15235 Alton Parkway, Suite 120
Irvine, CA 92618

PHILIP J. SHALLER, Ph.D., P.G., C.E.G.
SENIOR MANAGING CONSULTANT

pjshaller@engsys.com

Dr. Shaller has over 30 years of experience as an engineering geology consultant. He specializes in the assessment and mitigation of geologic hazards. He has extensive experience in the investigation of landslides, debris flows, alluvial fan flooding, post-wildfire flooding hazards, dam spillway damage assessment, dam breach evaluations, pipeline failure investigations, evaluation of retaining wall distress, expansive soils, and collapsible soils. His expertise also includes geological and geomorphic site characterization by means of field mapping, aerial photo analysis, landslide remediation, and the logging of subsurface borings. Dr. Shaller also has experience in the evaluation of horizontal directional drilling and horizontal auger borings. He also has extensive experience in the areas of foundation construction and earthwork observation.

Areas of Specialization

Engineering Geology
Geologic Mapping & Subsurface Characterization
Rock Core, Soil Auger, CPT, Trenching, and Downhole Logging of Large Diameter Borings
Aerial Photo and Remote Sensing Analysis
Geomorphology
Geochemistry
Landslides and Slope Stability
Alluvial Fan Flooding
Post-Wildfire Flooding
Hurricane Storm Surge, Coastal Flooding, and Long-Term Sea Level Rise
Debris Flows
Dam and Embankment Failure
Retaining Walls
Expansive and Collapsible Soils
Construction Observation
Effects of Earthquakes on Natural and Constructed Slopes and the Built Environment
Seismic Risk Assessment
Liquefaction and Lateral Spreading
Sand Migration
Soil-Pipeline Interactions
Regional Subsidence and Ground Fissures
Landfill Performance and Stability
Instrumentation (Inclinometers and Piezometers)
Performance of Natural Stone Tiles and Finishes
Aggregate Sources and Performance
Construction Erosion Control and Sediment Migration

Phone: 949-336-9001 | Fax: 949-336-9020 | Toll Free: 866-596-3994
www.engsys.com

Education

Ph.D., Geology, California Institute of Technology (Caltech), 1991
M.S., Geochemistry, Montana Tech, 1985
A.B., Geochemistry, Occidental College, 1983

Licenses and Certifications

Professional Geologist, California, #6132
Certified Engineering Geologist, California, #1912
Registered Geologist, Washington, #261
Registered Geologist, Arizona, #54316
40-Hour HAZWOPPER certification

Honors/Awards

Trieste Drive Emergency Slope Repairs – Outstanding Geotechnical Project Award, 2025 ASCE San Diego Section

Moderator (with MW Hart), Symposium on Long-Runout Landslides and Rock Avalanches, 52nd Annual Meeting of Association of Engineering Geologists, Lake Tahoe, CA, September 23, 2009

Robert P. Sharp Graduate Teaching Award, California Institute of Technology, Division of Geological and Planetary Sciences, 1990

Positions Held

Senior Managing Consultant, Engineering Systems Inc., 2018 - present
Senior Scientist to Managing Scientist to Senior Managing Scientist and Head of Geo Group, Exponent, Inc. 2000-2018
Project Geologist, Bing Yen and Associates, 1999-2000
Senior Staff Geologist to Project Geologist, Woodward-Clyde Consultants, 1991-1999

Professional Associations and Affiliations

Geological Society of America (member)
Association of Environmental & Engineering Geologists (member)
Seismological Society of America (member)

Publications

Shaller PJ, Doroudian M, Hart MW. The Eureka Valley Landslide: Evidence of a Dual Failure Mechanism for a Long-Runout Landslide. Lithosphere 2020; (1): 1–26.
doi: https://doi.org/10.2113/2020/8860819
Extended version also available at:
https://www.engsys.com/media/1043-eureka-valley-lithosphere-8860819-extended.pdf

Shaller P, Sykora D, Doroudian M, Churchman GJ. Rapid In Situ Conversion of Late-Stage Volcanic Materials to Halloysite Implicated in Catastrophic Dam Failure, Hawaii. Clay Minerals 2016; 51:499-515.

Shrestha PL, Su SH, James SC, **Shaller PJ**, Doroudian M, Firstenberg CE, Thompson CT. Conceptual site model for Newark Bay - Hydrodynamics and sediment transport. Journal of Marine Science and Engineering 2014; 2(1):123-139.

