



**Miguel E. Gutierrez, P.E., PMP**  
Sr. Civil-Geotechnical Engineer

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## Education

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BSc, Civil Engineering, University of Texas at Arlington, 2005  
Civil Engineering Coursework, Pontificia Universidad Católica del Peru (PUCP), 2001

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## Registrations/Certifications

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Professional Engineer, Colorado (#44907)  
Project Manager Professional (PMP) – PMI Certification (#1918446)

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## Experience Summary

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Mr. Gutierrez is a professional engineer and project manager with over 15 years' experience in civil and geotechnical projects primarily focused in the mining industry. He is experienced in geotechnical studies, design, construction support, and project management for a variety of civil-geotechnical projects in mining at different levels of design such as scoping, pre-feasibility, feasibility, and detail engineering level. His project experience in the mining industry includes managing and executing geotechnical investigations, design of tailings storage facilities (TSF), waste dumps, and water management facilities.

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## Project Experience

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### ***Mine Tailings / Waste Facilities***

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#### **TSF FEASIBILITY STUDY | NICARAGUA**

Managed an engineering team in the Feasibility level design of a 7.85 million ton (Mt) TSF, water storage ponds, and pumping systems. The Feasibility level design includes a geotechnical field investigation for the TSF and storage ponds, geotechnical design of the TSF main embankment, underdrain system, seepage collection system, and preparation of Feasibility level design and quantities. (Tierra Group, 2020)

#### **TSF DETAILED DESIGN | HONDURAS**

Managed the detailed design of the 3.0 Mt filtered TSF and the secondary containment facility. The detailed design includes a geotechnical field investigation, laboratory program, foundation assessment, geotechnical design of the TSF, water balance, and preparation of construction drawings. (Tierra Group, 2020)

#### **TSF PRE-FEASIBILITY STUDY | ARIZONA**

Managed an engineering team, sub-consultants, drilling subcontractor, and laboratory through the pre-Feasibility design of a 1.6-billion-ton TSF and auxiliary facilities for copper mine in Arizona. The Pre-feasibility Study (PFS) included the starter dam design, geotechnical design of the TSF main embankment, underdrain system, seepage collection system, water management, and construction cost estimate. The project also included a geotechnical investigation consisting of geophysical survey, rock core drilling, and laboratory testing. Responsibilities included client management, participation in interdisciplinary workshops with the different stakeholders including the Technical Review Board (TRB) for the project. (AECOM, 2017 to 2019)

#### **TSF GEOTECHNICAL ASSESSMENT | COLORADO**

Managed the field investigation (geotechnical drilling and Cone Penetration Testing (CPT)), laboratory program, and the associated geotechnical analysis including an update of the seismic hazard study for a reclaimed TSF to comply with the mine's tailings stewardship program. (AECOM, 2017)

### **TSF DESIGN AND CONSTRUCTION SUPPORT | CUSCO, PERÚ**

Involvement in the Pre-feasibility, Feasibility, and detailed design of a 650-million-ton TSF and water management facilities for a copper mine in southern Perú. Performed a key role in the permitting phase of the project by providing engineering support and participating in presentations to the regulators. Managed the engineering support during construction including the Construction Quality Assurance (CQA) for the TSF and water management facilities. (Knight Piésold, 2014 to 2016)

### **FEASIBILITY AND DETAILED DESIGN OF A TSF EXPANSION | CAJAMARCA, PERÚ**

Managed the Feasibility level and detailed design of a TSF expansion for a large gold mine in northern Perú. The project included the civil design and geotechnical analysis of the TSF and preparation of the construction drawings and specifications. The project included management of a sub-consultant completing the tailings transport system and reclaim water system design. Successfully managed the project with a fast-track schedule and challenges such as remote teams and limited budgets. (Knight Piésold, 2013 to 2015)

