

MILES J. GRANT
1427 17th Avenue
San Francisco, California 94122
(415) 378-4114 (Mobile)

POSITION DESIRED: Project Manager

EDUCATION:

Master of Science degree in Geology, University of Southern California, 1986.
Bachelor of Science degree in Earth Sciences (Geology), University of California,
Santa Cruz, 1978
Turner School of Construction Management, 2010

CERTIFICATIONS:

Certified Engineering Geologist, License No. 2157
Registered Geologist, State of California, License No. 5367
40-Hour Hazardous Waste Operations and Emergency Response Training
8-Hour Supervisory Hazardous Waste Operations and Emergency Response Training
Turner School of Construction Management, Certificate of Completion, 2010
CPN Radiation Safety Certified (Nuclear Gauge Certification)
BATC petroleum refinery worker certified
Caltrain worker and supervisor certified
Red-Cross Certified First Aid and CPR training
Blood-Borne Pathogen training
Construction Management (pending)

PROFESSIONAL AFFILIATIONS:

Association of Engineering Geologists
Geological Society of America

ABILITIES:

- Manage all aspects of environmental and geotechnical projects ranging from small to large projects. In 2001 managed a \$450,000 combined geotechnical and environmental data collection project for the Los Angeles Metropolitan Transportation Authority (MTA); (see the Selected Project Experience section for details).
- Perform all aspects of environmental and geotechnical investigations including: scope determination, proposal preparation, contract negotiation, project setup, performance of the investigation including all aspects of field work, supervision of staff, report preparation (including incorporation of engineering recommendations), drafting figures on the computer (when necessary), and financial aspects of project management.
- Environmental experience includes: environmental site characterizations, monitoring well installation, oversight of remediation projects ranging from gasoline stations to multi-million dollar projects, work area monitoring for hydrocarbons and metals, and Phase I and Phase II preliminary site assessments.
- Geotechnical experience includes: hillside investigations, San Francisco Bay margin investigations, landslide investigations, geologic hazard evaluations that include probabilistic seismic hazard analysis, liquefaction investigations, investigations for Caltrans (including producing boring logs in Caltrans format), forensic investigations, geologic site assessments for real estate transactions, coastal erosion studies, and hydrogeologic studies.
- Construction Management: managed a \$500,000 school exterior improvement project.

- Excellent marketing skills. Ability to produce effective SOQs, proposals, and other marketing literature, excellent telemarketing skills, excellent presentation skills. Have had great success in acquiring large- and small-scale geotechnical and environmental projects.
- Excellent written and verbal communication skills, excellent computer skills (proficient using Word, Excel, Outlook, PowerPoint, CRM software); ability to type over 50 wpm, 10-key by touch.

WORK EXPERIENCE:**Pacific Engineering and Construction, San Francisco, California****Principal Geologist, 2003-Present**

Performed Phase I and Phase II preliminary site assessments; monitoring well installation, and quarterly monitoring well sampling. Performed fault investigations and geotechnical investigations. Performed construction management on medium sized civil projects.

Mactec (formerly Harding ESE, formerly Harding Lawson Associates)**San Francisco, California****Senior Geologist April 2000 to December 2002**

Managed geotechnical and combined geotechnical/environmental projects. Managed and performed geologic hazard evaluations for hospitals and schools that included probabilistic seismic analyses. Managed and performed fault investigations that included trenching to locate actual fault locations. Managed a \$450,000 combined geotechnical and environmental data collection project for the Los Angeles Metropolitan Transportation Authority (MTA). Performed oversight of geologic hazard evaluations and geotechnical projects for the County of Alameda.

Geo/Resource Consultants, Inc., San Francisco, California**Senior Geologist, October 1998 to March 2000**

Project Manager for geotechnical projects that were primarily on hillsides or along the San Francisco Bay margin. Successfully marketed and managed a \$500,000 contract for the on-land portion investigation for the San Francisco International Airport (SFIA) runway expansion project, which included an environmental data review, a geotechnical data review, field exploration to fill geotechnical data gaps, and a fault-evaluation report; project manager for the geotechnical portions of this project (which included 200-foot deep borings) and managed the environmental data report. The SFIA project included coordination with several SFIA agencies. Performed marketing and proposal preparation for numerous geotechnical and environmental projects.

Smith-Emery Geoservices, San Francisco, California**Project Geologist 1995 to 1998**

Performed Phase I and Phase II environmental site assessments, environmental site characterizations, monitoring well installations, and environmental oversight (work area monitoring) during site remediation and construction activities for several projects. Performed several presentations that were successful in project acquisition. Developed much of the marketing literature for the Geoservices Division. Wrote and compiled the Quality Control Manual for the concrete, soils, and asphalt laboratories that was approved by AASHTO allowing these laboratories to receive AASHTO certification. Managed several geotechnical and environmental boring programs for Caltrans (including deep off-shore borings), hydrogeologic site investigations, and geologic site assessments. Performed landslide investigations including several landslides caused by the El Niño rains in February 1998, and geotechnical investigations for sites ranging from single family homes to hillside subdivisions. Project manager for geotechnical and structural evaluations for seismic upgrades of large buildings.

