



DAVID RONDINONE, Ph.D., P.E.
Mechanical Engineer, Principal

SUMMARY

Dr. Rondinone has over 20 years of experience in mechanical engineering including design and failure analysis, fire suppression, explosions, flammability, flame arrestors, ignition, finite element analysis, accident reconstruction and crashworthiness, mechanical testing, failure of mechanical connections, dynamic stability of equipment and structures, pressure vessels and pipelines, medical implants and equipment, automotive component analysis and design. Mechanical engineering projects have included failure analysis of the Deepwater Horizon oil rig, engineering logic analysis and review for the California Public Utilities Commission, design reviews and testing for flame arrestors and fire suppression, and complex thermal and stress analyses of piping, pressure vessels, and other mechanical components.

SELECT INDUSTRY EXPERIENCE

Oil & Gas Industry, Earthquake Engineering, Automobile / Truck / Motorcycle, Medical Devices, Manufacturing, Heavy Equipment, Offshore Oil Platforms, Maritime, Plastics / Metals /Ceramics, Combustible Fluid Containers, Transport, Fire, Fire Propagation and Suppression, Aviation, Roofs, Elevators, Construction, Heat Exchangers, Piping, Pipelines & Pressure Vessels, Bridge Dampening, Transportation, Large Structures, Ships/Sailboats

EDUCATION

Ph.D. in Mechanical Engineering at U.C. Berkeley
M.S. in Mechanical Engineering from U.C. Berkeley
B.S. in Engineering Physics and B.A. in Astrophysics from U.C. Berkeley

PROFESSIONAL AFFILIATIONS

Registered Mechanical Engineer, State of California

PROFESSIONAL EXPERIENCE

1993 – present

Mechanical Engineer, Berkeley Engineering And Research, Inc.

Design and Failure Analysis, Engineering Research, Fracture Analysis, Fitness-For-Service Analysis, Finite Element Analysis, Accident Reconstruction and Crashworthiness, and Mechanical Testing.

Failure analysis work has included fire suppression and flammability tests, flame arrestors and tests for explosions; failure mechanical connections including bolts and bolted connections, welds, etc.; dynamic stability of scissor lifts and excavators; mechanical failure of hydraulic system components; failure of medical implants and medical equipment; industrial and safety equipment; concrete thermal, mechanical, and equipment analysis.

Research work has included detailed studies of flame arrestors in portable gas cans and other combustible liquid/gel containers, explosions, fire suppression systems and materials; the flange stress response, creep behavior of longitudinally welded pipes at high temperature, design of structural supports for a cryogenic superconducting MRI machine, design review of medical implants, dynamic analysis of multistory manufacturing facilities, frequency analysis of silicon wafer fabrication components, design and analysis of pressure vessels and piping systems, leak method detection in tanks, burner/mixer mechanical design, and automotive component design.

Finite element analysis experience has included hundreds of models, ranging from simple two dimensional linear elastic analysis of pressure vessels to complex three dimensional nonlinear analyses of a bolted engine connecting rods, medical implants (spinal implants, arterial implants), automotive components, and full contact dynamic analyses of crane clutch components.

Testing has included hundreds of tests of gasoline and other combustible liquids and gels, mechanical testing of pressurized systems (piping, connections, tanks, etc.) and mechanical and electrical testing of automotive, industrial, and safety equipment.

01/2004 -12/31/2015

Vice President of Engineering, 4-D Imaging, Inc., Berkeley

Management, and development of three-dimensional scanning devices and services. The devices developed include scanners for coke drums and refinery piping systems, corrosion inspection, microscopic inspection and evaluation, small to large mechanical component inspection and evaluation, and scene documentation. Services provided include mechanical and thermal stress analysis, component failure and life assessment, finite element analysis, and mechanical and scene documentation and evaluation.

08/1996-12/1996

Lecturer, Mechanical Engineering Department, U.C. Berkeley

Fundamentals of mechanical behavior of materials, course ME-102A

08/1995-05/1996, 08/1997-12/1997, 01/1999-05/2000

Graduate Teaching Assistant, Mechanical Engineering Department, U.C. Berkeley

Mechanical Engineering, Fracture, Material Behavior, and Polymers ME-223, ME-224, and ME-225/MSE 212.

07/1994-05/2002

Graduate Research Assistant, Mechanical Engineering Department, U.C. Berkeley

Fatigue testing of engineering polymers, primarily polycarbonate and ultra-high-molecular-weight-polyethylene.

PATENTS

"Method and apparatus for magnetic response imaging",
US 8395376, Jerome R. Singer, Glen Stevick, David Rondinone, John Zalabak

“Method and Apparatus for Dynamic Space-Time Imaging System”, US 7620209, G.R. Stevick J. Singer, and Rondinone, D..

