

Industrial Wastewater: Wastewater Sampling Requirements

Department: Environmental Protection

Program: Industrial Wastewater

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SLAC's certification that it is within permit limits is contingent on periodic wastewater sampling and analysis by specified entities. Certification eligibility must be demonstrated quarterly for certain permits. Sampling is carried out by the South Bayside System Authority (SBSA), the Mechanical Fabrication Department (MFD), and the Environmental Protection (EP) Department.

Note Samples with potential radiological analytes must be submitted to the Radiation Protection Department (RP) for analysis.

Sampling by SBSA

As part of SLAC's mandatory wastewater discharge permit, the SBSA collects quarterly composite and grab samples of SLAC's discharge to the sanitary sewer. Samples are analyzed for a variety of constituents including metals and selected VOCs.

The SBSA also conducts routine annual monitoring of the metal finishing pretreatment facility (MFPF) effluent. A composite sample is collected over a continuous 24-hour period using an autosampler. The composite sample is collect at the barbed fitting downstream from the confluence of the two clarifiers. Additional grab samples are also taken. All samples collected by the SBSA are split with SLAC on request and analyzed for heavy metals, total cyanide, and pH.

Sampling by MFD

To assess compliance with discharge requirements, the MFD collects wastewater samples periodically while the MFPF is in operation to analyze (in-house) for pH, copper, and chromium. Sampling typically occurs twice a day, but the actual frequency depends on the quantity of waste being treated. Analytical results are retained by MFD for at least 3 years.

Samples are collected at the MFPF semi-annually and analyzed for pH, cyanide, and the metals cadmium, chromium, copper, lead, nickel, silver and zinc. The sampling event consists of collecting a composite of four grab samples over two working days during working hours.

Sampling by EP

Discharge permit requirements for the treatment systems installed at the former solvent underground storage tank (FSUST) and the former hazardous waste storage area (FHWSA) are described below.

FSUST Groundwater Treatment System Sampling Requirements

- Frequency: quarterly
- Sample location: influent, mid-stream and effluent process water
- Required analyses: Gasoline and VOCs
- Additional analyses: SLAC also analyzes for semi-VOCs and 1,4 dioxane

FHWSA Process Water Sampling Requirements

- Frequency: quarterly
- Sample location: air stripper effluent process water
- Required analyses: TPH-gasoline, VOCs, and specific metals (As, Cd, Cr, Cu, Pb, Ni, Ag, Zn and Hg).
- Additional analysis: SLAC also analyzes for 1,4 dioxane

For each of these areas, concentrations of detected constituents are multiplied by the average daily volume of water discharged in order to determine the total amount of constituent discharged by SLAC. This quantity is used to determine if SLAC is within the discharge limits defined in the discharge permit.

Radiological Sampling Requirements

Radioanalysis of wastewater with known or suspected radiological analytes is performed prior to discharge to the sanitary sewer. The concentration of each release is multiplied by the volume of the release to ensure that SLAC is within the permit's annual discharge limits.

Note Sample collection and delivery to RP are the responsibility of the group generating the wastewater.