Tetra Tech, Inc., San Francisco, California

Senior Geologist, 1992 to 1994

Served as Assistant Project Manager for the Caltrans Oyster Point Project, which is located along U.S. Highway 101 in South San Francisco. This two year project involved characterization of the site, installation of a ground monitoring wells, quarterly sampling of all monitoring wells on-site, an onsite remediation pilot study (which proved that the soil could not be remediated), movement of approximately 5,000 cubic yards of contaminated soil across the site, off-haul of approximately 50,000 tons of hazardous soil by rail, on-site air monitoring was performed during all field activities, and the preparation of the following reports: site characterization, monitoring well closure, remediation, hazardous waste removal, and remedial investigation (RI). The RI comprises eight four-inch binders. Other projects at Tetra Tech included field management of numerous Caltrans hazardous waste projects, project management for the clean-up of a 300-foot long culvert filled with lead contaminated soil, supervision of various remedial investigation activities at the Hawthorne Army Ammunition Depot in Nevada, field supervision and report preparation for several site characterizations, monitoring well sampling at numerous sites, and several UST removals.

Hallenbeck and Associates, Emeryville, California**Project Geologist, 1987 to 1991**

Performed Phase I Environmental Site Assessments. Performed geotechnical investigations on numerous hillside sites including three large-scale subdivisions. Performed geologic observations at numerous construction projects and drafted as-built geologic maps for several projects. Performed two fault hazard investigations. Work included all geologic investigation and oversight for the Moraga Country Club Expansion Project, which comprised a nine-hole golf course and 69 housing units on a hillside site with significant landslide hazards.

Smith Emery Company, Anaheim, California**Staff Geologist, 1986 to 1987**

Project Manager for environmental site characterizations at numerous Unocal and Arco Service Stations in the Los Angeles Basin; duties included design and implementation of the work plans, drilling and sampling, monitoring well design, monitoring well installation and periodic sampling, and report preparation. Performed numerous geotechnical investigations including hillside investigations, and forensic (distressed home and road) investigations. Performed field control for numerous sites. Worked in the lab and performed numerous soil tests.

Robertson Geotechnical, Westlake Village, California**Staff Geologist, Summer 1985**

Performed field control on hillside grading sites, performed sand-cone density testing, and performed downhole observation of pier excavations at several of these sites. Performed geotechnical site investigations, and performed forensic (distressed home) investigations at sites in the Los Angeles and San Diego areas.

University of Southern California, Department of Geological Sciences, Los Angeles, California**Research Assistant, 1984 to 1985**

Developed a computer package to quantitatively examine stratigraphic data for cyclicity and presented the results of this study in a paper (Burbank and Grant, 1985). Determined polarity of sediment samples using a cryogenic magnetometer (a new soft sediment soil dating technique). Prepared samples for fission-track dating.

Mesa², La Crescenta, California**Staff Geologist, Fall 1983 to Winter 1984**

Performed an analysis of existing geotechnical data in the Santa Barbara Basin for Union Oil for a proposed petroleum pipeline on the ocean floor from an oil platform to a location onshore. Data sources included reports from various consultants, data from universities, and data from the US Geological Survey. Assisted in final report preparation.

ACTIVITIES: Tennis, golf, rock climbing, mountain biking, jogging.

REFERENCES: Furnished upon request.

SELECTED PROJECT EXPERIENCE

ENVIRONMENTAL PROJECTS

SITE CHARACTERIZATION AND REMEDIATION

University of California, Mission Bay Campus, Building QB-3, San Francisco, California (2002). Performed environmental sampling of soil and groundwater using a Geoprobe drilling rig. Logged cores following the drilling operation to produce detailed geotechnical logs of all the 8 borings.

Los Angeles Metropolitan Transit Authority (MTA), East Corridor Light Rail Transit Line, Los Angeles, California (2001).

Assistant manager for this \$450,000 data acquisition project for a new municipal rail line. Coordinated field work for two drilling crews to drill 40 geotechnical/environmental borings, 10 of which were converted into monitoring wells, and managed all geotechnical and environmental testing. Samples from the top 10 feet in each boring were prepared using standard environmental protocols and sent to the environmental laboratory for analysis. Suspension P & S Velocity data was gathered in the borings at station locations. Responsibilities included: proposal preparation; contract negotiation; design of field program based on: review of local geology, review of existing data, requirements of the Los Angeles Public Works Department, and requirements defined by the MTA; development of detailed utility maps at each boring location that were required by the Public Works Department for the drilling permit; management of field crews performing the work; report preparation; and overall project management including management of the budget.

Port of Oakland, Oakland, California (2000). Assisted the site characterization of a berth at the port by constructing several geologic cross sections using existing information from numerous sources. The cross sections extended to approximately 100 feet in depth. Interacted with local regulators to produce cross sections according to their specifications, and produced some custom cross sections for their use in public presentations.

Airfield Development Program (Runway Expansion Project) San Francisco International Airport, San Francisco, California. (1999).

Assistant Project Manager for the initial investigation to study runway reconfiguration alternatives. Conducted geotechnical investigations and exploration of subsurface conditions within the on-land portion of the proposed runway reconfiguration area. Samples from the top 10 feet in each boring were prepared using standard environmental protocols and sent to the environmental laboratory for analysis. Prepared a Storm Water Pollution Prevention Plan (SWPPP) for this project. Successfully interfaced with several SFIA regulatory agencies including SFIA Budgeting, the Environmental Department, and Airfield Operations. Assisted in

preparation of geologic report sections. Performed a seismic activity study that included a review of existing literature, interviews with leading experts in the field, and a report of relevant findings. Subsurface conditions consisted of fill material overlying Bay Mud. Geotechnical engineering included seismic characterization, liquefaction analysis, settlement analysis for the fill option, pile and drilled pier recommendation for the suspended slab option, and pile recommendations for the floating pontoon option.