Hart MH, **Shaller PJ**, Farrand GT, Biek RF. Comment on: When landslides are misinterpreted as faults: Case studies from the western United States. Environmental & Engineering Geoscience 2013 Feb; 19(1):95-97.

Hart MH, **Shaller PJ**, Farrand GT. When landslides are misinterpreted as faults: Case studies from the western United States. Environmental & Engineering Geoscience 2012 Nov; 18(4):313-325.

Shaller P, Shrestha P, Doroudian M, Sykora D, Hamilton D. Numerical modeling of the 2005 La Conchita landslide, Ventura County, California. In: Flood Hazard Identification and Mitigation in Semi- and Arid Climates. French R, Miller J (eds), College Press (London), 2012.

French R, Fuller JE, **Shaller P**, Shrestha P. Needs and benefits of co-operation. In: Flood Hazard Identification and Mitigation in Semi- and Arid Climates. French R, Miller J (eds), College Press (London), 2012.

Shaller PJ, Shrestha PL, Doroudian M, Sykora D, Hamilton D. The 2005 La Conchita landslide, California: Part 1 - Geology. In: 5th International Conference on Debris-Flow Hazards Mitigation: Mechanics, Prediction and Assessment, Padua, Italy, June 14-17, 2011. Italian Journal of Engineering Geology and Environment, Genevois R, Hamilton D, and Prestininzi A (eds), GeneCasa Editrice Università La Sapienza, Rome, Italy, 2011; 745-750.

Shrestha PL, **Shaller PJ**, Doroudian M, Sykora D, Hamilton D. The 2005 La Conchita landslide, California: Part 2 - Modeling. In: 5th International Conference on Debris-Flow Hazards Mitigation: Mechanics, Prediction and Assessment, Padua, Italy, June 14-17, 2011. Italian Journal of Engineering Geology and Environment, Genevois R, Hamilton D, and Prestininzi A (eds), GeneCasa Editrice Università La Sapienza, Rome, Italy, 2011; 751-758.

Shaller P, Heron C. Proposed revision of marine terrace extent, geometry, and rates of uplift, Pacific Palisades, California. Environmental & Engineering Geoscience 2004 Aug; X(3):253-275.

Shaller P, Shaller A, Abbot PL, Seymour DC (eds). Review of proposed mechanisms of Sturzstroms (long-runout landslides). pp. 185-202. In: Sturzstroms and Detachment Faults, Anza-Borrego State Park, California, South Coast Geological Society, Annual Field Trip Guidebook No. 24, October 1996. Shaller P, Komatsu G. Landslides on Mars. In: Landslide News 1994; 8:18-21.

Shaller P. Analysis of a large moist landslide, Lost River Range, Idaho, U.S.A. Canadian Geotechnical Journal 1991; 28:584-600.

Research Reports

Cydzik K, **Shaller P**, Doroudian M, Jirschefske J. July 2019 Ridgecrest earthquake sequence observations from a post-earthquake reconnaissance, ESi White Paper, California, December 2019.

Proceedings, Presentations, and Published Abstracts

Shaller, P. J. "The expert witness – An unexpected journey: Overcoming adversity and finding fulfillment as an expert witness," abstract presented at GSA Connects 2024, Anaheim, CA, USA, Sep. 23, 2024.

Shaller, P. J. "The expert witness – An unexpected journey," presented at GSA Connects 2024, Anaheim, CA, USA, Sep. 23, 2024.

Shrestha PL, **Shaller PJ**, Doroudian M, Cydzik, K. Evaluating sediment dynamics in waterways. Proceedings, 10th International Conference on Scour and Erosion (ICSE-10), pp. 237-250, October 18-21, 2021 (Virtual).

Shaller, P.J., Doroudian, M., Cydzik, K. and Shrestha, P., 2020. Construction, Operation, and Failure of Ka Loko Dam, Kauai, Hawaii: Association of Engineering Geologists 2020 Annual Meeting, Dams and Levees Lesson Learned Symposium, Part 1, September 17, 2020**.**

Cydzik, K., **Shaller, P.J.,** Shrestha, P., and Doroudian, M. Post-fire planning, policy, and natural hazards mitigation: lessons learned during recovery from wildfires in the state of California, USA, 2015-2019. American Geophysical Union 2019 Fall Meeting, San Francisco, CA. December 9-13, 2019.

