



**Scott D. Ureel, PhD, EIT**  
Staff Engineer

---

## Education

---

PhD, Mining, Geological & Geophysical Engineering, University of Arizona, 2014  
MS, Civil Engineering (Geotechnical), Oregon State University, 2009  
BSE, Civil Engineering, University of Michigan – Ann Arbor, 2004

---

## Registrations/Certifications

---

Engineer in Training, California

---

## Experience Summary

---

Dr. Ureel is a geotechnical/geological engineer and mining consultant with more than 7 years' experience in the civil engineering and mining industries applying his geotechnical expertise designing tailings dams, pit slopes, underground tunnels/drifts, waste rock dumps, and other earthen structures. Scott's field experience includes designing and executing geotechnical investigation plans using multiple drilling methods including hollow stem auger, diamond core, sonic, seismic refraction, and cone penetration testing (CPT) equipment. Scott applied these field fundamentals to hone his analytical and modeling skills, which include geo-mechanical soil and rock testing, geosynthetic materials testing, slope stability, stress conditions, and slope/wall reinforcement. Scott has also been an on-site engineer for numerous projects and academic proceedings in Utah, Arizona, Nevada, New Mexico, Peru, Chile, Mexico, China, and Japan. Throughout the last 17 years, Scott has learned to become a diligent academic, consultant, and professional in the mining and civil engineering industries. His experience ranges from geological mapping for months at high altitude in the Peruvian Andes to researching ocean bottom seismometers (OBS) along the Juan de Fuca fault line in the Pacific Northwest to simply teaching undergraduate students material properties in a laboratory.

---

## Project Experience

---

### ***Geotechnical***

---

#### **SITE INVESTIGATION | PHOENIX, ARIZONA**

Project included geotechnical site investigations, slope stability analyses, modeling and monitoring; retaining walls, pile design, and temporary shoring; numerical modeling for reinforcement, slope stability, and underground earth stresses. Prepared and presented technical reports, memoranda, and presentations (detailing analyses, results, design methods, and recommendations). (Terracon, 2018)

#### **OXBOW ROCKFALL MITIGATION HIGHWAY SLOPES | OREGON/IDAHO BORDER**

Performed rockfall analysis for 2000 linear feet of slope along highway. Determined cost estimates and catchment width. (Terracon, 2018)

#### **UNDERGROUND TUNNEL DESIGN | NEVADA, CALIFORNIA**

Project included geotechnical site investigations, rock slope stability analyses, wine caves and tunnel construction monitoring, structure liner analyses, and rehabilitation. Numerical modeling for reinforcement, slope stability, and underground earth stresses. Prepared and presented technical reports, memoranda, and presentations (detailing analyses, results, design methods, and recommendations). (Condor Earth Technologies, 2014 to 2015).

**TWAIN HARTE DAM EXFOLIATION MONITORING | TWAIN HARTE, CALIFORNIA**

Installed borehole extensometer to monitor large fracture due to exfoliation on side bearing rock mass of dam. Observed and created field logs for site visits and extensometer data. Monitored dam due to sewer line running adjacent to it. (Condor Earth, 2015)

**CERRO JUMIL MINING PROJECT | MORELOS MEXICO**

Performed slope stability analysis, slope modeling, and slope design in preparation of a feasibility study. (Saguaro GeoServices, Inc., 2013)

**SAN FRANCISCO MINE | NORTHERN MEXICO**

Tailings dam design and stability modeling. (Saguaro GeoServices, Inc., 2013)

**US 191 RETAINING WALL | EASTERN ARIZONA**

Performed the computer modeling for a mechanically stabilized earth (MSE) retaining wall along US 191. The design was a forensic investigation in order to determine wall stability. The LRFD procedure was utilized for the Arizona Department of Transportation. Calculations, report and recommendations for the wall were provided. (Saguaro GeoServices Inc, 2013)