Public Safety Training Facility (SFIA), San Francisco International Airport, San Francisco, California (1999).

Project Manager for geotechnical investigation for two structures proposed for this site including a new 11,000 square foot facility. Project included drilling of 5 exploratory borings through fill and thick Bay Mud, and report preparation. Prepared a Storm Water Pollution Prevention Plan (SWPPP) for this project. Cooperated with the SFIA environmental regulators by collecting samples from the top 10 feet in each boring that were prepared using standard environmental protocols and sent to the environmental laboratory for analysis. Geotechnical engineering included liquefaction analysis, both pile and drilled pier foundation alternatives, and design criteria for new pavement.

Gas and Shop, Petaluma, California (1995). Performed a site characterization of this service station facility. Field work was performed using a Geoprobe drilling rig. Report included an analysis of analytical testing and remediation alternatives.

Caltrans Oyster Point, South San Francisco, California (1992-1993). Project Manager for \$7,000,000 characterization and clean-up project. Project involved site characterization and a pilot study to evaluate the possible application of cement-fixation processing on 2,200 cubic yards of metal-contaminated soils. Clean-up involved the excavation and removal of 5,000 cubic yards of soil that could not be remediated to a Class I facility by rail. Responsibilities included field supervision and report preparation of site characterization activities (which included soil and groundwater characterization), preparation of a Remedial Action Plan, site supervision of excavation activities (which included air monitoring), site supervision of the cement-fixation pilot study, site supervision of removal activities, design and implementation of a confirmation sampling program, report preparation of removal activity and confirmation sampling reports, and management of quarterly monitoring program mandated by the Regional Water Quality Control board following remediation activities. Prepared a SWPPP for this project.

Hawthorne Army Ammunition Depot, Hawthorne, Nevada (1993). Field Geologist for a Remedial Investigation at the south end of Walker Lake in Nevada. Responsibilities included supervision of remote sensing crews, supervision of cone penetrometer (CPT) crews, and data input and preparation of field reports in the field.

Caltrans Burns Creek Bridge, Big Sur, California (1993). Performed sampling for site characterization of area in the 200-foot-deep canyon under Burns Creek Bridge, which is 12 miles south of Big Sur. Performed oversight of site remediation activities and performed air monitoring during site remediation. Assisted in the preparation of the site closure report.

Caltrans Interstate 480 Demolition Project, San Francisco, California (1993). Supervised drilling operations and site characterization in downtown San Francisco to determine potential impacts and mitigation measures for hazardous soils along several sections of Interstate 480, which was destroyed during the Loma Prieta earthquake, prior to demolition. Also provided site safety oversight operations involving the removal hazardous materials overlying footings that were to be removed in conjunction with the demolition activities.

Service Station Site Characterizations, Southern California (1988-1989). Performed environmental site characterizations at numerous Unocal and ARCO Service Stations in the Los Angeles Basin. Duties included preparation of the work plans, field work including drilling, analysis of the analytical results of soil and water samples, preparation of site characterization reports, monitoring well installation and periodic sampling, and preparation of monitoring well and quarterly monitoring reports.

MONITORING WELL INSTALLATION, SAMPLING, AND MAINTAINANCE

Gasoline Station in Union City, California (2003). Installed three monitoring wells, initial well sampling (following development by a subcontracted drilling company), quarterly monitoring, and associated reports.

City of San Leandro, San Leandro, California (2001). Performed well rehabilitation for a biofouled well. Treatment consisted of addition of phosphoric acid and New Well 310, purging, development, removal of acidic well water to a holding tank, neutralization of acid in a holding tank, and discharging holding tank water to the sanitary sewer system following analytical analysis and subsequent approval from the city.

PRELIMINARY SITE ASSESSMENTS

Drake Highway Garage, Inverness, California (2003). Performed a Phase I Preliminary Site Assessment of this gasoline station. This site was active as fueling station from 1914 through 1998. One of the structures at the site dates back to the late 1800s and was originally used as a pony express stable. Responsibilities included the review of agency files of sites having a potential impact on the project sites, on-site inspection, and report preparation.

Viacom, San Francisco, California (1999). Performed a Phase I Preliminary Site Assessment of the main facility. Responsibilities included the review of agency files of sites having a potential impact on the project sites, on-site inspection, and report preparation.

Bank Of America, Northern California (1992). Conducted Phase I Preliminary Site Assessments of 100 former Security Pacific properties in northern California. Responsibilities included the review of agency files of sites having a potential impact on the project sites, review of available geologic information, and preparation of geological sections for the final reports. Work was completed in 8 weeks and on time.

STORM WATER POLLUTION PREVENTION PLANS AND STORM WATER SAMPLING

Hunters Point Shipyard, South San Francisco, California (2002). Assistant manager for storm water sampling in compliance with the Storm Water Pollution Protection Plan (SWPPP) for this facility. Duties included procurement and organization of field kits for water sampling and storm water sampling.

