



CONDOR EARTH TUNNELS AND WINE CAVES

CONDOR EARTH provides technical support for the construction of underground works. Depending on specific project needs, this support can include:

- Project feasibility studies
- Site subsurface investigations
- Design services
- Construction management
 - Serving as the owner's technical representative or Construction Manager
 - Technical review of contractor's methods
- Field engineering
 - Design optimization based on field observation
 - Field observations of geologic conditions to determine the applicability of the design
 - Confirm that ground supports and water seepage mitigation measures adequate and in the right place
- Quality assurance
 - Focusing on client's goals and objectives for the finished project
- Materials testing and special inspection
- Program coordination with team consultants and contractors

Additionally, Condor provides general geologic, geotechnical and geostructural engineering support as needed:

- Geotechnical reports for winery structures, tanks, retaining walls, slopes, portal and cut/cover structures
- Geohazards investigations
- Soil anchors, tie-backs, rock bolts and shotcrete wall design
- Water storage reservoir dams, embankments and liner design
- Storm water compliance
- Water Availability Analysis

QUALIFICATIONS

Condor is a leader in geotechnical/geological evaluation and geostructural design of small and medium sized tunnel projects, including numerous tunnels and wine caves in the Napa/Sonoma Valley, Central Coast, and Sierra Foothills regions. With approximately 50 employees in five California offices, Condor is a diversified, multidisciplinary organization with the capability to provide a variety of earth and environmental science, engineering, mapping, GIS, materials testing and special inspection, construction management and monitoring services to private and public sector clients. Condor's experience includes evaluating geological hazards; geotechnical foundation, slope cut/cover and tunneling conditions; tunnel liner, shaft, rehabilitation and portal design; tunnel construction management; and materials testing. Our clients include the agricultural, mining, and construction industries; water resources managers and developers; educational and health institutions; and federal, state, and local governmental agencies. A partial list of Condor's tunnel projects is included in Table 1.

Project Personnel

CONDOR assigns experienced professionals to meet the technical and management requirements for completing project work in a competent and cost effective manner. Depending on the project scope, the following lead professionals will conduct the work with the support of staff and associate engineers, field technicians, computer-aided drafting, word processing and accounting personnel as needed.

Scott W. Lewis, PG, CEG – Principal Engineering Geologist, Principal Tunneling Consultant. Mr. Lewis has over 30 years of experience in geologic investigations and construction/repair of tunnels, structural foundations, landslides, slope stability, dam sites, and other geologic hazards. He has served as the project manager and/or principal investigator on over 300 tunnel feasibility and construction projects. His specialty is in feasibility and conceptual design, coordinating and performing field investigations, tunnel evaluation, construction plans and specifications preparation, and construction management and supervision.

Andrew S. Kositsky, PE, GE – Senior Civil/Geotechnical Engineer. Mr. Kositsky serves as Condor's lead Design and Geotechnical Engineer for tunnel, wine cave, dam, retaining wall and shoring projects. He is responsible for preparing Geostructural Design Submittals and Geotechnical Engineering Studies. He has over 25 years of experience in geotechnical investigations, foundations, slope stabilizations, tunnel and shotcrete wall designs, and related work. Mr. Kositsky provides engineering and peer review services for wine cave projects throughout California and elsewhere.

John H. Dailey, PE, GE, QSP/D – Civil and Geotechnical Engineer. Mr. Dailey has over 40 years of experience in geotechnical engineering and provides geotechnical services for design and construction. His typical assignments include directing explorations of soil, bedrock, and groundwater conditions beneath sites; evaluating site conditions, evaluating geologic hazards and mitigation options, evaluating design of foundation systems; designing shotcrete retaining walls and tunnel liners, and directing construction monitoring. He provides the geotechnical engineering for a wide variety of projects, including wine caves, irrigation canals and tunnels, office buildings, public schools, residential developments, landslide repairs, and solid waste landfills.

Kyle V. White, PG, CEG – Associate Tunnel Geologist/Certified Engineering Geologist. Mr. White serves as associate tunnel geologist and certified engineering geologist for Condor and is responsible for overseeing and/or performing tunnel logging and mapping, construction management as resident engineer representative and performs and/or schedules for inspection for general conformance with project specifications. Mr. White also provides peer review and supervises junior staff.

Jon Ingram – Staff Geologist. Mr. Ingram serves as our staff geologist and is responsible for drilling coordination and logging, tunnel logging and mapping, and construction observations and inspections.

Olivia Hayden – Staff Engineer. Ms. Hayden serves as a Staff Engineer for Condor and assists in design services of tunnels, dams, wine caves, portals and shotcrete retaining walls.

Kim Tarantino – Senior Project Administrator/Coordinator. Ms. Tarantino serves as project administrator and coordinator for Condor and is responsible for assisting with client and project management, coordination of all aspects of project from submittals to design and field services, preparing documents for construction contracts, monitoring and tracking deadlines, and all aspects of administrative support from feasibility to construction management.

John Kennedy – Senior Technician/Special Inspector. Mr. Kennedy serves as Senior Technician and Special Inspector for Condor in construction phases of projects.

Gregg E. Korbin, Ph.D. – Geotechnical Consultant. Dr. Korbin is an associate geotechnical consultant that has worked together with Condor on numerous projects over the past 30 years and with Mr. Lewis over the past 35 years. He has extensive experience in the design and construction of underground works. Dr. Korbin provides oversight, technical analyses, design and peer review services.

Michael Gowring – Underground and Heavy Construction Consultant. Mr. Gowring is an associate consultant with over 40 years of underground and heavy construction experience. He has served as tunnel project manager for various construction companies. Mr. Gowring provides project constructability and cost estimate services.