Shaller PJ, Shrestha PL, Deardorff TL, Wren J. Post-wildfire consequences on watershed hydrology and the environment. Poster, SETAC North America 36th Annual Meeting, Salt Lake City, UT, November 1-5, 2015.

Shaller PJ, Miller J and Summers, S. Arid Regions: Unique risks in the arid region. Panel discussion, Floodplain Management Conference in conjunction with ASFPM Arid Regions Conference, Floodplain Management Association, Rancho Mirage, CA, September 8-11, 2015.

Lancaster J, Miller J, McKibbin S, Fuller J and **Shaller PJ**. Joint panel on alluvial fans: Mapping a moving target. Panel discussion, Floodplain Management Conference in conjunction with ASFPM Arid Regions Conference, Floodplain Management Association, Rancho Mirage, CA, September 8-11, 2015.

Shaller PJ, Shrestha PL, Deardorff TL, Wren J. Adverse hydrologic and ecologic impacts of wildfires in western watersheds. Proceedings, World Environmental and Water Resources Congress 2015: Floods, Droughts, and Ecosystems, Environmental Water Resources

Institute of the American Society of Civil Engineers, Austin, TX, pp. 2501-2509, May 15-21, 2015.

Deardorff TL, Semenova S, **Shaller PJ**, Shrestha PL. Risk factors and ecological disturbances that contribute to the occurrence of catastrophic wildfires in California. Presentation, World Environmental and Water Resources Congress 2015: Floods, Droughts, and Ecosystems, Environmental Water Resources Institute of the American Society of Civil Engineers, Austin, TX, May 15-21, 2015.

Shaller PJ. The Eureka Valley Landslide, Martian Analogs and the Mechanics of Long-Runout Landslides. Invited Presentation, Baylor University, Waco, TX, January 16, 2015.

Shrestha PL, James SC, **Shaller PJ**, Doroudian M, Peraza DB, Morgan TA. Estimating the storm surge recurrence interval for Hurricane Sandy. Proceedings, World Environmental and Water Resources Congress 2014: Water without Borders, Environmental Water Resources Institute of the American Society of Civil Engineers, Portland, OR, pp. 1906-1915, 2014.

Shaller PJ, Wren J, Shrestha PL, Sama M, Doroudian M. An evaluation of post-wildfire mitigation measures on flood hazard potential in Southern California. Poster, World Environmental and Water Resources Congress 2014: Water without Borders, Environmental Water Resources Institute of the American Society of Civil Engineers, Portland, OR, 2014.

Shrestha PL, Su SH, James SC, **Shaller PJ**, Doroudian M, Firstenberg CE, Thompson CT. Conceptual Site Model for Newark Bay - Hydrodynamics and Sediment Transport. Presented at the 13th International Conference on Estuarine and Coastal Modeling, San Diego, CA, November 4-6, 2013.

Shaller PJ. The geology and geomorphology of alluvial fans: A primer. Presented at 13th Triennial ASFPM Arid Regions Conference, Scottsdale, AZ, October 17, 2013.

Shaller PJ, Cydzik K, Sama M, Wren J, Shrestha, P. The Station Fire revisited, projected versus realized flood impacts 2009-2013. Presented at 2013 Floodplain Management Conference, Anaheim, CA, September 4, 2013.

Shaller PJ, Cydzik K, Sama M, Wren J, Shrestha, P. The Station Fire revisited, projected versus realized flood impacts 2009-2013. Presented at 2013 Wildland Fire Litigation Conference, Monterey, CA, April 21, 2013.

Faris A, **Shaller PJ**. Application of semi-empirical liquefaction-induced lateral displacement model to regional hazard mapping. Presented at 2013 Seismological Society of America Annual Meeting, Salt Lake City, UT, April 17, 2013.

Shaller PJ, Shrestha, PL, Hamilton, DL, Jordan N, Rezakani M. Assessment of alluvial fan flooding hazards and proposed mitigation, Thousand Palms, California. Presented at 2010 Floodplain Management Association Annual Meeting, Henderson, NV, November 3, 2010.

Shaller PJ, Shrestha PL, Doroudian M, Rezakani M. Assessment of flood hazard, Travertine Point Area, Southeastern California. Presented at 2010 Floodplain Management Association Annual Meeting, Henderson, NV, November 3, 2010.