Airfield Development Program (Runway Expansion Project) San Francisco International Airport, San Francisco, California. (1999). Prepared a SWPPP for this project (see the geotechnical section for further details).

Public Safety Training Facility, San Francisco International Airport, San Francisco, California (1999). Prepared a SWPPP for this project (see the geotechnical section for further details).

SOIL, WATER, AND AIR SAMPLING

Caltrans San Mateo-Hayward Bridge Seismic Retrofit, Foster City, California (1999). Performed confirmation sampling of dredged soil on all barges (approximately 70), and performed background water sampling in the work area (under the bridge) prior to construction.

Muni Metro Turnback Project, San Francisco, California (1994). Provided petroleum hydrocarbon air monitoring during construction. This underground section of the Muni went through the old vat of a historical pier production facility, which created very high levels of air-borne petroleum hydrocarbons.

Caltrans Interstate 280 Refit, South San Francisco, California (1992-1993). Conducted water sampling and site characterization to determine potential impacts and mitigation measures for hazardous soils at numerous sites along this flyover section of Interstate 280. This section was being refitted following damage caused by the 1988 Loma Prieta Earthquake. Supervised the removal of three underground storage tanks found during construction and prepared a closure report.

GEOTECHNICAL PROJECTS**HOSPITALS**

Saint Francis Memorial Hospital, San Francisco, California (2002). Performed a probabilistic seismic hazard assessment of this hospital complex (based on reports from previous investigations at this site) in accordance with the State of California Hospital Seismic Safety Legislation Code requirements (California Code of Regulations, Title 24, Section 1634A), and California Division of Mines and Geology (CDMG) guidelines. Report included analysis of the following geologic hazards: seismically induced ground motion, seismic pounding, fault rupture, tsunami/seiche inundation, liquefaction, seismically induced settlement, flooding, landsliding.

Carson-Tahoe Hospital, Carson City, Nevada (2002). Performed a fault evaluation. Scope included evaluation of aerial photographs at the site at the Nevada Bureau of Mines and Geology in Reno, Nevada; site reconnaissance to locate areas of possible faulting, trenching to identify faults at the site, delineation and surveying of locations of active fault located at the site, and report preparation. In this investigation, Holocene (Recent) strata was downwarped at the expected location of an active fault and a buried fault was identified at this location.

Redbud Community Hospital, Clearlake, California (2002). Performed a geologic hazard evaluation of this hospital facility to bring the hospital up to compliance with State of California Hospital Seismic Safety Legislation Code requirements (California Code of Regulations, Title 24, Section 1634A). The report was prepared in compliance with the November 2002 version of the California Geological Survey, Note 48 guidelines. Report included analysis of the following geologic hazards: seismically induced ground motion, seismic pounding, fault rupture, tsunami/seiche inundation, liquefaction, seismically induced settlement, flooding, landsliding.

Sutter-Delta Hospital, Antioch, California (2001). Performed a geologic hazard and geotechnical investigation for a major addition (Women's Health Center) and associated additional parking in accordance with the State of California Hospital Seismic Safety Legislation Code requirements (California Code of Regulations, Title 24, Section 1634A), and California Division of Mines and Geology (CDMG) guidelines. Report included analysis of the following geologic hazards: seismically induced ground motion (probabilistic analysis), seismic pounding, fault rupture, tsunami/seiche inundation, liquefaction, seismically induced settlement, flooding, landsliding.

Medical Office Building (MOB) for a new Kaiser Permanente facility, Antioch, California (2001). Performed a geotechnical investigation for the proposed MOB at this undeveloped site. Responsibilities included proposal preparation, field work, and report preparation. Report included analysis of the following geologic hazards: seismically induced ground motion, seismic pounding, fault rupture, tsunami/seiche inundation, liquefaction, seismically induced settlement, flooding, landsliding.

Medical Office Building (MOB) for a new Kaiser Permanente facility, Livermore, California (2001). Performed a geotechnical investigation for the proposed MOB at this undeveloped site. Responsibilities included proposal preparation, field work, and report preparation. The report included a discussion of faults near the site, seismicity, other geohazards, and geotechnical recommendations; and observations regarding the conditions of the adjacent Arroyo Las Positas creek channel.

Palm Drive Hospital, Sebastopol, California (2000). Performed a geologic and seismic hazards evaluation for this hospital complex in accordance with the State of California Hospital Seismic Safety Legislation Code requirements (California Code of Regulations, Title 24, Section 1634A), and California Division of Mines and Geology (CDMG) guidelines. Report included analysis of the following geologic hazards: seismically induced ground motion (probabilistic analysis), seismic pounding, fault rupture, tsunami/seiche inundation, liquefaction, seismically induced settlement, flooding, landsliding.

Salinas Valley Memorial Hospital, Salinas, California (1999). Performed a geologic and seismic hazards evaluation for this hospital complex in accordance with the State of California Hospital Seismic Safety Legislation Code requirements (California Code of Regulations, Title 24, Section 1634A), and California Division of Mines and Geology (CDMG) guidelines. Report included analysis of the following geologic hazards: seismically induced ground motion (probabilistic analysis), seismic pounding, fault rupture, tsunami/seiche inundation, liquefaction, seismically induced settlement, flooding, landsliding.

SCHOOLS

Redwood High School, Corte Madera, California (2002). Performed drilling for geotechnical investigation of documented settlement in a proposed building area.

