

The Third Catskill & Delaware Aqueduct

Client:

HMM/Pirnie JV

Location:

Dutches, Orange and
Putnam Counties, NY

Services Provided:

Geotechnical rock testing
over the course of 12
months including:

Elastic Moduli of Rock in
Uniaxial Compression,
Unconfined Compression
Strength of Rock , Splitting
Tensile, Slake Durability,
Point Load Index of
Rock, Cerchar Abrasivity,
Total Hardness, Schmidt
Hammer, Axial Swelling of
rock, Unit Weight, Porosity
and Specific Gravity,
Petrographic Analysis,
X-Ray Diffraction Analysis,
and Drillability testing with
rigorous timeline

Value Provided:

- Worked closely with the client to select samples and develop a test program that meet the projects evolving needs.
- Provided test results within three weeks of the completion of each group of test borings.

Background & Project Challenges

The New York Department of Environmental Protection (DEP) is responsible for supplying New York City with drinking water.

Eighty-five percent of New York's water is supplied by DEP's Catskill and Delaware Aqueducts. These aqueducts consist of two 75-mile long deep rock tunnels.

Our client was selected by the DEP to undertake facility planning associated with the design of a Third Aqueduct to strengthen this critical water distribution. The Third Aqueduct would also provide the DEP more flexibility with how it runs the system, allowing sections to be shut down as needed. In addition, the project includes the design of a bypass tunnel to eliminate a section of the existing Delaware Aqueduct under the Hudson River that is currently leaking 15 to 35 million US gallons per day.

The design of the Third Aqueduct is challenging due to its considerable depth and the variety of rock formations to be encountered. The project required not only a large number of deep test borings but a wide range of high quality laboratory rock tests to adequately determine ground conditions and rock properties.

GeoTesting Role & Accomplishments

GeoTesting Express, Inc. (GTX) provided an extensive, high quantity rock testing program in support of the preliminary design effort being undertaken by the joint venture of Hatch Mott MacDonald/Malcolm Pirnie, which included; Elastic Moduli of Rock in Uniaxial Compression, Unconfined Compression Strength of Rock , Splitting Tensile, Slake Durability, Point Load Index of Rock, Cerchar Abrasivity, Total Hardness, Schmidt Hammer, Axial Swelling of rock, Unit Weight, Porosity and Specific Gravity, Petrographic Analysis, X-Ray Diffraction Analysis, and Drillability testing. GTX provided these services while adhering to the rigorous timeline of the project. Our ability to perform a full range of rock testing in one laboratory and to provide the fastest turnaround time available were deciding factors in winning this project.



For More Information Contact:

Gary T. Torosian Director of Testing Services
125 Nagog Park t 978.635.0424
Acton, MA 01720 f 978.635.0266
gtt@geotesting.com