Monsanto

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PCB's - Control Chart
Monitoring of Losses to Sewers

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The sewers at WGK are continually sampled to determine PCB losses to the environment. However because each sample covers a three day period and the analysis time is considerable, the monitoring always has a lag in it. This lag, although unavoidable contributes to the difficulty in seeing medium to long term trends. A technique to better spot these trends within the framework of the existing sampling and analysis plan is needed.

The data for the periods 2/73 - 3/74 from Dept. 246, the Incinerator (Dept.831) and the influent to the Treatment Plant was examined. Both conventional control charts and cumsum charts were plotted. The conventional (Shewhart) chart showed a typical pattern with occasional high spikes indicating process upsets. The Cumsum charts revealed several interesting facts.

The influent to the treatment shows periodic (>20 ppd) upsets. However these upsets are brief and normally show up on only one sample. This could indicate a poor sample or a true spill situation that rapidly clears the system. The long term picture indicates that the WGK normal background loss of 5-6 ppd has not changed during the period.

The incinerator area samples showed good control with occasional upsets. No trends were detected.

The data from Dept.246 sewers showed a cyclic type response. High losses generally occurred over 3-5 sample period before the trend was reversed.

A meeting on 4/29 with you indicated that the cumsum approach to monitoring would be a valuable tool. I will therefore make arrangements with Clarrie Buckley to establish these charts on a routine basis. I will be available for training in their use and interpretation.

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attach.