



INTERNAL CORRESPONDENCE

NUCLEAR DIVISION

POST OFFICE BOX Y, OAK RIDGE, TENNESSEE 37831

To (Name) J. W. Elwood  
Division ORNL  
Location Bldg. 2001, Room 204B

Date August 11, 1976  
Originating Dept. Plant Laboratory

Answering letter date

Copy to O. W. Briscoe  
M. E. Mitchell (ORGDP)  
M. Sanders  
R. A. Viator  
File (NoRC)

Subject Mercury Content of  
Fish Samples

Y/HG-0121/1

The first group of 50 fish samples received from Poplar Creek has been analyzed for mercury content. Each fish was sampled by taking a rectangular section of the flesh, beginning beneath the dorsal fin and extending down the side. From these samples, two 5g aliquots were taken for analysis.

The perchloric acid dissolution procedure described by Feldman (Analytical Chemistry, 46, 1606 (1974)) was used and the resulting solutions analyzed for mercury content by flameless atomic absorption spectroscopy. An average of the two aliquots was used to compute the mercury content of the fish in micrograms per gram ( $\mu\text{g/g}$ ) on the as-received basis. The results of these analyses are given in the attached table. Results of analysis of National Bureau of Standards liver reference material are included.

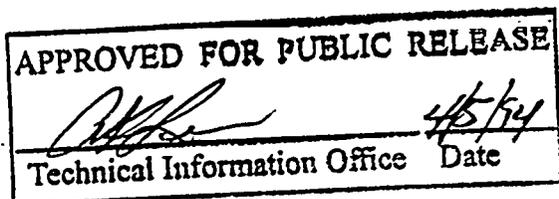
*R. W. Morrow*

R. W. Morrow

RWM:st

Attachment

ChemRisk Document No. 3064



<u>Sample Identification</u>	<u>Date Received</u>	<u>Mercury Content µgHg/g</u>		<u>Y-12 Laboratory Requisition #</u>	<u>Date Reported</u>
PC-1	5-11-76	1.17	<i>LMB</i>	167501	8-9-76
PC-2	"	0.71	-	"	"
PC-3	"	0.21		"	"
PC-4	"	0.60	-	"	"
PC-5	"	0.39		"	"
PC-6	"	0.92	-	"	"
PC-7	"	0.25		"	"
PC-8	"	0.77	-	"	"
PC-9	"	0.78	-	"	"
PC-10	"	0.59	-	"	"
PC-11	"	0.17		"	"
PC-12	"	0.18		"	"
PC-13	"	0.16		"	"
PC-14	"	0.74	-	"	"
PC-15	"	0.30		"	"
PC-16	"	0.12		"	"
PC-17	"	0.11		"	"
PC-18	"	0.21		"	"
PC-19	"	0.34		"	"
PC-20	"	0.25		"	"
PC-21	"	0.28		"	"
PC-22	"	0.26		"	"
PC-23	"	0.29		"	"
PC-24	"	0.51	-	"	"
PC-25	"	0.16		"	"
PC-26	"	1.02		"	"
PC-27	"	0.15		"	"
PC-28	"	0.45		"	"
PC-29	"	0.65	-	"	"
PC-30	"	0.09		"	"
PC-31	"	0.97	-	"	"
PC-32	"	0.09		"	"
PC-33	"	0.33		"	"
PC-34	"	0.30		"	"
PC-35	"	0.19		"	"
PC-36	"	0.20		"	"
PC-37	"	0.56	-	"	"
PC-38	"	0.20		"	"
PC-39	5-14-76	0.38		167502	"
PC-40	"	0.12		"	"
PC-41	"	0.42		"	"
PC-42	"	0.52	-	"	"
PC-43	"	0.09		"	"
PC-44	"	0.41		"	"

<u>Sample Identification</u>	<u>Date Received</u>	<u>Mercury Content μgHg/g</u>	<u>Y-12 Laboratory Requisition</u>	<u>Date Reported</u>
PC-45	5-14-76	0.26	167502	8-9-76
PC-46	"	0.10	"	"
PC-47	"	0.32	"	"
PC-48	"	0.26	"	"
PC-49	"	0.29	"	"
PC-50	"	0.31	"	"

NBS Bovine Liver Control #1 = 0.02 μgHg/g; value 0.02 μgHg/g  
NBS Bovine Liver Control #2 = 0.02 μgHg/g; value 0.02 μgHg/g



INTERNAL CORRESPONDENCE

NUCLEAR DIVISION

POST OFFICE BOX Y, OAK RIDGE, TENNESSEE 37830

To (Name) J. W. Elwood  
Division ORNL  
Location Bldg. 2001, 0204B

Date August 24, 1976

Originating Dept. Plant Laboratory

Answering letter date

Copy to O. W. Briscoe  
A. R. Flynn/R. A. Viator  
M. E. Mitchell (ORGDP)  
M. Sanders  
File (NoRC)

Subject Mercury Content of  
Fish Samples

Y/HG-0121/2

An additional group of 36 fish samples received from Poplar Creek and 11 samples from Melton Hill Lake have been analyzed for mercury content. The samples were digested and analyzed as reported in the letter to you dated August 11, 1976.

