

# HK INSTRUMENT SYSTEMS

Pittsburgh, PA

## INDUSTRY: WASTEWATER (SLUDGE SOLIDS)

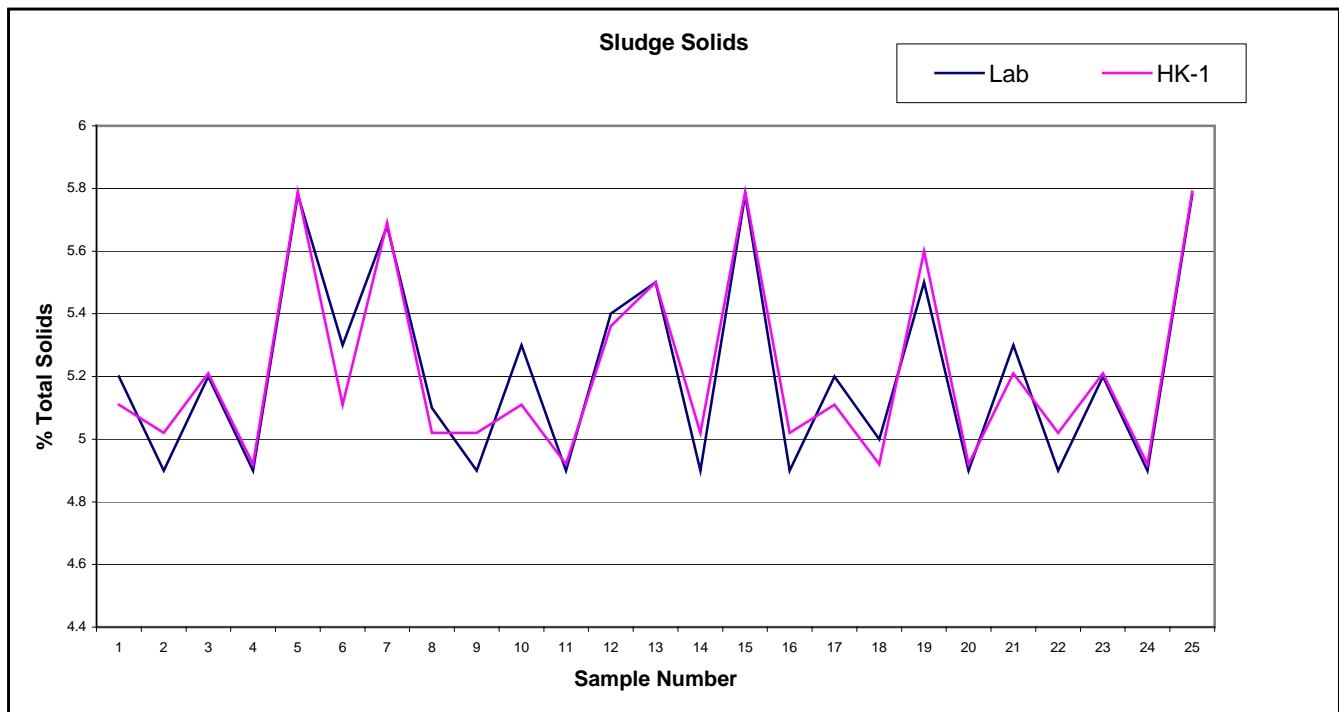
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**APPLICATION:** MEASUREMENT OF THE % TOTAL SOLIDS OF PRIMARY SLUDGE IN A PIPE.

**INSTALLATION:** THE HK-1 MICROWAVE INSTRUMENT SYSTEM WAS INSTALLED ON A 6 INCH VERTICAL PIPE. FOR EASY INSTALLATION, THE NON-INSERTION SENSORS WERE INSTALLED IN A STAINLESS STEEL SPOOL PIECE. A STRAP ON RTD WAS INSTALLED FOR TEMPERATURE COMPENSATION.

**TESTING:** SAMPLES WERE COLLECTED FOR LAB ANALYSIS AT THE SAME TIME READINGS OF THE MICROWAVE SYSTEM WERE RECORDED. LOSS OF WEIGHT BY DRYING WAS USED TO DETERMINE THE % TOTAL SOLIDS IN THE LAB. READINGS FROM THE HK-1 SYSTEM WERE RECORDED FOR EACH SAMPLE COLLECTED.

**RESULTS:** CORRELATION BETWEEN THE LAB VALUES OF %T<sub>s</sub> AND THE HK-1 MICROWAVE INSTRUMENT READINGS OF %T<sub>s</sub> IS EXCELLENT. THERE IS NEVER MORE THAN 0.2% DIFFERENCE BETWEEN THE LAB AND THE HK-1 METER.



**CONCLUSIONS:** THE HK-1 MICROWAVE INSTRUMENT SYSTEM IS AN EXCELLENT TOOL THAT CAN BE USED TO MONITOR AND CONTROL THE % TOTAL SOLIDS OF A PRIMARY SLUDGE OR ANY OTHER SLUDGE AND WATER MIXTURE IN A PIPE.