

Madison

FROM (NAME & LOCATION): E. S. Tucker - R&D Laboratories - South Second Street

DATE September 25, 1969

cc M. W. Farrar - Res. 1

W. R. Richard - GO

E. P. Wheeler - GO

SUBJECT WISCONSIN ALUMINI RESEARCH
FOUNDATION INSTITUTE TRIP REPORT -
REFERENCE SEPTEMBER 24, 1969

TO R. E. Keller - Res. 1

A review and comparison of the PCB analytical methodology developed here and independently in the WARF laboratories was held with F. Coon (director, chemical analysis section), J. Birdsall (project coordinator), and D. Hughes (analyst) in Madison, Wisconsin at their research laboratories. Their procedures, with minor exceptions, were an exact duplication of ours and as such should produce equivalent results.

We, therefore, agreed to exchange a limited number of Lake Michigan samples and extracts for collaborative verification between the two sites. The exchange samples will be restricted to those producing abnormal electron capture chromatograms which could be misinterpreted unless subjected to GC/Mass verification. They do not presently have this capability although they are certainly thinking along these lines. They were also obviously interested in our help in identifying pollutants other than those already identified in these abnormal samples. Whether or not we share information above and beyond the PCB problem is, of course, open and obviously dependent on what other materials, in addition to PCBs, we actually find in these samples.

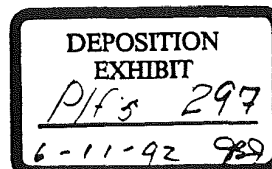
2H ea
sent
9-3-69
by J. Miller
They requested "pint bottle" amounts of Aroclor 1242, 1254 and 1260. The reason given for the rather large amounts requested was that they have had many requests for standard samples of these materials which they would like to fill in order to maintain these contacts. While they would rather dispense the Aroclors themselves, they agreed that they could and would refer all requests to us if we felt this was better.

This laboratory, in my opinion, is well equipped and competently staffed. In addition to this, I found their attitude toward the PCB pollution problem to be acceptably scientific rather than political in nature.

Additionally, I believe that we should consider using WARF facilities to eliminate some of our current manpower and routine sample backlog problems.

The chromatograms I saw of the Lake Michigan samples they had looked at corresponded to the higher chlorinated biphenyls 1254 and 1260. The samples taken in and around the industrial areas (southern one-third of lake) appeared to contain the higher levels.

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WATER_PCB-SD0000009044

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In view of this, our current Pensacola problem, and other published information, I would suggest that we step up our efforts at finding immediate replacement formulations for Pydraul AC and Pydraul 625. I also feel that Aroclor 1242 should not be used in replacement formulations. If this were done, I firmly believe that in a short period of time analysts would soon be reporting Aroclor 1242 as a significant water pollutant thus seriously endangering a market which so far has not been questioned.

E. S. Tucker

db

TRAN 022056

ELECTRICAL FLUIDS - AIR AND WATER POLLUTION CONTROL

FLU-030

PLANS - METHOD DEVELOPMENT

<u>Priority</u>	<u>Product</u>	<u>Job/Project</u>	<u>Justification</u>	<u>Responsibility</u>	<u>Man Weeks</u>	<u>Target Date</u>
1	Aroclor 1242 1254 1260	Develop sensitive (ppb) GC/EC method for Aroclor products in 1. Fat 2. Liver 3. Kidney 4. Muscle 5. Urine 6. Feces from rats, <u>chickens</u> and ducks.	Provide backup data needed for toxicity studies by Calandra to show biological fate of Aroclors.	Applied Sciences/ Medical Dept.	8	4/1/69
2	DDT Toxaphene Chlorinated Naphthalenes	Develop sensitive GC/EC method for these components in chickens.	Shew biological fate of these products which may be source of chlorinated hydrocarbons found in environmental materials	Applied Sciences/ Medical Dept.	4	5/1/69
3	Aroclor 1242	Develop technique for identification and measurement of combustion products simulating the burning of NCR paper.	Demonstrate whether incineration is a source of environmental contamination.	Applied Sciences	2	7/1/69
4	Aroclor 1242 1254 1260	Develop sensitive (ppb) GC/EC, GC/microcoulometer and GC/Mass methods for Aroclor products in environmental 1. Water 2. Soil 3. Wildlife	Determine environmental contamination to protect product position with the customer. Determine Aroclor solubility in water perse. Verify Patuxent/Risebrough PCB in wildlife extracts.	Applied Sciences	8	10/1/69

