

File
Dossier FCAO-3-2

Volume

Department
Ministère

H.P.B. FIELD OPERATIONS

Subject
Sujet

TRACE ELEMENTS
SPECIAL INVESTIGATIONS & SURVEYS
ARSENIC IN YELLOWKNIFE

GC 40-3

7690-21-849-8686

[illegible]

Government
of Canada

Gouvernement
du Canada

CGSB STANDARD FORM 39-1
FORMULE NORMALISÉE 39-1 DE L'ONGC
7530-21-870-7440

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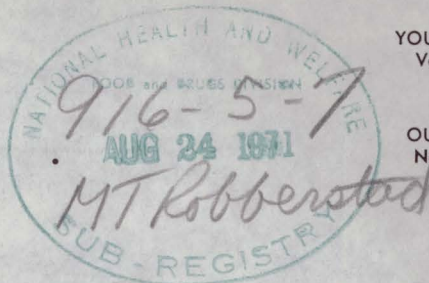
MEMORANDUM

FHCA-9-4

CLASSIFICATION

TO
A

Director General
Food and Drug Directorate
Ottawa, Ont.
Attn: Dr. Sandi



YOUR FILE No.
Votre dossier

OUR FILE No. 920- 2-2
Notre dossier

FROM Edmonton, Alberta
De

DATE August 18/71

SUBJECT VEGETABLES FOR ARSENIC ANALYSIS - YELLOWKNIFE, N.W.T.
Sujet

We are shipping by Air Express this afternoon a shipment of vegetables and fruit as listed below. No empty bag was included. This was received at our office this morning.

1. High Bush Cranberry - Near Con Mine
 2. Gooseberry " " "
 3. Black Current " " "
 4. Low Bush Cranberry - Near Airport
 5. High Bush Cranberry - " "
- (These specimens are wild and rather small)
6. Assorted Vegetables - Mrs. Bugg - 204 B. Giant Mine
 7. " " Mrs. Richardson - Con Mine
 8. " " Mr. A.P. Morris " "
 9. " " Correctional Camp
 10. " " Mr. Christensen - Old Town
 11. " " 5018 - 54 Street - Yellowknife

This shipment is being shipped for the attention of

Mrs. D.C. Smith

W.D. Charles

WDC/b

W.D. CHARLES,
Officer in Charge - Northern Alberta District.

c.c. Vancouver

c. ☒ Ottawa
G.R. Woodget - E.H.O. Yellowknife
Area Director - Medical Services

→ B. of OPERATIONS
OTTAWA
PROJECT FHCA 916-5-7

MEMORANDUM

CLASSIFICATION



TO
A

Director, Bureau of Operations,
Ottawa.

Attention: Mr. M. T. Robberstad

YOUR FILE No. 916-5-7 (FHCA)
Votre dossier

OUR FILE No. 914-2-4
Notre dossier

FROM Food and Drug Directorate,
De Toronto.

DATE October 20, 1970

SUBJECT Re: Arsenic Determination
Sujet

In answer to your memo of October 14, we are no longer sending samples to Dr. Sandi.

Unfortunately the September samples were forwarded before your previous memo reached the laboratory.

EWC/cy

E. W. Corck,
Superintendent,
Food Laboratory.

For Regional Superintendent of
Laboratory Services.

c.c. Dr. A. Chisholm

Blw- PM

Regional Director,
Toronto,

ATTENTION: E. W. Corck

914-2-4

916-5-7 (FHCA)✓

Director,
Bureau of Operations.

October 14, 1970.

ARSENIC DETERMINATION

We have noted by way of correspondence from Mr. Corck, of your laboratory, to Dr. Sandi that you are continuing to forward samples to Headquarters for arsenic analysis. I make mention of this only to advise that my memorandum of September 10, 1970, indicates a direct decision that arsenic monitoring activities may be curtailed for the remainder of the year.

M. T. Robberstad,
(for) Director,
Bureau of Operations.

CR/M

Regional Director,
Vancouver,

916-5-7 (FHCA)

Director,
Bureau of Operations.

October 9, 1970

PROJECT FHCA - ROUTINE MONITORING - ARSENIC CONTENT IN FOODS

We have noted by way of correspondence from Mr. West, of your laboratory, to Dr. Sandi that you are continuing to forward samples to Headquarters for arsenic analysis. I make mention of this only to advise that my memorandum of September 10, 1970, indicates a direct decision that arsenic monitoring activities may be curtailed for the remainder of the year.

M. T. Robberstad

PA

Dr. E. Sandi
Toxicology Division,
Food and Drug Directorate,
Tunney's Pasture,
Ottawa 3, Ontario.

900-1-7 also
FHCA

Food and Drug Directorate
Vancouver

September 28, 1970.

Trace Element Project FHCA
Our Letter of September 25

Cabbage Lab. No. 428 was again included in this shipment and may be discarded.

With reference to the previous shipment of six bags. If you still have some residue of sample after your testing we would be very grateful if you could ship back to us for further testing, residues from :

<u>Sample Nos.</u>	<u>From Bag No.</u>
401	1
404	4
403	1
406	4
407	4
426	4
427	3
464	5
465	5
534	4
545	3
546	3
551	2
553	2
554	2

Yours truly,

Jack West

Jack West
Chemist, Food Lab.
for Regional Director

JW:dgm

920-2-6

September 25, 1970

Dr. E. Sandi
Toxicology Division
Food and Drug Directorate
Tunney's Pasture
Ottawa 3, Ontario

Dear Dr. Sandi:

Re: Trace Element Project FHCA

Enclosed are copies of the "Record of Specimen Taken" for fifty-nine samples of the trace element project as per Mr. M. T. Robberstad's instructions of Nov. 26, 1969.

The fifty-nine samples are for arsenic determination and will be arriving under separate cover, frozen and packed in dry ice, the samples in most instances consist of homogenized, edible portions only and were prepared as follows:

9 Milk	Lab. nos. 357, 360, 408, 538, 539, 547, 548, 1229, 1230, - Well mixed & poured from carton.
4 Tuna	Lab. nos. 1467, 1468, 1534, 1543, Ground up and blended.
5 Potatoes	Lab. nos. 532, 533, 549, 1235, 1236, Unpeeled, scrubbed, cut up and blended.
4 Bread	Lab. nos. 358, 363, 463, 1233 Ground up, and blended.
4 Cabbage	Lab. nos. 428, 1225, 1226, 2866, Outer leaves removed. Inner portion washed ground and blended.

.../2

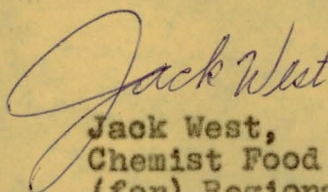
3 Apples	Lab. Nos. 1200, 1201, 1203, Pealed and cored, ground and blended.
3 Powdered Milk	Lab. nos. 359, 364, 1227 Well mixed, poured from carton.
3 Clams	Lab. nos. 1382, 1466, 1667 Contents blended.
2 Oysters	Lab. nos. 1378, 1533 Contents blended.
1 Rhubarb	Lab. nos. 665 Washed, ends, cut off, blended,
1 Mixed Spice	Lab. no. 918, Well mixed, poured from package.
1 Cheese	Lab. no. 1021 Blended.
1 Peach	Lab. no. 1199 Washed and Blended.
1 Herring in Sauce	Lab. no. 1546 Blended.
1 Honey	Lab. no. 2457 Well mixed, poured from container.
1 Carrot	Lab. no. 2463 Washed, ends removed, and blended.
1 Pig's Feet	Lab. no. 2723 Meat cut from bones, blended.
1 Whole Peas	Lab. no. 423 Mixed, used as received.
1 Cracked Wheat	Lab. no. 425 Mixed, used as received.
1 Rolled Oats	Lab. no. 529 Mixed, used as received.
1 Hard. Egg White	Lab. no. 979 Mixed, used as received.
1 Wheat Grain	Lab. no. 1198 Mixed, used as received.
1 Oat Meal	Lab. no. 1228 Mixed, used as received.

1 White Fish	Lab. no. 1360 Blended slices.
1 Radish	Lab. no. 2400 Washed, ends removed, blended.
1 Broccoli	Lab. no. 2401 Leaves removed, washed blended.
1 Pot Barley	Lab. no. 1231 Mixed used as received.
1 Corn (ground)	Lab. no. 1335 Mixed as received.
1 Beef Liver	Lab. no. 2403 Blended.
1 Lettuce	Lab. no. 2405 Washed and blended.
1 Chicken Liver	Lab. no. 2756 Blended.

59

TOTAL

Yours truly,



Jack West,
Chemist Food Lab.
(for) Regional Director

JW:dlf

Dr. E. Sandi,
Toxicology Division,
Food Advisory Bureau.

916-5-7 (FHCA)

Head,
Food Program Section.

