

000000

CLINCH RIVER AND POPLAR CREEK

FISH SAMPLING DATA

SPECIAL SAMPLING PROGRAM

1976 ONLY

APPROVAL FOR RELEASE

Document: # Unnumbered ; Date 8/16/76

Title/Subject Ltr & Attachments, JW Elwood to M. Ellis, "Sampling Locations and Identification of Fish Samples Collected for Total Mercury..."

Approval for unrestricted release of this document is authorized by the Oak Ridge K-25 Site Classification and Information Control Office, Martin Marietta Energy Systems, Inc., PO Box 2003, Oak Ridge, TN 37831-7307.

Alvin S. Furr (S) 1/15/93
K-25 Classification & Information Control Officer Date

36

INTRA-LABORATORY CORRESPONDENCE

OAK RIDGE NATIONAL LABORATORY

August 16, 1976

To: Michael Ellis, K-25

From: Jerry W. Elwood, Building 2001, X-10, Environmental Sciences
Division

Subject: Sampling Locations and Identification of Fish Samples Collected
for Total Mercury Analysis

Attached is a map showing the location of sampling for fish in Poplar Creek and the Clinch River below Melton Hill Dam. Also enclosed are data sheets containing the length, fresh weight, and species of fish associated with each sample, including those collected from Melton Hill Reservoir.

Sample Codes MH-1 Through MH-11.--These samples were collected in Melton Hill Reservoir at Clinch River Mile (CRM) 33.3. Since these fish were collected upstream from any known anthropogenic sources of mercury, the mercury concentrations for these samples can serve as controls for comparative purposes.

Sample Codes PC-1 Through PC-64.--These samples were collected from the mouth of Poplar Creek upstream to Blair Bridge (sample station PC-1 on map).

Sample Codes PC-65 Through PC-86.--These samples were collected from immediately above Blair Bridge upstream to the confluence with the East Fork of Poplar Creek (sample station PC-2 on map).

Sample Codes CR-1 Through CR-48.--These samples were collected in the Clinch River upstream from the confluence with Poplar Creek (sample station CR-5 on map).

Sample Codes CR-49 Through CR-77.--These samples were collected in the Clinch River at the mouth of Poplar Creek (immediately above and below the confluence, sample station CR-4 on map).

Sample Codes CR-78 Through CR-112.--Samples were collected downstream from the confluence of Poplar Creek, extending from approximately Clinch River Mile (CRM) 10.7 to 11.5 (sample station CR-3 on map).

Sample Codes CR-113 Through CR-150.--Samples were collected in the Clinch River downstream from the confluence with Poplar Creek, extending from approximately CRM 9.2 to 10.6 (sample station CR-2 on map).

Michael Ellis

2

August 16, 1976

Sample Codes CR-151 Through CR-186.--Samples were collected in the Clinch River from the confluence with the Emory River upstream to approximately CRM 5.5 (sample station CR-1 on map).

We will analyze the data by station, species, and size of fish and draft an internal report and send to you on the results of these analyses. If you have any questions concerning the samples or sampling locations, give me a call.

JWE:jmd

Enclosures 2

A handwritten signature in black ink, appearing to read "Jerry W. Ellis". The signature is written in a cursive, flowing style with a long horizontal stroke extending to the right.

<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>Lm6</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

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

<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 —	"	"
PC-60	"	0.82 —	"	8-16-76
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 September 16, 1976

Originating Dept. Plant Laboratory

Answering letter date

Copy to O. W. Briscoe
A. R. Flynn/R. A. Viator
M. E. Mitchell (ORGBP) ←
M. Sanders
File (Y-12 HoRC)

Subject Mercury Content
of Fish Samples

An additional group of 90 fish samples received from Clinch River have been analyzed for mercury content. These samples were digested and analyzed using the procedure described in the letter to you dated August 11, 1976.