### **GEOTECHNICAL INVESTIGATION OF A FILTERED TSF EXPANSION | ATACAMA, CHILE**

Managed the geotechnical investigation to evaluate the stability of the existing filtered TSF for potential expansion. The site investigation included CPT, geotechnical drilling, and vibrating wire piezometer (VWP) installations. Later involvement included a hydrogeological site investigation (reverse circulation drilling) to install deep monitoring wells. (Knight Piésold, 2015)

### **GEOTECHNICAL INSTRUMENTATION INSTALLATION FOR LEACHING SOLUTION INFILTRATION MONITORING | KHATT ATUI, MAURITANIA**

Engineering Lead for the geotechnical investigation to install VWPs to monitor leaching solution migration from a heap leach facility to an adjacent waste rock stockpile. The monitoring instrumentation installed saved the client considerable capital cost to manage the potential environmental impact of leaching solution filtration through recommended operational practices. (Knight Piésold, 2015)

## ***Hydrology / Hydraulics***

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### **SURFACE WATER MANAGEMENT CONVEYANCE SYSTEMS PFS DESIGN, COPPER MINE PROJECT | CUSCO, PERÚ**

Lead designer for the surface water management systems including reclaim water, pit dewatering, and surface run-off management at the Pre-feasibility stage of a copper mine project. (Knight Piésold, 2020)

### **CONVEYANCE PUMP STATION DESIGN, NTMWD REUSE PROJECT | DALLAS, TEXAS**

Provided engineering services on the 150-MGD (million gallons per day) conveyance pump station design; including analysis of pump curves and pump selection, trust restrain, design of steel discharge piping based on the American Water Works Association design guidelines, and specifications for pumps and valves. (APAI, 2007 to 2008)

### **DENTON CREEK WASTEWATER TREATMENT EXPANSION (5.0 MGD TO 11.5 MGD) | DALLAS, TEXAS**

Provided design of a preliminary treatment unit consisting of vortex grit removal units; design of secondary clarifiers and return sludge/waste sludge pump station. Responsible for the development of the design drawings and specifications for the treatment units previously described. (APAI, 2007 to 2008)

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## **Professional Affiliations**

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American Society of Civil Engineers, Member  
Society for Mining Metallurgy and Exploration (SME), Member

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## **Publications / Presentations**

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**Gutierrez M**, 2018. *Uso de herramientas EVM (Earn Value Management) en gerencia y control de proyectos para diseño de presas de relaves*", Conferencia de Ingeniería Geotécnica y Sísmica con Aplicaciones a Proyectos Mineros- 2018, septiembre 2018, Lima, Perú.

**Gutierrez M** (Coauthor), 2016. *Tailing Storage within a Heap Leach Facility - an Update on the Success at Yanacocha*, Heap Mining Solutions 2016, Lima, Perú.

**Gutierrez M**, 2013. *Permitting in Mining Projects and Their Challenges in Peru*, PERUMIN Mining Convention 2013, Social and Environmental Responsibility Committee.

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## Employment History

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<b>CURRENT EMPLOYER</b>	<b>TIERRA GROUP INTERNATIONAL, LTD.</b>
<b>POSITION</b>	Senior Civil-Geotechnical Engineer
<b>YEARS</b>	2019 to Present
<b>EMPLOYER</b>	<b>AECOM</b>
<b>POSITION</b>	Geotechnical Engineer/Project Manager
<b>YEARS</b>	2017 to 2019
<b>EMPLOYER</b>	<b>KNIGHT PIÉSOLD &amp; Co.</b>
<b>POSITION</b>	Project Engineer/Project Manager
<b>YEARS</b>	2008 to 2016
<b>EMPLOYER</b>	<b>ALAN PLUMMER ASSOCIATES INC. (APAI)</b>
<b>POSITION</b>	Project Engineer
<b>YEARS</b>	2004 to 2008

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## Language Proficiency

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Spanish:	Native
Portuguese	Basic
English:	Fluent (written and spoken)