



Environment
Canada

Environnement
Canada

Environmental
Protection

Protection de
l'Environnement

P.O. Box 2310
Yellowknife, N.W.T.
X0E 1H0

December 3, 1974

Your file - Votre référence

Our file - Notre référence

4705-37/G1

Dr. A.O. Uygur, Director
Mackenzie Zone
Northern Region Medical Services
P. O. Box 520
Yellowknife, N.W.T.

Dear Dr. Uygur:

Please find enclosed summaries of our latest data on levels of heavy metal contamination in fishes from in and around Yellowknife Bay.

For your information and comment.

Yours truly,

C. A. Lewis
District Manager

cc: Dr. O'Donoghue
D. Billing
A. Redshaw
Encl.

cc: G. Glazier

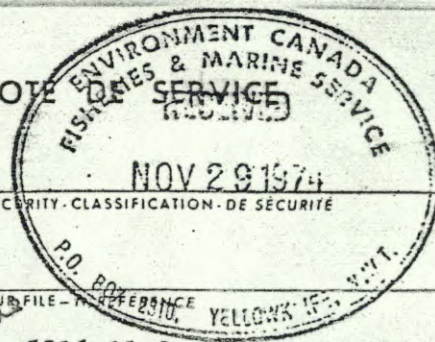


Government
of Canada

Gouvernement
du Canada

MEMORANDUM

NOTE



G. T. Glazier
District Administrator
Yellowknife, N.W.T.

G. W. G. McGregor
Hazardous Substances Section
Inspection Branch

SECURITY - CLASSIFICATION - DE SÉCURITÉ
OUR FILE - RÉFÉRENCE 5516-11-2
YOUR FILE - V/RÉFÉRENCE 4863-1
DATE November 26, 1974

Yellowknife Bay Heavy Metal Survey

Attached is a summary of the completed Yellowknife Bay survey. You will note that samples for the internal organs were pooled as the size of one organ was not sufficient to analyse for all the elements which were requested. Similarly there was enough brain tissue to do only one arsenic determination from each area and the control sample.

Analyses of the samples which you submitted from Kam and Grace Lakes should be completed by Dec. 18, 1974.

G. W. G. McGregor

GMc/mc

Attachment

cc: B. A. Mattock, Fishery Officer, Yellowknife

November 26, 1974

HEAVY METAL RESULTS OF FISH ANALYZED FROM YELLOWKNIFE BAY*

Sample No.	Species	Lgth (cm)	Wt. (kg)	As	Cu	Pb	Zn	Cd	Ni
1. North of Baker Creek									
9301	Whitefish	40.0	0.90	∠0.4	0.25	∠0.10	3.51	∠0.02	∠0.20
9302	"	38.4	0.80	∠0.4	0.45	∠0.10	3.84	∠0.02	∠0.20
9303	"	43.0	1.30	∠0.4	0.54	∠0.10	3.70	∠0.02	∠0.20
9304	"	41.3	1.00	∠0.4	0.35	∠0.10	3.31	∠0.02	∠0.20
9305	"	41.0	0.85	∠0.4	0.35	∠0.10	3.53	∠0.02	∠0.20
9306	"	42.0	1.05	∠0.4	0.41	∠0.10	3.68	∠0.02	∠0.20
9307	"	39.5	0.95	∠0.4	0.25	∠0.10	3.98	∠0.02	∠0.20
9308	"	36.5	0.68	∠0.4	0.46	∠0.10	4.69	∠0.01	∠0.20
9309	"	36.5	0.79	∠0.4	0.38	∠0.10	4.53	∠0.02	∠0.20
9310	"	40.2	0.90	∠0.4	0.31	∠0.10	4.53	∠0.02	∠0.20
2. South of Baker Creek									
9311	Whitefish	39.1	0.90	∠0.4	0.46	∠0.10	4.08	∠0.02	∠0.20
9312	"	40.0	0.93	∠0.4	0.74	∠0.10	4.38	∠0.02	∠0.20
9313	White Sucker	45.0	1.28	∠0.4	0.33	∠0.10	2.70	∠0.02	∠0.20
9314	Whitefish	39.0	0.80	∠0.4	0.43	∠0.10	4.38	∠0.02	∠0.20
9315	"	38.0	0.80	∠0.4	0.23	∠0.10	3.90	∠0.02	∠0.20
9316	"	39.0	0.75	∠0.4	0.41	∠0.10	3.78	∠0.02	∠0.20
9317	"	42.0	1.15	∠0.4	0.38	∠0.10	3.68	∠0.02	∠0.20
9318	"	40.5	0.90	∠0.4	0.41	∠0.10	3.45	∠0.02	∠0.20
9319	"	37.7	0.65	∠0.4	0.23	∠0.10	3.68	∠0.02	∠0.20
9320	"	40.5	0.95	∠0.4	0.22	∠0.10	4.07	∠0.02	∠0.20
9321	"	40.5	1.00	∠0.4	0.16	∠0.10	3.28	∠0.02	∠0.20
3. Controls - Samples from Wool Bay Area									
9322	Whitefish	40.7	0.90	∠0.4	0.41	∠0.10	3.59	∠0.02	∠0.20
9323	"	37.6	0.75	∠0.4	0.49	∠0.10	3.75	∠0.02	∠0.20
9324	"	39.2	0.90	∠0.4	0.14	∠0.10	3.28	∠0.02	∠0.20
9325	"	39.8	0.93	∠0.4	0.26	∠0.10	2.50	∠0.02	∠0.20
9326	"	39.0	0.90	∠0.4	0.36	∠0.10	3.44	∠0.02	∠0.20
9327	"	40.0	0.93	∠0.4	0.25	∠0.10	2.97	∠0.02	∠0.20
9328	"	37.5	0.80	∠0.4	0.41	∠0.10	4.06	∠0.02	∠0.20
9329	"	41.4	1.05	∠0.4	0.46	∠0.10	3.52	∠0.02	∠0.20

* wet weight analysis of edible portion of flesh.

November 26, 1974

HEAVY METAL RESULTS OF WHITEFISH ORGANS ANALYZED FROM YELLOWKNIFE BAY*

Sample No.	Description	As	Cu	Pb	Zn	Cd	Ni
1. North of Baker Creek							
3	Livers from fish >1000 g.	∠0.4	15.12	0.16	35.16	0.04	0.28
9	Livers from fish <1000 g.	∠0.4	15.12	0.21	30.47	0.08	∠0.10
11	Kidneys from fish >1000 g.	∠0.4	1.04	∠0.10	20.31	0.38	0.14
12	Kidneys from fish <1000 g.	∠0.4	1.13	∠0.10	26.95	0.35	0.14
	Brain	∠0.4					
2. South of Baker Creek							
6	Livers from fish >1000 g.	∠0.4	10.98	0.10	33.98	0.06	∠0.10
2	Livers from fish <1000 g.	∠0.4	12.60	∠0.10	37.11	0.15	0.14
5	Kidneys from fish >1000 g.	∠0.4	0.95	∠0.10	20.31	0.27	0.14
7	Kidneys from fish <1000 g.	∠0.4	1.65	∠0.10	29.30	0.42	∠0.10
	Brain	∠0.4					
3. Controls - Samples from Wool Bay Area							
15	Liver	∠0.4	10.58	∠0.10	37.11	0.08	∠0.10
14	Kidney	∠0.4	0.95	∠0.10	21.48	0.33	∠0.10
	Brain	∠0.4					

* wet weight analysis on pooled samples of organs as listed.