I. Introduction

In wine production, samples need to be pulled for a variety of reasons including laboratory analysis and tasting. This is one of the most common interactions that cellar workers have with the wine, and therefore it is imperative that the operation be carried out in a sanitary and efficient manner.

II. Personal Protective equipment

Gloves and safety glasses to be used while handling the citric/SO2 solution if used
Ensure proper ventilation in cellar while using ozone

III. Process equipment

Sanitized pitcher or other container to store clean wine thiefs
Pitcher to store dirty wine thiefs
Clean and sanitized wine thiefs
Quaternary ammonia for sanitation (10 mls quat per gallon of water)
Alternatively, ozone can be used for sanitation
Ethanol spray
Paper towel
Sample containers; sanitize any containers 375 ml or larger. It is not necessary to sanitize smaller containers unless noted by winemaker
Sample tags
Rubber bands
Citric acid/sulfite solution in a bucket (1 % citric acid, 200 ppms SO2. For 1 gallon of water, use 40 mls by volume citric acid, 10 mls of 6% SO2 solution)
As an alternative to the above, you can use a bucket of freshly ozonated water
Scrub brush

IV. Method

Prepare the cellar by scrubbing around the bungs of all of the barrels with a solution of citric acid and sulfite, then rinsing with water. Alternatively, you can scrub with a bucket of ozonated water.

Refer to the Sample request CWO to identify the lots of wine that need to be sampled, their breakdown, the sample size required, and the analysis that will be performed on the samples. Use this information to fill out a sample tag for each lot of wine. Sanitize the sample bottles if they are 375 ml or larger. Use a rubber band to affix the sample tags to the sample containers. Sanitize
a pitcher or other container to store the wine thieves. Sanitize as many wine thieves as needed - or are available - and place them in the container. Remember, a sanitary item that is placed on an unsanitary surface is no longer sanitary!

Pull a composite sample from each lot of wine requested. Typically, only large containers are sampled unless otherwise noted. For example, if a lot consisted of 2 barrels and 2 x 5 gallon carboys, the sample container will be filled half with one barrel, half with the other barrel, and the carboys will be ignored.

Use a fresh, sanitized thief for each lot of wine. After the lot is sampled, place the thief into the discard container and continue until all sanitized thieves have been used. At that point, sanitize all thieves and start over.

To sample a vari-tank, begin by wiping down the inside of the vari-tank with ethanol and paper towels. Refer to the SOP on working with vari-tanks for more information. Release the pressure in the lid, raise it one inch, then re-seal it. Carefully remove the bung from the vent on the lid. Insert the thief and pull a sample. It’s okay to pull a suction on a thief if this is required to obtain a sample. Most vari-tanks should not be sampled from their valves. In some cases, the valves are small ball valves which are not sanitary. In any case, most of the valves are too low and will obtain a sample that may contain lees and is not representative of the wine. After sampling is complete, re-set the lid to the surface of the wine. Clean up any wine spills with paper towel or a clean rag, but it is not necessary to re-sanitize the inside of the tank.

To sample a full-size tank, the sample can be taken either from the sample valve or the racking valve. If sampling from the sample valve, drain a small amount of wine directly into the container, discard, then refill the container. If sampling from a racking valve, very carefully crack the valve open and catch the wine in a pitcher, then pour into the sample container. If the tank is large, the pressure will be high and it may be necessary to put an elbow on the valve.

After barrel sampling, make sure all bungs are replaced and spray down all of the barrels to rinse off any wine spills. If the samples are not required for immediate use, they will generally be placed in the fridge. Some samples for enzymatic analysis (in plastic centrifuge tubes) may be placed in the freezer.

If it is necessary to sample small containers like carboys, they will likely be partial. Make sure to Argon gas the container following sampling. Remember, if you didn’t label it, you didn’t gas it. Put “Argon - Today’s date” on a label on the container.