Shaller PJ, Shrestha PL, Doroudian M, Hamilton DL, Sykora, DW. The January 10, 2005 La Conchita landslide. Presented at 2010 Geological Society of America Cordilleran Section and Pacific Section AAPG Meeting, Anaheim, CA, May 29, 2010.

Shaller PJ. An introduction to long-runout landslides. Presented at 52nd Annual Meeting of Association of Engineering Geologists, Lake Tahoe, CA, September 23, 2009.

Shaller PJ, Mathieson B, Okubo S. The Travertine rock avalanche, southern Santa Rosa Mountains, southeastern California. Presented at 52nd Annual Meeting of Association of Engineering Geologists, Lake Tahoe, CA, September 23, 2009.

Hart MW, **Shaller P**, Farrand GT, Olson B. Reconnaissance of long-runout rock avalanches in eastern California. Presented at 52nd Annual Meeting of Association of Engineering Geologists, Lake Tahoe, CA, September 23, 2009.

Shrestha PL, Hamilton DL, Cydzik K, Wardak S, Jordan N, **Shaller PJ**, Doroudian M. Flood hazard analysis and mitigation. Proceedings, International Conference on Water, Environment, Energy and Society (WEES-2009), pp. 699-706, New Delhi, India, January 12-16, 2009.

Wardak S, Murillo B, Hamilton D, Shrestha PL, Doroudian M, Cydzik K, Medellin J, **Shaller PJ**. Sedimentation analysis in an open channel network for existing and proposed development conditions. ASCE-EWRI World Environmental & Water Resources Conference, Honolulu, HI, May 12-16, 2008.

Shrestha PL, Hamilton D, Jordan N, Lyle JE, Doroudian M, **Shaller PJ**, Wardak S, Cydzik K, Medellin J. Inland flood hazard analysis and mitigation. ASCE-EWRI World Environmental & Water Resources Conference, Honolulu, HI, May 12-16, 2008.

Shaller P. Dig or drill? Weighing options for robotic planetary surface exploration missions. Presented at ASCE Aerospace Division, International Earth and Space Conference, Long Beach, CA, March 3-5, 2008.

Shaller P. Out of the frying pan and into the mud — The fire-flood sequence in southern California. Presented at a meeting of the Orange County Coastal Coalition, Newport Beach, CA, September 27, 2007.

Shaller P, Hamilton D, Lyle J, Mathieson E, Shrestha P. The fire-flood-erosion sequence in California — A recipe for disaster. Presented at ASCE World Environmental and Water Resources Congress, Omaha, NE, May 21-25, 2006.

Shaller P, Hamilton D, Shrestha P, Lyle J, Doroudian M. Investigation of flood and debris flow recurrence — Andreas Canyon, San Jacinto Range, Southern California. Presented at ASCE World Environmental and Water Resources Congress, Omaha, NE, May 21-25, 2006.

Shaller P. Investigating subsurface conditions in bouldery terrain. Presented at ASCE Aerospace Division International Earth & Space Conference, Houston, TX, March 5-8, 2006.

Shaller P, Shrestha P, Hamilton D, Doroudian M, Lyle J, Cattarossi A. Investigation of flood hazards on alluvial floodplains. Presented at ASCE World Water and Environmental Resources Congress, Anchorage, AK, May 16-19, 2005.

Shaller P, Wren J. 2005 landslides: Observations from the trenches. Presented at Minimum Continuing Legal Education Seminar Series, California Club, Los Angeles, CA, May 11, 2005.

Shaller P, Hamilton D, Shrestha P, Lyle J, Doroudian M. Investigating flood hazards on alluvial floodplains. Presented at Alluvial Fan Flood Hazard Management Symposium, Phoenix, AR, April 20-22, 2005.

Shaller P. Investigating the ups and downs of the geology of Las Vegas, Nevada. Presented at Pomona College (presentation to undergraduate students), Pomona, CA, February 21, 2005.

Shaller P, Hamilton D, Doroudian M, Shrestha P, Lyle J, Cattarossi A. Interpretation of tectonic, fluvial and eolian landforms in the Upper Coachella Valley, California, using aerial photography, DEM and LIDAR technology. Geological Society of America, Abstracts with Programs, Vol. 36, No. 5, p. 299, November 2004.