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5	Aroclor 5460	Develop method for quarter-phenyls in terphenyl products.	Provide data possibly needed by regulatory agencies for clearance of product.	Applied Sciences	4+	11/1/
-	Aroclors	Evaluate Berozas' carbon skeletal analyzer in conjunction with GC	Provide more specific/accurate method for mixtures of the Aroclor type.	Applied Sciences	2	-

REK/ST
1-15-69

TRAN 007543

ELECTRICAL FLUIDS - AIR AND WATER POLLUTION CONTROL

FLU-030

PLANS - ANALYTICAL STUDIES

Priority	Product	Job/Project	Justification	Responsibility	Man Weeks	Target Date
1	Aroclor 1242 1254 1260 5460	Analysis of Aroclor Loaded Chicken Wheelor 12/9/68 Minutes	Provide backup data needed for toxicity studies by Calandra to show biological fate of Aroclors	Applied Science/?	1	4/1/69
2	Aroclor	Analyzo wildlife extracts from Pautuxent/Risobrough	Verify PCB reported in wildlife extracts	Applied Sciences	2	4/1/569
*2a	DDT Toxaphene Chlorinated Napthalones	Analyze fat, liver, kidney and musculo from chickens fed these materials.	Show biological fate of these products which may be source of chlorinated hydrocarbons found in environmental studies.	Applied Sciences/ Medical Dept.	3	5/15/69
4	Aroclor 1242 1254 1260 5460	Analysis of Rat tissue/Excretia - Calandra 9/9/68 Biotest Protocol	Provide backup data needed for toxicity studies by Calandra to show biological fate of Aroclors	Applied Science/?	4	7/1/69
5	"	Analysis of Chicken Tissue/Excretia Calandra 9/9/68 Biotest Protocol	"	"	6	8/15/69
6	"	Analysis of Duck Tissue/Excretia Calandra 9/9/68 Biotest Protocol	"	"	2	9/1/69
*2a	Baeyer, et al	Detn composition of competitive products and relate to Monsanto products	To seek financial participation of competitors in long range studies	"	2	4/15/69

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7	Aroclor 1242	Determine combustion products under conditions simulating the burning of NCR paper	Demonstrate whether incineration is a source of environmental contamination.	Applied Sciences	2	9/15/69
8	Aroclor 1242 1248 1254	Analyze environmental materials from manufacturing sites	Show the extent of environmental contamination	Applied Sciences	4+	11/15/69
9	Aroclor 5460	Analyze plant products for quarterphenyl	Provide data for regulatory agencies for clearance of product	Applied Sciences	2	12/1/69

REK/ST
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ELECTRICAL FLUIDS - AIR AND WATER POLLUTION CONTROL

FLU-030

PLANS - ANALYTICAL STUDIES

Priority	Product	Job/Project	Justification	Responsibility	Man. Weeks	Target Date
1	Aroclor 1242 1248 1254 1260	Analysis of Aroclor Loaded Chicken Wheeler 12/9/68 Minutes	Provide backup data need- ed for toxicity studies by Calandra to show biologi- cal fate of Aroclors	Applied Science/?	1	4/1/69
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3	DDT Toxaphene Chlorinated Naphthalenes	Analyse fat, liver, kidney and muscle from chickens fed these materials.	Show biological fate of these products which may be source of chlorinated hydrocarbons found in environmental studies.	Applied Sciences/ Medical Dept.	3	4/15/69 5/15/69
4	Aroclor 1242 1248 1254 1260	Analysis of Rat tissue/Excretia - Calandra 9/9/68 Biotest Protocol	Provide backup data need- ed for toxicity studies by Calandra to show biologi- cal fate of Aroclors	Applied Science/?	4	7/1/69
5	"	Analysis of Chicken Tissue/Excretia Calandra 9/9/68 Biotest Protocol	"	"	6	8/15/69
6	"	Analysis of Duck Tissue/Excretia Calandra 9/9/68 Biotest Protocol	"	"	2	9/1/69

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7	Aroclor 1242	Determine combustion products under conditions simulating the burning of NCR paper	Demonstrate whether incineration is a source of environmental contamination.	Applied Sciences	2	9/15/69
8	Aroclor 1242 1248 1254	Analyze environmental materials from manufacturing sites	Show the extent of environmental contamination	Applied Sciences	4+	11/15/69
9	Aroclor 5460	Analyze plant products for quarterphenyl	Provide data for regulatory agencies for clearance of product	Applied Sciences	2	12/1/69

REK/ST
1-15-69

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