October 2, 1970

PROJECT FHCA - ARSENIC SITUATION IN YELLOWKNIFE

As promised, we now have information on the location of gardens which represent background to the arsenic results from Yellowknife.

You will note the attached information - including a Mines and Technical Survey map of the area - should provide you with a basis for judging the contamination problem and risk in terms of public health.

Regrettably, this is all we are likely to expect in relation to the Yellowknife situation as it relates to answering this public health concern.

M. T. Robberstad

cc: Dr. A. B. Morrison
Att.



Yellowknife Health Centre,
Box 970, Yellowknife, N.W.T.

September 24, 1970

Bureau of Operations,
Food & Drug Directorate,
Queensway Towers,
200 Isabella Street,
Ottawa, Ontario.
Attention Mr. Robberstad

Dear Sir:

Attached is a map showing the exact location of gardens that were sampled.

In the "Giant" area there is, to the best of my information, only one garden this year. The majority of the people who would normally plant gardens have turned to flowers or just lawn.

In the "Con" area there are approximately twenty five gardens. These range from gardens the size of a desk to twenty by forty feet.

Yours very truly,

A handwritten signature in blue ink, reading "M. Frank Gillis".

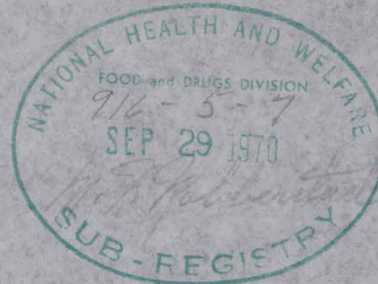
M. Frank Gillis,
Public Health Inspector.

MFG/pb

c.c. Food & Drug Directorate, Edmonton
Area Director, Edmonton

114°30'
62°30'





257 Federal Public Building
Edmonton 2, Alberta

920-2-2

September 21, 1970

The Regional Director,
Northern Region,
Medical Services Directorate,
500 Chancery Hall,
Edmonton, Alberta.

Dear Sir:

Re: Project (FNCA) - Arsenic Analysis - Yellowknife

Please find attached for your information a copy of the results received from Mr. Robberstad at Ottawa.

We understand that you have received this information by telex.

Recently, we requested Mr. Gillis by telephone to submit to Mr. Robberstad direct with a copy to this office, an indication on a map the locations of the samplings of these various samples. At the same time I requested a copy of this memo to this office. To date we have received no such copy and we wonder whether this information has been sent to Mr. Robberstad. If not, we would be obliged if he could submit this information to Mr. Robberstad at the earliest possible moment.

Yours truly,

WDC/b

W.D. Charles,

Encl.

Officer in Charge - Northern Alberta District.

c.c. Vancouver

Ottawa

Mr. Gillis

Mr. Grainger

*PAW-
Thanks
PA file done
MIR
Material referred to
rec'd Oct. 1/70 (Haw)
noted
MTR*



Arsenic in vegetables from Yellowknife

	<u>Location</u>	<u>Description</u>	<u>Arsenic ppm</u>
96	Site 4	1. Lettuce	2.65
		2. Swiss chard	3.15
		3. Carrots, leaves & small roots	3.10
		4. Beets, leaves	0.52
		5. Lettuce	2.00
		6. Lettuce	1.32
		7. Lettuce	1.07
		8. Carrots, leaves & small roots	4.15
		9. Beets, leaves	3.10
3397	Giant Mine	9A. Beet roots of same sample, heavily contaminated with soil	4.80
		10. Carrots, leaves, small roots	2.20
3399	Site 2, Town	11. Lettuce	2.25
		12. Lettuce	1.42
3398	Site 3, Con Mine	13. Lettuce	1.55
		14. Swiss chard	1.05
		15. Carrots, mostly leaves	1.36
		16. Carrots, mostly leaves	1.15
53395	Site 1, Town	17. Cabbage	0.48
		18. Beets, roots	0.61
		19. Lettuce	1.10
		20. Green pea pods	0.14
		21. Kohlrabi	0.67



MEMORANDUM

CLASSIFICATION

TO
A

Dr. E. Sandi,
Toxicology Division,
Food & Drug Directorate,
Tunney's Pasture,
Ottawa 3, Ontario.

YOUR FILE No. 900-1-7.
Votre dossier

OUR FILE No. 920-1-12.
Notre dossier

FROM
De

Food & Drug Directorate,
Vancouver, B. C.

DATE Sept. 14, 1970.

FOLD

SUBJECT
Sujet

Trace Element Project FHCA - Shipment of
One Hundred and Twelve Samples for
Arsenic Determination.

Correction to a sample number, listed in letter
of September 10, 1970:

Page Two - 7 Cabbage - Sample No. 468 should read 428.
"Record of Specimen Taken" attached.

JW/mm

Encl.

Jack West.
Jack West, Chemist,
for
Regional Director.

Regional Director,
Vancouver

916-5-7 (FHCA)
-8 (FHDA)
-5 (FHBB)

Director,
Bureau of Operations.

September 10, 1970

TIL NO..337 - PROJECTS FHCA, FHDA AND FHBB

This is in reply to Mr. Morgan's memorandum of August 20, 1970, requesting clarification as to policy behind TIL 337.

The comments will be made in the order in which they were raised.

1. From what we know the answer is yes
2. Table number I will likely be expanded for lead if significant residue levels are found in the commercial chain food supply. It is true that it is difficult to identify the source as to whether it reveals incidental or intentional agricultural practices.
3. We have sent your Region up-to-date data on samples received from your Region for arsenic analysis.
4. We will likely use the old Table, Part I as an administrative guide until levels by Regulation can be established.
5. Our answer is yes; but this will depend on the need to set levels by Regulation and it will also depend on a sufficient body of fact finding information in order that this can be done.

M. T. Robberstad,
(for) Director,
Bureau of Operations.

Regional Director: Vancouver
Winnipeg
Toronto
Montreal
Halifax

916-5-7 (FHCA)

Director,
Bureau of Operations.

September 10, 1970

ROUTINE MONITORING - ARSENIC CONTENT IN FOODS - PROJECT FHCA

With reference to current project guidelines you will recall that all samples for arsenic determination are to be referred to Dr. Sandi for analysis.

A decision has now been made to cutback on monitoring for arsenic at least for the remainder of the current year.

You will be expected, however, to meet any specific problem situation pertaining to arsenic through the utilization of your laboratory facilities.

M. T. Robberstad,
(for) Director,
Bureau of Operations.

cc: Dr. E. Sandi

Regional Director,
Vancouver

ATTENTION: S.I.S.

916-5-7 (FHCA)

Director,
Bureau of Operations.

September 9, 1970.

PROJECT FHCA - INFORMATION ON SAMPLES RECEIVED FROM YELLOWKNIFE

Confirming our telephone conversation of yesterday regarding this matter we agreed that if possible Mr. Charles should attempt to get background information on those samples that were collected by Medical Health Services.

The information we require would be identical to that requested had our formalized sampling plan been put into effect.

If Mr. Charles can obtain this specific information as to what gardens were sampled and where in relationship to the mine sites we may be in a position to make an assessment of potential arsenic pollution despite the small number of samples we have been able to obtain.

M. T. Robberstad,
(for) Director,
Bureau of Operations.

P.S. Attached is a copy of the analytical results obtained for the Yellowknife samples as promised.

MTR



MEMORANDUM

CLASSIFICATION

TO
A

Director, Bureau of Operations,
Food and Drug Directorate,
Ottawa, Ont.

YOUR FILE No.
Votre dossier

Attention: Head, Food Unit.

OUR FILE No.
Notre dossier

Project FHCA
915-1

FROM
De

Food and Drug Directorate, Vancouver, B. C.

DATE

August 20, 1970

SUBJECT
Sujet

Trade Information Letter No. 337 -
Projects FHCA, FHDA and FHBB.

We have reviewed the changes outlined in the Trade Information Letter No. 337 and would appreciate clarification of our policy on the following points.

1. Were all the tolerances for zinc dropped because there is no evidence to show that zinc is toxic to humans?
2. The levels set under Table I as Incidental Contaminants list lead with a number of tolerances on various food products but has not set any levels for meat and meat products other than liver, poultry products and eggs. In addition, the lead levels for fruits and vegetables have been transferred to Table II but these are outlined only for lead arsenate. During recent trace element analysis, we have encountered the following levels of lead: chicken legs and chicken breasts - 0.5 ppm; chicken eggs - 0.6 ppm; ground beef - 0.35 ppm, and pork sausage 0.27 ppm. Should Table I be expanded to include products such as these mentioned? Furthermore, almost all the samples of apples which were analyzed did contain levels of lead up to .7 ppm. I realize that this is covered under Table II for Agricultural Chemicals, however, it would seem that this coverage would only be extended to the lead contamination via lead arsenate and although this source may account for most of the lead in fruits, incidental contamination from naturally-occurring lead in the soil or industrial complexes may occur. In addition, I understand that the use of lead arsenate has been discontinued in the Province of British Columbia.

