

Daniel B. Meier, CEG
Engineering Geologist

AREAS OF EXPERTISE

- Geologic and Geotechnical Investigations
- Construction Management and Inspection Services
- Engineering Geology
- Landslide Evaluation
- Seismic Hazard Evaluation

EDUCATION

San Diego State
University: B.S., Geology,
1988

REGISTRATION

Certified Engineering
Geologist, Oregon, No.
E1967

Registered Geologist,
Oregon, No. G1967

Licensed Engineering
Geologist, Washington No.
2382

Licensed Geologist,
Washington No. 2382

PROFESSIONAL HISTORY

URS Corporation, Staff
Geologist to Senior
Engineering Geologist,
1990-Present

REPRESENTATIVE EXPERIENCE

Mr. Meier is a Certified Engineering Geologist located in Portland, Oregon. He has over 17 years of professional geologic experience in the western United States. Mr. Meier's specialties include on site geologic mapping, subsurface exploration, as-constructed geologic mapping, construction inspection, interpretation of field data, and preparation of maps and reports. Mr. Meier is experienced in seismic hazard evaluations, landslide evaluations, engineering geology and construction management and inspection.

His project experience includes:

Dams/Water-Waste Water/Pipelines

- Managed a geologic hazard analyses in support of a Federal Energy Regulatory Commission (FERC) application for a proposed natural gas pipeline in Oregon and Washington. The proposed pipeline route crosses several water bodies, including the Columbia and Cowlitz Rivers using Horizontal Directional Drilling (HDD) technology. The hazard analysis delineated over 30 landslides along the proposed alignment which will require use of alternative installation techniques such as HDD and pipeline instrumentation.
- Performed the geotechnical investigation management for the Portland Bureau of Environmental Services (BES) CSO Northwest Force Main design. The project included subsurface investigations along the proposed alignment in a densely industrialized, high traffic area. Design of the force main crossing of the Willamette River required drilling approximately 1000 feet of geotechnical boreholes from barges in the river (October 2000 through 2002).
- Developed and managed a geotechnical field investigation in support of an Energy Facility Siting Council (EFSC) application for a proposed Northwest Natural Gas pipeline. The investigation included aerial photo analysis of the entire ~60 mile corridor; subsurface investigations at several proposed river and infrastructure crossings, including geotechnical boreholes and cone penetrometer

DB Meier Geoconsulting,
Owner, 2005-Present

US Geological Survey,
Branch of Engineering,
Seismology & Geology,
Geologist, 1988-1990

San Diego State
University, Geologic
Sciences Laboratory
Technician, 1987-1988

AFFILIATIONS

Geological Society of
America

AWARDS

Part of team that received
the 1997 Environmental
Excellence Award from
the Federal Highway
Administration for
Excellence in Historic and
Archeological Preservation
for the restoration of a
section of the Historic
Columbia River Highway
in Oregon.

Recognition for work
performed following the
Loma Prieta, California
earthquake of 1989
awarded by the United
States Geological Survey.

National Association of
Geology Teachers
(N.A.G.T.)\ United States
Geological Survey (USGS)
internship to the USGS for
outstanding work in
undergraduate geologic
field work (1988).

tests; and aerial and surface mapping of active and dormant landslides within the proposed corridor. Provided expert testimony during the public response hearings before the EFSC officers. (March 2000 through March 2004).

- Mr. Meier provided geologic and construction inspection services for the Metropolitan Water District of Southern California at their Inland Feeder Project in San Bernardino County, California. The project involves approximately 20 miles of water conveyance tunnel, passing through varied geologic conditions, including active traces of the San Andreas Fault. Specific duties included detailed as-built mapping of the tunnel crown and heading, surface mapping of faults along tunnel alignments, monitoring of state-of-the-art pre-excavation grouting operations, and inspection oversight of all aspects of the construction operations at the Arrowhead East tunnel reach (May 1998 through Present).
- Performed fast track core logging and packer testing at the Diamond Valley Reservoir Project and the Hollywood Reservoir in Southern California (January 1997).
- Performed inspection and mapping of dam abutments and foundations, including grout treatment of fractures in the abutments and interpretation of subsurface data (core logging) for delineating an existing prehistoric landslide at the Los Vaqueros Reservoir project in Contra Costa County, California (June through September 1996).
- Performed geologic mapping and rock core logging and interpretation for design of a new outlet facility including a tunnel and large diameter shaft at the Lake Mathews reservoir for the Metropolitan Water District of Southern California in Riverside County, California (Summer, 1995).
- Exploration and interpretation of site geology for a proposed expansion of the Diemer water filtration plant owned by the Metropolitan Water District of Southern California (August through September, 1994).

Transportation

- Currently the on-site Engineering Geologist for the Pioneer Mountain to Eddyville realignment of US Highway 20 through the Central Oregon Coast Range. The project includes several large-volume cut slopes in varying rock and soil conditions; delineation and remediation of landslides in forested terrain; and 7 bridges. Mr. Meier's responsibilities include: as-constructed mapping of finished

cut slopes; monitoring stability of finished and temporary slopes; identifying landslides; providing geotechnical and engineering geologic expertise to the design-build team (May 2006 to present).

