

## Regulatory and Permitting Process

Aimone-Martin Associates is experienced in the public hearing process and interaction with local, state, tribal, and federal agencies on behalf of quarries and construction companies. We assist local agencies with regulatory language that is fair, protective of public and private property, addresses community concerns yet allows mining and construction projects to move forward. Our studies have resulted in granting permits for rigorously debated, high profile construction and quarry projects throughout the U.S.

## Litigation and Expert Witness

Aimone-Martin Associates offer expert witness services and litigation support for investigations involving explosives use, rock blasting, and vibratory/impacting equipment working near structures. We specialize in evaluating natural, non-blasting causes of defects in all structures.

## Applied Research

Our services are highly specialized. Our Associates advocate creativity in thinking and possess broad expertise in both theoretical and practical solutions to challenging problems.

## Training

Aimone-Martin Associates provide training and education in explosives engineering, blast design analysis, vibration control and close-in and off-site blast effects and construction vibrations to state and federal agencies, blasters' training, and engineers seeking continuing education credits.



**Dr. Catherine T. Aimone-Martin** President  
(505) 980-9949 [cathy@aimonemartin.com](mailto:cathy@aimonemartin.com)

Dr. Aimone-Martin has over 37 years' experience in mining and construction industries and geotechnical consulting. Her research and consulting work spans 28 years with academia and national laboratories. Dr. Aimone-Martin is an Emeritus Professor of Mineral, Civil, and Explosives Engineering at New Mexico Tech.

**Vitor Rosenhaim** Senior Project Engineer  
(808) 344-8779 [vitor@aimonemartin.com](mailto:vitor@aimonemartin.com)

Mr. Rosenhaim has a background in Mining Engineering with an MS in Mineral Engineering, Specializing in Explosives Engineering. He performs blast design oversight, design of blast and vibration reports, pre-blast surveys, field monitoring of blasting and construction vibrations and specialized structure response studies.

**Tye Lasich** Project Engineer  
(406) 490-0633 [tye@aimonemartin.com](mailto:tye@aimonemartin.com)

Mr. Lasich has a background in geological engineering with an MS in Mineral Engineering, Specializing in Explosives Engineering. He conducts pre-blast surveys, vibration monitoring, geotechnical evaluations, site characterization, and specialized structure response measurements.

**Rex Marsh** Engineering Technician  
(575) 517-7836 [rex@aimonemartin.com](mailto:rex@aimonemartin.com)

Mr. Marsh conducts vibration monitoring, pre- and post-construction structure condition surveys and videotaping field services.

**Sandra Duvauchelle** Vibration and Community Relations Consultant  
(808) 870-9860 [lehuaserv@aol.com](mailto:lehuaserv@aol.com)

Ms. Duvauchelle has 30 years experience in site development and construction management including civil design coordination and permitting. Sandra serves as community relations liaison and vibration monitoring

### Corporate office

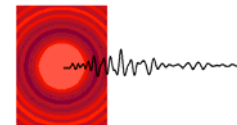
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# AIMONE-MARTIN ASSOCIATES, LLC



*Serving the Mining, Quarrying and Construction Industries since 1981*



**Advanced Vibration Analysis and Control**

**Blast Design Analysis**

**Pre-blast and Pre-construction Structure Condition Surveys**

**Structure Response to Vibrations**

**Quarry Planning**

**Community Relations**

**Geotechnical Engineering**

**Education and Training**

**Expert Witness Support**

*DBE Certified with the New Mexico Unified Certification Program (NMUCP) and NMDOT DBE Program*

## AREAS OF EXPERTISE

Aimone-Martin Associates, LLC offers integrated consulting and applied research solutions in explosives engineering, geotechnical, and mining engineering. Our unique approach incorporates risk assessment and management practices to mitigate off-site vibration and noise impacts, engages community members, and promotes timely and successful project completion.



### **Areas of expertise include**

- vibration monitoring, analysis, and control
- blast site assessment and design oversight
- blast effects on structures
- community relations
- blasting plans and permitting
- vibration claims assessment
- litigation support and expert testimony
- contract specification review
- geotechnical engineering assessments
- slope stability and ground control
- peer review and project oversight
- education and training
- data analysis and database design

### **Community Relations**

Our services are founded on a strong community and public relations program. Company personnel are proven experts in identifying stakeholders' concerns and possess technical and communication skills necessary for successful mining and construction projects in urban, rural, and historic environments.

## PROJECT EXPERIENCE

Aimone-Martin Associates have over 37 years of professional practice in coal and hardrock mining, quarrying, construction, and explosive engineering.

Our goal is not to duplicate the strength of existing firms but to offer complementary skills and experience based on a broad approach to problem solving using geological, mining, and geotechnical engineering principals.

### **Vibration Analysis**

Company services include annual blasting and seismic record analysis, mine and quarry blasting and vibration audits, and blasting improvement planning. We have extensive field experience working with mines, quarries, and construction personnel to reduce and manage off-site impacts and liabilities from rock blasting and impacting/vibratory construction equipment. Specific analyses include

- vibration response of structures
- high-wall stability and back break control
- fragmentation and crusher studies
- application of electronic detonators
- delay timing optimization studies



### **Blast Design Analysis**

Our experience in design analysis includes full-scale production blasting, signature-hole studies to optimize delay timing, crater testing for fragmentation and explosives selection, and close-in blast effects. We assist with analysis of blast design to minimize off-site impacts using specialized vibration monitoring. Our

work includes blasting near sensitive above-ground and buried structures, water tanks, high-pressure transmission pipelines, cultural features, and historical structures.



### **Custom Structure Vibration Instrumentation and Analysis**

We have developed a unique approach to assessing the response of sensitive structures to ground motions and airblast. Our custom structure motion and crack gage instrumentation systems allow comparisons of blast- or construction-induced wall displacements with normal, everyday structure movements during household activities and changes in weather (temperature, humidity, and wind). Existing wall cracks are used to compare non-blasting and blasting events to demonstrate that blasting has a negligible impact on cracking potential in structure walls compared with the influences of weather changes.



### **Blast and Construction Damage Claims Assessment**

Aimone-Martin Associates have experience assessing structure damage claims. We are highly skilled at identifying substandard subsurface soil and rock conditions, foundation problems, and other environmental conditions leading to structure defects. Our assessments are based on sound science and engineering principles.