



EDUCATION

- College of Lake County
 - Associate of Science, Applied Chemical Technology, 1989
- University of Massachusetts
 - Bachelor of Science, Geology, 1977
- University of Saskatchewan
 - Master of Science, Geology, 1985

PRACTICE AREAS

- Petrographic Evaluation
- Failure Investigation
- Concrete Assessment
- Masonry Assessment
- Dimension Stone Evaluation
- Materials Evaluation and Research
- Research and Testing
- Litigation Support

PROFESSIONAL AFFILIATIONS

- American Concrete Institute
- ASTM International
- Society of Concrete Petrographers
- Geological Society of America
- State Microscopical Society of Illinois

CONTACT

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EXPERIENCE

Laura Powers has extensive background in materials analysis with more than twenty-five years of experience in petrography, specialized applications of optical microscopy, scanning electron microscopy, laboratory testing, and field investigation of a wide variety of building materials. Her experience also includes litigation support, product evaluation, and research.

Prior to joining WJE in 2003, Ms. Powers was Principal Microscopist at Construction Technology Laboratories, Inc., where she investigated causes of distress and failure in concrete, mortar, stucco, coatings, and aggregates in the laboratory and in the field. Her previous work also included research into concrete durability issues and masonry performance. She has lectured on petrography, laboratory analyses, concrete and masonry performance, aggregate evaluation, fire damage, and historic construction materials for universities, professional societies, and the Portland Cement Association (PCA).

REPRESENTATIVE PROJECTS

Field Investigation

- Dimension Stone Selection: Historic use and current quarry production
- Condition survey of historic concrete viaduct
- Fireproofing failure
- Stucco distress
- Concrete slab delamination

Concrete and Masonry Assessment

- Chemical attack
- Environmental distress
- Alkali-aggregate reaction
- Characterization of fire damage

Materials Evaluation and Research

- Dimension stone petrography
- Normal and heavy-weight aggregates
- Cement clinker analysis
- Mortar analysis
- Stucco and EIFS petrography
- Fractography of metals, ceramics, and glass
- Gypsum-based grouts and mortars

Research and Testing

- Effect of mortar type on bond strength
- Effects of deicing salts on concrete
- Laser cleaning of marble
- Effect of curing temperature and cement chemistry on development of delayed ettringite formation
- Relationship between water-cement ratio and macrohardness

TECHNICAL COMMITTEES

- ASTM C09 - Concrete and Concrete Aggregates
- ASTM C09.65 - Petrography
- ASTM C12 - Mortars and Grouts for Unit Masonry
- ASTM C12.02 - Research and Methods
- ASTM C12.02.02 - C1324 Task Group, chair