PUBLICATIONS AND SELECTED REPORTS

Rondinone, D., “Finite Element Analysis of C Damage Grade Corroded Piping for In-Service Piping Movement”, for Conoco Phillips, (13-3614), January 2014.

Stevick, G.R. and Rondinone, D., “MIMS v Wal-Mart”, for Cochran & Associates, (12-3493), December 9, 2013.

Rondinone, D., “Analysis of Weldolet Joints under Acoustic Induced Vibration Loading”, for Conoco Phillips, (12-3503), October 2013.

Rondinone, D., “Platero and Sanchez v. Alphatec”, for O'Mara & Padilla, (13-3567), October 9, 2013.

Rondinone, D., “Well Riser Low Cycle Fatigue Analysis”, for Conoco Phillips, August 2013.

Rondinone, D., “Dessante Equipment Bobcat”, for Frasseto Law LLP, (13-3644), August 7, 2013.

Rondinone, D., “Stolp”, for Spoon Gordon Ballew PLLP, (13-3639), July 15, 2013.

Rondinone, D., “Matson v COSCO”, for Cox, Wooton, Griffin, Hansen & Poulos, (13-3620), May 7, 2013.

Stevick, G.S. and Rondinone, D., “Al-Shara vs. Wal-Mart” for Breneman Dungan, LLC, (13-3588), February 28, 2013.

Stevick, G.S. And Rondinone, D., “Mizell vs. Blitz, Wall-Mar,” for Richardson, Patrick, Westbrook & Brickman, (13-3575), February 22, 2013.

Rondinone, D., “Bandoni v. Tru-Trailers”, for Wagner and Jones LLP, (12-3435), February 20, 2013.

Rondinone, D., “Mixer Design/ Analysis”, for John Zink Company LLC, (13-3678), January 15, 2013.

Stevick, G.R. And Rondinone, D., “Melvin vs. Blitz”, for Breneman Dungan, LLC, (12-3549), December 31, 2012.

Rondinone, D., “Joyner vs. Blitz, Wal-Mart”, for Richardson, Patrick, Westbrook & Brickman, (12-3536) December 14, 2012.

Rondinone, D., “Finite Element Analysis Corroded Piping for In-Service Piping Movement”, for Conoco Phillips, (11-3322), October 2012.

- Rondinone, D., “Demers v Amerigas”, for McDonald Carano Wilson LLP, (12-3475), September 6, 2012.
- Stevick, G.R., and Rondinone, D., “Kornegay vs. Wal-Mart and Discovery Plastics”, for Breneman Dungan, LLC, (12-3492), August 29, 2012.
- Rondinone, D., Finite Element Analysis of Corroded Piping for the Seawater Line”, for ConocoPhillips, (12-3408), June 29, 2012.
- Rondinone, D., “Purvis vs Blitz, Wal-Mart”, Richardson, Patrick, Westbook, & Brickman, (12-3447), April 12, 2012.
- Rondinone, D., “Droney vs. Blitz, Wal-Mart”, (12-3424), February 28, 2012.
- Rondinone, D., “Expert Report of Dr. David Rondinone on Invalidity”, (11-3374), December 13, 2011.
- Rondinone, D., “Eric Magallon v Tiffin Loader Crane Co. - Letter Report for Mediation Purposes Only”, (11-3324), November 14, 2011.
- Rondinone, D., “Alexson v Blitz”, for Richardson, Patrick, Westbrook, & Brichman, (11-3357), October 6, 2011.
- Rondinone, D., “Marsh v. Temple Inland Rebuttal Report”, for Glynn and Finley, LLP, (11-3317), August 26, 2011.
- Rondinone, D., “US Steel-Minntac, Line 6 Kiln, USS PO#940067”, for Coen Company, (11-3346), August 23, 2011.
- Rondinone, D., “Mechanical Analysis of FCC Structure”, for Conoco Phillips, August 2011.
- Rondinone, D., Burner “Support Thermal-Mechanical Analysis”, for Coen Company, August 2011.
- Rondinone, D., “Marsh v. Temple Inland”, for Glynn and Finley, LLP, (11-3317), July 29, 2011.
- Rondinone, D., D. King, “Magnetic Pipe Inspection Phase Two Progress Report”, for Chevron Energy Technology Company, April 2011.
- Rondinone, D., “D102/D103 and D204 Stress Analysis of Boat Samples in Shell Walls”, for ConocoPhillips, (11-3248), April 4, 2011.
- Rondinone, D., “Solus Water Heater Explosion”, for Moreno Becerra and Casillas (09-2962), March 29, 2011.
- Rondinone, D., “Sebring Gas Tank Fire”, for Hogan and Glover, March 2011.
- Rondinone, D., “BEAR Above Ground Tank Leak Testing Progress Report 2-18-11”, for API (10-3219), March 14, 2011.
- Rondinone, D., “Conner Cook & Terry Cook v. The Pep Boys, Scepter”, for Walter & Morgan, (10-3092), September 7, 2010.