R. W. Morrow
R. W. Morrow

RWM:efl

Attachment

1-48 upstream
49-77 at mouth
78-112 downstream

BACKGROUND SILT LEVELS Hg

Above confluence of E & W. Fork Poplar Creek on West Fork	⊗	<.1
200 yards upstream of Poplar Creek Valley Road Bridge	⊗	<.1
3 miles above confluence of E & W Fork on Poplar Creek	⊗	<.1
At cave on West Fork	⊗	<.1

<u>Sample Identification</u>	<u>Date Received</u>	<u>Mercury Content μgHg/g</u>	<u>Y-12 Laboratory Requisition #</u>	<u>Date Reported</u>
CR-1	6-16-76	0.61	129553	8-23-76
CR-2	"	0.01	"	"
CR-3	"	0.15	"	"
CR-4	"	0.19	"	"
CR-5	"	0.05	"	"
CR-6	"	0.01	"	"
CR-7	"	0.21	"	"
CR-8	"	0.02	"	"
CR-9	"	0.04	"	"
CR-10	"	0.11	"	"
CR-11	"	0.13	"	"
CR-12	"	0.05	"	"
CR-13	"	0.20	"	"
CR-14	"	0.21	"	"
CR-15	"	0.46	"	"
CR-16	"	0.55	"	"
CR-17	"	0.13	"	"
CR-18	"	0.23	"	"
CR-19	"	0.16	"	"
CR-20	"	0.15	"	"
CR-21	"	0.19	"	"
CR-22	"	0.47	"	"
CR-23	"	0.13	"	"
CR-24	"	0.08	"	"
CR-25	"	0.11	"	8-24-76
CR-26	"	0.13	"	"
CR-27	"	0.15	"	"
CR-28	"	0.13	"	"
CR-29	"	0.04	"	"
CR-30	"	0.16	"	"

NBS Bovine Liver Control #3 = 0.02 μgHg/g; value 0.02 μgHg/g

<u>Sample Identification</u>	<u>Date Received</u>	<u>Mercury Content µgHg/g</u>	<u>Y-12 Laboratory Requisition #</u>	<u>Date Reported</u>
CR-31	6-16-76	0.06	129553	8-24-76
CR-32	"	0.05	"	"
CR-33	"	0.04	"	"
CR-34	"	0.05	"	"
CR-35	"	0.05	"	8-31-76
CR-36	"	0.62	"	"
CR-37	"	0.07	"	"
CR-38	"	0.05	"	"
CR-39	"	0.06	"	"
CR-40	"	0.13	"	"
CR-41	"	0.24	"	"
CR-42	"	0.05	"	"
CR-43	"	0.05	"	"
CR-44	"	0.04	"	"
CR-45	"	0.31	"	"
CR-46	"	0.09	"	"
CR-47	"	0.14	"	"
CR-48	"	0.05	"	"
CR-49	"	0.74	"	"
CR-50	"	0.41	"	"
CR-51	"	0.48	"	"
CR-52	"	0.31	"	"
CR-53	"	1.98 ←	"	"
CR-54	"	0.58 ←	"	"
CR-55	"	0.29	"	"
CR-56	"	1.78 ←	"	"
CR-57	"	0.29	"	"
CR-58	"	0.21	"	"
CR-59	"	0.21	"	"
CR-60	"	0.09	"	9-9-76
CR-61	"	0.46	"	"
CR-62	"	0.25	"	"
CR-63	"	0.05	"	"
CR-64	"	0.67 ←	"	"
CR-65	"	0.13	"	"
CR-66	"	0.29	"	"
CR-67	"	0.56 ←	"	"
CR-68	"	0.08	"	"
CR-69	"	0.22	"	"
CR-70	"	0.26	"	"
CR-71	"	0.11	"	"
CR-72	"	0.10	"	"
CR-73	"	0.30	"	"
CR-74	"	0.11	"	"
CR-75	"	0.03	"	"

<u>Sample Identification</u>	<u>Date Received</u>	<u>Mercury Content μgHg/g</u>	<u>Y-12 Laboratory Requisition #</u>	<u>Date Reported</u>
CR-76	6-16-76	0.08	129553	9-9-76
CR-77	"	0.42	"	"
CR-78	7-14-76	0.61 ←	129659	9-10-76
CR-79	"	0.07	129660	"
CR-80	"	0.40	"	"
CR-81	"	0.44	"	"
CR-82	"	0.11	"	"
CR-83	"	0.33	"	"
CR-84	"	0.11	"	"
CR-85	"	0.30	"	"
CR-86	"	0.28	"	"
CR-87	"	0.23	"	"
CR-88	"	0.24	"	"
CR-89	"	0.22	"	"
CR-90	"	0.19	"	"

NBS Bovine Liver Control #5 = 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, Room 204B

Date October 20, 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

An additional group of 96 fish samples received from the Clinch River have been analyzed for mercury content. These samples were digested and analyzed using the procedure described in the letter to you dated August 11, 1976.

