PROGRESS REPORT
ORGANIC CHEMICALS DIVISION
TECHNOLOGY DEPARTMENT

REPORTED BY	FOR	DETAILS	REPORT NO.	DATE
W. M. Mees, W. J. Litschgi, J. P. Mieure, O. Hicks, J. P. Mieure	November - December 1971	YES	4	12/20/71

LOCATION	JOB NOS
St. Louis - S. Second Street	2-21-760.01-13480, 85010, 16300

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PROJECT TITLE

ENVIRONMENTAL ANALYTICAL STUDIES - RESEARCH AND DEVELOPMENT, MANUFACTURING AND OUTSIDE SUPPORT STUDIES

PROJECT OBJECTIVE

Identify, locate and assess the magnitude of Aroclor pollution problems, help determine what needs to be done to control pollution sources, verify the effectiveness of proposed pollution control procedures, guide development of recycle and/or disposal methods, and provide collaborative data for legal and regulatory purposes.

SUMMARY

During the period covered by this report (Nov.-Dec. 1971), ~96 environmental and research samples have been analyzed for polychlorinated biphenyls (PCB's) by electron capture gas chromatography (EC/GC). Analysis of these samples represents a minimum manpower expenditure of ~330 hours.

A table showing the sample sources, types, and the level and Aroclor found as well as the support objective is presented in the details section. PCB's typical of our Aroclor products have been found at levels above and below recommended guidelines in:

- Coated paper products manufactured by Champion Paper Company.
- Film wrap and paperboard products from the St. Regis Paper Company.
- Raw materials used by P.P.G., Industries at their New Martinsville, West Virginia plant.
- Plant effluent samples from one Monsanto plant site and five customer plant sites.
- Hydraulic fluids from several GMC plants and an imported VW.
- A fish sample taken from a river associated with a GE plant site.
- One Monsanto product and two competitive products.

PCT's typical of Aroclor 5432 and Aroclor 5460 have been found in:

- Plant effluents from one Monsanto manufacturing site and one customer plant site.

A table showing the sample sources, types, and the level and Aroclor found as well as the support objective is presented in the details section.

Additional external and internal support has been provided in the form of:

- On site PCB methodology review and training for a laboratory representative of P.P.G. Industries.
- Attendance at the Monsanto-Environmental symposium and presentation of three papers on PCB related topics.
- General internal and external analytical consultation.
- Distribution of Aroclor methodology and reference standards.
- Preparation of a PCB position paper with Dr.'s Munch and Vodden.
- Additional work on the Berg perchlorination procedure.
- Presentation of the PCB story to Westinghouse representatives.

FUTURE PLANS

PCB Analysis

1. Five J. F. Queeny monthly sewer effluent composite samples.
2. Nine spiked standard water method check samples with General Electric, Pittsfield, Massachusetts.
3. Paperboard, water, pulp and paper samples from Alton Box Board Company.
4. Thirty-four hydraulic fluid and plant effluent samples from Buick Motor Division, Flint, Michigan.
5. Twenty-one round robin exchange samples with plant laboratories.
6. Two commercial samples of Finish.
7. Two commercial samples of Electro Sol.
8. Soil migration study of Aroclor 1016.

W. J. Litschgi

E. S. Tucker

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12/20/71