Shaller P, Hamilton D, Lyle J, Doroudian M, Shrestha P. Fire-flood-erosion sequence: Analysis and mitigation. Presented at ASFPM Arid Regions 10th Biennial Conference, Restoration and Management of Arid Watercourses, Mesa, AZ, November 2004.

Shaller P, Hamilton D, Lyle J, Doroudian M, Shrestha P. Multi-disciplinary approach to distinguishing flood hazards on alluvial floodplains. Presented at ASFPM Arid Regions 10th Biennial Conference, Restoration and Management of Arid Watercourses, Mesa, AZ, November 2004.

Shaller P, Mathieson E. Geological aspects of slope stability. Presented at Slope Stability and Landslides short course, University of Wisconsin-Madison Department of Engineering Professional Development, University of California Los Angeles, February 8-10, 2006, February 16-18, 2005, February 18-20, 2004, February 19-21, 2003, February 20-22, 2002, and February 21-23, 2001.

Shaller P, Medley E, Hamilton D, Lyle J, Mathieson E, Weirich F. Hydrologic impacts and watershed recovery following the 1999 Lowden Ranch Fire, Lewiston Area, Trinity County, California. Presented at Wildland Fire Impacts on Watersheds Conference, Denver, CO, October 2003.

Shaller P, Medley E, Sutarwala S. Meeting the challenges of characterizing subsurface conditions in bouldery terrain. Paper No. 115-8, Session No. 115, Engineering Geology (Posters). Presented at Annual Conference, Geological Society of America, Denver, CO, October 29, 2002.

Shaller P, Wren J, Sykora D. New approaches to evaluate and explain recurring geotechnical issues in litigation cases, Part 3: Synthetic Aperture Radar Interferometry (InSAR).

Presented at 7th Annual ASCE Forensic Engineering Technical Group Meeting, Los Angeles Section, University of California Irvine, CA, May 10, 2002.

Shaller P, Gupta A, Saraf V. Gujarat Earthquake reconnaissance. Web page developed for Exponent Web Site, Spring, 2001.

Shaller P. Geologic work at the Getty Center, Los Angeles: A study in geologic complexity. Presented at 43 Annual Meeting of Association of Engineering Geologists, San Jose, CA, September 2000.

Shaller P, McSaveney M, Gillon M, Beetham R, Freeman T. Age and failure style of a large landslide complex at Matahina Reservoir, New Zealand. Presented at 40th Annual Meeting of Association of Engineering Geologists, Portland, OR, October 1997, and in Geological Society of America, Abstracts with Programs, Vol. 29, p. 64, May 1997.

Shaller P, Heron C. Reinterpretation of wave-cut marine terraces west of Castellammare Mesa, Pacific Palisades, California. Geological Society of America, Abstracts with Programs, Vol. 29, p. 19, May 1997.

Shaller P. Review of proposed mechanisms of Sturzstroms (long-runout landslides). Presented at 24th Annual South Coast Geological Society Field Trip, October 1996.

Shaller P, Rapp L. Folds, faults and fills: The geology and geotechnical engineering of the Getty Center, Brentwood, California. Presented at Monthly Meeting of Association of Engineering Geologists, Southern California Section, Los Angeles, CA, June 1996.

Shaller P. Mechanics of long-runout landslides. Presented at Monthly Meeting of Association of Engineering Geologists, Southern California Section, Los Angeles, CA, February 1996.

Shaller P. The runaway mountain. Television appearance on documentary program Horizon, British Broadcasting Corporation, 1996.

Shaller P, Sabins E. Last motion on the Benedict Canyon Fault, Santa Monica Mountains, California. Geological Society of America, Abstracts with Programs, Vol. 26, p. 185, October 1994.

Shaller P, Murray B, Ivanov B. 3rd Caltech/U.S.S.R. Schmidt Institute of Earth Physics Conference on Long-Runout Landslides. Landslide News, No. 5, pp. 37-38, 1991.

Shaller P. Long-runout landslides on Mars. Presented at U.S.S.R. Academy of Sciences, O. Yu. Schmidt Institute of Earth Physics, Moscow, October 1990.

Shaller P, Murray B, Albee A, Shelton J. A large composite landslide/debris flow, Lost River Range, Idaho. Geological Society of America, Abstracts with Programs, Vol. 21, p. 344, October 1989.

