

MONTE MURBACH

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EDUCATION:

Master of Science GEOLOGY, 2000 San Diego State University, CA Bachelor of Science GEOLOGY, 1982 Eastern Wash. University, Cheney, WA **REGISTRATIONS:** California - Registered Geologist #5284 Certified Engineering Geologist #1856 Oregon - Registered Geologist #G1756 Certified Engineering Geologist #E1756 Washington – Registered Geologist &

Certified Engineering Geologist #1870

BACKGROUND:

Monte Murbach is a registered geologist and certified engineering geologist with over 30 years experience in engineering geology. He has conducted numerous soil, rock and foundation investigations as well as geologic hazard, seismic, and landslide evaluations for clients throughout the western United States and Baja California, Mexico. Monte has extensive project experience extending from the proposal stage dealing with fatal flaw issues (due diligence) to preliminary geotechnical investigation report preparation, and grading and development construction observation. Mr. Murbach is an active member of various geologic societies in the western United States.

EXPERIENCE:

June 2008 to Present: PRINCIPAL ENGINEERING GEOLOGIST, Murbach Geotech

Providing engineering geologic and geotechnical related consulting services to engineering consulting firms, architectural firms, developers, water districts, real estate firms and individual homeowners.

May 2003 to June 2008: OFFICE MANAGER, Petra Geotechnical (San Diego Office) Responsibilities included: Maintaining profit of office; monitoring expenses, observing and adjusting to profit and loss; hiring and reducing staff. Reviewing draft documents including proposals, change orders, letters, reports, time cards. Mentoring staff; established student mentoring program with area Universities, redirecting staff, and interviewing potential staff. Liaison to Corporate office. Performed extensive business development and client maintenance.

February 2003 to May 2003: CHIEF GEOLOGIST, Petra Geotechnical (Murrieta Office) Responsible for mentoring staff, reviewing geologic and geotechnical reports and supervising largescale fault investigations, and business development for new and existing clients.

December 2001 to February 2003: ASSOCIATE ENGINEERING GEOLOGIST, Southern California Soil and Testing

Senior level engineering geologist managing geotechnical projects, reviewing and writing reports, working on business development and mentoring staff geologists and engineers.

March 1999 TO December 2001: CONSULTANT, Murbach Geotech

Certified Engineering Geologist on a consulting basis performing various geologic and geotechnical services and project management in Oregon, Washington and California.

1996 TO 1999: SR. ENG. GEOLOGIST/GEOTECH DIVISION MANAGER: D. J. Newton Associates, Portland, OR

Senior engineering geologist responsible for geologic hazard investigations, geotechnical investigations, and managed the Geotechnical Department; reviewed all out-going reports, mentored engineers/geologists. Assisted in starting geotechnical soils lab. Radiation Safety Officer and managed nuclear density gauges, trained field personnel on grading observation. 1995/1996: PROJECT ENGINEERING GEOLOGIST: Landslide investigations, grading observations of residential and commercial developments, mining reclamation. Projects also included review of properties for purchase or insurance claims on damages.

1989 - 1995: PROJECT ENGINEERING GEOLOGIST, Geocon Inc., San Diego, CA

Performed soil and geologic investigations for commercial and residential projects involving hillside grading; seismic hazard investigations and reports; landslide and slope stability studies utilizing down-hole logging techniques; aerial photograph review; coastal bluff erosion study; groundwater studies; management of commercial and residential projects during site development; and geologic mapping on large scale grading/development projects. Project sites included numerous projects in Southern and Baja California.

1987-1989: PROJECT ENGINEERING GEOLOGIST: Ninyo & Moore, San Diego, CA

Conducted engineering geologic studies for residential and commercial developments; management of commercial and residential projects during site development; forensic geotechnical studies; groundwater studies; seismic rippability surveys; aerial photography analyses; supervising professional staff; including geologic field mapping, detailed logging of exploratory borings and trenches, and landslide investigations.

1986-1987: CONSULTANT, MURBACH GEOTECH: Geologic Consultant to Geocon, Geopacifica, Hetherington Engineering, Leighton & Assoc., Owen Geotechnical, Steve Jensen Geology, Southern CA

Performed geologic and soils investigations for residential and hillside developments and capital improvement projects; forensic geotechnical studies; and third-party review.

1983-1986: GEOLOGIST/FIELD TECHNICIAN: Leighton & Associates, San Diego, CA

Conducted geologic and soils investigations for residential and commercial developments involving hillside grading; in-grading geologic inspection; fill control; and forensic geotechnical studies.

1979-1983: TECHNICIAN: Bureau of Reclamation (USBR), Grand Coulee, WA

Temporary appointments for the Riverbank Landslide Stabilization Program: Performed logging of core, mapping, gathered and reduced data from drill holes and pump tests, laboratory and field testing for physical properties of soils, concrete and asphalt sampling, inspection and laboratory testing.