*if any of these residues listed
are considered contaminants
of the food supply
in the commercial
sense*

*This could
occur*

ORIGINAL	
COPY	916-5-8.
ON	
FILE(S)	916-5-5.

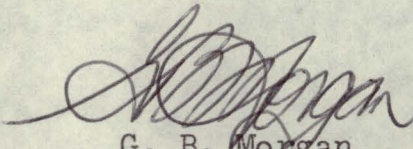
... 2

Director, Bureau of Operations - August 20, 1970 - Cont'd...

3. No doubt similar comments could be made for the dropping of the arsenic levels in fresh fruits and vegetables other than under the Agricultural Chemicals Section. Unfortunately we cannot substantiate the incidental contamination of fruit products with arsenic because we have not received the results of specimens submitted to Headquarters for this determination.
4. The lower levels for copper and fluorine have been dropped and we wonder if administratively levels lower than the lowest level indicated in Table I would be considered insignificant, or would we still use the old Table, Part I, such as 2 ppm for fluorine in bottled water and 2 ppm of copper in bottled water as administrative tolerances?
5. Do you foresee the expansion of Table I for Incidental Contaminants to include permitted levels for mercury, cadmium, tin and other trace elements?

Your comments on the above would be appreciated.

GBM/os


G. B. Morgan,
(for) Regional Director.

We have sent this data to Vancouver

*as a guideline
yes.
on the interim
basis.
Yes, but this depends
on need to set
levels in regulations
the food levels
in foods.*

Dr. A. B. Morrison,
Deputy Director-General.

916-5-7 (FHCA)

Head,
Food Program Section.

August 21, 1970

PROJECT FHCA - ARSENIC SITUATION IN YELLOWKNIFE

The attached report covering some 22 specimens of home grown vegetables from Yellowknife constitutes our first early request for action which was called for prior to the more formalized sampling plan developed from decisions in your office.

I was advised to-day by Mr. Charles in Edmonton that the more detailed sampling plan worked out by Dr. Sandi and myself was timed to late for implementation within the short garden season and that the plan itself was rather ambitious in any event. Rather than some 40 garden sites in the vicinity of Yellowknife (the number called for in the plan), while the exact number is unknown, I am told the number would be more like five in the town area.

The attached data, therefore is all we can expect for this year to meet any continuing concerns over the situation.

Mr. Charles is prepared to obtain any specific information through Northern Health Services relating to the data upon hearing from this office.

I would appreciate guidance if further action is required at this time.

M. T. Robberstad.

cc: Mr. K. M. Render
Dr. Sandi

FCAO-9-5

SUBJECT - OBJET

CHARGED OUT - TRANSMIS

TO - À

DATE

BY - PAR

CHARGED OUT - TRANSMIS

TO - À

DATE

BY - PAR

BC W. up 21-1-76 RB
BC W. up 30-1-76 RB



CHARGED OUT — TRANSMIS

TO - À

DATE _____

BY — PAR

CHARGED OUT — TRANSMIS

TO - A

DATE _____

BY — PAR



Dr. A. B. Morrison,
Deputy Director-General.

916-5-7 (FHCA)

Head,
Food Program Section.

August 21, 1970.

ROUTINE MONITORING ARSENIC CONTENT IN FOODS

Based on the attached report covering some 300 food samples for arsenic levels I propose, upon advice from Dr. Sandi, that this project be dropped for the rest of this year.

The data thus far collected shows no real national problem regarding arsenic load from significant food commodities of the Canadian diet.

Dr. Sandi is phasing out this work and if the project was to continue the Regions would then have to re-direct man hour resources back into the project from other more important priorities.

If such a decision was made we would expect, however, that the regional laboratories be prepared to meet specific problem situations needing surveillance action when necessary.

Do you agree that the monitoring activity can be discontinued?

M. T. Robberstad

cc; Dr. Sandi
Mr. K. M. Render

MEMORANDUM

CLASSIFICATION

TO
A

Director, Bureau of Operations,
OTTAWA, Ontario.

Att'n: Head Food Programs Section

YOUR FILE No.
Votre dossier

OUR FILE No.
Notre dossier 917-1-7

FROM
De

Food and Drug Directorate
TORONTO, Ontario.

DATE Aug. 17/70

SUBJECT
Sujet

RE: Mercury Contamination of Caustic Soda
Ottawa File No. 920-2-4

Reference is made to your memo of July 27th, 1970 re the above.

Caustic soda is available under various brand names from local suppliers with the manufacturers being Dow and C.I.L.

The following specimens were obtained from McKague Chemical Company, Toronto with the results as indicated:-

Dow Granular caustic -- (0.5 gm.) -----<0.01 ppm.
C.I.L. Granular caustic -- (0.5 gm.) -----<0.01 ppm.
C.I.L. Caustic flake -- (0.5 gm.) -----<0.014 ppm

F & D 50's have been completed and forwarded to you as per usual.

For your information we are also enclosing a copy of a summary of a telephone conversation that Analyst E. Oja had with Mr. J. Johnson of Dow regarding the manufacture of caustic soda.

H. Saarkoppel

H. Saarkoppel
Ass't. Supt. Food Inspection Services

for: Regional Director

HS:jm

FOOD AND DRUG DIRECTORATE

CONFERENCE AND INTERVIEW SUMMARY

Circulation Route:

DATE July 28/70

FILE No.

1	DR. CHISHOLM
2	DR. CHISHOLM
3	E.R. ZUBER
4	H.S. BLACKWOOD
5	H. SAARKOPPEL
6	E.W. CORCK
7	
8	C.R. to P.A.

SUBJECT:

Mercury content in Caustic

PRESENT:

(Please indicate Department or Firm represented by each individual)

phone call rec'd from
Mr. Jim Johnson [Products]
Daw Chemical
Sarnia 519-337-8282
local 432.

DURATION OF INTERVIEW: (approx 15 min)

SUMMARY:

He indicated two people in his firm whom we should feel free to contact
Mr Tom Spittigue [manager - analyst lab] local 204
Mr Malcolm Todd [plant operation] local 427.

He was concerned about our recent request for samples of caustic --- gave the following information:

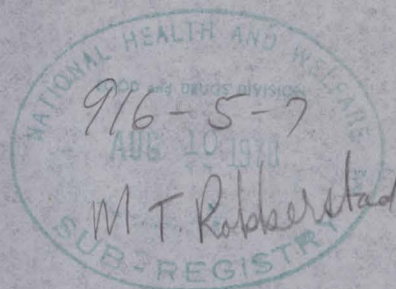
- 3 plants - of which 2 are Mercury - all plants using centrifugation and will be using filters to remove mercury.
- produces 50% caustic which is evaporated to 73% or dry.

- present mercury levels according to their analysis is 0.7 ppm which will be considerably less when filters are in operation

He stressed, the mercury content is very variable
due to age of mercury-cell, which plant
produced the caustic etc.

He asked to be kept informed, particularly if
any food industries, using Dow Chem. caustic
are having high Mercury residues. *E. L. G. A.*
Food Lab.

Director,
Food Advisory Bureau,
Ottawa.



Att'n: Dr. E. Sandi
Toxicology Division.

Food and Drug Directorate,
Montreal.

August 5, 1970.

Trace Elements - Project F H C A

Under separate cover, we are sending you sixty-one (61) duplicate samples and seven (7) non-duplicate samples (1970-1971 program) in two parcels for arsenic determination.

This is in conjunction with the continuation of the assignment given to us by Mr. M.T. Robberstad in a memo (920-2-4) mailed on November 26, 1969.

At this time, we are not sending any samples to Dr. Jarvis in Toronto (mercury analysis) pending notice from Mr. M.T. Robberstad to resume referral of such samples to him.

