

Alaska Water Sewer Challenge Phase 3

Monthly Progress Report #10

Reporting Period: April 1st, 2017 – April 30th, 2017

Submission Date: May 10th, 2017

Prepared by

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Per the professional services agreement, monthly progress reports will include a one page overview of how the monitoring and testing of the prototype is progressing and how the system is working. All major changes done to the system in the ending month and any changes planned for the following month will be disclosed. In addition to a progress report for this period, this report will also include the “Interim End User Report” per the professional services agreement. No video is included now as it is under development, it has been delayed to better capture the final treatment system.

System Overview for April 2017

During April we operated the membrane system until nanofilter membrane death. We operated it beyond the desired cleaning cycle to simulate that a homeowner did not proceed with cleaning when the fouled. This membrane was shipped to a laboratory for autopsy. We anticipate to have results returned in May 2017, these results will delineate a cleaning protocol to be used to recover membrane to near new conditions.

Considerations for May 2017 and Future

While previously, we intended to revise the QAPP, based on the provided outline for the final report we will highlight deviations from the original QAPP in this report. Deviations are minimal and are all based in sound science.

Upcoming team based testing for May includes 1) pinesol use by mopping cabin, 2) urination in shower and 3) oily/gas soak rag washed into a sink. We will also be changing operational conditions to mimic the conditions identified as desired (i.e. reduced fixtures) as determined through community based end-user surveys. We will be performing a whole home illness challenge in June.

General Notice of Data Sharing

All of our data (raw and processed) are being posted publicly as well as all progress reports.

Direct link to website resources:

http://reusewaterak.com/?page_id=10

Direct link to photos of water samples:

http://reusewaterak.com/data_AWSC/?dir=daily_photos

(photos now taken only intermittently)

Direct link to data:

http://www.reusewaterak.com/data_AWSC

End-User Interaction

During this month we visited Koyukuk, AK to perform a willingness to pay survey. The initial interpretation of these results was presented at the AWWMA conference in a poster and won 1st place, the poster will be headed to the AWWA Annual conference in June with two UAA students. Further, our team presented a status update with a focus on engineering aspects and water quality at the AWWMA conference in a session organized by UAA.

We anticipate that we will have one more visit to each of our communities during summer to provide an end of project summary.