*R. W. Morrow*  
R. W. Morrow

RWM:st

Attachment

APPROVED FOR PUBLIC RELEASE	
<i>[Signature]</i>	4/5/74
Technical Information Office	Date

<u>Sample Identification</u>	<u>Date Received</u>	<u>Mercury Content- µgHg/g</u>	<u>Y-12 Laboratory Requisition #</u>	<u>Date Reported</u>
PC-51	5-14-76	0.09	167502	8-10-76
PC-52	"	0.51 —	"	"
PC-53	"	0.69 —	"	"
PC-54	"	0.52 —	"	"
PC-55	"	0.40	"	"
PC-56	"	1.98 —	"	"
PC-57	"	0.38	"	"
PC-58	"	1.35 —	"	"
PC-59	"	1.27 —	"	8-16-76
PC-60	"	0.82 —	"	"
PC-61	"	0.31	"	"
PC-62	"	0.23	"	"
PC-63	"	0.68 —	"	"
PC-64	"	0.27	"	"
PC-65	"	0.67 —	"	"
PC-66	"	0.26	"	"
PC-67	"	0.69 —	"	"
PC-68	"	0.16	"	"
PC-69	"	1.11 —	"	"
PC-70	"	0.37	"	"
PC-71	"	0.22	"	"
PC-72	"	0.26	"	"
PC-73	"	0.16	"	"
PC-74	"	0.30	"	"
PC-75	"	0.49	"	"
PC-76	"	0.23	"	"
PC-77	"	0.20	"	"
PC-78	"	0.26	"	"
PC-79	"	0.26	"	"
PC-80	"	0.37	"	"
PC-81	"	0.27	"	"
PC-82	"	0.29	"	"
PC-83	"	0.52 —	"	"
PC-84	"	0.65 —	"	"
PC-85	"	0.24	"	"
PC-86	"	0.25	"	"
MH-1	5-11-76	0.09	129419	8-17-76
MH-2	"	0.05	"	"
MH-3	"	0.10	"	"
MH-4	"	0.20	"	"
MH-5	"	0.17	"	"
MH-6	"	0.03	"	"
MH-7	"	0.03	"	"
MH-8	"	0.28	"	"
MH-9	"	0.04	"	"
MH-10	"	0.06	"	"
MH-11	"	0.04	"	"



INTERNAL CORRESPONDENCE

NUCLEAR DIVISION

POST OFFICE BOX Y, OAK RIDGE, TENNESSEE 37830

To (Name) J. W. Elwood  
Division ORNL  
Location Bldg. 2001, Room 204B

Date November 8, 1976

Originating Dept. Plant Laboratory

Copy to O. W. Briscoe  
A. R. Flynn/R. A. Viator  
M. E. Mitchell (ORGDP)  
File (NoRC)

Answering letter date  
Mercury  
Subject Content of Fish Samples

Y/HG-0121/3

A group of 26 fish samples received from Melton Hill Lake have been analyzed for mercury content. These samples were digested and analyzed using the procedure described in the letter dated August 11, 1976.

*R. W. Morrow*

R. W. Morrow

RWM:st

Attachment

APPROVED FOR PUBLIC RELEASE	
<i>AKL</i>	<i>4/5/74</i>
Technical Information Office	Date

<u>Sample Identification</u>	<u>Date Received</u>	<u>Mercury Content μHg/g</u>	<u>Y-12 Laboratory Requisition #</u>	<u>Date Reported</u>
MH-1	10-6-76	0.01	129984	11-2-76
MH-2	"	< 0.01	"	"
MH-3	"	0.04	"	"
MH-4	"	< 0.01	"	"
MH-5	"	< 0.01	"	"
MH-6	"	< 0.01	"	"
MH-7	"	< 0.01	"	"
MH-8	"	0.05	"	"
MH-9	"	0.03	"	"
MH-10	"	< 0.01	"	"
MH-11	"	< 0.01	"	"
MH-12	"	0.03	"	"
MH-13	"	0.06	"	"
MH-14	"	0.01	"	"
MH-15	"	0.02	"	"
MH-16	"	0.03	"	"
MH-17	"	0.03	"	"
MH-18	"	0.04	"	"
MH-19	"	0.02	"	"
MH-20	"	0.04	"	"
MH-21	"	0.08	"	"
MH-22	"	0.01	"	"
MH-23	"	< 0.01	"	"
MH-24	"	< 0.01	"	"
MH-25	"	< 0.01	"	"
MH-26	"	< 0.01	"	"

NBS Bovine Liver Control #9 = 0.02 μHg/g; value = 0.02 μHg/g.

Y/HG-0121  
(M-737)

Mercury content of fish samples  
1976

Y/HG-0/Subnumber

- 121/1 Mercury content of fish samples. Letter: Morrow to Elwood, August 11, 1976. Includes results of chemical analyses. 3pp.
- 121/2 Mercury content of fish samples. Letter: Morrow to Elwood, August 24, 1976. Includes results of chemical analyses. 2pp.
- 121/3 Mercury content of fish samples. Letter: Morrow to Elwood, November 8, 1976. Includes results of chemical analyses. 2pp.