For additional information please contact:

Scott W. Lewis, PG, CEG
Principal Engineering Geologist
Principal Tunneling Consultant

Condor Earth
P.O. Box 3905
21663 Brian Lane
Sonora, CA 95370
Office: 800.800.0490
Direct: 209.536.7370
Cell: 209.601.5585
slewis@condorearth.com

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Table 1

Selected Wine Cave and Tunnel Project Experience

Client/Owner	Project	Services
Oakdale Irrigation District	Two-Mile Bar Tunnel	Bypass tunnel feasibility, site investigation and monitoring, design, contract documents, drawings, GBR, GDR, preliminary construction cost estimate, assist with contractor selection and evaluation, construction observation and management, special inspection and materials testing
Inglennook	Production Cave	Conceptual design, shotcrete wall design, tunnel geostructural design, permit support, construction monitoring and observations
South San Joaquin Irrigation District	Canyon Tunnel	Evaluation of hazard conditions, evaluate options, conceptual design, geologic drilling investigation, 60% design and construction cost estimate
Merced Irrigation District	Tunnel No. 1 Rehabilitation Project	Design engineering and cost estimating for rehabilitation work, hydraulic modeling
Mendocino Railway	Skunk Train Tunnel and Slope Repairs	Consultation, construction management, civil design
Ferrari-Carano Vineyards and Winery	Winery and Caves, Reservoir, Access Road, Portals, and Tunnel Extension	Project feasibility, geotechnical exploration and report, cave design, access road design, QA and consultation during construction, materials testing, wine cave expansion (PreVail) design and construction observations, materials testing
B Cellars	Wine Cave, Shaft and Portals	Project feasibility and consultation, cave and shotcrete wall design, construction observations
Truckee Meadows Water Authority	Fleish Tunnel	Conceptual design, subsurface investigation, preliminary construction cost estimate, final design, construction observations
The Napa Valley Reserve	Wine Cave and Portals	Project feasibility, cave construction plans and consultation, portal design, cave bid documents, construction monitoring and management
Vineyard 29	Winery, Caves and Portals	Project feasibility, cave and portal design, landslide hazard evaluation, geotechnical exploration and report, QA and construction monitoring, special inspection and materials testing
Stanford University	Stadium Tunnels	Site exploration, design analysis, plans and specifications, construction observation
Jarvis Vineyards	Underground Winery, Wine Caves, and Portals	Exploration, design, QA and construction monitoring, materials testing, construction management
Realm Cellars	Wine Cave, Water Storage Tunnel and Shotcrete Walls	Initial feasibility, conceptual design, geotechnical report, cave and portal design, site wall design and construction observation

Client/Owner	Project	Services
Stone Estate	Underground Art Gallery and Portals	Project feasibility, design, construction management, monitoring and consultation
City and County of San Francisco – Hetch Hetchy Water and Power	Tunnel and Slopes	Tunnel construction and slope shoring plans for Priest Reservoir Bypass Project, construction observation
Pacific Gas and Electric Company	Caribou 2 Tunnel and Shaft	Conceptual design and preliminary cost estimate for new tunnel and shaft bypass of existing penstock
East Bay Regional Park District – Black Diamond Mines	Underground Mining Museum	Exploration, surveying, design, construction monitoring, materials testing for historic mine stabilization
Continuum Estate	Water Storage Tunnel	Tunnel design and construction observations
Staglin Family Vineyards	Underground Winery, Caves, and Portals	Pre-construction site evaluation, site exploration, design, geotechnical report for cut/cover, QA and design consultation during construction
Oakdale Irrigation District	Canal, Tunnels and Shafts	Repair and improvements evaluation, rehabilitation project design and construction documents, construction management, special inspection and materials testing
Stanford Linear Accelerator Center	Tunnel	Site exploration, preliminary design report
Schramsberg	Wine Cave	Stability evaluation and rehabilitation design of existing historic ca. 1860's wine cave, construction observation
Brassfield Estate Winery	Wine Cave, Portals and Elevator Shaft	Project feasibility, site exploration, design, construction drawings, construction observation, materials testing and special inspection
Tri-Dam Project	Beardsley Afterbay Dam	Consultation, seepage investigation, documentation report, rehabilitation design, permitting support, rehabilitation construction bid documents, pre-construction and bid support services, construction management and observation
Bryant Family Vineyard	Winery, Caves, and Portals	Project feasibility, geotechnical exploration and report, cave and portal design, landslide hazard evaluation, QA and construction monitoring, materials testing
Screaming Eagle (El Retiro Ranch)	Winery, Cave, and Portals	Project feasibility, portal design, site exploration, geotechnical report, tunnel design consultation, construction observations and special inspection
St. Paul Travelers Insurance	Water Tunnel	Expert consultant regarding construction defect claim
Knights Bridge Winery	Wine Cave and Shotcrete Walls	Project feasibility, site exploration, design, permit submittal support, assist with contractor selection, construction observations during construction, materials testing