The samples forwarded (F & D 6 forms are attached to individual samples) are distributed in the following manner:

F H C A TRACE ELEMENTS

<u>Fruits</u>	<u>Vegetables</u>	<u>Vegetable Juices</u>	<u>Sweets</u>
11281-U (2)	15339-U (2)	15336-U (2)	04067-U (2)
11282-U (2)	15340-U (2)	69348-U (2)	04403-U (2)
28542-U (2)	15341-U (2)		27076-U (2)
48774-U (2)	31263-U (2)		28549-U (2)
69767-U (2)	31264-U (2)		49622-U (2)
69769-U (1)	27077-U (2)		49623-U (2)
72501-U (2)	48772-U (2)		49645-U (2)
72502-U (2)	48773-U (2)		49646-U (2)
72503-U (2)	69321-U (2)		49647-U (2)
	69322-U (2)		
	69349-U (2)		
	72543-U (1)		
TOTAL: 17	23	4	18

<u>Wheat</u>		<u>Soft Drinks</u>		<u>Pure Honey</u>		<u>Fresh Fruits</u>	
48751-U (2)		55161-U (2)		15335-U (2)		69769-U (2)	
		55162-U (2)					
TOTAL:	2		4		2		2
<u>Gelatines</u>		<u>Flours</u>		<u>Sugars</u>		<u>Milk</u>	
04825-U (2)		49649-U (2)		15337-U (2)		69768-U (2)	
27081-U (2)		55166-U (2)		15338-U (2)			
49618-U (2)		55167-U (2)		31262-U (1)			
49619-U (2)		69759-U (2)		55153-U (2)			
49643-U (2)		69778-U (2)		55171-U (2)			
		72071-U (2)					
TOTAL:	10		12		9		2
<u>Cereals</u>		<u>Sauces</u>		<u>Fish</u>		<u>Soups</u>	
74451-U (2)		69549-U (2)		27067-U (1)		15331-U (2)	
						15332-U (2)	
TOTAL:	2		2		1		4
<u>Vegetables & Chicken</u>		<u>Celery</u>		<u>Spinach</u>		<u>Coffee</u>	
04075-U (2)		72538-U (1)		72537-U (1)		72520-U (1)	
TOTAL:	2		1		1		1
<u>Salts</u>							
04074-U (2)							
04400-U (2)							
28548-U (2)							
49620-U (2)							
49644-U (2)							
TOTAL:	10	TOTAL OF BAGS SENT:129					

N.B. Some samples F & D 6 forms were sent to Ottawa attached to their F & D 50 forms.

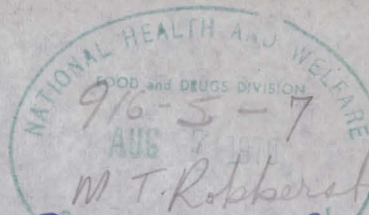
cc: Director, Bureau of Operations, Ottawa. ✓

M. Bmo for Z. Malek
 Z. Malek,
 Acting Section Head, Food Lab.
 (for) Regional Superintendent of Lab.

SEND
TO

Director, Bureau of Gen
F. D. D. - Ottawa

ATTN - MR. M. T. ROBBERSSTAD



FHCA

FROM Dubeau	DEPT. OF ORIGINATOR - Vrg	DATE July 30/70	145602
SUBJECT Mercury in Potatoes		RE:	

Further to recent conversation I understand you are studying priorities in foods to be checked for mercury.

You were concerned about potatoes processed with caustic.

Mr. B. M. Leod - Man Dept of Health arranged for some product to be processed without caustic. In exam figures were.

REPLY

RAW POTATOES .075

POTATOE CHIPS .14

INSTANT MASHED POT. .027

From above values contribution of caustic to mercury level is questionable.

- this reflects similar findings by Toronto on preliminary examinations of caustic specimens. M.T.R.

Phil
Aug 24/70
M.T.R.

SIGNATURE

DEPARTMENT

DATE OF REPLY



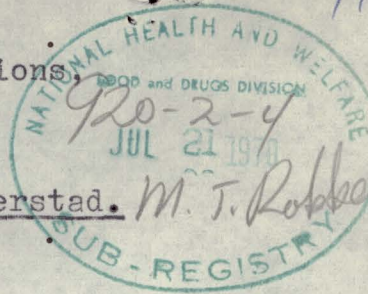
TO
A

MEMORANDUM

9/6-5-7

CLASSIFICATION

Director, Bureau of Operations,
Food & Drug Directorate,
Tunney's Pasture,
Ottawa 3, Ontario.
Attention: Mr. M. T. Robberstad.



YOUR FILE No.
Votre dossier

OUR FILE No.
Notre dossier

900-1-17.

FROM
De

Food & Drug Directorate, Vancouver, B. C.

DATE July 17, 1970.

OLD

SUBJECT
Sujet

Project 7 HCA

Attached are 13 sheets of tabulations of all the heavy elements we have determined to date.

104 samples for Zn, Pb, Cd, Co, Ni, Mn, Cu, Cr by AA.
131 samples for Hg by dithigone method.

"T" in mercury column = sample to Toronto (Dr. Jervis) (46 samples).

"O" in arsenic column = sample to Ottawa (Dr. Sandi) (98 samples).

No results received from Toronto or Ottawa but from a recent publication by Dr. Jervis, we see six of our "U" numbers listed. The only direct comparison is Headcheese .01 ppm by us and .051 ppm Hg by Dr. Jervis. This and his other results are circled.

We have another 42 samples currently being analyzed for 8 elements by AA. Portions of these and 13 from the accompanying list will be forwarded to Dr. Sandi for arsenic (Total 148 samples).

Note how hydrogen lamp correction for background absorption reduces some values greatly for Pb, Cd, Co, Ni and Mn in some samples.

In regard to mercury, we are currently working on

23 samples from the accompanying list.
42 new samples from the 8 element study.
24 new samples for mercury only.

89

As you will note, we have already done nearly one-half of the Dr. Jervis samples for mercury ourselves. Should we do the remaining 21 mercuries to complete the picture and not wait for Dr. Jervis?

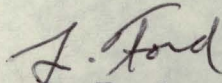
PAck
No reply necessary
matter discussed
by phone
MTR.

Director, Bureau of Operations.

July 17, 1970.

Also, should we do 8 elements and forward portions to Ottawa for arsenic for those samples sent in for mercury only or shall we keep the mercury as a separate study?

When we have completed summary sheets, how many copies should we forward to Ottawa and to whom?


L. Ford,
for
Regional Director.

LF/mm

Encl.

p. p. m

			Zn		Pb		Cd		Co		Ni		Mn		Cu		Cr		Hg	As	
			UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR			
70	R 3640	Apples ex K&E Kelowna BC Fitzgerald Estates " "	.58	.49	.24	.24	.04	.04	0	0	.06	.06	.20	.20	.24	.21	0	0	.01 T	0	May 29/70
	26316																				
	R 3641	Vandermenton Apples ex Vern Fruit Union, Vernon BC.	1.33	1.20	.41	.38	.03	.02	0	0	.06	.06	.28	.28	.40	.40	.04	.04	Nil/T	0	"
	26314	mfg - J Vandermenton, Vernon BC																			
6	R 3493	Eggs ex Safeway, Red Deer Alta mfg - Mrs Ray Rottin " " "	15.58	15.58	.30	.37	.06	.04	.05	Nil	.16	Nil	.22	.22	.75	.63	.06	.06	.04 T	0	"
	45230																				
21	R 3604	Eggs ex Eatons, Victoria BC mfg - FB Meredith, Cobble Hill, B.C	18.21	17.97	.55	.50	.10	.05	.09	.01	.23	.13	.25	.25	.79	.73	.08	.08	.04 T	0	"
	00403																				
22	R 3628	Eggs ex Tom Boy, Edmonton. mfg - Quality Egg Sales " "	13.10	12.42	.63	.52	.07	.05	.05	0	.18	.07	.12	.11	.70	.67	.09	.09	Nil/T	0	"
	45288																				
28	R 3721	Eggs ex Sole Store, Mannville Alta mfg - Hutterite Colony, Minburn " "	16.25	15.96	.48	.66	.08	.06	.04	0	.26	.14	.22	.18	.79	.79	.11	.11	.01 T	0	"
	45293																				
28	R 3722	Eggs ex Coop, Wainwright Alta. mfg - Hutterite Colony, Grama " "	17.23	17.08	.44	.28	.06	.04	.05	0	.19	.08	.27	.22	1.14	1.05	.25	.25	.02 T	0	"
	45297																				
30	R 3735	Eggs ex Edm. Coop, Edmonton. mfg - J. Klassen, Gibbons, Alta	12.48	12.22	.46	.33	.05	.02	.02	0	.18	.07	.20	.18	.73	.67	.07	.07	.03 T	0	"
	45417																				
28	R 3736	Eggs ex Warehouse & Discount #3 Edm. mfg - Cal-Ed Poultry, Edmonton	13.23	12.87	.35	.21	.05	.03	.05	0	.27	.16	.14	.12	.75	.70	.10	.10	Nil/T	0	"
	45418																				
Feb	R 3812	Eggs ex IGA, Winfield BC mfg - W Eckert, " "	14.60	14.28	.73	.61	.10	.04	.18	.09	.29	.20	.23	.20	.98	.98	.09	.09	.02	0	"
	26330																				
Jan	R 3746	Chicken Breasts ex Whse Discount Store #3 - Edmonton	6.61	5.44	.48	.41	.07	.04	.03	.01	.19	.01	.07	.05	.38	.38	0	0	.01 T	0	"
	45409																				
Feb	R 4459	Chicken Breasts ex OK Economy, Ponoka, Alta	9.20	9.20	.31	.27	.05	.03	.10	.09	.15	.09	.11	.11	.52	.52	.03	.03	.01	0	"
	45411																				
27	R 4137	Pork Sausage ex Safeway, Coquitlam mfg - Canada Packers, Vancouver BC	14.43	14.43	.27	.21	.05	Nil	.20	.12	.34	.25	.09	.09	.75	.74	.07	.07	.02	0	"
	29792																				
27	R 4141	Pork Sausage ex Hi-Lo, Coquitlam mfg - Economy Sausage, Vancouver	16.01	16.01	.25	.21	.07	Nil	.22	.07	.34	.21	.11	.11	.99	.94	.04	.04	.06	0	"
	29792																				

FHCA - Trace Elements.

