
PROFESSION

Laboratory Manager

CERTIFICATIONS

Caltrans for Test Methods
105, 106, 201, 202, 204, 205,
216, 217, 227, 301, 304, 308,
366, & 382

**PROFESSIONAL
EXPERIENCE**

GMU Geotechnical, Inc.
(2007-Present)
Laboratory Technician to
Laboratory Manager,
Rancho Santa Margarita,
California

SUMMARY OF EXPERIENCE

Mr. Villarraga has worked for GMU since June of 2007. In 2013, Mr. Villarraga became GMU's Lab Manager. In this capacity Mr. Villarraga supervises a team of staff lab technicians, ensures compliance with testing standards, ensures testing is done in a timely manner, performs QA/QC testing and calibrations, and interacts with professional engineers and geologists. Mr. Villarraga ensures all requirements are met to maintain lab certifications by Caltrans and City of Los Angeles. Mr. Villarraga's lab testing experience includes:

- A complete range of soils/geotechnical tests including:
 - Unconfined and Triaxial Compression Testing
 - Sieve and Hydrometer
 - Atterberg Limits
 - Maximum Density
 - Direct Shear
 - Expansion Index
 - Consolidation including time rate
 - Sand Equivalent
 - Organic Impurities
 - Moisture and Density
 - Durability and LA rattler test
- Soil chemical tests including:
 - Minimum Resistivity
 - Sulfate and Chloride Content
 - Organic Matter
 - pH
- Complete pavement testing including:
 - R-Value
 - Hveem
 - AC Unit Weight
 - % Asphalt by Ignition and/or Gradation
 - Slurry Seal
 - Additional Specialty Pavement Tests
- Specialty testing including:
 - Soil Cement
 - Handling and testing of frozen sampling
 - Insitu soil mixing test samples
 - Triaxial testing
 - Permeability testing