



Maria Herzberg, M.S.

Senior Staff Consultant

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Ms. Herzberg has 11 years of experience in geological studies with an emphasis in Quaternary geology, soil stratigraphy, and geomorphology. She has participated in trenching projects on over ten faults, including the San Andreas, Garlock, San Jacinto, Hollywood, and Palos Verdes faults in the last seven years. She has supervised both field and laboratory personnel. She has experience with PC and Macintosh systems. She is proficient with various drafting (Canvas, Corel Draw, and Adobe Illustrator), word processing, spreadsheet, and Geographical Information Systems (GIS) programs (MapInfo, Vertical Mapper, and Discover). Ms. Herzberg is experienced in GIS data collection, digitizing, map creation, data management and data presentation.

EDUCATION

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| M.S. Geological Sciences, San Diego State University, California | 1997 |
| Thesis: <i>The Neotectonic History of the Johnson Valley Fault, San Bernardino County, California</i> | |
| B.S. Geology, University of California at Los Angeles | 1990 |

PROFESSIONAL HISTORY

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| Staff Consultant, Earth Consultants International, Inc., Tustin, California | 1997-Present |
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SELECTED PROJECT EXPERIENCE

Field Geologist and GIS-Specialist, Fault Trenching Study in Panama, on the Pedro Miguel Fault. Responsibilities included cleaning and logging trenches, as well as producing final trench logs and GIS-based figures for report.

Field Manager and GIS-Specialist, Fault Investigation in San Bernardino, California, on a splay of the San Jacinto Fault. Directed trenching study for three proposed buildings, produced GIS-based maps of site, prepared trench logs. Project required close communication with client and the client's construction management company, so that any geologic hazards could be planned for in the final building designs.

Field Geologist and GIS-Specialist, Fault investigation for the Costa Azul Energia site, Ensenada, Baja California, Mexico. Assisted in the logging of paleoseismic trenches to determine if faults were present and if so, to determine their recency of activity; produced trench logs and GIS-based maps for final report.

Field Geologist and GIS-Specialist, Fault Trenching Study in the Tehachapi Mountains, southern California. Supervised the excavation of fault trenches and participated in cleaning and logging trench walls. Responsible for digitizing existing geologic maps and correcting to field maps, and for producing GIS-based geologic maps, planning constraints maps, and geomorphic maps, as well as preparing trench logs and various figures for the final reports. Project required close communication with client and design engineer, so that land planning

could take geologic hazards into account and housing plans could be started so the project could move ahead on schedule.

GIS-Specialist, Natural Hazard Technical Background Reports prepared for the updated Safety Elements of the General Plans for the southern California Cities of Moorpark, Torrance, Palm Springs, Rialto, Ontario, Hesperia, Apple Valley, and Newport Beach. These southern California cities face highly diverse natural conditions that pose hazards on many fronts, including the potential ground rupture on major mountain-building fault zones, strong seismic shaking, liquefaction, water shortages, slope instability, and wildfires, as well as infrequent but severe storm flooding. In addition to these issues, the coastal City of Newport Beach, with its heavily populated shoreline, is susceptible to tsunamis, storm surges, and rising sea level. The technical reports prepared for these cities include GIS-based hazard maps detailing the natural hazards faced by each city, earthquake loss estimations for several earthquake scenarios, and mitigation strategies that can be used for hazard reduction.

Field Manager and GIS-Specialist, Fault Investigation in San Bernardino, California, on a splay of the San Jacinto Fault. Directed Cone Penetrometer (CPT) study, interpreted CPT data, produced figures, developed GIS-based maps for the report, and assisted with final report preparation. Directed trenching study, logged trenches, drafted trench logs, interpreted stratigraphy, developed GIS-based maps and created figures for the report, and assisted with final report preparation.

Field Geologist and GIS-Specialist, Fault Investigation for the Palos Verdes Fault, Palos Verdes, California. Responsibilities included cleaning and logging trenches, and producing final trench logs. Participated in the preparation of the final report.

Field Geologist, Fault Investigation for the Hollywood Fault, West Hollywood, California. Assisted with descriptions of borehole cores, reduced field data, and provided assistance with report preparation.

Field Geologist, Fault Trenching Study in Etiwanda, California, near the Cucamonga Fault. Responsibilities included cleaning and logging trenches, as well as producing final trench logs. Provided office support in preparation of the final report.

Field Geologist, Fault Trenching Study in Colton, California, on a splay of the San Jacinto Fault. Directed field operations and logged trenches. Provided office support in preparation of the final report.

Field Geologist, Landslide Study, Crafton Hills, California. Directed field operations, cleaned and logged trench, described soils for age estimates, and provided assistance with report preparation.

Field Geologist, Fault Trenching Study on the Rose Canyon Fault System, San Diego, California. Responsibilities included cleaning, and logging trenches, managing field activities, and traffic control.

Field Geologist for various fault studies under the direction of Dr. Tom Rockwell, Quaternary Research Lab, San Diego State University, 1992-1996. Faults investigated include: Palos

Verdes, North and South Johnson Valley, Kickapoo, Old Woman Springs, Helendale, Lenwood, Hollywood, and Whittier.

Geological Aide (Summer Internship), Occidental Petroleum, Houston, Texas, in 1991.
Completed initial investigation of the feasibility of a horizontal well.

PUBLICATIONS

Rockwell, T.; Lindvall, S.; **Herzberg, M.**; Murbach, D.; Dawson, T.; AND Berger, G., 2000, Paleoseismology of the Johnson Valley, Kickapoo and Homestead Valley faults: clustering of earthquakes in the eastern California shear zone: *Bulletin of the Seismological Society of America*, Vol. 90, pp. 1200-1237.

Herzberg, M. AND Rockwell, T., 1994, Timing of past earthquakes on the northern Johnson Valley fault and their relationship to the 1992 rupture. In Murbach, D. (Editor). Mojave Desert: South Coast Geological Society Annual Field Trip Guidebook, pp. 388-392.

Herzberg, M. and Rockwell, T.K., 1993, Timing of past earthquakes on the northern Johnson Valley fault and their relationship to the 1992 rupture: EOS AGU Fall Supplement, p. 612.

Rockwell, T.; Schwartz, D.; Sieh, K.; Rubin, C.; Lindvall, S.; **Herzberg, M.**; Padgett, D.; and Fumal, T., 1993, Initial paleoseismic studies following the Landers earthquake: Implications for fault segmentation and earthquake clustering: EOS AGU Fall Supplement, p. 67.