JFK University, Orinda, California (2001). Performed geological reconnaissance of proposed building area and surrounding upsloping and downsloping adjacent hillsides. Composed geologic section of letter report.

Cañada College, Proposed Child Development Center, Redwood City, California (2001). Performed geotechnical investigation and geologic hazards evaluation. Responsibilities included site reconnaissance, supervision of exploratory borings, and report preparation.

Touro University, Building H86 Addition, Mare Island, Benicia, California (2001). Performed geologic reconnaissance of the slope above a proposed new building site. Responsibilities included performance of field reconnaissance and letter report.

Mt. Hood/Washington Elementary School Site No. 1458 in Las Vegas, Nevada (2000). Performed a fault investigation for this site due to the presence of a potentially active fault that terminated near the site boundary. Investigation included a literature review, observation of aerial photographs at the Nevada Bureau of Mines and Geology in Reno, Nevada, a site reconnaissance to observe fault features, and report preparation. The site reconnaissance was timed to coincide with the excavation of a wide utility trench in order to observe the trench excavation for evidence of recent faulting. No evidence of faulting was found.

San Francisco State University, Psychology Building; San Francisco, California (2000). Performed geotechnical investigation to provide recommendations for the seismic upgrade for this building, which consisted of shear walls that protruded out of the building. The foundations of the shear walls consisted of micropiles drilled approximately 70 feet down, 20 feet into bedrock. Responsibilities included proposal preparation, field work, and report preparation.

AIRPORTS

Airfield Development Program (Runway Expansion Project) San Francisco International Airport, San Francisco, California. (1999). Project Geologist for the initial investigation to study runway reconfiguration alternatives. Conducted geotechnical data investigations and exploration of subsurface conditions within the proposed runway reconfiguration area. Assisted in preparation of geologic report sections. Performed a seismic activity study that included a review of existing literature, interviews with leading experts in the field, and a report of relevant findings. Subsurface conditions consisted of fill material overlying Bay Mud and Franciscan Formation bedrock. A Storm Water Pollution Prevention Plan (SWPPP) was prepared for this project.

Public Safety Training Facility, San Francisco International Airport, San Francisco, California (1999). Project Manager for geotechnical investigation for two structures proposed for this site including a new 11,000 square foot facility. Project included drilling of 5 exploratory borings through fill and thick Bay Mud, and report preparation. Geotechnical engineering included liquefaction analysis, both pile and drilled pier foundation alternatives, and design criteria for new pavement. A Storm Water Pollution Prevention Plan (SWPPP) was prepared for this project.

San Francisco International Airport, Employee Parking Facility, Plot 7, San Francisco, California (1999). Project Manager for materials testing of steel, concrete, and soils for this 8-story, reinforced concrete, pile-supported structure. This structure is a component of the \$2.5 billion airport expansion program. Performed concrete inspection for this project.

Low Level Wind Shear Alert System (LLWAS), San Francisco International Airport (SFIA), California (1999). Project Manager for five LLWAS tower sites in and around SFIA. Project included procurement of SFIA passes for all site personnel and vehicles for drilling in the Airport Operation Area (AOA), performance of the geotechnical investigation, and report preparation. The five sites presented a variety of engineering challenges including rubbly fill, thick Bay Mud, and high groundwater. Geotechnical recommendations included liquefaction analysis, and drilled pier and driven pile foundation options.

Emergency Marine Rescue Facility, San Francisco International Airport, California (1999). Project manager for a design level geotechnical investigation for a pier and dock for this facility. The dock consisted of a dry dock storage area for two emergency craft and a high speed crane for launching. This project included two borings on a barge in San Francisco Bay. Geotechnical engineering included: bearing capacity, driven pile recommendations, and liquefaction analysis.

Delta Hanger Facility, San Francisco International Airport, California (1998). Performed a geotechnical investigation relating to the remodel and retrofit of this cargo handling facility. Project included ten borings up to 100 feet deep through rubbly fill and thick Bay Mud. Geotechnical engineering included: bearing capacity, driven pile recommendations, liquefaction analysis, retaining wall recommendations, and pavement design for 747 aircraft. The report was completed and delivered within the four-week time frame requested by the client. Designed and implemented an indicator pile program in order to make final pile recommendations.

HIGHWAYS

Spreckles Sugar South Pit, Highway 49, Sacramento County, California (2001). Performed a preliminary evaluation of recent landslides into the limestone quarry pit to determine the cause of landsliding, possible impacts on the adjacent Highway 49, and to make recommendations for repairs. Repair options included improvement of the drainage in the areas above the slides, and construction of either a crib wall or a conventional retaining wall along the face of the slope in the area of failure.

Caltrans, San Mateo-Hayward Bridge Seismic Retrofit, Foster City, California. Project (1998-1999). Project manager for performing 16 deep borings, including 20 to 40 feet of rock coring, along the western approach to the bridge. This project comprised two contracts. The first contract involved drilling along the western approach. The second contract involved drilling eight borings on a barge in the San Francisco Bay relating to the installation of drilled piers, and two borings on land to install seismic casing. The barge drilling on the second contract was performed on a 24-hr schedule and involved two loggers (myself and another engineer), and two drilling crews on 12-hour rotations. Received the second contract based on excellent execution of the first. Final report included 22 by 30-inch boring log drawings in the Caltrans standard format.

