



# Strathkelvin Instruments

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## **Mohawk Laboratories has acquired Strathkelvin's latest respirometer, Strathtox™, resulting in greatly improved 'real-time' studies.**

Mohawk Laboratories, the research and development arm of NCH Corporation, has acquired Strathkelvin's latest respirometer, Strathtox™, resulting in greatly improved 'real-time' bioremediation potential efficacy studies for its BioAmp system. This allows NCH to provide quick study results to its customers and potential customers in determining whether or not the bacteria dispensed by its BioAmp automated system can effectively remove contaminants from specified wastewaters.

Strathtox™ also allows NCH to determine potential toxic levels for certain contaminants that inhibit bioremediation, thus allowing determination of best-case-scenario dilutions for most efficient remedial treatments. This is accomplished by running a ten-minute test consisting of a control, a 100% wastewater sample and four separate sample dilutions at the same time giving a range at which potentially toxic substances lose their inhibitory levels.

The respirometer has also been very helpful in quickly determining why a major rendering commodity company in New Hampshire was not reducing BOD levels consistent with desired results. At first when the NCH bacteria were added to the waste stream, there was little or no activity evidenced by oxygen uptake. This sample was then run after adjusting pH up to 6.8 from 5.01 and the oxygen uptake was greatly increased resulting in a great potential improvement for the rendering company.

Quick study respirometry has also been invaluable for a major refinery, which releases wastewater to nature where it is sometimes necessary to determine if there is a contaminant in the water that is toxic to the nitrifying bacteria. Through testing with the Strathtox™, it was determined that the refinery wastewater was not toxic to the nitrifying bacteria but the actual problem was from ammonia spills 'slugs' as well as fringe temperatures which caused the appearance of toxic situations.



Andrea Gorczya, Manager, GLP & Analytical, has direct experience of Strathtox™ and says, "I have been using the respirometer almost every day for many different applications. It is great. I was able to generate data for the refinery while the lab crew were on the way to the refinery. By the time they got to the refinery (a 2 hour trip), I was able to run the tests and fax them the results.

We are using it here at our plant for health monitoring of our nitrifiers. Also our Representatives from all over the US are sending wastewater samples in for respirometry studies.

I particularly like the graphs. I can generate a straight line for the control and show the activity of the bugs with the feed and then the activity of the bugs on the wastewater. Seems like anyone can "see" what the results represent."

Strathtox™ will be used in numerous bioremediation efficacy studies in the near future, including a study for the U.S. Air Force at Tinker Air Force Base, Oklahoma City as well as a major food processor in the United States.

The ease of operation, the short analysis time and the automated reports make the Strathtox™ an invaluable instrument in bioremediation science.

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