



# Inland Empire

## UTILITIES AGENCY\*

\* A Municipal Water District

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To Whom It May Concern:

RE: Progress Report on Komax Klean-Wall™ Heat Exchanger Trial

Inland Empire Utilities Agency installed a Komax Klean-Wall™ Shell and Tube Heat Exchanger in line with our primary anaerobic digester #1. This trial was designed to evaluate the device for non-clogging performance.

The heater was installed in April of 2004 in a six-inch line jacketed with eight-inch pipe. In the time it has been installed, we have not had any plugging of the unit. No issues with fouling or clogging have been experienced.

Komax Systems, Inc. has been monitoring the thermal performance periodically and its performance has been very stable over time indicating little to no fouling is occurring. Specifically,

Komax Systems, Inc., Klean-Wall™ Model# HE-45052, 60" heater

Sludge Temp In: 102.5 F

Sludge Temp Out: 104.0F

Temperature Rise = 1.5 F

Shell Temp In: 154.5 F

Shell Temp Out: 152.5

Temperature Drop= 2.0 F

(Readings taken externally with Raytech IR Thermometer)

Based on this actual data, it seems clear that the Komax Klean-Wall™ technology is truly non-clogging as promised and is consistent in heat transfer as predicted.

Very best regards,

Gary Bankston  
Manager of Energy Production and Maintenance  
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