Client/Owner	Project	Services
U.S. Bureau of Reclamation	Tunnel and Chamber	Tunnel construction and slope shoring plans for American River Pump Station Project
San Diego Water Authority	Water Tunnel	Claim documentation tunnel mapping pertaining to TBM performance
Northern California Power Agency	Diversion Tunnels, Dams, Slopes	Performance evaluation, remediation recommendations, design, surveying, landslide investigation, construction monitoring
Stag's Leap Wine Cellars	Wine Caves, Portals, Slopes, Reservoir, Visitor Center	Pre-construction evaluation of tunnel conditions, geotechnical exploration and reports, design, QA and consultation during construction, materials testing, geotechnical report
South San Joaquin Irrigation District	Canal and Tunnels	Hazard analysis and repair/improvement evaluation of existing facilities, repairs design, construction observations
Gloria Ferrer	Wine Caves, Portals, and Winery Expansion	Portal, tunnel and cut/cover design, grading and utility plans, QA and consultation during construction, materials testing
Kathryn Hall Winery	Winery, Caves, and Portals	Project feasibility, cave design, geotechnical exploration and report, portal and retaining wall design, QA and consultation during construction
PlumpJack Winery/CADE	Wine Cave and Shotcrete Wall	Design analysis and report, construction drawings, consultation, and construction observation, special inspection
Girard Winery, Rudd Wines	Winery, Caves, Portals, and Shaft	Project feasibility, geotechnical exploration and reports, tunnel/shaft support design, QA and consultation during construction, materials testing
Leslie Rudd Investment Company, Rudd Winery	Elevator Shaft and Related Improvements	Project feasibility, design, construction observations, special inspections
Eisele Vineyards	Wine Caves	Evaluation of tunnel support requirements during construction, expansion feasibility
Tuolumne Utilities District	Diversion Tunnel, Dam	Exploration, geotechnical and civil conceptual design
von Strasser Winery	Wine Caves, Portals, and Reservoir	Pre-construction site evaluation, portal and reservoir design, hydrology study, construction monitoring, materials testing
Dierberg Vineyards	Winery, Cave, and Portals	Project feasibility, tunneling report, tunnel design, permitting and contractor selection assistance, consultation and construction oversight, shotcrete wall and portal design
O'Shaughnessy Vineyard	Winery, Caves, and Portals	Project feasibility, geotechnical exploration and report, tunnel/portal support design, QA and consultation during construction
Oakville Ranch Winery (Miner Family)	Wine Caves	Construction observations and ground support design

Client/Owner	Project	Services
Vine Cliff Cellars	Winery and Caves	Stabilization and seepage remediation of historic winery and cave, new cave support design
Metropolitan Water District of Southern California	Water Tunnel	Pre-bid analysis of design alternatives
Halter Ranch	Winery, Cave, and Portals	Feasibility, tunnel design and report, development consultation, shotcrete wall design, construction observations
J. Fritz Winery	Winery and Caves	As-built evaluation and construction dispute arbitration
Sutter Home	Two Wineries, Wine Cave, and Reservoirs	Project feasibility, surveying, geotechnical exploration and reports, construction QC
Arkenstone Vineyard	Underground Winery	Tunnel, shaft and portal design, construction monitoring and consultation, materials testing and special inspection
South Tahoe Public Utilities District	Wastewater Tunnel	Feasibility study
Hartwell Vineyards	Winery, Caves, and Portals	Project feasibility, portal/retaining wall rock bolt design, and construction monitoring, tunnel QA
Alexander Valley Vineyards	Wine Caves	Exploration and project feasibility
Hans Fahden Winery	Wine Caves, Portals, Tasting Building, and Reservoir	Geotechnical recommendations for expansion of existing facilities, exploration, report and design, construction observations, update fire safety plans, portal and tunnel improvements
Saxum Vineyards	Underground Winery	Project feasibility, design consultation, site exploration, cave and shotcrete wall design, construction observations
Spring Mountain Vineyard	Wine Caves and Portals	Exploration, project feasibility, cave design, construction monitoring, materials testing
Calera Wine Company	Wine Cave, Portal, Cut/Cover	Project feasibility, site exploration, geotechnical report, design, construction management, construction observations
Cuvaison Winery	Wine Caves and Portals	Tunnel stability verification during construction per County requirement
Silverado Vineyards	Wine Caves	Project feasibility and design
Seavey Vineyards	Winery and Caves	Site evaluation of development alternatives, geotechnical exploration and report, construction monitoring
Confidential	Wine Caves	Expert witness regarding construction dispute
Byington Winery	Wine Caves and Portals	Project feasibility, site exploration, design, geotechnical report, QA and construction monitoring

Client/Owner	Project	Services
Villa Amorosa-Sattui Winery	Winery, Caves, Portals, Dam, Water Tower, and Warehouse	Exploration, portal design, dam safety recommendations, site exploration, geotechnical report, foundations, construction monitoring
Buena Vista Winery	Wine Cave, Water Storage Tunnel	Rehabilitation of ca. 1850's wine cave, ground support and tunnel design, and construction observations
Confidential	Wine Caves	Evaluation of structural stability of two existing caves as part of ownership transition
Placer County Water Agency	Diversion Tunnel	Evaluation of tunnel leakage, design recommendations
Jackson Family Wines	Wine Cave and Portals	Project feasibility, site exploration for multiple projects
Kautz Ironstone Vineyards	Wine Cave and Dam	Materials testing, exploration, design review, construction monitoring
Sierra Constructors	Hydropower Tunnels, Dams	Performance evaluation and remediation recommendations
U.S. Dept. Interior – Office of Surface Mining	Underground Mine: Hazard Abatement	Surface and underground survey and design/repair consultation for collapsed historic mine openings and shafts
Green and Red Vineyard	Winery, Caves, and Portals	Project feasibility, geotechnical exploration and report, QA and design consultation during construction
Wender Partners	Winery and Caves	Project feasibility
Dancing Hares Winery	Winery, Caves, and Portals	Project feasibility, geotechnical exploration and report, cave and portal wall design, construction monitoring, and special inspection
Blankiet Vineyard	Winery, Caves, and Portals	Project feasibility, site exploration, geotechnical report, cave and portal design, construction monitoring, special inspection and materials testing
The Mobius Group	Wine Caves and Reservoir	Project feasibility
Stevenot Winery	Wine Caves	Project feasibility, cave design
Frazier Winery	Wine Caves and Portals	Project feasibility, geotechnical exploration, cave design, portal design, QA and consultation during construction
Martinelli Winery	Wine Caves	Project feasibility
Johnson/Nelson Estate	Wine Caves	Project feasibility, cave design, QA and consultation during construction
East Bay Regional Park District - Eureka Slope	Underground Mine	Survey and tunnel and shaft stability evaluation, design, construction QC
A. Rafanelli Winery	Wine Caves and Portals	Pre-construction site evaluation, grading plans, cave design, consultation during construction, material testing
Mark West Aggregates	Wine Caves	Project feasibility