- Rondinone, D., “Garcia Loss Report”, for Culbreth Shroeder LLP, (10-3130), May 18, 2010.
- Rondinone, D., “Progress Report for Distribution Grid Analysis”, for Coen Company/ John Zink, (10-3095), March 15, 2010.
- Rondinone, D., “Sierra Pine v RPM Report”, for Dun & Martinek LLP, (09-3048), July 27, 2010.
- Rondinone, D., “BEAR Report 3063”, for SISC II, (10-3063), March 31, 2010.
- Rondinone, D., A. Sagle and G.R. Stevick, “API Aboveground Tank Leak Detection Liquid Level Measurement Technique Evaluation”, for the American Petroleum Institute, (09-3013), November 9, 2009.
- Stevick, G.R. and Rondinone, D., “30 inch Crude P/L 1-1/2 inch line Internal Hydraulic Line”, for Tesoro Hawaii Corporation, (09-2993), October 16, 2009.
- Huncilman, S., and Rondinone, D., “Claim No. 1013155614-1-3 – Ortega Toilet Leak”, for Law Offices of Kenneth Turner, (08-2895), October 2, 2009.
- Rondinone, D., “Quinney v Gilford”, for Buresh, Kaplan, Jang & Feller, (09-2970), September 21, 2009.
- Sun, L. and Rondinone, D., “1013096916 McKeen Faucet Failure Analysis”, for Law Offices of Kenneth Turner, (09-2966), July 31, 2009.
- Rondinone, D., “Impression Inks Oil Tank Overfill”, for Federated Insurance, (09-2976), June 5, 2009.
- Rondinone, D. and G.R. Stevick, “Olympic Spirit Vapor Recovery System Fire Investigation and System Review”, by Berkeley Eng And Research, Inc., for Tesoro Corporation, May 18th, 2009.
- Rondinone, D., “CPF2 Internal Arch Modifications”, for ConocoPhillips, (08-2873), May 4, 2009.
- Rondinone, D., “Burner Pressure Stress Analysis A, B, and C Boiler at the ExxonMobil Baytown Refinery”, for John Zink Company/Coen, (09-2930), March 4, 2009.
- Rondinone, D., “Ncontact Surgical BEAR Report”, for NContact Surgical, Inc., (08-2809), February 23, 2009.
- Rondinone, D., “Magnetic Pipe Inspection Phase One Progress Report”, for Chevron by 4D Imaging, January 2009.
- Rondinone, D., “Model Fitting Torque Study”, for SWCO, (08-2819), November 10, 2008.
- Rondinone, D., “BEAR Report Ghaffari 11-L241-767”, for State Farm Insurance Company, (08-2879), October 24, 2008.
- Rondinone, D., “Ali v Trimac Transportation Report”, for Maranga Morgenstern, (06-2499), September 24, 2008.

- Rondinone, D., "People v Alped Rodriguez Draft Report", for Walt Moreno, (08-2848), August 14, 2008.
- Rondinone, D., "Wong Kohler Letter Report", for Law Offices of Kenneth Turner, (08-2802), May 30, 2008.
- Rondinone, D., "CPF2 Primary Separator Inlet Nozzle Analysis", for ConocoPhillips, (07-2689) May 22, 2008.
- Rondinone, D., "Glen Stocki Furnace", for Law Offices of Kenneth Turner, (07-2609), April 29, 2008.
- Rondinone, D., "Tails Gas Scrubber Grating Failure", for Newmont Mining Corporation, (07-2618), August 10, 2007.
- Rondinone, D., "Stephen Mar Fire Report", for Law Office of Kenneth Turner, (07-2572), February 27, 2007.
- Rondinone, D., "Bear Creek Winery Tank Door Report", for Cozen O'Connor, (06-2516) December 14, 2006.
- Rondinone, D., "Nozzle Additions for 200-D-101 Secondary Crude Tower", for Conoco Phillips, (06-2544), December 6, 2006.
- Rondinone, D., "Strings Fire Letter Report", for Sams and Associates, (06-2366), February 13, 2006.
- Rondinone, D., "Frankel & O'Connell v Lee Report", for Robert Diener, (05-2347), May 19, 2006.
- Rondinone, D., "Porche Carrera GT Collision Analysis", for Hartford Insurance, (06-2521) October 3 2006.
- Rondinone, D. and R. Haupt, "Vessel Flange Analysis for New Stud Sizes D-501, D-502, D-503, D-504, D-505", for Conoco Phillips, (06-2506) September 25 2006.
- Rondinone, D., "Signorello Compressor BEAR Report", for Ellison, Nielsen, Zehe & Antas, P.C., (04-2015), April 26, 2005.
- Rondinone, D., "Ryder Vehicle BEAR Report", for McNulty & Saacke, (04-1999) August 30, 2004.
- Rondinone, D., "Del Monte valve failure Report", for Nixon Peaboddy LLP, (03-1657), September 12, 2003.
- Rondinone, D., "02-1516 Contreras v Sunbelt Rentals Report", for Hays, McConn, Ricc & Pickering, April 8, 2003.
- Rondinone, D., "02-1496 Ford Taurus Accident", for Financial Indemnity Co., January 16, 2003.
- Rondinone, D., Benicia Bridge Concrete and Steel Piling / Column Analysis, for Kiewit Pacific Company, (03-1563), 2003.