Caltrans, I-880 Repair Project, Oakland, California (1995-1996). Project Geologist for a geotechnical investigation comprising 86 logged borings to a depth of 100 feet to assist with the design of the replacement for the Cypress Structure on the 1-880 Freeway, which collapsed during the 1988 Loma Prieta earthquake.

RAILROADS

Central Equipment Maintenance and Operations Facility (CEMOF) for Caltrain, San Jose, California (2002). Geotechnical investigation for track at-grade track relocations and a maintenance operations facility according to American Railway Engineering and Maintenance-of-Way Association (AREMA) standards. Responsibilities included supervision of field work and logging of borings.

Metropolitan Transit Authority (MTA) in Los Angeles, California (2001). Data acquisition for a new municipal rail line. Coordinated field work for the drilling of 40 geotechnical/environmental borings, 10 of which were converted into monitoring wells, and coordinated all geotechnical and environmental testing. Suspension P & S Velocity data was gathered in the borings at station locations. Responsibilities included: proposal preparation, design of field program based on review of local geology review of existing data and requirements defined by the MTA, development of detailed utility maps at each boring location that were required for the drilling permit, management of field crews performing the work, report preparation, and overall project management including management of the \$450,000 budget.

RESERVOIRS

Bently Reservoir, 5 miles east of Minden, Nevada (17 miles south southeast of Carson City) (2002). Performed a field investigation to locate faults that were mapped across or near the proposed location of a large reservoir and associated backdam. Located three active faults. One fault was located along the western abutment, one fault was located just beyond the eastern abutment, and one fault was located just to the west of the backdam. Prepared the fault section of the geotechnical report including fault offset estimates that were used in the dam design.

Comins Lake, near Ely, Nevada (eastern Nevada) (2002). Performed hollow-stem auger drilling (10 borings) to collect data for the geotechnical evaluation of an existing leaking dam (which is being expanded), and geologic/geotechnical evaluation of the reservoir area behind the dam. This three-day (two half-days and one full day) operation began during a major snow storm, and was completed with one to two feet of snow on the ground. Nevertheless, the drilling program was completed on schedule.

SHOPPING CENTERS

Lucky Store, El Cerrito, California (1999). Project Manager for a geotechnical investigation of a proposed nine-building shopping at the El Cerrito Plaza, which lies on a gentle slope. Project included drilling of 12 exploratory borings through alluvial soils, laboratory testing on some of the soil samples recovered from the borings, and report preparation. Geotechnical engineering included recommendations drilled pier and slab-on-grade foundation options.

PUBLIC WORKS PROJECTS

Petaluma River Project, Petaluma, California (2002). Task manager to perform several geotechnical borings in the city of Petaluma along the Petaluma River to provide geotechnical recommendations for proposed improvements along the river water front.

CEMETERIES

Cypress Lawn, Colma, California (2000). Project Manager for a geotechnical investigation for the conversion of a golf course into a cemetery. Project included drilling 6 exploratory

borings through Colma Formation sands, laboratory testing on some of the soil samples recovered from the borings, and report preparation. Geotechnical engineering included recommendations for spread footings and retaining walls.

REFINERIES

Tesoro Refinery, Martinez, California (2002). Observed installation of approximately 20 auger-cast piles, and observed installation of approximately 100 driven piles.

Valero Refinery, Benicia, California (2001). Provided geotechnical oversight of construction of an electrical generator (Co-Gen) facility. Project included observation of the installation of a soil nail wall that is approximately 15 feet high and 200 feet long, observation of drilled piers, supervision of an on-sight soils technician, and on-going winterization and de-watering recommendations for this project that was under construction during a particularly wet winter.

Shell Oil, San Jose Plant, California (1997). Project Geologist for a 120,000-barrel (4.8 million-gallon) gasoline storage tank. Investigation included bearing capacity, and permeability analysis for soils to be used in an emergency containment dike.

Fault Hazard Investigation, Cupertino, California (1991). Performed fault hazard investigation as mandated by the Alquist-Priolo Special Studies Zone Act for a small subdivision. Work included a literature review of fault investigations in the project vicinity, trenching to look for faults, and identification of a thrust fault in one of the trenches. Report included an analysis of geologic hazards, including an analysis of the fault discovered on the site and regional seismicity, and recommendations for offsetting the building away from the fault.

AEROSPACE

Lockheed-Martin, Sunnyvale, California (1995). Observed installation of deep, closely spaced, highly reinforced caissons for a satellite testing station. Geologic environment consisted of fill over Bay Mud over competent clayey sands.

PETROLEUM INDUSTRY

Santa Barbara Basin (offshore), California (1983-1984). Performed an analysis of existing geotechnical data for a proposed petroleum pipeline on the ocean floor from an oil platform to a location onshore for Union Oil. Data sources included reports from various consultants, data from universities, and data from the US Geological Survey. Assisted in report preparation.

COMMERCIAL BUILDINGS

Jewish Community Center, Presidio Avenue and California Avenue, San Francisco, California (2000-2002). Project geologist during construction for this community center complex that has a footprint of approximately 56,000 sq. ft. The geology consists of loose dune sands overlying stiff to hard clays overlying Franciscan Formation Bedrock. At the beginning of this project we performed an investigation to determine the depth of piers on one of the adjacent buildings. The basement section of the complex is 30 feet deep requiring the installation of temporary shoring consisting of soldier beams. A portion of the building was not founded below the dune sands, and the client accepted our recommendation of using a pier foundation in this area. During construction we logged the borings for the soldier beams, monitored the installation of the tie-backs (over 200), logged the borings for the drilled piers, and performed soil density testing.