Client/Owner	Project	Services
Azalea Springs Vineyards	Winery and Caves	Project feasibility, preliminary design, geotechnical exploration and report
Palmaz Winery	Underground Winery and Caves	Project feasibility, landslide hazard evaluation
Sloan Winery	Wine Cave and Portals	Project feasibility, geotechnical exploration and report for cut/cover, portal design, construction monitoring
Terra Valentine Winery	Winery and Caves	Geohazards evaluation, geotechnical report, construction monitoring
Neyers Vineyards	Wine Cave and Portals	Project feasibility, tunnel and portal design
Rutherford Hill Winery	Wine Cave	Tunnel liner remediation design, construction monitoring and testing
Nutter Cellar	Wine Cave	Project feasibility, tunnel and portal design
Rojas Vineyards	Wine Cave	Project feasibility
Indian Spring Vineyards	Reservoir	Evaluation of seepage impacts
Harris Cellar	Wine Cave	Project feasibility
Dalle Valle Vineyards	Wine Cave	Project feasibility
Neiman Cellar	Wine Cave	Project feasibility
S. Anderson Vineyards/Cliff Lede Vineyards	Wine Cave and Portal	Tunnel remediation evaluation and design, cave expansion design, site hazard and geotechnical exploration and reports, QA and consultation during construction
Jericho Canyon Vineyards	Wine Cave	Project feasibility, tunnel design
Flora Springs Winery	Wine Cave and Portal	Cave expansion feasibility, site exploration, tunnel and portal design, dewatering recommendations, QA and consultation during construction
Middletown Farms	Winery and Cave	Project feasibility, site exploration
Wattle Creek Winery	Winery and Cave	Project feasibility
Cosentino Winery	Wine Cave, Office, and Pond	Design consultation, geotechnical study, safety evaluation of existing dam
Broll Mountain Vineyards	Winery and Cave	Project feasibility
Anomaly Vineyards	Winery	Design consultation for cut/cover structure
Tom Eddy Winery	Winery, Cave, Portals, and Shaft	Project feasibility, site exploration, geotechnical report, tunnel/portal/shaft design, materials testing
Stagecoach Vineyards	Winery and Cave	Project feasibility
Robert Young Estate Winery	Cave, Portals, and Elevator Shaft	Project feasibility, site exploration, underground design, portal design, QA and consultation during construction
Lynch Valley Winery	Winery and Cave	Project feasibility
Stoller Winery, OR	Wine Cave	Design consultation for project in Oregon
Narrow Gate Vineyards	Wine Cave	Portal support design

Client/Owner	Project	Services
Chalone Wine Group	Winery and Cave	Project feasibility
Rancho Encantado Winery	Winery and Cave	Project feasibility
Lynmar Winery	Winery, Cave, and Portals	Project feasibility, cave and portal/ retaining wall design, cave bid documents, tunnel design, consultation during construction, materials testing, and special inspections
Ladera Winery	Winery, Cave, and Portals	Project feasibility, site exploration, geotechnical report, underground design, QA and consultation during construction, special inspections
Poliza Vineyards	Wine Cave	Evaluation of as-built conditions
Calaveras Cement	Tunnel and Shaft	Project feasibility
Confidential	Underground Hydropower Plant	Site evaluation, pressure tunnel and tunnel plug design recommendations
Roy Estate	Winery and Cave	Project feasibility
La Jota Winery	Wine Cave and Portals	Project feasibility, site exploration, geotechnical report, cave and portal design, QA and construction monitoring
Darioush Winery	Wine Cave	Project feasibility and preliminary design
Arroyo Creek Vineyards	Wine Cave	Project feasibility and preliminary design
Piccetti Family Vineyards	Winery and Cave	Project feasibility
Keever Vineyards	Winery and Cave	Project feasibility, and site exploration, geotechnical report, cave and portal design, cave bid documents, QA and consultation during construction, construction monitoring, special inspection
Phelan Vineyards	Wine Cave and Portal	Portal design, QA and construction monitoring
Twisted Oak Winery	Winery and Cave	Project feasibility and preliminary design, repair design consultation
McMinn Estate	Private Cave and Portals	Cave and portal design, geotechnical exploration and report, QA and construction monitoring
East Bay Regional Park District-G Right	Underground Mining Museum, Access Shaft	Feasibility, surveying, preliminary design of historic mine improvements
Annapura Winery	Winery and Cave	Project feasibility and preliminary design
Dotzler Winery	Winery and Cave	Project feasibility and preliminary design
Capay Valley Vineyards	Winery and Cave	Project feasibility
Gallo of Sonoma	Winery and Cave	Project feasibility, evaluation report
Pillar Rock Winery	Winery and Cave	Project feasibility and landslide hazard analysis, geotechnical exploration and report
Bidwell Creek Winery	Winery and Cave	Project feasibility
Simi Winery	Winery and Cave	Project feasibility