3.

p.p.m.

			Zn		Pb		Cd		Co		Ni		Mn		Cu		Cr		Hg	As	
			UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR			
Jan			June 9/70																		
4/70	R 3486	Ground Beef - Woodward's Edmonton Alta.	34.39	34.04	.35	.35	.07	.07	.04	Nil	.13	.106	.25	.25	.50	.40	.04	.04	Nil	T	0 Hg. May 29/70
	45194		June 9/70																		
14	R 3488	Ground Beef - Red Deer Coop. Red Deer Alta.	35.77	35.54	.41	.35	.16	.11	.01	Nil	.15	.09	.17	.14	.67	.63	.08	.08	Pork Liver ? .034	T	0 "
	45235		June 9/70																		
4	R 3495	Ground Beef - Safeway Red Deer Alta.	37.62	37.39	.42	.36	.06	.02	.04	Nil	.15	.07	.13	.13	.69	.69	.05	.05	Nil	T	0 "
	45243		June 30/70																		
10	R 3752	Ground Beef - Econormart Vancouver	32.20	32.20	.95	.83	.07	.04	.03	.01	.17	.06	.10	.10	.56	.54	.08	.08	.01		0 "
	33032		June 30/70																		
30	R 3755	Ground Beef - Safeway Vancouver	45.40	44.80	.45	.39	.07	.04	.05	0	.23	.12	.05	.05	.67	.67	.14	.14	Nil		0 "
	33027		June 9/70																		
4	R 3489	Headcheese at Red Deer Coop mfg - Burns, Calgary 23A.	21.69	20.74	.53	.44	.17	.04	.17	.03	.84	.56	.15	.13	.89	.79	.06	.06	.051 .01	T	0 "
	45252		June 23/70																		
27	R 3707	Pork Liver at Bay Supermarket Calgary	65.04	63.96	.58	.38	.18	.12	.10	.02	.28	.26	1.42	1.39	9.07	8.50	.10	.10	0	T	0 "
	40758		June 23/70																		
28	R 3740	Pork Liver - Safeway Edmonton	52.71	52.44	.35	.26	.08	.04	.04	0	.25	.19	1.37	1.32	5.86	5.78	.10	.10	Nil	T	0 "
	45423		July 14/70																		
Feb	R 4136	Pork Liver - Safeway Burnaby BC	87.50	87.50	.45	.32	.10	.04	.14	.08	.28	.18	.59	.59	6.62	6.61	.03	.03	.04		0 "
	29789		July 14/70																		
27	R 4140	Pork Liver - Hi-Low Cogitlam BC	69.68	69.68	.45	.40	.08	.05	.17	.10	.25	.21	.52	.52	6.66	6.62	.03	.03	Nil		0 "
	29790		June 30/70																		
Jan	R 3745	Chicken Livers - Safeway Edmonton	27.80	27.60	.82	.73	.16	.12	.03	0	.16	.06	1.04	1.02	3.19	3.12	0	0	Nil	T	0 "
	45428		June 23/70																		
27	R 3710	Chicken Livers - Pinecrest Pinecrest Poultry, Calgary	28.56	28.01	.29	.10	.22	.21	.06	.02	.24	.11	1.24	1.20	3.42	3.29	.09	.09	.02	T	0 "
	40752		July 17/70																		
Feb	R 4067	Chicken Livers - Sunnyland Woodwards, Prince George	30.18	29.97	.84	.24	.05	.02	.12	.04	.20	.14	.60	.60	4.29	4.25	.04	.04	.03		0 "
	34256	mfg - Crawford Foods, Wynand, Sask.																			
24	P 4105	Chicken Livers - Kalum Vale Poultry, Terrace, BC	29.60	29.40	.74	.48	.06	.03	.09	.04	.21	.11	.54	.54	4.10	4.06	.03	.03	.04		0 "

FHCA — Trace Elements

p.p.m.

4.

		Zn		Pb		Cd		Co		Ni		Mn		Cu		Cr		Hg		As	
		UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR	UNC	COR				
Feb		Chicken GIBLETS (liver, heart, gizzard)																			
23/70	R 4066	28.42	28.21	.35	.23	.06	.03	.12	.06	.26	.15	.42	.42	3.86	3.86	.01	.01	.03	0	May 27/70	
	34267	Prince George Meat Products, Prince George BC.																			
Jan		Beef Liver ex Big Food																			
27	R 3708	43.92	43.43	.38	.35	.13	.09	.09	.01	.17	.09	1.52	1.44	17.00	16.90	.11	.11	.05 ^I	0	"	
	40759	Supermarket, Calgary, Alta																			
		Beef Liver ex Calgary Coop																			
	R 3709	45.32	44.79	.52	.37	.12	.10	.08	.01	.23	.16	1.35	1.33	5.92	5.78	.10	.10	.02 ^T	0	"	
	40760	Centres, Calgary, Alta.																			
		Beef Liver ex Econo Mart, Vanc.																			
30	R 3751	47.80	47.20	.86	.80	.18	.13	.08	.05	.17	.06	1.32	1.32	39.30	38.90	0	0	.01	0	"	
	33031	mfg Tenderland Meats, Vanc																			
Feb		Beef Liver - ex Kamloops Meats																			
3	R 3804	49.70	49.00	.96	.90	.41	.38	.15	.04	.23	.01	1.18	1.16	13.70	13.40	0	0	.04	0	"	
	26320	mfg Houghton Ranch, Barriere, B.C.																			
		Beef Liver - Kamloops Meats																			
	R 3805	56.20	55.50	.82	.70	.18	.14	.11	.05	.19	0	1.32	1.29	10.42	10.29	0	0	.01	0	"	
	26321	mfg Dale Miller, Pritchard BC																			
Feb		Calf Liver ex Safeway																			
4	R 3739	38.91	38.38	.44	.29	.09	.05	.05	0	.17	.12	1.52	1.48	18.70	18.30	.09	.09	.03 ^T	0	"	
	45422	Edmonton																			
Feb		Pork Kidney ex Safeway																			
27	R 4135	26.51	26.30	.41	.41	.63	.59	.14	.09	.51	.43	.29	.29	6.11	6.05	.04	.04	.03	0	"	
	29791	Coquitlam BC.																			
		Pork Kidney ex Super Valu																			
	R 4142	28.40	27.88	.34	.24	.34	.30	.14	.09	.25	.16	.36	.36	6.35	6.29	.03	.03	.04	0	"	
	29798	Surrey BC.																			
Jan		Beef Kidney ex Safeway																			
29	R 3756	20.00	19.50	.60	.54	.27	.23	.07	.04	.22	.08	.35	.35	3.43	3.53	0	0	.06	0	"	
	33028	Vancouver B.C.																			
30		Beef Kidney ex Highlow Foods																			
	R 3765	21.70	21.40	.60	.55	.57	.52	.05	.03	.22	.03	.40	.38	3.43	3.56	0	0	.03	0	"	
	33033	Surrey BC																			
Feb		Old Salt Smoked Sardines in Soy & Oil																			
18	R 4002	16.57	16.57	.74	.48	.12	.01	.41	.18	.64	.47	.27	.27	1.08	1.04	.09	.09		0	"	
	34	5x3 1/2 qtins ex Safeway Vancouver																			
		mfg - Connor's Bros, Black Harbour.																			
Jan		Chicken																			
21	R 4603A	18.47	18.29	.50	.46	.08	.02	.06	.02	.16	.06	.17	.17	.79	.71	.05	.05	.027 ^T	0	June 9/70	
	" B	5.39	5.08	.58	.50	.13	.10	.05	Nil	.16	.05	.12	.12	.31	.27	.06	.06	.025 ^T	0	" "	
	00409	Chicken Breast " " "																			

5.