Select Murbach Geotech Projects:

2016/2019 – Provide Engineering Geologist consulting services to other Geotechnical firms for the following City of San Diego geotechnical investigation projects: Sewer and Water Group (SWG) 837; SWG 697A; AC Water and Sewer Group 1013 Menlo Ave.; Carmel Del Mar Storm Drain; Water and Storm Group 1023; Water and Storm Group 968; 305 Aldine Drive Slope; and College Area Sewer and AC Water Group. In addition, Mr. Murbach was the Engineering Geologist for Eastgate Mall NCPWF fault investigation, the Genesee and La Jolla Village Drive voids investigation, and Rue Chantemar storm drain repair (grading observation).

2016-2019 – Geotechnical investigation and landslide study, and grading observation and testing, new building, Weld Blvd., El Cajon, CA.

2018 – Performed a nuisance water investigation, Santee Church, Santee, CA.

2017/2018 – Performed a fault and landslide subsurface investigation for a property on Roseland Drive, La Jolla, CA

2015 – Performed a fault subsurface investigation on the La Nacion fault, Hopkins Street, San Diego, CA.

2017 – Slope rockfall study, Lake Morena, CA.

2016-2018 – Water Main upgrades, geotechnical investigation and grading observation and testing, Guatay Community, SD County, CA.

2016 – Subsurface Fault investigation, 6th Ave. property, San Diego, CA.

2016 – Slope reconstruction, geotechnical investigation and grading observation, Baily Ave. property, San Diego, CA.

2016 – Water main installations, geotechnical investigation and observation and testing, Pine Hills community, Julian, CA.

2016 – Geotechical investigation and soil nail installation and grading observations, slope failure, property on Reynard Ave., San Diego, CA.

2014/2015 – Geotechnical observation and testing of booster pump station, nitrate treatment buildings, and water pipelines construction, Lake Morena's Oak Shores Water Company. Geotechnical investigations and rock studies were performed in 2012;

2014/2015 – Fault investigation of Florida Canyon fault and geotechnical investigation, proposed apartment complex, Indiana St., San Diego, CA;

2014 – Pre-percolation study for proposed large scale sewage treatment facilities, Niland, Imperial Valley, CA;

2014 – Geologic reconnaissance of large acreage hillside property, northern Napa County, CA;

2014 – Fault trenching study for high-rise building located within Alquist-Priolo Special Studies Zone, 14th Ave. and Imperial Ave., Downtown San Diego. Scope included a geotechnical investigation for the 70 feet above ground, 60 feet below ground building;

2013 – Geologic and seismic hazard assessments for Fish and Wildlife Department, Pacific Northwest Region (MG client, Alder Geotechnical),. Scope included aerial photo analysis, review of geologic maps and reports and site geologic reconnaissance of 3 sites along the Columbia River: Carson, Little White Salmon and Spring Creek Fish Hatcheries;

2013 – Liquefaction study of affordable housing complex, NE 62nd Ave., Vancouver, WA. Scope included trenching and logging of potentially liquefiable soils;

2013 – Hillside geotechnical investigation for solar array, for Verengo Solar, San Diego County, CA;

2013 – Geotechnical investigation for micro-tunneling/micro bore pits project (communications installations), HW 74, San Juan Capistrano;

2011/2012 – Geotechnical investigation, rock study, and construction observation and testing, major water pipelines replacement, Pine Hills Comm. Water District, Julian, CA;

2010/2011 – Geotechnical investigation and re-grading observation and testing, French Field, Vista, CA. Scope included re-capping of previously closed landfill, for continued use of baseball fields;

2010 – Geologic reconnaissance of 5-acre site, Forrester Creek, Santee, CA. Scope included preparation of geologic report for potential property purchase, City of Santee;

2010 – Rockfall hazard assessment, Salvation Army Camp, Romona, CA;

2009/2010 – Seismic hazard update of 1996 report for The Dalles, Veterans Administration Facility, The Dalles, Oregon;

2008 to present - Geotechnical Observation and Testing, Waterline and buildings construction, Lake Morena Water Community District, San Diego County, CA;

2000/2002 - Northridge Earthquake - Evaluation of Earthquake-Related Geotechnical Damage for Approximately 50 Sites in the Los Angeles (Area), CA;

Monte Murbach, while at other Companies:

- Campo Indian Reservation Landfill Site Geologic Hazards Investigation, Logistics Coordinator for the Army Corps of Engineers, Campo, CA;
- Chapman Hospital Expansion Seismic Hazard Evaluation for blind thrust faulting and site accelerations (after the 1994 Northridge earthquake), Orange Co., CA;
- Ranch Del Rey, Landslides/buttress construction grading observation, Chula Vista, CA,
- Bayview Navy Housing Geologic Hazards (fault locating for building setbacks) and Geotechnical Investigation, San Diego, CA;
- Astoria Navy Housing Geotechnical Investigation and Landslide Evaluation for Proposed Redevelopment at Old Navy Housing Site, Astoria, OR;
- Miramar Landfill Expansion/Aggregate Study, San Diego, CA;
- Cuyamaca Landfill Geotechnical site stability study for proposed development adjacent to Landfill, Santee, CA;
- Calexico Border Crossing Geologic Hazards (faulting & liquefaction study) & Geotechnical Investigation for a trucking port facility, Imperial Valley, CA;
- Borrego Springs Resort Fissure & faulting hazard evaluation, Borrego Springs, CA;
- Vail Lake Development Geologic Hazards (faulting, mapping), Investigation, Temecula, CA;
- Aliso Canyon New Utility Lines, Geologic Hazards (Landslides) reconnaissance, Orange Co., CA;
- Baja Mar Tourist Resort Geotechnical Investigation, Ensenada, Baja CA, Mexico;