Client/Owner	Project	Services
LSS Winery	Winery and Cave	Project feasibility, site exploration
Christensen Estate	Underground Residence	Project feasibility, site exploration, instrumentation, preliminary design
Saracina Vineyards	Wine Cave	Evaluation of structural stability of existing cave
Bruno Cellars	Wine Cave	Stability evaluation of existing cave
Ehlers Estate	Winery and Cave	Project feasibility and preliminary design, site exploration, geotechnical report, cave bid documents, construction observation
Clark-Claudon Vineyards	Wine Cave	Project feasibility, site exploration
Niebaum-Coppola	Wine Cave Portal	Site exploration, portal geotechnical report
Renteria Wines	Winery, Cave, and Portals	Project feasibility and design, site exploration, geotechnical report, construction observations and consultation, and special inspection
Smith Winery	Wine Cave	Site exploration, portal geotechnical report and design, QA/QC and special inspection
Grandstrom Estate	Wine Cave	Project feasibility, design consultation
Carlston Family	Private Cave	Project feasibility, design report, plans and specifications, construction monitoring and QA/QC
Del Dotto Vineyards	Winery and Cave	Site exploration, geotechnical report, cave feasibility
Oakford Vineyards	Winery and Cave	Project feasibility and preliminary design, geotechnical study
Snowden Vineyards	Winery and Cave	Project feasibility
Bravante Vineyards	Winery and Cave	Site exploration, landslide hazard analysis and report, geotechnical report, preliminary cave design, construction observation
Adams Vineyards	Wine Cave	As-built construction evaluation
Phillips Winery	Winery and Cave	Project feasibility, site exploration and geotechnical report, portal/retaining wall design
Roncone Vineyards, AZ	Wine Cave	Project feasibility for project in Arizona
Freeman Winery	Cave Portal	Site exploration, geotechnical report and design, construction monitoring and QA/QC
James Family	Tunneled Garage and Shaft	Feasibility consultation and permitting assistance, site exploration, analysis, and underground design
Gargiulo Winery	Winery, Cave, Barrel Cellar, Ag Storage Barn and Residence	Design consultation, geotechnical exploration and report, portal/retaining wall design, construction observation
Kenzo Winery	Winery and Cave	Design consultation, geohazards evaluation and report, site exploration, geotechnical report, portal/retaining wall design
Raven Oaks Winery	Winery and Cave	Project feasibility, preliminary cave design

Client/Owner	Project	Services
Boeschen Vineyards	Underground Winery and Portal	Design consultation and consultation during construction, cave support design, geotechnical study, portal design
Freemark Abbey (JFWI)	Wine Cave	Project feasibility, conceptual design
A.V. Investors	Winery and Cave	Project feasibility
Six Sigma Ranch and Vineyards	Winery, Cave, and Portal	Site exploration, geotechnical report and portal/retaining wall design, special inspection
Bull Family	Private Cave and Portal	Project feasibility, design recommendations and consultation during construction
Phelps Vineyards	Winery	Shotcrete retaining wall design, special inspection
Fleming Winery	Winery, Cave, and Portals	Project feasibility, design consultation, site exploration, geotechnical report, tunnel and portal design, construction observations, and special inspection
Vineyard 7 & 8	Winery, Cave, and Portals	Design, construction observations and consultation, and special inspection
Kongsgaard	Winery and Cave	Project feasibility
Oakdale Irrigation District	Cape Horn Water Tunnel	Evaluation of historic tunnel conditions and rehabilitation design, plans and specifications, construction management
Richard Family	Tunneled Garage	Project feasibility
Deister Family	Private Cave	Project feasibility
Pine Ridge Winery	Wine Cave	Tunnel support remediation and rehabilitation consultation
Gainey Vineyard	Wine Cave and Portals	Project feasibility, design and report, construction management consultation
Ehren Jordan Wine Cellars/ Failla Wines	Underground Winery, Cave, and Portals	Cave and portal/site shotcrete wall value engineering and design, construction monitoring, special inspection
Frog Hollow	Wine Cave	Repair feasibility
Stocker Estate	Private Cave	Project feasibility
Skipstone Ranch	Underground Winery	Project feasibility
North Winery	Wine Cave and Portals	Project feasibility, design, geotechnical report, construction consultation
Fountain Grove Round Barn	Wine Cave, Portals, and Elevator Shaft	Project feasibility, site exploration, design analysis and report, construction drawings
Lindstrom Winery	Underground Winery	Project feasibility, design consultation, contractor selection assistance
Lookout Ridge Winery	Wine Cave and Portals	Evaluation of existing conditions
East Bay Regional Park District- Black Diamond Mines	Underground Mine Tour Route	Site evaluation, route selection, ground control measures, design, and construction cost estimate

Client/Owner	Project	Services
Merced Irrigation District	Water Tunnel	Rehabilitation and improvement evaluation
Chappellet Winery	Wine Cave	Project feasibility and preliminary design
Sage Hill Vineyards	Winery, Cave, and Portals	Project feasibility, design, landslide hazard analysis, geotechnical exploration and report, construction consultation
Somerston Winery	Winery and Cave	Project feasibility, preliminary tunnel design, site exploration, geologic hazard study, geotechnical report
Meadowood Resort	Hospitality Cave, Drainage Tunnel	Project feasibility and preliminary design, rehabilitation of historic tunnel
Nemerever Residence and Winery	Wine Cave and Portal	Project feasibility, tunnel design, site exploration, portal design, construction observations and special inspection
Charlie Havill Winery	Wine Cave	Project feasibility and preliminary design
Olney Wine Caves	Wine Cave and Portal	Project feasibility, tunnel design, site exploration, portal design, construction observations and special inspection
Heitz Wine Cellars	Wine Cave	Project feasibility and preliminary design, site exploration
Confidential	Wine Cave and Portal	Expert services for construction litigation case
Chehalem Winery, OR	Wine Cave and Portals	Project feasibility, tunnel design, consultation, construction management
Cimarossa Winery	Winery and Cave	Project feasibility and tunnel and portal design, geotechnical report, construction management
Maldonado Winery	Wine Cave and Portal	Site exploration, geotechnical report, portal design, tunnel design consultation, special inspection
One True Vine	Wine Cave	Project feasibility
Drum Canyon Vineyards	Wine Cave, Portals, and Shaft	Project feasibility, tunnel design and report
Barnett Winery	Wine Cave and Portals	Geotechnical report, portal and tunnel design, construction observations
Pina Cellars	Wine Cave	Project feasibility and preliminary design consultation
Confidential	Winery and Cave	Project feasibility, preliminary design consultation, cave and shotcrete wall design, construction consultation and observations
Confidential	Wine Cave	Expert service for construction litigation case
Quady North, OR	Wine Cave and Portals	Project feasibility, tunnel design and report, construction management
Confidential	Underground Storage Facility	Design, plans and specifications for tunnel rehabilitation
Confidential	Underground Music/Concert Facility	Project feasibility and preliminary construction cost estimate