		Zn		Pb		Cd		Co		Ni		Mn		Cu		Cr		Hg	As
		U	C	U	C	U	C	U	C	U	C	U	C	U	C	U	C		
Jan 16/70	R 3492 Ground Beef - Safeway Red Deer, Alta 45234	39.01	38.43	.28	.27	.08	.04	.04	Nil	.12	.06	.14	.16	.60	.56	.05	.05	T	0 June 9/70
"	R 3490 Pork Liver - Safeway Red Deer, Alta 45244	63.42	62.90	.52	.44	.15	.10	.15	.08	.19	.06	2.02	1.96	6.29	6.14	.06	.06	T	0 "
"	R 3494 " " - Safeway Red Deer, Alta 45236	74.54	73.86	.44	.37	.08	.02	.09	Nil	.16	.06	1.37	1.34	4.91	4.85	.05	.05	T	0 "
"	P 3482 Beef Liver - Central Abattoir Red Deer mfg Frahn Brayford, Red Deer. 45239	39.93	38.77	.52	.50	.22	.17	.12	.02	.22	.13	1.41	1.34	3.31	3.07	.05	.05	T	0 "
"	P 3483 Beef Liver - Central Abattoir, Red Deer mfg. AW Purdie Red Deer, Alta. 45240	41.54	40.62	.32	.27	.13	.09	.08	Nil	.20	.10	1.86	1.78	2.16	2.04	.04	.04	T	0 "
"	P 3484 Beef Liver - Central Abattoir, Red Deer mfg M. Van lent Red Deer, Alta 45241	55.23	53.82	.41	.35	.11	.06	.12	.09	.19	.05	2.06	1.99	3.44	3.40	.04	.04	T	0 "
"	R 3485 Beef Liver - Woodward's Edmonton. 45193	50.81	49.74	.30	.27	.19	.14	.06	Nil	.15	Nil	1.72	1.66	17.20	17.20	.04	.04	T	0 "
"	R 3487 Beef Liver - Queen City Meats Edmonton 45192	42.12	42.12	.45	.41	.18	.14	.15	.06	.22	.12	1.87	1.80	9.98	8.69	.04	.04	T	0 "
"	R 3491 Beef Liver - Safeway Edmonton 45245	36.43	36.58	.41	.36	.15	.10	.12	.01	.19	.05	1.61	1.56	2.27	2.28	.05	.05	T	0 "
Jan 21	R 3605 Halibut Steaks - Safeway Victoria 45420	5.30	4.94	.33	.24	.12	.06	.08	Nil	.27	.05	.12	.12	.33	.25	.04	.04	T	0 "
May 11	M 662 Milk (family cow) - Richmond, Health Unit. 67187	7.90	7.56	.31	.27	.07	.03	.14	.04	.15	.06	.07	.07	.37	.32	.05	.05		June 15/70
"	M 663 3 Eggs " " " 67187	12.92	12.44	.28	.14	.06	.03	.07	.01	.19	.03	.24	.24	.89	.85	Nil	Nil		"
"	M 664 Beef Soup Bone - R Stern, " " " 67185	38.73	36.86	5.51	2.35	.50	0	.98	Nil	3.22	.46	.54	.16	2.84	1.76	Nil	Nil		"
"	M 665 Rhubarb - D. Penney " " " 67185	4.00	3.86	.22	.19	.07	.03	.03	.03	.93	.85	.81	.81	1.14	1.10	.08	.08		"

			Zn	Pb	Cd	Co	Ni	Mn	Cu	Cr	Hg	As									
			U	C	U	C	U	C	U	C	U	C	U	C							
May 1/70	666 Mint	Richmond Health Unit	June 25/70						June 30/70						June 15/70						
	M L Stern, Richmond		33.04	32.63	12.41	12.28	.26	.13	.18	NIL	.93	.51	13.48	13.48	5.04	5.04	.31	.31	.02		
	67183		June 25/70						June 30/70												
"	667 Mint	" " "	45.33	44.10	38.45	37.74	.31	.23	.33	.09	1.70	1.15	39.28	39.28	14.57	14.24	.26	.26	.07		"
	67182																				
Apr 23	R 360 - Lucerne Part Skim Milk - 19t - Safeway	Edm.													Nil		"				
	74877	Lot 4-25 mfg Jasper Dairy																			
24	R 408 - Clearbrook Farms 19t. Super Valu	Vanc.													.03		"				
	65832	Part Skim Milk - 2% - Vanc.																			
23	R 359 - Milko 16g - Centennial Food	Mkt - Edmonton													.05		"				
	74875	9B24 mfg - Milko Prod, Montreal																			
23	R 364 - Klim 16g - Centennial Food	Mkt, Edmonton.													.04		"				
	74876	T7145 mfg - Borden, Toronto																			
22	R 404 - Clearbrook 16g Econmart Vanc.	Vanc.													.02		"				
	65836	9H11																			
24	R 406 - Pacific 16g - Econmart, Vanc	Vanc.													.04		"				
	65834	20480																			
23	R 358 - Light Rye Bread 20g - Centennial Food	Mkt - Edmonton													Nil		"				
	74873	mfg - Italian Can Bk, Edm.																			
23	R 363 - McGavin's 20g MM Store	Edmonton													.03		"				
	74872	mfg. McGavin's Toastmaster - Edmonton																			
24	R 416 - Bread 20g - Ital. Can. Bakery (mfg)	Edmonton													.03		"				
	74778	mfg - L Mart - Edmonton																			
24	R 417 - Sunrise 20g - L. Mart - Edmonton	Edmonton													.02		"				
	747	mfg - Sunrise Bakery																			
24	R 401 - Uncle Tom's Patna 2lb - Econmart	Vanc.													Nil		"				
	65839	mfg - Texas Long Grain Rice - Preiswerk - Vanc.																			
24	R 407 - Minute 24g - Econmart, Vanc	Vanc.													Nil		"				
	65838	mfg - General Foods, Vanc.																			

7.

[illegible]

8.

[illegible]

FHCA - Trace Elements

7.

			Zn		Pb		Cd		Co		Ni		Mn		Cu		Cr		Hg		As		
			U	C	U	C	U	C	U	C	U	C	U	C	U	C	U	C					
pr		Milko Powd 1lb. Super-Valu Kamloops																					June
9/70	R 535-34422	Skin Milk mfg Milko, Montreal																	.08				19/70
9	R 545-00488	Woodwards - 1lb - Woodward's, Victoria, BC																	.09				"
7	R 463-65752	Sky lark White Bread 24g - Safeway, Vanc. (Butter & Eggs) mfg McDonald's, Consolidated Vancouver																	.03				"
9	R 536-34417	60% Whole Wheat - 1 loaf Safety Mart Kamloops mfg McGavin's - Kelowna BC																	.04				"
9	R 537-34418	Whole Wheat - 1lb - Harris Mkt, Kamloops (Zoom) mfg Fisher Flour Milling Seattle, Wash, USA																	.02				"
9	R 533-34425	1lb - Pacific Fruit, Kamloops mfg Marchal, Grand Forks BC																	Nil				"
9	R 549-00492	2lbs - Woodward's, Victoria mfg Swartz Bros, Vancouver Product of USA																	.03				"
9	R 550-00493	Idaho 2lbs - Woodward's, Victoria mfg Idaho Pot. Packers Idaho Falls, USA																	.03				"
9/70	R 3627-45246	Beef ex Safeway Red Deer Liver mfg unknown, Alta	36.81	36.29	.69	.50	.10	.07	.08	0	.27	.16	1.15	1.10	2.77	2.77	.09	.09	T				June 23/70
9	R 3737-45420	Calf ex Edmonton Coop Edmonton Liver mfg unknown	51.30	50.57	.51	.42	.08	.07	.05	0	.19	.16	1.36	1.32	30.40	29.50	.07	.07	T				"
9	R 3738-45421	Calf ex Queen City Meats Edmonton Liver mfg unknown	41.03	40.63	.70	.52	.13	.11	.04	0	.22	.17	1.02	1.00	6.20	6.07	.09	.09	T				"
7	R 3711-40763	Pork ex Calgary Coop Centres Liver mfg unknown Calgary	55.98	55.13	.51	.43	.10	.08	.04	0	.41	.36	.80	.78	5.31	5.25	.07	.07					"
7	R 3712-40763	Chicken ex Safeway, Calgary Liver mfg " Winnipeg	31.92	30.93	.53	.40	.19	.16	.05	0	.32	.21	1.35	1.30	3.75	3.60	.08	.08	T				"
9	R 547-	Homog. ex Alpina Food Mkt. Victoria MILK mfg Island Farms Dairies Victoria BC																	.02				"