- Various Development Projects Geotechnical Investigations, Tijuana, Mexico;
- Progress Quarry Reclamation, Geotechnical Investigations/Re-grading, Portland, OR;
- Japanese Garden People Mover, Feasibility/Landslide Investigation, Portland, OR;
- Diamond Terrace 14-Story Building, Fault Mapping and Construction Observation, Downtown Redevelopment, San Diego, CA
- Toledo High School Seismic Hazards Report, Toledo, OR;
- Skamania Dam Geotechnical Investigation and Rehabilitation, Skamania, WA;
- City of Kelso Third Party Landslide Review, Kelso, WA;
- San Diego School District, Review of Geotechnical Reports for 23 School Sites, CA;
- Bequette Residence Active Landslide Investigation & Buttress, La Center, WA;
- Lincoln City Third Party Geotechnical Review, Lincoln City, OR;
- Thurston & Springfield High School- Seismic Hazards Report, Springfield, OR;
- Terwilliger Redevelopment Complex Geotechnical Investigation and Seismic Hazards Evaluation, Portland, OR;
- Oregon Dept. of Veterans Affairs Home Seismic Hazard Report, The Dalles, OR.

RESEARCH PROJECTS:

2019: "Late-Holocene Rupture History of the Rose Canyon Fault in Old Town, San Diego: Implications for Cascading Earthquakes on the Newport–Inglewood–Rose Canyon Fault System," by Drake M. Singleton, Thomas K. Rockwell, Diane Murbach, Monte Murbach, Jillian M. Maloney, Tom Freeman, and Yuval Levy, Bulletin of the Seismological Society of America, On-Line Version March 26, 2019 & Vol. 109, No. 3, pp. 855-874, June 2019.

2014: Geologic reconnaissance of earthquake damage, after Napa, CA 2014 earthquake.

2013: Geologic reconnaissance of El Mayor-Cucapah 2010 Earthquake, Mexicali, Mexico. Additional study post 2010 reconnaissance.

2010-2012: Completed work on a research project with Dr. Tom Rockwell (San Diego State University) on the Rose Canyon Fault, in Old Town San Diego. The project investigated Holocene earthquake activity of the Rose Canyon fault strand that bisects the Old Town area. Mr. Murbach assisted in logistics coordination with subcontractors: Cone Penetrometer Testing (CPT) and fault trenching contractor. Mr. Murbach also assisted in logging of the fault trench, collection of in situ charcoal samples for laboratory Radio Carbon Age Dating, and draft review of fault investigation report.

1995-2000: Completed work on a research project with San Diego State University on the Rose Canyon fault zone in San Diego, California. The project investigated Holocene earthquake activity in the La Jolla area with respect to faulting in the San Diego region. The project was partially funded by NEHRP-USGS through Dr. Tom Rockwell, San Diego State University.

1994: Assisted with a research project "Characteristics of Fault Rupture Adjacent to Distressed Structures", awarded by EERI/FEMA. Trenches were excavated through and adjacent to three structures that were damaged by direct fault displacement from the Landers 1992 earthquake fault rupture.

PROFESSIONAL SOCIETIES & OFFICES HELD:

Association of Environmental and Engineering Geologists (AEG); Oregon Section Treasurer 1998-1999, Planning Committee AEG National Meeting, LA 2007; Foundation Committee 2009, Field Trip Planning Committee 2015 for the 2016 National Meeting, Kona, Hawaii. Earthquake Engineering Research Institute (EERI); 2015, On-going committee to update the San

Earthquake Engineering Research Institute (EERI); 2015, On-going committee to update the Diego-Tijuana Earthquake Planning Scenario.

San Diego Association of Geologists (SDAG), President 2004.

San Diego Geological Society (SDGS), Board of Directors 2008- current.

San Diego State University (SDSU), Geology Dept. Thesis Review Committee, 2008-current.

Seismological Society of America (SSA).

South Coast Geological Society (SCGS); President 2010.

Geological Society of America (GSA).

Toastmasters International, awarded CTM, 1999.

AWARDS:

- 2019 San Diego State University Department of Geological Sciences and SDSU Geology Alumni Association, recipient (along with spouse) of the Baylor Brooks Honored Alumni Award.
- 1989 San Diego State University, Geological Sciences, Spring, Outstanding Research Award (Joint Project).
- 1998 Employee of the Year, D.J. Newton Associates.

OTHER CERTIFICATIONS:

40-hour OSHO Training Certification. Radiation Safety Officer (for nuclear densometers).