

## **Background**

The National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Industrial Activities, Order NPDES No. CAS000001 (IGP) requires sampling and analysis requirements for specific indicator parameters that indicate the presence of pollutants in industrial storm water discharges. One of the “indicator parameters” is oil and grease (O&G). At very low concentrations, O&G can cause sheen on the surface of water. O&G can adversely affect aquatic life, create unsightly floating material, and make water undrinkable. Sources of O&G include, but are not limited to, maintenance shops, vehicles, machines and roadways.

The IGP requires the Discharger to ensure all laboratory analyses are conducted according to test procedures under 40 Code of Federal Regulations (CFR) Part 136, including the observation of holding times, unless other test procedures have been specified in this General Permit or by the Regional Water Board. 40 CFR 136 directs that grab samples be manually collected for certain pollutants. 40 CFR 122.21(g)(7) identifies certain pollutants for which grab sampling is required, including O&G. IGP Attachment H states that the Discharger is prohibited from using an automatic sampling device for O&G, unless the automatic sampling device is specifically designed to sample for O&G.

The IGP specifies O&G be analyzed using EPA Method 1664A test method. Section 8.3 of EPA Method 1664A states that samples must be collected as grab samples because extractable material may adhere to sampling equipment and result in measurements that are biased low. EPA guidance specifies that when sampling for O&G, equipment that safely and securely houses O&G bottles be used. This is necessary because O&G will adhere to the container and thus should not be transferred from one container to another.

## **Problem Statement**

Dischargers are often challenged in their ability to collect O&G samples in accordance with the above stated regulations, IGP, and EPA guidance because the facility drainage systems and discharge points do not lend themselves to collecting samples directly into bottles. As a result, the purpose of this study is to investigate alternative sampling techniques and other analytical data translation options that yield representative analytical results. The study should investigate at minimum the following:

- The degree of biasness caused by sampling using intermediate sample collection devices (e.g., plastic buckets, plastic dust pans, peristaltic pumps with silicone and/or Teflon tubing).
- Determination of a factor(s) that can be applied to sample results where intermediate sample collection devices are used in lieu of collecting samples directly into bottles to yield representative discharge concentrations.
- Identification of sampling techniques that utilize intermediate sample collection devices to collect representative samples.