REVISED PR&D WORK PLAN

F# PR.D

cc J. T. Bell
V. R. Haupt
G. L. Jessee
J. C. Landwehr
G. W. Miller
H. L. Williams
E. G. Wright
G. L. Arnett
J. L. Brown
W. H. Howard
P. O. DeGarmo - So. 2nd St.
P. B. Hodges - G.O.
W. R. Richard - G.O.
J. R. Savage - G.O.
J. E. Smith - G.O.

DATE: May 18, 1970

PROJECT TITLE: Aroclor Pollution Study

DEPARTMENT: 916.07

JUSTIFICATION: To reduce the polychlorinated biphenyl (PCB) content of the waste water from the Aroclor department.

COST: Estimated per diem Cost $87
Cost of Mandays Previously Expended $1,131
Total PR&D Cost $4,176

STATUS OF WORK: Adsorption isotherms were ran at 10°C and 25°C on the waste effluent utilizing the following adsorbents: Aroclor 5460, porocel, silica gel, attapulgus clay, and cal type carbon.

Future work will involve a) an evaluation of other adsorbents b) concentration of PCB in pot by distilling the water and c) utilization of isotherm data to set up a lab scale column study.

EXPERIMENTAL:

I. Run adsorption isotherms on waste effluent with the following adsorbents:

a. Carbon (different types)
b. Polyethylene
c. Butadiene rubber
d. Other adsorbents that may appear feasible

Mandays 10
Target Completion Date 5/26/70

II. Concentrate the PCB in distillation pot by distilling off water. This study will involve:

a. Batch distillation to define parameters:

1. Temperature
2. Pressure
3. Theoretical plates
4. Reflux ratio

b. Data from part II.a. will be used to define a continuous distillation system.

Mandays 10
Target Completion Date 6/9/70

EXPERIMENTAL: III. Evaluate the adsorbent in part I. (i.e., that reduces the PCB content to an acceptable level) in a laboratory scale adsorption column. The following parameters will be optimized.

a. Flow rate
b. Bed depth

Mandays 15
Target Completion Date 6/30/70

SAFETY: The waste water effluent from the Aroclor department contains mainly HCl and Aroclor (i.e., in low concentrations). HCl fumes and acid are very corrosive to the skin and mucous tissue. Repeated exposure to Aroclor can cause a condition of chlorance. Hence, any area exposed to the waste water should be washed thoroughly with copious amounts of water. If exposure is in a critical area as the eyes, consult a physician.

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