Shaller P, Muray B, Albee A. Subaqueous landslides on Mars? Presented at 20th Lunar and Planetary Science Conference, pp. 990-991, October 1988.

Project Experience

Assessed emergency management of floodwaters at a canyon landfill on Oahu, Hawaii subjected to multiple high-magnitude storm events over a short period while in a temporary construction condition. Developed a topographic model of the temporary storage impoundment pond and embankment present during the flood events. Evaluated on-site construction techniques and the stability of the earthen embankment under various floodwater storage scenarios. Utilized existing databases of earthen dam failures and erosion models to predict outflows resulting from simulated embankment breach scenarios. Developed a FLO-2D model to assess depth, duration, direction and velocity of surface flows that would have resulted from an embankment breach. Evaluated potential impacts from the simulated embankment breach to downstream infrastructure that included a power generation facility and an arterial highway.Evaluated the volume, present condition and future performance of an unpermitted landfill constructed on a rugged, previously undeveloped hilltop location in Ventura County, California. Assessed past and future erosion and slope stability concerns and the estimated the volume of imported fill delivered to the site by assessing load records. Evaluated the means and methods utilized to prepare the ground to accept fill and the relative degree of fill compaction based on the results of a subsurface investigation.

Performed geological and geochemical investigation of the Ka Loko dam failure, Kauai, Hawaii. The 1890s-era hydraulic fill dam failed catastrophically after an extended period of heavy rainfall on March 14, 2006. Conducted field mapping, observed drilling and sampling of geotechnical borings, developed geologic cross sections, and directed geochemical testing of embankment soils and foundation materials.

Evaluated the mechanics and travel path taken by the January 10, 2005 La Conchita landslide, Ventura County, California, which resulted in 10 deaths and the destruction of 36 residences. Participated in modeling the flow of debris using commercial FLO-2D software, validated the modeling by means of maps, photographs and video of the event, and applied the results to evaluating the role played by a temporary wall in purportedly deflecting the landslide debris into the affected residential development.

Evaluated cause and origin of distress to single-family residence in La Mirada, California and possible relationships to underlying fill character and adjacent buried CMP storm drain line.

Led team that carried out post-earthquake reconnaissance of damaged infrastructure and ground deformation following the Mexicali Earthquake, April 4, 2010. Developed web site material based on findings of the reconnaissance.

Evaluated the engineering geologic feasibility of installing a pipeline system through the Niger Delta and contributed to the development of a preliminary risk assessment to assist the government and operator in quantifying potential risks and in making a go or no go decision on the project.

Evaluated geomorphic effects of early 2005 storm runoff on the Santa Clara River system in northern Los Angeles County, California. Documented areas of bank erosion by means of aerial photo analysis and field inspection.

Performed geologic and geomorphic investigations for 100-year flood hazard evaluations for sites located on active alluvial fan surfaces in Rosamond, Tujunga, North Fontana, Desert Hot Springs, Palm Springs, Thousand Palms, Indio, Oasis and Thermal, California, and Phoenix, Arizona. Combined field observations with aerial photo interpretation to document active and inactive portions of the alluvial fans. Used findings to document the geologic and geomorphic history of the sites, including the role of active tectonics and climate change on fan processes. Provided oversight for hydrologic modeling of peak 100-year stormwater flows on active portions of fans.

Conducted soils and geologic investigations for construction of temporary and permanent flood control levees in the Whitewater River spreading grounds and in the central Coachella Valley, California.

Performed field investigations, including field mapping, drilling, logging and sampling of soils along levee alignments. Participated in development of recommendations for temporary and permanent levee construction.

Project engineering geologist for flood control-related investigations and design of detention dam, pipeline, and open channels at the Sunrise Mountain landfill, Las Vegas, Nevada. Performed or directed geologic mapping, aerial photo interpretation, mapping and characterization of late Quaternary faulting and seismic sources, rock coring, down-hole packer testing, test pits, aggregate sampling, and logging of fault trenches. Participated in preparation of design geotechnical report and provided geologic input for design plans.

Project manager for the geotechnical investigation of the Agua Caliente Cultural Museum, near Palm Springs, California. Conducted boulder mapping, directed test pit excavations, conducted an in-situ load test for collapsible soil, and prepared a summary geotechnical report. Also conducted an investigation of the debris flow flood hazard using aerial photos and field mapping and provided recommendations for mitigation of the hazard. Participated in discussions of footing design options with the project architect and structural engineer.

