

**STANDARD OPERATING PROCEDURE
STAN MAYFIELD BIOREFINERY PILOT PLANT**

TITLE: Sterility Testing - UV Sterilizing Water System

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APPROVALS: Process Change Committee

DATE:

A. Scope

This SOP describes the procedure to sample water before and after treatment by the UV Sterilizing Unit in order to verify that the Unit is reducing bioburden to acceptable levels.

B. Safety and Training Requirements

Refer to UF lab safety policies regarding equipment listed in section D below before starting any process work.

Review the location of fire extinguishers, fire blankets, safety showers, spill cleanup equipment and protective gear before beginning any process work.

During operations in the plant, the following safety gear will be utilized at all times:

- Safety Goggles
- Protective Gloves
- Hard Hat

C. Related Documents and SOPs

1. UV Water System Operation SOP-9555
2. Viable Plate Count SOP- 0507
3. Sampling SOP-0507
4. ESCO Airstream Horizontal Laminar Flow Clean Bench Manual 2008

D. Preparation/Materials/Equipment

1. 3 x 50 mL Sterile Sample Tubes
2. Sharpie Marking Pen

E. Detailed Procedure

1. Ensure that the UV Water system has been operating normally according to SOP-9555 for at least 10 minutes.
2. Take a sterile sample of the water in the UV Water Tank (TS-9503) according to the Sampling SOP-0511 using valve 9503-V-06.
3. Take a sterile sample of water exiting UV Sterilizer Unit #1 (X-9501) according to the Sampling SOP-0511 using valve 9503-V-26.

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- a. Label the sample tube with date, time, "UV Sterilizer Unit #1".
4. Take a sample of water exiting UV Sterilizer Unit #2 (X-9502) according to the Sampling SOP-0511 using valve 9503-V-27.
 - a. Label the sample tube with date, time, "UV Sterilizer Unit #2"
5. Record the following data in the Laboratory Notebook:
 - a. UV Water Pump Pressure at PI-9503-04.
 - b. Hours, Voltage, and UV Percentage from UV Control Units #1 and #2.
6. Place samples into Laboratory refrigerator until processing for Viable Plate Count.
7. Process all three samples using Viable Plate Count SOP-0507.