

# Natural Pozzolans

Thousands of years ago, natural pozzolans were used to develop natural cement, which in turn helped create some of the ancient structures we see standing today. Currently, natural pozzolans are used as a substitute for man-made supplementary cementitious materials used in concrete, such as fly ash. Many natural sources have not yet been identified, but the use of natural pozzolans can address many issues in the concrete industry today.

## Why Test Natural Pozzolan Sources?

CTLGroup analyzes potential natural pozzolans beginning in the field and culminating in the laboratory under the microscope, to identify and verify the source as reactive or non-reactive in concrete. Testing of natural pozzolans can also identify anomalous occurrences within an already confirmed non-reactive source.

## What Does a Natural Pozzolan Analysis include?

- Geological field mapping and core logging
- Soil sampling and analysis with XRF in the laboratory
- Petrographic and chemical analyses of obtained or provided raw samples/cores, including thin section analysis, Scanning Electron Microscopy (SEM), and X-ray diffraction (XRD)
- Physical analysis such as mortar bar, compression, and permeability tests
- Petrographic and chemical analyses on prepared physical analysis samples

## Natural Pozzolan Benefits in Concrete

Natural pozzolans have the same benefits as man-made pozzolans including reduction in heat during concrete placement, resilience to corrosion, and increased strength. CTLGroup conducts ongoing laboratory research of natural pozzolans at its headquarters in Skokie, IL

