Registered Professional Engineer in Louisiana (#47081)
Registered Professional Engineer in Florida (#94857)
Registered Professional Engineer in New Hampshire (#18600)
Registered Professional Engineer in Ohio (#PE.91568)
Registered Professional Engineer in Oklahoma (#36295)
National Council of Examiners for Engineers and Surveying Record (#18-038-98)
OSHA Permit – Required Confined Space Entry (#195906)
Certified Fire and Explosion Investigator – National Association of Fire Investigators (# 27133-16627)

PROFESSIONAL ORGANIZATIONS

American Society of Mechanical Engineers (ASME)
ASM International
National Association of Fire Investigators (NAFI)
National Fire Protection Association (NFPA)

PUBLICATIONS

OTC-25743-MS – Improving Product Quality through Advanced Product Quality Planning in Compliance with API Q1 at a Vertically Integrated OEM for Offshore Drilling and Production Equipment

OTC-27738-MS – Next Generation HP/HT Wellhead Seal System Validation

PRESENTATIONS

“Next Generation HP/HT Wellhead Seal System Validation”, presented at the Place of Offshore Technology Conference, May 2017 in Houston, TX

“Improving Product Quality through Advanced Product Quality Planning in Compliance with API Q1 at a Vertically Integrated OEM for Offshore Drilling and Production Equipment”, presented at the Offshore Technology Conference, May 2015 in Houston, TX

Patents

US Patent #11,371,294 – Releasable Ratchet Latch Connector

CONTINUING EDUCATION

- 2022 *Principles of Failure Analysis*, ASM International
International Fire, Arson, & Explosion Investigation Training Program, NAFI
OSHA 29 CFR 1910.146 – Confined Space Certification
- 2024 *Design of Weldments*, Titan Continuing Education
Designing a Floating Decanter, Titan Continuing Education
Flywheel Energy Storage, Department of Energy
Passive Solar Heating Design, Department of Energy
- 2025 *Inverter Issues*, Gary Mullis, Engineering Design & Testing
Use of Data as an Analytical Tool, Jeff Groves, Engineering Design & Testing
Use of EL to Evaluate Solar Panels, Britt Hager, Engineering Design & Testing