Client/Owner	Project	Services
Presqu'ile Winery	Wine Cave, Shaft and Shotcrete Wall	Project feasibility, site exploration, design, construction plans, construction consultation and observations
Cornell Winery	Wine Cave and Portals	Tunnel design consultation, tunnel construction plans, shotcrete wall design
Scully Winery	Winery and Cave	Project feasibility and preliminary design
M. T. Bottles	Winery and Cave	Project feasibility
Stanford University	Practice Gym Access Tunnel	Design, plans and specifications for tunnel permitting and construction, construction observations
Castlevale Winery	Winery and Cave	Project feasibility, geohazard study
Continuum Winery	Winery and Cave, Portals, Water Storage Tunnel, Access Roads	Project feasibility, site exploration, geotechnical report, cave and portal design, construction observations
Fossanova Vineyard	Winery and Cave	Project feasibility, site exploration
Feathered Horse Winery	Cave and Shotcrete Walls	Project feasibility, geotechnical engineering, design, construction plans, construction observations, special inspection and materials testing
Wright Winery	Underground Winery	Project feasibility and preliminary design
Hill House Estate	Private Cave and Portals	Site exploration, design reports, construction plans, construction observations, special inspection and materials testing
Vineyard 22	Underground Winery	Project feasibility and preliminary design
Tri-Dam Hydroelectric Project	Shaft Rehabilitation	Site investigation and repairs recommendations
Bremer Family Winery	Wine Cave and Portals	Technical advisor and construction management
Badger Mountain, WA	Wine Cave	Project feasibility, preliminary design report
Oakville Grade Winery	Winery, Wine Cave and Portals	Project feasibility, site exploration, geotechnical report, preliminary cave design, construction observations
Tri-Dam Hydroelectric Project	Tulloch Powerhouse Unit 3 Shoring	Contractor's temporary shoring design engineering and construction observations
Knez Winery	Wine Cave	Project consultation for cut/cover barrel room
Placer County Water Agency	Ragsdale Water Tunnel	Rehabilitation evaluation, drawings and specifications, construction management
Harlan Estate	Wine Cave	Improvements consultation and engineering
U.S. Office of Surface Mining	Mine Hazard Abatement	Exploration, design and construction observations for abandoned underground mine hazards
Beemiller and Associates	Wine Cave	Project feasibility and conceptual design
Krupp Brothers Estates	Wine Cave	Project feasibility
Morlet Wines	Abandoned Wine Cave	Site investigation

Client/Owner	Project	Services
Bibliowitz	Wine Cave	Project feasibility
Confidential	Landslide	Temporary and permanent repairs
Epoch Estate Winery	Wine Cave and Portals	Project feasibility, site exploration, geotechnical report, design
Araujo Estate	Wine Cave	Existing cave improvements recommendations
Castillo de Amorosa	Wine Cave and Portal	Site investigation, geotechnical report, design, construction management, construction observations
Hernandez Estate	Private Cave	Project feasibility
Kitoko Vineyard	Winery and Cave	Project feasibility, site exploration, design
McEvoy Ranch	Winery and Cave	Project feasibility, site exploration, preliminary design
Odette Winery	Wine Cave and Shotcrete Walls	Rehabilitation of existing wine cave, project consultation, site exploration, design, construction observations
Black Diamond Mine	Hazel Atlas Portal	Project consultation, engineering and design
Allen Land Design	Personal Use Tunnel	Project feasibility
Araujo Estate/Axiom Engineers	Wine Cave	Rehabilitation of existing wine cave, project consultation
Cairdean Vineyards	Wine Cave and Portals	Site investigation, geotechnical report, cave and shotcrete wall design, construction observations
Davis Residence	Shotcrete Wall and Cave	Site investigation, geotechnical report, shotcrete wall and cave design, construction observations
Hamel Family Winery	Wine Cave and Portals	Site investigation, geotechnical report, cave and shotcrete wall design, construction observations
Mihalcheon Residence	Garage Tunnel	Project feasibility and consultation
Oak Mountain Winery	Wine Cave and Portals	Project feasibility and conceptual design, geohazards study, cave and shotcrete wall design, construction observations
One Rincon Hill	Shoring	Temporary shoring design
Black Diamond Mine	B North	Underground mine stabilization
L'Aventure Winery	Wine Cave and Portals	Site investigation, geotechnical report, cave and shotcrete wall design, engineering services during construction
Placer County Water Agency	Pulp Mill Tunnel	Rehabilitation evaluation of existing tunnel
Black Diamond Mine	Retreat Mine	Evaluation of conditions, consultation and design, construction observations
Chateau 15	Wine Cave and Portals	Site investigation, geotechnical report, design, construction observations
Fournier Residence	Private Cave, Shaft and Portal	Site investigation, geotechnical report, design, construction observations