- Mr. Meier served as the geotechnical task manager for ODOT's Spencer Creek Bridge environmental impact study (2001-2003). Responsibilities included: Delineation of landslides along several alternate alignments in forested terrain; evaluation of erosion due to coastal processes; development of alternative slope stabilization methods.
- Provided construction management, testing oversight, and field engineering support to the Oregon Department of Transportation during the initial phase of construction of the Hood River to Mosier Historic Highway rock catchment structure. Responsibilities included laying out of test locations for prestressed, high yield rock anchors; observation and documentation of the anchor testing program; locating and overseeing the installation of rock bolts near the west portal of the Mosier Tunnels; coordinating activities between ODOT, the contractors and the URS design team (March through April, 1998).
- Provided construction inspection and geologic mapping services for the Oregon Department of Transportation (ODOT) during the replacement of the existing tunnel liner at the Arch Cape Tunnel on Highway 101 in northwest Oregon. Duties included monitoring contact grouting behind the new concrete liners, observation of rock bolt and shotcrete installation, performance testing of rock bolts, mapping of fractured basalt to determine ground-type designation, and concrete liner formwork inspection (January through March, 1998).
- Provided Resident Engineering Geologist services to ODOT for the rehabilitation of the Columbia River Historic Highway Mosier Tunnels in Wasco County, Oregon. The renovation of the twin tunnels included the extensive use of fiber-reinforced shotcrete and rock bolts to stabilize the 76 year-old tunnels and allow public access to this section of the Historic Highway. The project team received the 1997 Environmental Excellence Award from the Federal Highway Administration for Excellence in Historic and Archeological Preservation (June 1995 through May 1996).
- Emergency response for assessment of slope stability and recommendations for short-term and long-term rockfall hazard reduction for a section of US Highway 101 near

Manzanita, Oregon for the Oregon Department of Transportation (October through November, 1994).

- Conceptual design study for the re-occupation of the Hood River-Mosier Twin Tunnels on the Historic Columbia River Highway for Oregon Department of Transportation (May through June, 1994).

Other Experience

- Provided construction management and field design services for a US Environmental Protection Agency mine tailings cap installation at Ophir, Utah (August through November, 2005)
- FEMA landslide Technical Assistance Contractor during disaster response in West Virginia (February and March, 2005)
- Served as landslide inspection team leader during FEMA's response to disasters in the state of Washington in 1997. Mr. Meier's team inspected over 50 landslides throughout the state of Washington over a 5-month period.
- Participated in an intensive subsurface investigation involving several hundred meters of PQ wireline core logging and interpretation for a slope stability study within a reactivated landslide at a large power plant construction site in Paiton, West Java, Indonesia. The project included the installation of pneumatic piezometers and slope inclinometers up to 90 meters in length (November through December 1996).
- Organized and managed portions of the data acquisition phase of the Oregon Department of Geology and Mineral Industries (DOGAMI) Portland Area Relative Earthquake Hazard Mapping Program. The program has provided the public and geosciences/engineering communities with maps for the Portland metropolitan area showing the relative degree of seismic hazard in the event of moderate to large earthquakes. Mr. Meier developed a scope of work and subcontracts for the drilling and cone penetrometer programs (9000 feet of drilling, 40 cone penetrometer tests). He was also involved in the development of the subsurface geologic models used in the evaluation of the seismic hazards. Mr. Meier has co-authored several Relative Earthquake Hazard Maps resulting from this program.
- Exploration and as-built geologic mapping and interpretation on a major multi-million dollar investigation and foundation design at the Getty Fine Arts Center

located in the Santa Monica Mountains of Southern California (August, 1990 through February, 1993).

- As a geologist with the US Geological Survey, Mr. Meier participated in several projects involving active fault studies. He has participated in trench studies of Holocene faults in California and Idaho including:
 - San Andreas Fault; Carrizo Plain, Pajaro Gap, and Wrightwood, California
 - Rodgers Creek Fault; northern California
 - Hayward Fault, Union City, California
 - Lost River Fault, Lost River Valley, Idaho

Other highlights of Mr. Meier's project experience include:

- Performed paleo-liquefaction studies following the Loma Prieta Earthquake of October 1989.
- Co-designed, installed, and monitored arrays of survey quadrilaterals across the San Andreas Fault as part of the Parkfield Earthquake Prediction Experiment and in response to the Loma Prieta Earthquake.
- Involved in leveling surveys at Long Valley Caldera, California.

PUBLICATIONS

- Relative Earthquake Hazard Map of the Portland Metro Region, Clackamas, Multnomah, and Washington Counties, Oregon (with M.A. Mabey, I.P. Madin, G.L. Black, T.L. Youd, C.F. Jones, J.B. Rice). 1997.
- Relative Earthquake Hazard Map of the Mount Tabor Quadrangle, Multnomah County, Oregon, and Clark County, Washington, (with M.A. Mabey, I.P. Madin). 1995.
- Relative Earthquake Hazard Map of the Gladstone Quadrangle, Clackamas and Multnomah Counties, Oregon, (with M.A. Mabey, I.P. Madin). 1995.
- Relative Earthquake Hazard Map of the Lake Oswego Quadrangle, Clackamas, Multnomah, and Washington Counties, Oregon, (with M.A. Mabey, I.P. Madin). 1995.
- Relative Earthquake Hazard Map of the Beaverton Quadrangle, Washington County, Oregon, (with M.A. Mabey, I.P. Madin). 1995.
- Relative Earthquake Hazard Map of the Linnton Quadrangle, Multnomah and Washington Counties, Oregon, (with M.A. Mabey, I.P. Madin), 1996.
- Late Holocene Record of Earthquakes and Slip on the San Andreas Fault in Excavations on the Carrizo Plain, Central California, (with J.D. Sims, T. Ito, J.C. Hamilton), *Eos*, Transaction of the American Geophysical Union, Vol. 70, pp. 1349. 1989.
- Holocene Slip Rate Along the Hayward Fault, Northern California, (with J.J. Lienkaemper, G. Borchardt and J.F. Wilmesher), *Transactions of the American Geophysical Union*, Vol. 70, pp. 1349, 1989.