Malibu Grand Prix, Redwood City, California (1997). Project Manager for a geotechnical investigation of a new building at this site where Bay Mud is present at shallow depths. Geotechnical engineering included: bearing capacity, raft foundation recommendations (that consisted of a mat foundation with stiffening ribs), liquefaction analysis, retaining wall recommendations, and pavement design.

Iron Mountain Building, San Francisco, California (1997). Project Manager for a combined geotechnical and foundation investigation for three buildings comprising this 20,000 sq. ft. facility. The project included subsurface exploration, testing of concrete and rebar samples, in-place brick shear testing, laboratory analysis of geotechnical samples, and report preparation.

Pep Boys, Chino, California (1996). Project Geologist for this geotechnical investigation for a new Pep Boys facility.

NCIRE Facility, Veterans Administration Medical Center, Lands End, San Francisco, California (1991). Preliminary geotechnical investigation of the proposed building area. Proposed buildings included a multi-story-office building, and the expansion of a multi-story parking structure. The proposed building area was located adjacent to a steep slope that was mapped as a landslide area on the San Francisco Quadrangle seismic hazard map. The project comprised drilling of five soil borings and the development of conclusions and recommendations regarding: impacts of geologic features and hazards including: faults, seismicity, landsliding potential, and general underground construction considerations relating to a planned basement for the office building. Geologic conditions consisted of a thin fill layer that was underlain by weathered Franciscan Formation claystone.

General Services Administration Federal Building, Sacramento, California (1988). Project Geologist for a geotechnical investigation aimed at locating cohesionless sand layers to determine the design depths of belled, end-bearing piers.

Marriott Hotel, Century City, California (1986-1987). Served as Project Manager for the geotechnical site characterization of this site. Project Geologist during grading operations. Made frequent decisions regarding the applicability of geotechnical design specifications to as-built conditions. Earthwork included the off-hauled approximately 2,500 cubic yards of unacceptable on-site soft, wet, black clay material, which consisted of old lagoon deposits.

RESIDENTIAL HOUSING

1681 Green Valley Ranch Road, Napa, California (2003). Performed a preliminary site investigation for a

955 Green Street, San Francisco, California (2000-2001). Project geologist during construction of a 5-story condominium building. Construction included a 40-foot vertical excavation into Franciscan Formation shale and sandstone bedrock. The bedrock was dipping at a 45° angle across the site. Excavation was also complicated by a preexisting dip-slip landslide. Monitored installation of foundation underpinning for the multi-story buildings on adjacent lots, installation of rock anchors (over 100), and compiled an as-built geology map for the project.

Phoenix, Arizona (2000). Performed an evaluation of two adjacent residential lots with high steep to vertical cuts into the adjacent hillside that were experiencing slope failure from the cut slopes and rock fall from slopes above the cut slopes. Performed a site reconnaissance and observed the debris flows, rock falls, block failures in the cut slopes, and unstable boulders on slopes above the cut slopes. Options for repair included flattening of the cut slopes,

construction of retaining walls, reinforcement of slope faces using rock anchors, and removal of rocks and boulders from the cliffs above the buildings.

Little Valley Road, Eden Township, Alameda County, California (2000). Oversight of a fault investigation for the County of Alameda. A fault was identified within the Fault Hazard Study Zone for the Verona fault. Performed on-site observation of the discovered fault and performed review of the fault evaluation report regarding the discovered fault.

Hillside Parcel in Hillsborough, California (1999). Project Manager for a second-story addition on a this hillside lot that had a history of instability. Project included monitoring slope for continued creep following slope stability mitigation measures, drilling four borings, and the installation of two piezometers to monitor groundwater levels. Project also included the construction of a compilation map showing original topography, as-built topography, and existing foundations. Following geotechnical analysis, recommended additional piers to support the second-story addition.

Van Ness and Filbert Streets, San Francisco, California (1999). Project manager for a preliminary geotechnical investigation for a proposed 10 to 12 story condominium building with two stories of underground parking. Geotechnical engineering included spread footing foundation recommendations, liquefaction analysis, and retaining wall recommendations.

North 25th Avenue, San Francisco, California (1998). Performed an investigation of the hillside at the rear of this residence (Sharon Stone's house) in order to provide recommendations for a large room to cantilever over the steep slope. Project included site reconnaissance and drafting of field site plan, drilling one 40-foot deep minute-man boring, and report preparation.

El Camino Del Mar (Sea Cliff Area), San Francisco, California (1998). Project Geologist for landslide investigation and repair for three adjacent multi-million dollar homes along the north side of El Camino Del Mar. The back of these lots dropped down to the ocean, about 200 feet below. The landslide was activated by the El Niño rainstorms in February 1998 and these sites received extensive media coverage. Performed downhole logging and slide plane identification for many of the drilled and hand-excavated caisson borings, performed topographic survey using a hand level measurements, and performed geologic mapping of the site vicinity including the cliff areas behind (north of) the residences. Working with the Geotechnical Engineer, provided recommendations on an emergency basis that saved all three of the homes, and produced detailed final reports. Project Geologist for several other preliminary reports for properties located along El Camino Del Mar and Sea Cliff Drive.