Client/Owner	Project	Services
Mayacamas Vineyards	Wine Cave and Portal	Project consultation, preliminary design
Mountain Peak Vineyards	Winery, Cave and Shotcrete Walls	Site investigation, geotechnical report, cave and shotcrete wall design
Ramey Wine Cellars	Wine Cave and Portal	Site investigation, feasibility report, hydrogeology study, permitting support
Sinegal Estate Winery	Wine Cave and Shotcrete Walls	Site investigation, landslide hazard evaluation, geotechnical report, cave and shotcrete wall design, construction observations
Whitehall Lane Winery	Wine Cave and Portal	Initial feasibility
Arbuckle Winery	Wine Cave	Project feasibility
Confidential	Underground Art Gallery	Project feasibility and preliminary design
Chapin Vineyards	Winery and Cave	Project feasibility and landslide hazard assessment
Yountville Hill Winery	Underground Winery, Shafts, Shotcrete Walls, Tasting Room	Project feasibility and preliminary design
AS Vineyards	Wine Cave	Project feasibility
Roth Winery	Wine Cave and Portals	Site exploration, geotechnical report, design, construction observations
Starfield Vineyards	Wine Cave	Project feasibility
Fort Ross Winery	Wine Cave	Initial feasibility
Black Diamond Mine	Big Stairs	Project feasibility, design, engineering and construction monitoring
Sierra Railroad	Railtown Access Tunnel and Shaft	Project feasibility and preliminary design
von Strasser Highway 29	Wine Cave and Shotcrete Wall	Project feasibility and conceptual design
Vintage Oakville Cross Residence	Shaft and Shotcrete Wall	Feasibility, design and construction observations
Woolls Ranch	Shotcrete Walls	Site investigation, geotechnical report, design, construction monitoring
Rice Residence	Wine Cave	Initial feasibility
Villa Aix Vineyards	Wine Cave	Initial feasibility, geotechnical report, design
Darms Lane Winery	Wine Cave and Portals	Initial feasibility, conceptual design, site investigation
The Hilt Winery	Winery	Initial consultation, wine cave and shoring, site investigation, geotechnical report, debris flow mitigation
Denton Residence	Tunneled Garage	Geotechnical report, preliminary design
Perch	Private Use Cave and Cellar	Initial feasibility, geotechnical report, cave and portal design, engineering and construction observations, materials testing

Client/Owner	Project	Services
Promise Wines	Wine Cave	Initial feasibility, site investigation
Few and Far Between	Wine Cave	Initial consultation, geotechnical investigation, preliminary design, geohazards analysis
Hacienda de las Flores	Wine Cave	Initial feasibility
Ciminelli Winery	Wine Cave	Initial feasibility
Aloft Winery	Wine Cave and Portals	Initial feasibility, site investigation, geotechnical and geohazards report, tunnel design consultation
Saggio Hills Resort and Residences	Tunnel and Shotcrete Walls	Initial feasibility, geotechnical report, cave and portal design, retaining wall design
Teucer Winery	Wine Cave and Portals, Water Storage Tunnel	Project consultation, cave and shotcrete wall design, site investigation and tunnel design, construction observations
Silver Cloud Winery	Shotcrete Walls	Geotechnical report, design, construction observations
Hard Six Winery	Wine Cave	Initial feasibility, preliminary design
Twain Harte Lake Association	Multiple Arch Concrete Dam	Emergency repairs investigation, design, construction observations and management
Twain Harte Community Services District	Pipeline	Rock slope stabilization investigation, repairs design, construction observations
Napa Gateway	Winery	Geotechnical investigation, geohazard investigation
Le Mélange	Wine Cave	Feasibility consultation
Henderson Residence	Tunneled Garage	Feasibility consultation
The Vineyard House Winery	Wine Cave and Portals	Feasibility and conceptual design
Italics Winery	Wine Cave and Shotcrete Walls	Construction consultation, design, materials testing and special inspection
The Culinary Institute of America – Greystone	Storage Caves and Retaining Walls	Geotechnical investigation, design, consultation
Meadowood Lane Winery	Access Road and Water Tanks	Geotechnical investigation, design, inspection
Oakdale Irrigation District	Canal Segment 4 Long Term Repairs	Evaluation of conditions, assessment of findings, conceptual design, 100% design and construction bid documents, pre-construction and bid support services, construction management, observation and inspection
Top Shed Vineyards	Wine Cave Completion	Design cave and shotcrete wall, update geotechnical report, engineering and construction services
Tri-Dam Project	Tulloch Lake	Reservoir rim landslide: Site hazard evaluation and consultation

Client/Owner	Project	Services
Tri-Dam Project	Tulloch Dam Spillway	Emergency mitigation support, design, short-term repair construction observation, long-term repair design concepts, 50% preliminary design, construction cost estimate, litigation support
Northern California Power Agency	North Fork Tunnel	Evaluation and recommendations, repair design, construction monitoring, materials testing
Dragonfly Investment Group	Black Mountain – Spring Tunnel	Evaluate existing conditions of tunnel, recommendations and design
Umbra Winery, TX	Wine Cave	Initial consultation, conceptual design
Gandona Winery	Winery Expansion	Project feasibility
Sisterdale Vineyards, TX	Wine Cave	Initial consultation, conceptual design
Modesto Irrigation District	Various Tunnels	Initial evaluation of current conditions
Anderson’s Conn Valley Vineyards	Wine Cave and Portals	Evaluation of existing conditions, repairs design, construction bidding assistance
Calaveras County Water District	White Pines Dam	Annual inspection, instrumentation evaluation, repair recommendations
Chateau de Montrichard	Winery and Cave	Project feasibility
Schramsberg Winery	Historic Cave	Emergency repairs design and construction observations, annual repair maintenance support
Shutters Winery	Wine Cave	Initial consultation, conceptual design, geotechnical engineering study, design cave and shotcrete retaining wall
Oakville Winery	Winery and Cave	Initial consultation, geohazards analysis, water availability analysis
Tuolumne Utilities District	O’Neil Tunnel	Initial consultation, hazard evaluation, site investigation
Antelope Valley Ranch	Cheese Aging Cave	Initial consultation, conceptual design
Kitoko Vineyard	Winery and Cave	Initial consultation, conceptual design, geotechnical and engineering design
Vine Cliff Winery	Cave Abandonment	Initial consultation, evaluation of conditions, project feasibility, design of remedial measures, cave abandonment engineering services
KB Home	Mine Hazard Abatement	Mine closure (backfill with cellular grout) design and construction observations
Glen Cove	Shotcrete, Pier and Conventional Retaining Walls	Consultation, site exploration, geotechnical report and engineering design, construction observations
Greenfield Residence	Shotcrete and MSE Retaining Walls	Consultation, site exploration, geotechnical report and engineering design
Tri-Dam Project	Access Roads	Emergency repairs including bypass, embankment and retaining wall design and construction observations