- Rondinone, D., “Benicia Bridge Drill Stem”, for Kiewit Pacific Company, (02-1481), October 30, 2002.
- Rondinone, D., “Mechanical Analysis – Loading and Deployment of Coronary Anastomosis Coupler (CAC)”, for Converge Medical, (02-1357), October 1, 2002.
- Rondinone, D., “Stiffness of NewCom 72” ASML PAS 5500 Pedestal”, for Vibration Engineering, (02-1279), March 7, 2002.
- Rondinone, D., “Post Weld Heat Treatment Stress Analysis of Vessel E-1584 at Chevron El Segundo”, for PSC International Outsourcing, Inc., (02-1276) February 14, 2002.
- Rondinone, D., “Heat Treatment Analysis of Vessel F701 at Chevron El Segundo”, for Brinderson Construction, (02-1271) February 7, 2002.
- Rondinone, D., “Heat Treatment Analysis of Vessel F701 at Chevron El Segundo”, for Brinderson Construction, February 2002.
- Rondinone, D., “Analysis of Inner and Outer Implant Frames”, for Converge Medical, (02-1269), 2002.
- Rondinone, D., “Heat Treatment Stress Analysis of Vessel V80000A”, for PSC Industrial Outsourcing, Inc., (01-1215) December 5, 2001.
- Rondinone, D., “Ruvalcaba Propane Water Heater Report”, for Stinson, Mag, Fizzel, P.C.,” (01-1185), October 31, 2001.
- Rondinone, D., “2000 Ford Windstar Report”, for Law Office of Dean Lloyd, (01-1167), October 25, 2001.
- Stevick, G.R. and Rondinone, D., “Montero v Singer Sewing Machine”, for Law Office of Robert Gilmore, (00-871) September 26, 2001.
- Rondinone, D., “R-902 Coker Burner Finite Element Analysis”, for Valero Refining Company, (01-1111) September 7, 2001.
- Cheng, W., and Rondinone, R., “Residual Stress Measurements”, for Bombardier Transportation Holdings, Inc., (01-1092), September 7, 2001.
- Cheng, W., and Rondinone, R., “Residual Stress Measurements for Mill Stands 1 and 3”, for USS-POSCOS's Pittsburg, CA Facility, (01-1095) August 7, 2001.
- Rondinone, D., “Office Chair BEAR Report”, for FCA, (02-3591), July 24, 2001.
- Rondinone, D., “Titus Pool Report”, for Fireman's Fund, (01-1023) May 16, 2001.
- Rondinone, D., “Dynamic Seismic Analysis for the AC2000/ILW”, for Photon Dynamics, Inc., (01-919), April 26, 2001.
- Rondinone, D., “Kupfer v Best Products”, for Cleveland, Murray & Payne, (97-217), March 10, 1997.

Stevick, G.R., Rondinone, D., Sagle, A., Zicherman, J., “Portable Gasoline Container Explosions and Their Prevention”, Society of Forensic Engineers and Scientists Winter Seminar, March 19-21, 2010.

Stevick, G.R., Rondinone, D., Sagle, A., and Zicherman, J. “Fire Incidents and Explosions Involving Portable Plastic Gasoline Containers And Their Prevention”, *J. Failure Analysis and Prevention*, Aug 2011.

Rondinone, J., Safabash, J., Vega, F., Brassell, J., Miller, S., Thorne, J., Rondinone, D. “ New electrosurgical ball electrode with nonstick properties” Proc. SPIE 3249, 142 (1998); <http://dx.doi.org/10.1117/12.304338>.

Pruitt, L. and Rondinone, D., “The Effect of Specimen Thickness and Stress Ratio on the Fatigue Behavior of Polycarbonate”, *Polymer Engineering and Science*, Mid-May 1996, Vol. 36, No. 9, pp1300-1305.

Contributing Author for API 579, Recommended Practice for Fitness-For-Service, Section 8: Assessment of Gouges, Scores, and Grooves, and Section 10: Assessment of Weld Misalignment, Out-of-Roundness, Bulges, and Dents.