Warren Drive Slides, San Francisco, California (1998). Project Geologist for two sites, one above and one below Warren Drive, that were activated by the El Niño rain storms in February 1998. Performed field investigations that included truck-mounted and minute-man borings, topographic surveying using hand level measurements, and geologic mapping of the project sites. Working with the Geotechnical Engineer, provided recommendations for emergency evacuation and for stabilizing the hillsides.

North Beach Housing Project, San Francisco, California (1997). Project Manager for a combined geotechnical, environmental, and existing foundation investigation for this public housing project comprising two city blocks. Project included twelve borings up to 100 feet deep through fill and Bay Mud. Geotechnical engineering included liquefaction analysis and recommendations for liquefaction effects from the design earthquake. The environmental investigation consisted of analyzing selected samples for metals and petroleum hydrocarbons, and reporting the results. The foundation investigation included observation of the foundation

system, including the piles and pile caps in six exploratory test pits, and testing of concrete cores from the foundation.

Fault Hazard Investigation, Cupertino, California (1991). Performed fault hazard investigation as mandated by the Alquist-Priolo Special Studies Zone Act for a small subdivision. Performed a literature review and site reconnaissance in order to determine the location of fault trenches. Logged fault trenches and discovered an active thrust fault. Report included fault offset recommendations and historical seismicity.

Moraga Country Club Expansion Project, Moraga, California (1990-1991). Project Geologist for this hillside development comprising a nine-hole golf course and 69 residential housing units. This site had numerous active landslides that were remediated by buttressing the slides below the slide planes and benching the overlying fills into the overlying slopes. Responsibilities included performing all field work for the geotechnical investigation, writing geology sections for the report, project geologist during construction, and drafting as-built geologic maps.

Bettencourt Ranch, Danville, California (1989). Field Manager for geotechnical investigation of a housing development comprising several-hundred units on the eastern outskirts of Danville. Duties included logging of geotechnical borings, determination of the geological conditions including the slope stability and local seismic characterization, and write-up of the geologic section of the geotechnical report.

Tassaharra Ranch, Danville, California (1989). Field Manager for geotechnical investigation of a housing development comprising several-hundred units at this site on the eastern outskirts of Danville. Duties included logging of geotechnical borings, determination of the geological conditions including the slope stability and local seismic characterization, and write-up of the geologic section of the report.

Crystl Ranch, Clayton, California (1988). Field Manager for geotechnical investigation of a housing development comprising several-hundred units. Duties included logging of geotechnical borings, determination of the geological conditions including the slope stability and local seismic characterization, and write-up of the geologic section of the geotechnical report.

Malibu, California (1987). Project Geologist for a hillside geotechnical investigation for a parcel in a geologically complex area that contains numerous active landslides. Following an extensive investigation, determined that the site could be stabilized with deep soldier piles. Our recommendations were accepted by the City of Los Angeles.

FORENSIC (DISTRESSED HOME) INVESTIGATIONS

Second Street, San Francisco, California (1991). Performed a forensic investigations on this residence that had experienced up to 9 inches of settlement in several inch increments over an extended period of time. It was determined that a portion of the building was constructed on an old dump area that had very loose density. Duties included preparation of site maps, monometer floor level surveys and construction of a topographic maps of the floor surfaces, logging two minute-man borings, to determine soil conditions, and report preparation.

Residential Structure, Berkeley, California (1990). Performed a forensic investigations on an old residential home that had experienced distress due to long-term settlement of the stone fireplace in the building. Duties included preparation of site map, monometer floor level survey and construction of a topographic map of the floor surfaces, and report preparation.

La Palma, California (1985). Performed forensic investigations on several homes in an area where numerous homes were experiencing severe foundation cracking caused by soil heave. The cause of the cracking was determined to be spontaneous crystallization of zeolite minerals in the soil due to unusually high alkalinity, which was probably related to the fact that the housing area was a former dairy. Duties included preparation of site maps, monometer floor level surveys and construction of a topographic maps of the floor surfaces, excavations to determine soil and foundation conditions, logging of hand-excavated pits, and report preparation.

CONSTRUCTION MANAGEMENT

Adams Middle School Modernization, Richmond, California (2010). Performed construction management for this \$500,000 project, which comprised paving, drainage, fencing and other exterior improvements. Duties included control of the scope of work; review of progress billing; management of ASIs (Architect Supplemental Instruction), PCOs (Proposed Change Orders), and COs; coordinating inspections; facilitating communication between the client and the contractor to ensure timely and satisfactory completion of project. Project had an accelerated schedule (due to contracting delays) and drop-dead date of July 31, and project was completed satisfactorily and on time.

PUBLICATIONS

Grant, M.J. 1986, The Chronologic and Stratigraphic Evolution of the Coso Range, Inyo County, California: *Geol. Soc. of Amer., Abs. with programs*, v. 18, no. 2.

Burbank, D.W. and M.J. Grant, 1985, Plio-Pleistocene Cyclic Sedimentation in the Kashmir Basin, Northwestern Himalaya: Milankovitch Periodicities and Grain-Size Data: *Zeitschrift fur Gletscherkunde und Glacialgeologic*, v. 21, p. 229-236.