

SECTION 5

ASSESSMENT OF RESULTS

The data collected from the field sampling and the analytical results are assessed in the following sections.

5.1 WASTE OIL USERS

The waste oil users use the oil to provide fuel to their process, specifically the kilns. In addition, there is an apparent commonality of the plant configurations in that both plants contain kilns to process their products. However, the difference in the products themselves makes the comparison of the two plants somewhat difficult. Site A processes a silica-based material (diatomaceous earth) that is used as a filtering agent and is likely to absorb organic compounds, whereas Site B produces a magnesium/carbonate refractory mix that may chemically bind compounds. The differences in materials processed in Site A as compared to Site B might explain the apparent lower concentrations of organics found in Site A, especially with the high particulate loading at the inlet. It might be postulated that the exhaust gases with the high particulate loading passing through the baghouse may effectively be removing organics from the stream. This may also account for the difference in metals concentration, with Site A having generally lower levels than Site B .

The data from individual runs from Sites A and B have been reviewed to determine any patterns or other points of interest.

Site A. The dioxin and furan emission levels were previously provided in Tables 4-4 and 4-5. The total dioxin emission rates of the inlet and outlet are generally consistent across all three runs. In addition, the outlet emission rates are at least an order of magnitude less than the inlet levels. This trend is also seen with the furan emission rates. The contribution of 2,3,7,8-substituted dioxins/furans to the total emission rate of dioxins/furans follows the same trends as the totals; i.e., it increases at the inlet over consecutive runs, but decreases at the outlet. Also, the destruction of the total dioxins/furans increases over consecutive runs. This may indicate that the plant, recently maintained prior to the sampling, is now beginning to operate more efficiently. Without more data for a comprehensive study, it may not be significant, but the data indicates that dioxins/furans, particularly the 2,3,7,8-substituted dioxins/furans, are more efficiently destroyed under the incinerator