R. W. Morrow

R. W. Morrow

RWM:st

Attachment

<u>Sample Identification</u>	<u>Date Received</u>	<u>Mercury Content µgHg/g</u>	<u>Y-12 Laboratory Requisition #</u>	<u>Date Reported</u>
CR-91	7-14-76	0.14	129660	9-16-76
CR-92	"	0.04	"	"
CR-93	"	0.21	"	"
CR-94	"	0.24	"	"
CR-95	"	0.05	"	"
CR-96	"	0.05	"	"
CR-97	"	0.28	"	"
CR-98	"	0.22	"	"
CR-99	"	0.12	"	"
CR-100	"	0.13	"	"
CR-101	"	0.09	"	"
CR-102	"	0.07	"	"
CR-103	"	0.11	"	"
CR-104	"	0.32	"	"
CR-105	"	0.10	"	"
CR-106	"	0.08	"	"
CR-107	"	0.08	"	"
CR-108	"	0.08	"	"
CR-109	"	0.08	"	"
CR-110	"	0.10	"	"
CR-111	"	0.10	"	"
CR-112	"	0.05	"	"
CR-113	7-21-76	0.43	129672	"
CR-114	"	0.24	"	"
CR-115	"	0.18	"	"
CR-116	"	0.26	"	"
CR-117	"	0.21	"	"
CR-118	"	0.19	"	"
CR-119	"	0.05	"	"
CR-120	"	0.12	"	"
CR-121	"	0.08	"	"
CR-122	"	0.16	"	"
CR-123	"	0.41	"	"
CR-124	"	0.20	"	"
CR-125	"	0.30	"	"
CR-126	"	0.15	"	9-24-76
CR-127	"	0.08	"	"
CR-128	"	0.16	"	"
CR-129	"	0.32	"	"
CR-130	"	0.22	"	"
CR-131	"	0.12	"	"
CR-132	"	0.04	"	"
CR-133	"	0.01	"	"
CR-134	"	0.07	"	"
CR-135	"	0.22	"	"
CR-136	"	0.13	"	"
CR-137	"	0.06	"	"
CR-138	"	0.07	"	"
CR-139	"	0.07	"	"
CR-140	"	0.05	"	"

NBS Bovine Liver Control #6 = 0.02 µgHg/g; value 0.02 µgHg/g.

<u>Sample Identification</u>	<u>Date Received</u>	<u>Mercury Content µgHg/g</u>	<u>Y-12 Laboratory Requisition #</u>	<u>Date Reported</u>
CR-141	7-21-76	0.07	129672	10-6-76
CR-142	"	0.07	"	"
CR-143	"	0.06	"	"
CR-144	"	0.08	"	"
CR-145	"	0.10	"	"
CR-146	"	0.11	"	"
CR-147	"	0.05	"	"
CR-148	"	0.06	"	"
CR-149	"	0.06	"	"
CR-150	"	0.03	"	"
CR-151	"	0.21	129671	"
CR-152	"	0.09	"	"
CR-153	"	0.18	"	"
CR-154	"	0.12	"	"
CR-155	"	0.10	"	"
CR-156	"	0.24	"	"
CR-157	"	0.11	"	"
CR-158	"	0.11	"	"
CR-159	"	0.18	"	"
CR-160	"	0.13	"	"
CR-161	"	0.10	"	"
CR-162	"	0.15	"	"
CR-163	"	0.16	"	"
CR-164	"	0.07	"	"
CR-165	"	0.44	"	"

NBS Bovine Liver Control #7 = 0.02 µgHg/g; value 0.02 µgHg/g.

CR-166	7-21-76	0.07	129671	10-15-76
CR-167	"	0.11	"	"
CR-168	"	0.04	"	"
CR-169	"	0.02	"	"
CR-170	"	0.06	"	"
CR-171	"	0.04	"	"
CR-172	"	0.05	"	"
CR-173	"	0.05	"	"
CR-174	"	0.04	"	"
CR-175	"	0.03	"	"
CR-176	"	0.01	"	"
CR-177	"	0.04	"	"
CR-178	"	0.07	"	"
CR-179	"	0.03	"	"
CR-180	"	0.04	"	"
CR-181	"	0.04	"	"
CR-182	"	0.02	"	"
CR-183	"	0.06	"	"
CR-184	"	0.02	"	"
CR-185	"	0.01	"	"
CR-186	"	0.03	"	"

NBS Bovine Liver Control #8 = 0.02 µgHg/g; value 0.02 µgHg/g.



INTERNAL CORRESPONDENCE

CLEAR 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)

Answering letter date
Mercury
Subject Content of Fish Samples

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

RWM:st

Attachment

<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.