Wastewater Sampling and Transport Protocol

Thank you for working with the SARS-CoV-2 Early Warning Surveillance Platform (SARS2-EWSP) team on testing the wastewater in your area. This document will serve as a guide to sampling and transporting samples to the SARS2-EWSP team for analysis. Prior to sampling, please contact Kyle O'Brien at Quadrant Biosciences (kyle.obrien@quadrantbiosciences.com) to set up a sample delivery date and time.

Sampling

Please note: 24-hour composite samples are preferred and strongly recommended but, if they cannot be done, a composite sample made from multiple grab samples (a minimum of 6) over a 12-18-hour period can be used. Should this be the case, please see section labeled **Composite with Grab Samples**.

Requirements

- 250 ml bottles (Recommended: https://us.vwr.com/store/product/7929557/nalgene-wide-mouth-hdpe-bottles-bulk-pack-t hermo-scientific)
- A waste-water sampler with the ability to take composite samples in a single bottle configuration. Recommended samplers include the ISCO 6700FR Refrigerated Sampler or a ISCO 3700 Portable Sampler.
- Optional but Highly Recommended: A flow meter compatible with the sampler, pH tester, Thermometer

24-Hour Composite Sampler

1) Samples should be collected from the influent stream of a wastewater treatment plant or other wastewater facility.

2) Using the safety protocol outlined by your respective organization, follow the waste-water sampler manufacturer's protocol on collecting single bottle composite samples.

3) The sampler should be set to collect a sample at a minimum of every hour, with every half hour being the preferred time interval between each collection, for 24 hours. During these collections, if available, a flow meter should be used to measure flow of the influent stream.

4) Once the sampler completes collecting the 24-hour composite sample, remove the container with the composite sample, cap it, and shake the container to mix the contents. If possible, pH and Temperature of the sample should be measured at this stage.

5) Transfer contents of the composite container from the sampler to the 250 ml bottle, cap the bottle, and rest the bottle in a container with ice, preferably icepacks, for transfer to the SARS2-EWSP team. **Please do not use dry ice or add thiosulfate tablets to the bottle.**

6) Repeat steps 1-5 for each collection location.

Composite with Grab Samples:

1) If a continuous 24-hour composite sample cannot be collected, a composite sample made from multiple grab samples may be used. These grab samples should come from an influent stream.

2) Using the safety protocol outlined by your respective organization, follow the wastewater sampler manufacturer's protocol on collecting grab samples.

3) Collect all grab samples into the same stock container with a maximum time interval of 3 hours between each sample. A minimum of three samples should be collected in a 12-18 hour period.

4) Once the last sample is collected cap the stock container and shake it to homogenize the samples. If possible, pH and Temperature of the sample should be measured at this stage.

5) Transfer contents of the stock container to the 250 ml bottle, cap the bottle, and rest the bottle in a container with ice, preferably ice-packs, for transfer to the SARS2-EWSP team. **Please do not use dry ice or add thiosulfate tablets to the bottle.**

6) Repeat steps 1-5 for each collection location.

Quadrant Viral Testing

Transporting

Once samples are collected, they will need to be recorded and transported to Quadrant Biosciences in Syracuse in a cooler on ice, preferably icepacks, within 24-hours of completing sample collection. **Please do not use dry ice for transport.**

Driving the Samples to Syracuse:

1) Prior to transporting the sample(s), The sample container should be labeled with the collection site/facility name, Institution/municipality, date collected, and if the sample was a composite or grab sample.
2) On the specified time and date, samples should be brought by a designated person to:

The CNY Biotech Accelerator
841 E Fayette St.
Syracuse, NY 13210

3) Once the designated person arrives to the CNY Biotech Accelerator, call Kyle O'Brien at 607-342-0019, and a member of the SARS2-EWSP team will meet them to collect the samples.

4) Coolers and icepacks will be returned to the designated person at the time of sample delivery.

Mailing Samples to Syracuse:

1) Prior to mailing the sample(s), The sample container should be labeled with the collection site/facility name, Institution/municipality, date collected, and if the sample was a composite or grab sample.

2) Once samples are collected, priority overnight them via FedEx using their refrigerated service to keep samples at 4 degrees Celsius. If this is not available, please utilize overnight shipping in a cooler that is clearly labeled, with a UN3773 label. We advise to use boxes such as the ULINE insulated shipping box, SKU S-13391 or equivalent cold storage shipping.

3) Samples should be shipped to:

Quadrant Biosciences
STE 1600
841 E Fayette St.
Syracuse, NY 13210

4) Once shipped please let Kyle O'Brien know samples are in transit and provide a tracking number.