

Making the Pieces Fit For a Sampling Program

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Biographical Sketch of Presenting Author

Richard Franzetti is an environmental engineer in Malcolm Pirnie's White Plains, New York office. His background in environmental engineering includes engineering and environmental studies of storm water, streams and lakes, and ocean outfall diffusers and mixing zones. His duties have included developing storm water and wastewater sampling plans, organizing and directing field surveys, and 'clean techniques' sampling and analysis. He is a graduate of Manhattan College (Chemical Engineering undergraduate and Environmental Engineering Masters) and has worked at Malcolm Pirnie for the past 15 years.

Abstract

The Ponce Regional Wastewater Treatment 301(h) Waiver Monitoring Program allowed for the development of innovative sampling techniques in a deepwater environment. Our collaborative solution entailed:

1. Positioning of a discrete depth sampler in 400 feet of water, within 10 feet of the mark;
2. Collecting large volumes (120 liters) of discrete depth samples;
3. Employing clean technique sampling methods, and
4. All while conducting the field operations at night.

Vincenty, Heres & Lauria, Malcolm Pirnie Inc. and PRASA effectively partnered to successfully work with the regulatory agencies, and eight highly specialized subcontractors to collectively assess how best to:

- Achieve the rigorous program requirements;
- Develop efficient field procedures;
- Transfer information effectively amongst the team.

The program required that a comprehensive marine monitoring program be developed and implemented to determine whether the discharge adversely affects the marine environment. The analytical requirements for the program are substantial, with over 5,600 analyticals per round reported to assess water quality at seven different locations. In addition biological samples were collected to indicate potential impacts of the discharge, including collection of benthic invertebrates, fish and epibenthic invertebrates and the marine phytoplankton.

The results indicate that the Ponce outfall is functioning as designed to provide high levels of dilution within a minimal mixing zone (MZ) without adversely affecting the local marine environment.

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