		Zn		Pb		Cd		Co		Ni		Mn		Cu		Cr		Hg	As			
		U	C	U	C	U	C	U	C	U	C	U	C	U	C	U	C					
April	546	Skim Milk ex Woodward's Victoria																				June
29/70	R 546	Powder mfg FWMPA Burnaby BC																		.07		23/70
	00489																					
"	R 555	Enriched White Bread mfg ex Woodward's, Victoria																		.02		"
	00498																					
"	R 554	Brown Bread mfg ex Woodward's, Victoria																		.05		"
	00497																					
"	R 540	Rye Bread mfg ex Park Ave Bakery Kamloops BC																		.06		"
	34419																					
"	R 553	Pearl Barley mfg ex Woodward's, Victoria																		NIL		"
	00496																					
24	R 428	Constant ex L. Mart - Edmonton																		NIL		June 29/70
	74779	Cabbage mfg Kelly Veg Farms Oxford - Calif																				1
June	R 1225	Green ex Super Valu - Vanc																		NIL		"
9	32128	Cabbage mfg " " "																				
"	R 1226	Red ex Safeway Vanc																		NIL		"
	32127	Cabbage - mfg " "																				
"	R 1236	Nugget Dry Belt ex Safeway Vanc																		.01		"
	32125	Potatoes mfg Acme Packers Vancouver																				
April	R 548	Northwestern 1 qt ex Eatons Victoria																		.03		"
29	00491	Homogenized Milk mfg Northwestern Creamery - Victoria																				
June	R 1234	Clearbrook 1 lb ex Super Valu Vanc																		.01		"
9	32124	Skim Milk Powder mfg Kelly Douglas Vanc																				
Apr	R 551	2 Heads ex Woodward's Victoria BC																		NIL		June 30
29	00414	Cabbage Ex USA ex Swartz Bros Vancouver BC																				
Jan	R 3744	23.90	23.30	.65	.56	.15	.11	.07	.04	.22	.07	.93	.92	3.10	3.06	0	0	T	0	"		
27/7	45427	Chicken Livens mfg ex Safeway Edmonton																				
"	R 3741	92.60	91.50	.54	.38	.15	.08	.11	0	.35	.15	.98	.93	8.66	8.61	0	0	T	0	"		
		Pork Liver mfg ex Coop - Edmonton																				

1

		Zn		Pb		Cd		Co		Ni		Mn		Cu		Cr		Hg	As							
		U	C	U	C	U	C	U	C	U	C	U	C	U	C	U	C									
Jan		Pork ex Queen City Meats, Edm.																						June		
29/70	R 3742	40.50	40.50	.43	.36	.10	.06	.05	.01	.21	.07	.92	.87	3.53	3.52	0	0	T	0	30/70						
	45425																									
"	R 3743	71.80	70.60	.86	.74	.11	.07	.08	0	.48	.38	1.00	.96	4.04	3.99	0	0	T	0	"						
	45426																									
30	R 3757	51.20	50.50	.92	.78	.18	.12	.07	.03	.20	0	1.32	1.25	38.20	37.50	0	0		0	"						
	33029																									
"	R 3764	60.90	60.40	.58	.48	.18	.12	.04	.03	.35	.20	1.32	1.32	6.04	5.98	0	0		0	"						
	33034																									
"	R 3758	54.20	54.20	1.09	1.05	.16	.13	.10	0	.23	.09	1.08	1.06	24.20	24.20	0	0		0	"						
	33030																									
Apr	R 552	1 lb ex Woodward's																						July		
29/70	00495	Flax Seed mfg Victoria Vancouver																			.01			3/70		
June	R 1361	Whitefish ex North Health Services																						"		
19/70	67010	Yellowknife NWT																			.02					
"	R 1362	" " " "(Guts)																			.02			"		
	67009	" " " "(Flesh)"																			.05			July 10/70		
Feb	R 3848	22.70	22.40	.27	.12	.05	.04	.10	.06	.20	.17	.14	.14	.58	.58	.19	.19	0	0	July 8/70						
1/70	26336	Chicken ex Cooper's Discount Store Tilghs mfg Valsyniew, BC ex Scott's Poultry, Vanc BC																								
"	R 3847	15.60	15.38	.30	.16	.07	.06	.13	.10	.21	.17	.32	.31	.85	.85	.04	.04	0	0	"						
	26335	Frying Chicken ex Goodies Grocery BC Westcoast BC Pioneer Packers Kelowna BC																								
17	R 3951	22.40	24.40	.27	.14	.17	.14	.21	.13	.31	.25	.72	.70	3.74	3.68	.14	.10	0	0	"						
	29760	Calf ex Pacific Meat, Vanc BC Kidney mfg " " " "																								
17	P 3852	19.60	19.10	.53	.49	.61	.53	.16	.07	.28	.17	.67	.64	4.02	3.94	.06	.03	0	0	"						
	29761																									
3	R 3822	4.90	4.76	.29	.14	.09	.04	.16	.09	.32	.25	.08	.08	.39	.39	.25	.25	0	0	"						
	65291	Halibut ex Woodward's, Vanc mfg ?																								
3	R 3819	3.06	2.99	.23	.16	.09	.05	.15	.07	.24	.21	.08	.08	.28	.28	.06	.06	0	0	"						
	65292	Sole ex Woodward's Vanc Filets mfg ?																								

FHCA - Trace Elements.

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			Zn		Pb		Cd		Co		Ni		Mn		Cu		Cr		Hg	As
			U	C	U	C	U	C	U	C	U	C	U	C	U	C	U	C		
Feb 3/70	R 3820	Cod Piece ex Woodward's, Vanc 65289 mfg ?	4.71	4.59	.37	.28	.07	.03	.15	.10	.23	.19	.06	.04	.23	.23	.21	.26	0	July 8/70
"	R 3829	Cod ex Woodward's, Vanc 65298 mfg ?	6.49	6.06	.42	.26	.17	.09	.35	.06	.60	.24	.32	.32	.63	.49	.23	.23	0	"
"	R 3828	Finnan ex Woodward's, Vanc 65297 Haddie mfg ?	5.05	4.69	.63	.23	.16	.01	.34	.04	.68	.24	.74	.71	.25	.11	.44	.41	0	"
"	R 3826	Red Spring ex Woodward's, Vanc 65295 Salmon mfg ?	5.14	4.94	.39	.30	.10	.05	.15	.07	.29	.19	.14	.12	.39	.38	.16	.10	0	"
"	R 3827	Alaska ex Woodward's, Vanc 65296 Black Cod mfg ?	4.52	4.25	.47	.23	.10	.01	.29	.07	.42	.22	.17	.17	.21	.10	.21	.14	0	"
"	R 3821	Smelts ex Woodward's, Vanc 65290 mfg ?	13.52	13.28	.49	.26	.11	.04	.21	.06	.33	.21	.20	.20	.74	.68	.23	.18	0	"
"	R 3824	Oolichans ex Woodward's, Vanc 65293 mfg ?	6.02	5.76	.32	.22	.08	.06	.18	.10	.19	.12	.25	.25	1.34	1.29	.07	.04	0	"
"	R 3823	Mackerel ex Woodward's Vanc 65292 mfg "	9.48	9.34	.30	.23	.11	.06	.16	.09	.20	.15	.08	.08	.95	.95	.10	.10	0	"
"	R 3825	Herring ex Woodward's Vanc 65294 mfg ?	9.30	9.10	.41	.29	.11	.07	.23	.07	.37	.23	.51	.49	1.03	.48	.17	.12	0	"
"	R 3830	Fillet ex Woodward's Vanc 65299 Kippers mfg ?	9.12	8.58	.39	.27	.12	.01	.35	.15	.61	.22	.38	.37	1.06	.98	.30	.30	0	"
"	R 3831	Smoked ex Woodward's Vanc 65300 Kippers mfg ?	9.04	8.68	.59	.37	.19	.05	.40	.02	.67	.23	.70	.68	1.13	1.01	.38	.32	0	"
18	R 4001	Sunfside Canned ex Safeway Vanc 34205 Sardines in Veg Oil mfg, Welsh Ltd Fairhaven, NB	15.68	15.26	.34	.14	.15	.05	.42	.15	.48	.18	.70	.65	.90	.68	.37	.32	0	"
18	R 4003	Sea Trader Canned ex Safeway Vanc 34207 Brishing Sardines mfg, MacDonald's Product of Norway Vanc	36.30	35.40	.70	.39	.21	.11	.29	.03	.48	.31	1.26	1.26	1.12	.90	.42	.36	0	"

FHCA - Trace Elements

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		Zn	Pb	Cd	Co	Ni	Mn	Cu	Cr	Hg	As
		U	C	U	C	U	C	U	C	U	C
June	R 1363 Whitefish									.05	July 10/70
19/70	67012										
esc Northern Health (Flesh)											
mfg? Yellowknife NWT											
"	R 1364									.05	"
	67008									.02	"
(Flesh)											
"	R 1360									.02	"
	67010										
(Flesh)											
May	I 644 Smoked Red Spring Salmon									.05	July 14/70
6/70	67176										
Sea Trader Canned 2x 3 2/3 oz											
ex Japan											
26	R 1198 Wheat Grain									.03	"
	59436										
ex Farmer's Supply Nelson BC											
mfg Cereal Wholesale Calgary, Alta											
June	R 12275 Kim Milk									.10	"
9/70	32123										
Lucerne ex Safeway Vanc.											
Powder mfg?											
"	R 1229 Homo Milk									.01	"
	32121										
Lucerne ex Safeway Vanc.											
mfg?											
"	R 1230 Dairy land Homo Milk									.02	"
	32122										
ex Super Valu - Vanc.											
mfg FVMFA, - Vanc.											
May	P 979 Egg White									.16	July 17/70
25/70	12440										
Unpast. Powd. ex Brookside Farms											
mfg Lyngley BC											
ditto.											
June	R 1231 Pot. Barley									.02	"
7/70	32119										
Townhouse ex Safeway Vanc.											
mfg Macdonald Consol. Vancouver BC											
"	R 1232 Silhouette Bread									.04	"
	32118										
ex Safeway Vanc.											
mfg Macdonalds, Consol. Vancouver B.C.											

