For [illegible]

[illegible] G. E. Gunning

# BIOLOGICAL CONSULTANTS

*Water Pollution - Water Quality - Biological Surveys - Fishery Biology*

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April 2, 1974

Mr. Paul E. Heisler
Environmental Manager
W. G. Krummrich Plant
Monsanto Company
Sauget, Illinois 62301

Dear Mr. Heisler:

On Friday, March 29, Mr. Edward E. Stewart and I discussed the possibility of my group conducting a fishery survey of Choccolocco Creek, Shoal Creek and the Coosa River, Alabama, with respect to P.C.B. residues in the fishes.

Dr. Suttkus and I have done biological consulting for Monsanto Company for many years. Most recently we did a two-year survey of the above mentioned streams which amounted to eight quarterly trips with collections of fishes at ten different locations on the streams. This study was completed in December, 1972, although some of the data interpretation extended into calendar year 1973. What we are proposing at the present time is a single trip to the above streams (locations listed below in detail) to collect fishes that can be turned over to you for residue analysis. In essence the trip would be a follow-up trip for the completed survey and the results of the 1974 trip would be compared with past data to determine whether or not the residue levels have decreased in the interim since the final trip to the area which was made in September, 1972. The data obtained from the proposed trip would be used by your company in a predictive way so that you might gain some insight as to what one could expect to happen to P.C.B. residues in the Mississippi River below your plant. Of the eight survey trips we made to the Choccolocco Creek area, seven were made when P.C.B. effluent was still entering the creek to some degree from the Anniston, Alabama plant; only one was made after complete stoppage of effluent into Choccolocco Creek. There was a significant drop in residue levels in the fishes after curtailment of the P.C.B. discharge at Anniston, and we would hope that the proposed trip will show further decreases.

Consultants agree to conduct the proposed trip according to the methodology employed in the past work. We would collect some 500-1000 fishes at ten stations in the drainage as follows:

1. Shoal Creek, Tributary to Choccolocco Creek, 2.3 miles east of White Plains, Alabama.
2. Choccolocco Creek at Highway 9, 1 mile south of White Plains, Alabama, designated as Fish Station 3 in the completed survey.
3. Choccolocco Creek, Fish Station 7 of completed survey, Martha H. Williams Bridge, Highway 95.
4. Choccolocco Creek, designated Fish Station 8 in completed survey, 3 miles south of Interstate 20, Highway 93
5. Choccolocco Creek, designated Fish Station 10 in completed survey, Highway 77 Bridge
6. Cheaha Creek, Tributary to Choccolocco Creek, 3.6 miles south of Interstate 20, Highway 93
7. Cane Creek, Tributary to Coosa River, 8.6 miles north of Lincoln, Alabama.
8. Aker Creek, Tributary to Coosa River, 6.6 miles north of Lincoln, Alabama.
9. Coosa River at Stemley Bridge (Logan Martin Reservoir), Highway 34
10. Clear Creek, Tributary to Coosa River (Logan Martin Reservoir), Highway 42

The fishes collected at the 10 stations would be iced down and returned to New Orleans for freezing. After 2-3 days they would be shipped by air to you for P.C.B. analysis. I have discussed the details as to what analyses should be run with Mr. Stewart. Subsequently, you would provide me with the residue data for biological interpretation of the results. Concomitant with the collection of fishes for residue analysis we would preserve a representative sample of fishes at each of the ten stations for an ichthyological survey of the area so that in the future we could indeed substantiate the presence of the species for which P.C.B. analyses were made. These fishes would be identified, tabulated, catalogued, and placed into our permanent collection for future use by Monsanto (Krummrich) at your direction. They would not be made available to anyone else unless specifically authorized by you personally. After residues had been determined and the fish specimens destroyed, the ichthyological survey would constitute proof of our activities in the drainage as outlined above. This is standard procedure on our part in such surveys.

In summary, the outline of the proposed survey would be as follows:

Phase 1---Consultants collect fishes at ten sites. Fishes are identified and tabulated in the field and packaged in aluminum foil by species and station location; sub-samples and sample packs for each station are clearly labeled to avoid confusion of the samples. Iced samples are returned to New Orleans for freezing and are then shipped to Mr. Heisler for analysis for P.C.B's.

Phase 2---Consultants complete ichthyological survey at the time fishes for residue analysis are collected. These fishes are fixed in 10% formalin and subsequently preserved permanently in 40% isopropyl alcohol in individual glass jars. Each species at each station is kept separately and permanently catalogued into the fish collection.

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Phase 3---Monsanto personnel complete the residue data analyses in succeeding weeks and turn residue data over to Dr. Gunning and Dr. Suttkus for further interpretation from the biological point of view. Consultants will indicate 60-80 lots that should be analyzed for P.C.B s.

Phase 4--Dr. Gunning and Dr. Suttkus submit a final report on the residue data to Mr. Heisler including comparison with past work done for Monsanto Company.

Cost of the survey for biological consultants to do the above work:

A. Billing after completion of Phase 1:

| | | |
|---|---|---|
| Dr. Gerald E. Gunning, Consulting Fee | | $ 1500.00 |
| Dr. Royal D. Suttkus, Consulting Fee | | $ 1500.00 |
| Graduate Student #1 | | 300.00 |
| Graduate Student #2 | | 300.00 |
| Jar & preservative allowance for fishes | | 200.00 |
| | Total | $ 3800.00 +Expenses |

Expenses include travel (2 vehicles at 12¢/mile), actual motel expenses for field crew of four men, and air transportation of specimens to St. Louis for residue analysis.

B. Billing after completion of Phases 2, 3 and 4:

| | | |
|---|---|---|
| Dr. Gerald E. Gunning, Consulting Fee | | $ 500.00 |
| Dr. Royal D. Suttkus, Consulting Fee | | 500.00 |
| | Total | $ 1000.00 |

Total cost of survey--$4800 + expenses as outlined above.

We are prepared to do this survey either during the months of May or June, 1974. If there are any questions about the proposal, please let us know.

Thank you very much for your consideration.

Very truly yours,

Gerald E. Gunning

Gerald E. Gunning, Ph.D.
Royal D. Suttkus, Ph.D.
Biological Consultants

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