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

November 21, 1974

Your file Votre référence

Our file Notre référence

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4705-37/Ye

Dr. A. D. Uygur, Director
Mackenzie Zone
Northern Region Medical Service
P. O. Box 520
Yellowknife, N.W.T.
X0E 1H0

Dear Dr. Uygur:

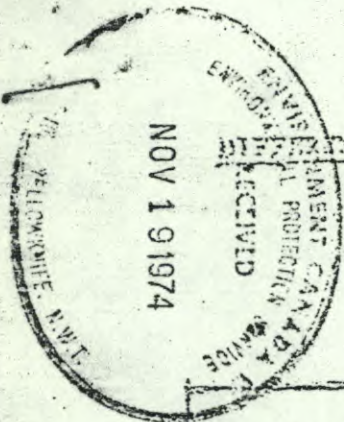
Further to my previous correspondence please find enclosed our latest analytical data provided by Fisheries Laboratories in Winnipeg on the heavy metal content of fishes in and around Yellowknife Bay, N.W.T.

For your information and comment.

Yours truly,

C. A. Lewis
District Manager

cc. J. J. Eatock
D. Billing
A. Redshaw
encl.



HEAVY METAL DATA
DIFFERENCE OF MEANS ANALYSIS FOR NORTH AND SOUTH BAKER CREEK WHITEFISH

All Analysis on Edible Portion of Flesh

		As	Cu	Pb	Zn	Cd	Hg
1. Basic Statistics							
North of Baker Creek	N	10	10	10	10	10	10
	ppm	4.00	3.75	1.00	39.30	0.23	1.35
	σ^2	1.50	1.48	0.10	155.59	0.0040	0.40
	\bar{x} ppm	/0.40	0.28	/0.10	3.53	/0.02	/0.20
South of Baker Creek	N	10	10	10	10	10	10
	ppm	4.00	3.76	1.00	38.58	0.20	2.00
	σ^2	1.60	1.60	0.10	150.22	0.0040	0.40
	\bar{x} ppm	/0.40	0.37	/0.10	3.57	/0.02	/0.20
Controls	N	8	8	8	8	8	8
	ppm	3.20	2.78	0.80	27.11	0.16	1.50
	σ^2	1.28	1.07	0.08	93.40	0.0022	0.32
	\bar{x} ppm	/0.40	0.25	/0.10	3.39	/0.02	/0.20
2. Difference of Means Statistics							
a) Between North & South Baker Creek	df	18	18	18	18	18	18
	t calc.	0	0.13	0	0.32	0	0
	t .025	2.10	2.10	2.10	2.10	2.10	2.10
b) Between North Baker Creek and Control	df	16	16	16	16	16	16
	t calc.	0	0.55	0	2.33	0	0
	t .025	2.12	2.12	2.12	2.12	2.12	2.12
c) Between South Baker Creek and Control	df	16	16	16	16	16	16
	t calc.	0	0.45	0	2.40	0	0
	t .025	2.12	2.12	2.12	2.12	2.12	2.12

Conclusions:

It can be stated with 95% confidence that there are significant differences between the mean zinc contents in the flesh of whitefish from North Baker Creek and the control area and from South Baker Creek and the control area.

Carole
Rachner
Upper
Belling

HEAVY METAL RESULTS OF FISH ANALYZED FROM YELLOWKNIFE BAY*

Sample No.	Species	Length (mm)	Wt. (kg)	As	Cu	Pb	Zn	Co	Ni
1. North of Baker Creek									
9301	Whitefish	40.0	0.90	10.4	0.25	10.10	3.51	10.02	10.20
9302	"	38.4	0.80	10.4	0.45	10.10	3.84	10.02	10.20
9303	"	43.0	1.30	10.4	0.54	10.10	3.73	10.02	10.20
9304	"	41.3	1.08	10.4	0.33	10.10	3.31	10.02	10.20
9305	"	41.0	0.85	10.4	0.35	10.10	3.22	10.02	10.20
9306	"	42.0	1.05	10.4	0.42	10.10	3.68	10.02	10.20
9307	"	39.5	0.95	10.4	0.25	10.10	3.93	10.02	10.20
9308	"	35.7	0.68	10.4	0.45	10.10	4.59	10.01	10.20
9309	"	35.5	0.79	10.4	0.38	10.10	4.53	10.02	10.20
9310	"	40.2	0.90	10.4	0.31	10.10	4.53	10.02	10.20
2. South of Baker Creek									
9311	Whitefish	39.1	0.90	10.4	0.46	10.10	4.08	10.02	10.20
9312	"	40.0	0.93	10.4	0.74	10.10	4.38	10.02	10.20
9313	White Sucker	45.0	1.28	10.4	0.33	10.10	2.70	10.02	10.20
9314	Whitefish	39.0	0.80	10.4	0.43	10.10	4.38	10.02	10.20
9315	"	38.0	0.80	10.4	0.23	10.10	2.90	10.02	10.20
9316	"	39.0	0.75	10.4	0.41	10.10	3.73	10.02	10.20
9317	"	42.0	1.15	10.4	0.33	10.10	3.68	10.02	10.20
9318	"	40.5	0.90	10.4	0.41	10.10	3.45	10.02	10.20
9319	"	37.7	0.65	10.4	0.23	10.10	3.43	10.02	10.20
9320	"	40.5	0.95	10.4	0.22	10.10	4.07	10.02	10.20
9321	"	40.5	1.00	10.4	0.16	10.10	3.25	10.02	10.20
3. Controls - Samples from Wool Bay Area									
9322	Whitefish	40.7	0.90	10.4	0.41	10.10	3.52	10.02	10.20
9323	"	37.6	0.75	10.4	0.40	10.10	3.75	10.02	10.20
9324	"	39.2	0.90	10.4	0.14	10.10	3.23	10.02	10.20
9325	"	39.8	0.93	10.4	0.25	10.10	2.90	10.02	10.20
9326	"	39.0	0.90	10.4	0.36	10.10	2.44	10.02	10.20
9327	"	40.0	0.93	10.4	0.25	10.10	2.97	10.02	10.20
9328	"	37.5	0.80	10.4	0.41	10.10	4.06	10.02	10.20
9329	"	41.4	1.05	10.4	0.46	10.10	3.52	10.02	10.20

* wet weight analysis of edible portion of flesh.