**VARIOUS PROJECTS | ARIZONA, NEW MEXICO, UTAH, NEVADA, MEXICO, INDONESIA, PERU, CHILE**

Performed slope stability analysis at Bingham Canyon for Kennecott. Site investigation and drilling program, waste dump and stockpile design, room and pillar analysis and feasibility study. Utilized modeling software GeoStudio (SLOPE/W), FLAC, FLAC 3D, and Minesight. Projects included core orientation, logging, and geological/rock fabric mapping. Prepared and presented technical reports, memoranda, and presentations (detailing analyses, results, and recommendations). (Call & Nicholas, Inc., 2010 to 2012)

**OCEAN BOTTOM SEISMOMETER STUDY | NEWPORT, OREGON**

Ship crew scientist for a 4-week study aboard the Wecoma R/V. Quality control for the deployment and retrieval of OBS and seismic wave surveys. Also, collected and interpreted data from OBS instruments. (Oregon State University, 2009)

**BRIDGE FOUNDATION SCOUR POTENTIAL ON NUMEROUS SITES | SALEM, OREGON**

Lead researcher for scour investigation issue with 12 sites around the Oregon coast range. Funded by the Oregon Department of Transportation (ODOT), work included measuring water levels, obtaining topography data, obtaining stream power data and mapping the riverbed and bridge foundations. Core samples were analyzed and the computer program HEC-RAS was used. Report was generated for ODOT and project was basis of master's thesis at Oregon State University. (Oregon State University and ODOT, 2008)

**GEOTECHNICAL ANALYSIS | CALIFORNIA**

Performed geotechnical analysis on various projects including forensic investigations, and geotechnical and geological mapping. (TerraPacific Consultants, 2006 to 2007)

**FIELD ASSIGNMENTS | CALIFORNIA, NEVADA, AND ARIZONA**

Project included manometer surveys, field and site observations, site characterization, inclinometer readings, sand cone tests, test pit observations, moisture dome testing, core testing, and ring sampling. (TerraPacific Consultants, Inc., 2006 to 2007)

***Construction Projects***

---

**SOLAR WIND FARM | COOLIDGE, ARIZONA**

Performed QA/QC and site observations for numerous pile load testing. The tests were used to determine soil strength and pile strengths for compression, vertical uplift, and lateral deflection. (Terracon, 2018)

**OAK MOUNTAIN WINE CAVE | TEMECULA, CALIFORNIA**

Team engineer for the wine cave addition. Performed soil boring investigations and observed probes. Safety was a concern while excavating the tunnel drifts for the wine cave due to sandy soil conditions. Our team was in charge of introducing a new tunneling method to compensate for the sandy conditions if encountered. Memos, field observations, and finite element modeling were utilized. (Condor Earth, 2014)

#### **TEMPORARY SHORING FOR LARGE COMMERCIAL BUILDING PROJECT | SANTA ROSA, CALIFORNIA**

Quality control and quality assurance for temporary shoring installation, tieback testing, and soldier pile deflection for a one-story parking area below proposed commercial building. (Condor Earth, 2014)

#### **WATER TUNNEL ON TRUCKEE RIVER FOR HYDRO ELECTRIC FACILITY | TRUCKEE, CALIFORNIA**

Performed tunnel design, soil nail wall design, QA/QC, and site observations for tunnel replacing failing wooden flume for hydroelectric facility on the Truckee River. Tunnel in remote location and drill blast methods were utilized for tunnel excavation in decomposed granite. Created report, field logs, and site investigation. (Condor Earth, 2014)

#### **WATER TREATMENT PLANT | ARIZONA**

Performed quantity survey, field layout, and surveying duties in the field. Worked with surveying equipment, i.e. Total Station, level, and laser. (Archer Western Contractors, 2004)

#### **VARIOUS CONSTRUCTION PROJECTS | ILLINOIS**

Performed concrete quality checklists for bugholes, blowouts, cracks, etc. on high-rise projects. Helped with quantity take-offs for steel and concrete. (Walsh Construction, 2002 to 2003)

---

### **Professional Affiliations**

---

American Rock Mechanics Association (ARMA), Member  
International Society of Rock Mechanics (ISRM), Member  
American Society of Civil Engineers (ASCE), Member  
Geoinstitute of America (ASCE), Member  
International Society of Explosive Engineers (ISEE), Member  
Society of Mining Engineers (SME), Member