Project manager for the Lowden Fire investigation, Lewiston, California. Managed a six-member team evaluating the geologic, hydrologic and ecologic effects of a 1999 wildfire. The project entailed aerial photo analysis, engineering geologic evaluation of slope stability and mass wasting issues, storm water runoff and sediment yield analysis, as well as evaluation of the intensity of the burn and the level of recovery from the fire.

Project manager for investigation of alleged wall distress and out-of-tolerance residential slab tilts at a 1,300-home residential development in Las Vegas, Nevada. These claims were investigated by combining field observations and manometer measurements with In-SAR remote sensing techniques, historical aerial photographs of the development, geologic mapping, and available construction plans and documents.

Observed and documented field load testing for collapsible soils, Hamaca Refinery, Venezuela. Also performed geologic field mapping, logged test pits and trenches, developed geologic maps and cross sections, and participated in construction of project database.

Served as geology representative from Exponent in EERI-sponsored visit to site of January 2001 (magnitude 7.7) Gujarat, India, earthquake. Conducted 10-day field reconnaissance in epicentral region with team of seismologists seeking evidence of coseismic ground rupture.

Observed CPT-LIF testing at the Kinder-Morgan Mission Valley tank farm, San Diego, California. Developed geologic cross sections derived from the CPT data and developed maps and cross sections depicting the subsurface distribution of hydrocarbons beneath the facility.

Performed visual inspections and destructive testing for single-family residences and apartment complexes at various locations in Fontana, Huntington Beach, Laguna Niguel, Santa Monica, Van Nuys and Hollister, California, to investigate claims of slab distress, moisture intrusion and/or earthquake damage.

Performed historic air photo analysis for the Ocean Trails Golf Course, Rancho Palos Verdes, California. Documented intersections of construction haul roads and buried sewer pipeline in area of major slope failure.

Directed an investigation of a potentially life-threatening landslide complex at Lukes Farm, Matahina Reservoir, New Zealand, and a reconnaissance slope stability hazard investigation along the Pacific Coast Highway from Santa Monica to Malibu, California.

Assisted in the development of an emergency response and remediation of a landslide threatening a residential development in Diamond Bar, California, and performed an emergency evaluation and geotechnical investigation of a landslide at the Getty Villa museum complex in Pacific Palisades, California.

Performed a variety of geotechnical site investigation activities, including logging bucket auger borings for a proposed dam near Graybull, Wyoming; mapping stream scour above a heated oil pipeline in Santa Barbara, California; directing a CPT investigation of a bridge crossing of the San Gabriel River in Pico Rivera, California; and investigating and developing cross sections for the proposed expansion of a flood control channel in San Clemente, California. The latter included observing the installation of two slope inclinometers in large fill slopes along the banks of the channel.

Served as a project geologist during construction of The Getty Center museum complex in Brentwood, California, and is the geologist of record for the site's funicular tramway. Developed cross sections, performed computer-aided slope stability evaluations, and logged a combined total of more than 100 test pits, bucket auger borings, drilled pier shafts, drilled slope drains, mass grading cuts, and spread footing excavations at the museum site.

Directed the engineering geologic investigation for a 115-mile railway alignment on the Tongue River, Montana. The project called for the excavation of major cuts and fills in areas underlain by soft sedimentary rock, coal deposits and burned coal.

Performed construction observation tasks, including the documentation of an approximately 1,000-foot long retaining wall footing in Chino Hills, California, and observed the over-excavation for a water pump plant in San Diego, California. Performed geologic mapping in mass grading cuts at a landslide overexcavation in Diamond Bar, California.

Performed investigations of landslide-related problems for home sites in Malibu, California, and an apartment complex in El Sereno, California.

Investigated vibration issues at a condominium complex in Anaheim, California, and construction defects case for a condominium complex in Lemon Grove, California.

Performed geotechnical and seismic investigations for city agencies. These projects include the revision of seismic safety elements for the City of Monterey Park, California, and the City of West Hollywood, California, as well as the reconstruction of an elementary school in Glendale, California, and the development of a sports park for the City of Chino Hills, California. The latter project included the construction of three groundwater monitoring wells in an area of historically high groundwater.

Served as an instructor at Ranch Santiago Community College in Santa Ana, California, and as a teaching assistant at the California Institute of Technology in Pasadena, California.