Regional Director,
Vancouver.

900-1-7

920-2-4

Director,
Bureau of Operations.

July 14, 1970.

PROJECT FHCA - HEAVY METAL SURVEY

This is in reply to Mr. Ford's memorandum of
July 3, 1970.

Attached are the mercury and arsenic findings by Dr. Jervis and Dr. Sandi on those specimens analyzed from your Region. As you are aware, Dr. Jervis has been deluged with samples from various agencies including our own and with limited output capability he has had to be selective as to what he was able to do. This is one reason for FDD jumping in with a crash project of its own. With respect to Dr. Sandi he has been able to "beef-up" his operation with summer students of late and tells me he expects to catch up on outstanding samples in a matter of weeks.

With respect to mercury work in the future, I would not worry about outstanding samples now in the hands of Dr. Jervis but; rather concentrate on fulfilling the project requirements as outlined in my memorandums of April 10 and June 26, 1970.

As for the intermix of determinations required for any one sample this is an operational decision within your office. However, in general it is likely good practice to run the gamut for all elements where workload permits.

I would like to emphasize that FDD current interest respecting mercury lies with animal and cereal products because of early indications of mercury build-up in foods as a result of the feed-animal cycle. Flour, eggs and milk products are of particular interest.

Finally, a decision has been made to have the Winnipeg Laboratory become the project centre for mercury work. Winnipeg is now operational but a 2-3 week shakedown period will be required before project work is undertaken. In view of this, you will be advised as soon as possible as to what your sample input will be in terms of the Winnipeg operation.

Original Signed by

M.T. ROBBERSTAD

CC: Regional Director
Winnipeg
Toronto
Montreal
Halifax

M. T. Robberstad,
(for) Director,
Bureau of Operations.



MEMORANDUM

CLASSIFICATION

TO
A

Director, Bureau of Operations,
Food and Drug Directorate,
Tunney's Pasture,
Ottawa 3, Ontario.
Attention: Mr. M. T. Robberstad.

YOUR FILE No.
Votre dossier

OUR FILE No. 900-1-7.
Notre dossier

FROM
De

Food and Drug Directorate,
Vancouver, B. C.

DATE July 3, 1970.

SUBJECT
Sujet

Heavy Element Survey.

March 9, 1970, we sent 46 specimens to Toronto for mercury and a duplicate set to Ottawa for arsenic.

May 21, 1970, we sent another 46 specimens to Ottawa for arsenic.

To date, we have had no results from either laboratory.

In the meantime, we have carried on the eight element (Zn, Pb, Cd, Co, Ni, Mn, Cu, Cr.) and the mercury survey more or less independent of each other.

The eight elements by AA have been completed on 80 samples.

Of these, we have done mercury on 51.

Nineteen of the remainder are in the hands of Dr. Jervis.

Should we wait for Dr. Jervis or should we assess the missing mercuries by dithizone wherever possible and send you photostats of our completed tabulation sheets?

We have another 53 samples currently in process for the eight elements with mercury planned on four of them.

Again, others are in the hands of Dr. Jervis. Should we complete the mercuries ourselves?

In addition, we have done 62 samples for mercury only and plan 35 more to finish up the first quarter survey.

Should we also do the eight other elements on these mercury samples and send portions to Ottawa for arsenic?

LF/mm

L. Ford
L. Ford,
for
Regional Director.

Send what ever data we have on arsenic + mercury

Should you should carry out the 14 people asking the question for Dr. Jervis. I don't think Dr. Jervis is being difficult asking for all samples in their interest in mercury. It is our opinion you at least fulfill goal of the 110 sample as

MEMORANDUM

CLASSIFICATION

Dr. B. Sandi,
Toxicology Division,
Food & Drug Directorate,
Tunney's Pasture,
Ottawa 3, Ontario.

YOUR FILE No.
Votre dossier

OUR FILE No. 900-1-7.
Notre dossier 920-1-12.

Food and Drug Directorate,
Vancouver, B. C.

DATE May 21, 1970.

Trace Element Project FHCA.

SUBJECT
Sujet

Enclosed are copies of the "Record of Specimen Taken" for forty-six samples of the trace element project, as per Mr. M. T. Robberstad's instructions of November 26, 1969.

The forty-six samples, arriving under separate cover, frozen and packed in dry ice, are for arsenic determination. The samples, in most instances, consist of homogenized edible portions only and were prepared as follows:

- 4 Apples - Peeled, cored and blended, Lab. Nos. 3749, 3750, 3753, 3754.
 - 4 Beef Liver - Blended. Lab. Nos. 3751, 3757, 3804, 3805.
 - 2 Ground Beef - Not blended. Divided into three portions, Lab. Nos. 3752, 3755.
 - 2 Beef Kidney - Blended, Lab. Nos. 3756, 3765.
 - 2 Calf Liver - Blended, Lab. Nos. 3758, 3764.
 - 1 Eggs - Blended 1 dozen, Lab. No. 3812.
 - 13 Fish - Not blended, cut into sections, Lab. Nos. 3819, 3820, 3821, 3822, 3823, 3824, 3825, 3826, 3827, 3828, 3829, 3830, 3831.
 - 1 Boiled Oysters in 8 oz. Tins - Blended, Sample No. 3927.
 - 3 Sardines in 3½ oz. Tins - Blended, Sample Nos. 4001, 4002, 4003.
 - 6 Chicken - Not Blended - Meat cut away from bone, Sample Nos. 3847, 3848, 4066, 4067, 4105, 4159.
 - 2 Calf Kidney - Blended - Sample Nos. 3951, 3952.
 - 2 Pork Kidney - Blended - Sample Nos. 4135, 4142.
 - 2 Pork Liver - Blended - Sample Nos. 4136, 4140.
 - 2 Pork Sausage - Blended - Sample Nos. 4137, 4141.
- 46 Samples

JW/mm
Encls.

→ cc Mr. M. T. Robberstad.

Jack West, Chemist,
for
Regional Director.

John E. West

Regional Director,
Vancouver, B. C.

920-2-4

Director,
Bureau of Operations.

May 4, 1970.

LEAD POISONING AND TRACE ELEMENTS - PROJECT PHAC - TRAIL, B.C.

Relative to your memorandum of April 17, 1970, on the Trail situation with respect to lead residues has been referred to Dr. Morrison's office in case an inquiry from the Minister's office should be received.

Concerning any future actions in this problem area, it is felt that a certain amount of monitoring of vegetables grown for commercial use should take place during the course of the program year to satisfy any public or political concerns about the effect of pollution.

(for) Director,
Bureau of Operations.

MTR:PGDM:PW

MEMORANDUM

2
CLASSIFICATION

TO
A

Director - Bureau of Operations,
Ottawa.

YOUR FILE No.
Votre dossier

Atten: Head, Food Programs

OUR FILE No. 910-7-1
Notre dossier

FROM
De

Food and Drug Directorate,
Toronto.

DATE April 20, 1970

FOLD
SUBJECT
Sujet

Trace Elements - Project FHCA

This memo will confirm our conversation by telephone this morning.

To recapitulate, we have considered that the most obvious way to acquire specimens with the background information of origin area of the animal as per page 2, Project FHCA, is through Health of Animals registered plants which supply by far the majority of the consumers with meat.

We therefore sought to further Directorate relationship with CDA - Health of Animals and telephoned Dr. E.A. Willick, Assistant District Veterinarian to inform him of our proposed sampling at registered plants and seek his co-operation.

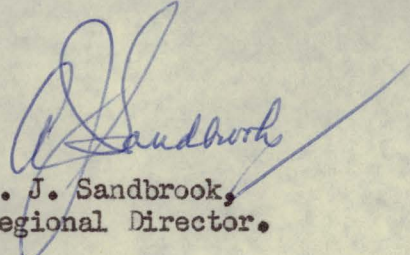
Dr. Willick asked that this be put to him in writing and, although it was considered an unusual request, this was done on March 25th, 1970.

Later, on April 17/70, we received a reply from Dr. Willick and find that he considers this a matter for Dr. Hetherington's study. As you will note, we are asked to provide information to enable Health of Animals to judge whether our program should be carried out in registered plants.

My point to make now is that we are not aware that the obtaining of samples is other than a matter between company management and ourselves and feel that Health of Animals are assuming additional authority unnecessarily.

We therefore enclose photocopies of correspondence for your review and would ask for guidance and comment since it is obvious that co-operative relationship will suffer if we proceed, therefore we will delay Project FHCA until your comments are available.

We will not reply to Dr. Willick until such guidance is received.


(for) A. J. Sandbrook,
Regional Director.

AJS/ad



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