---

### **Publications / Presentations**

---

- Ureel S**, 2014. *Concepts Used to Analyze and Determine Rock Slope Stability for Mining & Civil Engineering Applications*. Doctoral Dissertation. University of Arizona Library, Tucson, AZ USA.
- Ureel S**, 2009. *Analysis of a Correlation between Stream Power and Erosion on Weak Bedrock in the Oregon Coast Range*. Master Thesis. Oregon State University Library, Corvallis, OR USA. Funded by the Oregon Department of Transportation (ODOT).
- Ureel S**, Skaggs R, Cato K, 2018. *Analysis and Solutions for Fallout Repair in Sandy Soil Conditions for a Wine Cave in Southern California*. Journal of Civil Engineering and Architecture, Vol. 6, Num. 5, pp 242-251.
- Ureel S**, Momayez M, 2017. *Simple Correlations Between Rock Abrasion and Other Significant Rock Properties for Rock Mass and Intact Quartzite*. Open Journal of Civil Engineering Vol 7. Num 2 pg 1-15.
- Ureel S**, Momayez M, Liu Y, 2016. *Slope Stability Analysis Through Integration of Ground Measurements and Remote Sensing Data*. Universal Journal of Geoscience. Vol4. Num 6. Pg 117-121.
- Ureel S**, Momayez M, 2014. *An investigation of the limit equilibrium method and numerical modeling for rock slope stability analysis*. In Geotechnical Special Publication. (237 GSP ed., pp. 218-227). American Society of Civil Engineers (ASCE).
- Ureel S**, Momayez M, 2014. *An Investigation of the Present and Future Testing Methods of Rock Abrasion Resistance*. International Journal of Mining Engineering and Mineral Processing. Vol. 3, No. 1, Nov 2014. Pg 1-13.
- Ureel S**, Momayez M, Oberling Z, 2013. *Rock Core Orientation for Mapping Discontinuities and Slope Stability Analysis*. International Journal of Research in Engineering and Technology, ISSN: 2319-1163 Vol 2, Issue 7, July 2013. pp 1-8.



- Ureel S**, Momayez M, 2014. *An Investigation of the Limit Equilibrium Method and Numerical Modeling for Rock Slope Stability Analysis*, GeoShanghai 2014: The International Conference on Geotechnical Engineering 2014, Shanghai, China, pg 1-10.
- Ureel S**, Killian J, Ryan TM, 2012. *An Analysis to Compare Factor of Safety Values Between the Limit Equilibrium Method and Shear Strength Reduction Technique*, 46th US Rock Mechanics/Geomechanics Symposium, Chicago, IL. pp. 1-7 paper 526.
- Ureel S**, Skaggs R, Lewis S, Nelson K, Cato K, 2015. *Analysis and Solutions for Fallout Repair in Sandy Soil Conditions for a Wine Cave in Southern California*. 15th PanAmerican Conference on Soil Mechanics and Geotechnical Engineering. Buenos Aires, Argentina.
- Ureel S**, Momayez M, 2015. *State-of-the-Art Developments Using Non-Invasive Techniques for Slope Stability Monitoring*. 8th South American Conference of Rock Mechanics. Buenos Aires, Argentina.
- Ureel S**, Momayez M, 2015. *Current and future methods to calculate and determine the factor of safety for rock slopes in mining and civil engineering applications*. 8th South American Conference of Rock Mechanics. Buenos Aires, Argentina.
- Ureel S**, Momayez M, 2014. *Current and future methods to calculate and determine the factor of safety for rock slopes in mining and civil engineering applications*, 6th Brazilian Symposium of Rock Mechanics. Goiania, Brazil.
- Ureel S**, Momayez M, Oberling Z, 2013. *Rock Core Orientation for Mapping Discontinuities and Slope Stability Analysis*, 2013 International Symposium for Slope Stability in Open Pit Mining and Civil Engineering, Brisbane, Australia.
- Ureel S**, 2014. July Geotechnical and Material Testing News. Mentioned work and photo for Truckee Meadows Water Authority Fleish water tunnel, Truckee, CA. Condor Earth Technologies, Inc. Sonora, CA USA.
- “Rock Slope Stability Modeling for Open Pit Mining Operations”. Department of Geophysics, Los Alamos National Laboratory. February 2016. Los Alamos, NM
- “Rock Slope Stability and Design for Mining Operations”. Department of Mining Engineering, University of Utah. June 2015. Salt Lake City, UT
- “Starlight Science Cinema: Armageddon”. Mining department representative for science flaws committee about the movie “Armageddon”. Presented topic of geotechnical and oil drilling. Sponsored by University of Arizona Department of Planetary Sciences. September 7, 2013. Tucson, AZ.
- “An Analysis to Compare Factor of Safety Values Between the Limit Equilibrium Method and Shear Strength Reduction Technique,” 55th Annual Meeting Association of Environmental & Engineering Geologists (AEG). September 15-23, 2012. Salt Lake City, UT. (Mr Jim Killian, presenter)
- “An Analysis to Compare Factor of Safety Values Between the Limit Equilibrium Method and Shear Strength Reduction Technique,” *46th US Rock Mechanics/Geomechanics Symposium*. June 24-27, 2012. Chicago, IL.
- “Slope Stability for Open Pit Mining Operations,” Class MNE 200. Department of Mining & Geological Engineering. November 2011. University of Arizona, Tucson, AZ.
- “Earthquake Engineering,” Earthquake Engineering Research Institute (EERI). February 2008. Oregon State University, Corvallis, OR.