Client/Owner	Project	Services
Signorello Winery	Winery Replacement, Wine Cave and Portals	Consultation, site exploration, design and permit submittal support, construction observations and materials testing
Tuolumne Utilities District	Lakewood Dam	Repairs design for flood-damaged dam and spillway
Various Dam Owners	Dam Inundation Studies	State-mandated potential flooding hazard analysis for existing dams
Confidential	Private Wine Cave	Initial consultation
Montage Healdsburg	Shotcrete Walls	Conceptual design, site exploration, geotechnical report, engineering design, construction monitoring and observation
Alexander Valley Vineyards	Wine Cave Expansion	Site exploration and reporting, engineering design, permit support
Tesson Vineyards	Underground Winery, Cave, Portals	Conceptual design, site exploration, feasibility and construction cost estimating
Lauper Residence	Residential Cave and Wildfire Refuge	Initial consultation and conceptual design, site exploration and report, engineering design, construction observation and testing
Farella Vineyards	Wine Cave and Portals	Initial consultation and conceptual design, water availability analysis
Harlan Estate	Site Development	Geotechnical engineering feasibility of site development, site exploration and geotechnical report
Booker Wines	Wine Cave, Portal and Shaft	Feasibility, conceptual design, cave and portal design, elevator shaft design, shotcrete wall design, construction observation
Stull Residence	Existing Residential Cave, Retaining Wall and Water Storage Tunnel	Fire damage assessment and engineering consultation during repairs and reconstruction
Colgin Cellars	Wine Cave and Portals	Initial consultation and conceptual design
White Rock Vineyards	Wine Cave and Water Availability Analyses	Initial consultation and conceptual design work for potential wine cave, water availability analyses
Walt Wines	Wine Cave and Shotcrete Wall	Site investigation, geostructural design
Chinatown Station, San Francisco MTA	Central Subway	Assisted contractor with differing site conditions claim
Cavedale LLC	Wine Cave	Forensic data compilation and analyses for permitting support
Toogood Winery	Wine Cave Evaluation	Evaluate structural condition of wine cave prior to property acquisition
Laujor Estate Winery	Wine Cave and Portals	Portal design and cave construction observations
Bergman Family Winery	Underground Winery and Cave	Feasibility, site exploration and report, design, construction observations, materials testing

Client/Owner	Project	Services
Kramlich Residence	Residential Parking Tunnel	Feasibility, conceptual design, site exploration, design and permit support
Black Diamond Mines Regional Preserve	Coal Mine Exhibit	Consultation, excavation and ground support design, construction observations
Northern California Power Agency	Collierville Tunnel and Shafts	Consultation, ROV inspection observations of existing underground facilities
Alma Rosa Winery	Wine Cave	Initial consultation
Santa Cruz Big Trees Pacific Railway	Mission Hill Tunnel	Rehabilitation design for historic tunnel, construction observation
Constant Winery	Wine Cave	Initial consultation and feasibility evaluation
Jericho Canyon Winery	Wine Cave and Shaft	Cave expansion feasibility and conceptual design
Messier Wine Properties	Wine Cave	Consultation and conceptual design, site exploration
Morlet Family Vineyards	Wine Cave	Conceptual design and geologic assessment
Phelps Vineyards	Winery	Permanent shoring wall design and construction observation
Alexander Mountain Estates – Jackson Family Investments	Residential Tunnel	Site investigation, consultation and conceptual design
Oakdale Irrigation District	Tunnels 3, 4 and 8	Evaluation, preliminary rehabilitation design, construction cost estimate
South San Joaquin Irrigation District	Woodward Dam	Evaluate options for spillway alternatives
Vice Versa Winery	Wine Cave and Portals	Feasibility, site exploration and report, geologic hazards evaluation and report, shotcrete wall and cave design
Daou Patrimony Winery	Wine Cave	Consultation
Kenefick Ranch Winery	Wine Cave	Consultation
Brouillard Winery	Wine Cave	Consultation
Marciano Estate	Wine Cave	Consultation and conceptual design
Petrified Forest Associates	Historical Tunnel	Evaluate conditions for potential rehabilitation
Justin Vineyards and Winery	Wine Caves	Evaluate conditions for potential rehabilitation
Private Client	Underground Garage and Vehicle Storage	Consultation and project feasibility
Modesto Irrigation District	Tunnels and Canals Rehabilitation	Consultation, evaluation and improvement recommendations and cost estimates
Private Client	Water Storage Tunnel	Consultation, site exploration and report, tunnel and portal design
Stotesbery Residence	Wildfire Refuge Tunnel	Site exploration, design, permitting and construction observation