

Corrie Piehowski | Associate III



EXPERIENCE

Corrie Piehowski joined WJE in 2019 and has participated in various projects involving petrographic and laboratory evaluations of concrete, mortar, dimension stone, stucco, and other building materials. Ms. Piehowski enjoys learning new techniques for analysis, including scanning electron microscopy and X-ray diffraction, while developing experience in optical microscopy, laboratory testing, and field investigations. She also conducts heat of hydration analysis via isothermal conduction calorimetry.

Prior to joining WJE, Ms. Piehowski studied geology, where she focused on field investigations and mapping of geologic structures, optical microscopy, petrology and mineralogy, geochemistry, and economic geology. Her graduate research combined experimental recreation of subterranean volcanic systems with analytical techniques (scanning electron microscopy with electron dispersive spectroscopy, laser ablation inductively coupled plasma mass spectrometry, and microthermometry) to understand preferential partitioning of precious metals in magmatic fluids.

REPRESENTATIVE PROJECTS

Concrete Petrography

- SASOL Cooling Tower - Secunda, South Africa: Petrographic examination of cores for service life assessment
- Bushara Reservoir - Goma, Democratic Republic of Congo: Assessment of concrete from water storage tank after direct exposure to lava flow
- Pasadena Police Academy - Pasadena, TX: Field investigation and petrographic examination to determine cause of flooring system distress
- Lullwater House - Atlanta, GA: Investigation of alkali silica reaction (ASR) and freeze-thaw related distress on historic concrete
- Iowa State University, Memorial Union Fountain - Ames: Characterization and investigation of ASR-related distress in concrete fountain
- Turbine Foundation Fire Assessment - TX: Assessment of fire-damaged concrete glass

- MSK Monmouth Outpatient Facility - Middletown, NJ: Petrographic and chemical investigation of debonded floor system involving thaumasite attack
- Multiple Locations, U.S.: Hardened air void analyses according to ASTM C457 Method B to quantify and understand air void systems of concrete
- Multiple Locations, U.S.: Petrographic examination to determine cause of concrete scaling or surface distress in internal and external applications

Materials Assessment

- MRCA Low-Rise Foam Adhesive Test - Microscopy of low-rise foam roofing adhesives to understand physical differences in polymer material system
- Gulf Crest Condominiums - Atlanta, GA: Thickness measurements and observations of coating showing distress
- Waterproofing Failure Investigation - Lincolnwood, IL: Microscopy and observations of roofing membrane exhibiting bubbling and blistering
- Various Locations, U.S.: Isothermal conduction calorimetry of cements with varying water-to-cement ratios or admixtures to create and interpret heat of hydration curves
- The US Grant Hotel - San Diego, CA: Concrete facade repair; examination of coatings to provide color match for repairs of historical building
- Elvehjem Museum (now the Chazen Museum of Art) - Madison, WI: Dimension stone characterization and stone cladding assessment for cause of delamination

EDUCATION

- Carleton College
 - Bachelor of Arts, Geology, 2018
- Northern Illinois University
 - Master of Science, Geology, 2020

PRACTICE AREAS

- Petrography
- Concrete Petrography
- Materials Assessment
- Construction Materials Assessment
- Concrete
- Laboratory Evaluations
- Microscopy
- Mortar
- Stone Evaluation

PROFESSIONAL AFFILIATIONS

- Society of Concrete Petrographers

CONTACT

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