---

## Employment History

---

<b>CURRENT EMPLOYER</b>	<b>TIERRA GROUP INTERNATIONAL, LTD.</b>
<b>POSITION</b>	Staff Engineer
<b>YEARS</b>	2019 to Present

<b>EMPLOYER</b>	<b>TERRACON – CONSULTING ENGINEERS &amp; SCIENTISTS</b>
<b>POSITION</b>	Staff Geotechnical Engineer
<b>YEARS</b>	2018
<b>EMPLOYER</b>	<b>INDEPENDENT CONSULTANT/CONSTRUCTION/CARPENTER</b>
<b>POSITION</b>	Consultant/Carpenter
<b>YEARS</b>	2015 to 2018
<b>EMPLOYER</b>	<b>CONDOR EARTH TECHNOLOGIES</b>
<b>POSITION</b>	Associate Geotechnical Engineer
<b>YEARS</b>	2014 to 2015
<b>EMPLOYER</b>	<b>UNIVERSITY OF ARIZONA</b>
<b>POSITION</b>	Research/Teaching Assistant
<b>YEARS</b>	2010 to 2013
<b>EMPLOYER</b>	<b>SAGUARO GEOSERVICES, INC.</b>
<b>POSITION</b>	Geological Engineering Consultant
<b>YEARS</b>	2013
<b>EMPLOYER</b>	<b>CALL &amp; NICHOLAS, INC.</b>
<b>POSITION</b>	Geological Engineer
<b>YEARS</b>	2010 to 2012
<b>EMPLOYER</b>	<b>OREGON STATE UNIVERSITY</b>
<b>POSITION</b>	Research / Teaching Assistant/Ship Scientist
<b>YEARS</b>	2007 to 2009
<b>EMPLOYER</b>	<b>PASQUINELLI HOMES, INC.</b>
<b>POSITION</b>	Project Engineer / Estimator
<b>YEARS</b>	2004 to 2006
<b>EMPLOYER</b>	<b>ARCHER WESTERN CONTRACTORS</b>
<b>POSITION</b>	Project Engineer/Surveyor
<b>YEARS</b>	2004
<b>EMPLOYER</b>	<b>WALSH CONSTRUCTION</b>
<b>POSITION</b>	Civil Engineering Intern
<b>YEARS</b>	2002 to 2003

---

## Language Proficiency

---

English: Native  
Spanish: Conversational (moderate spoken, written)