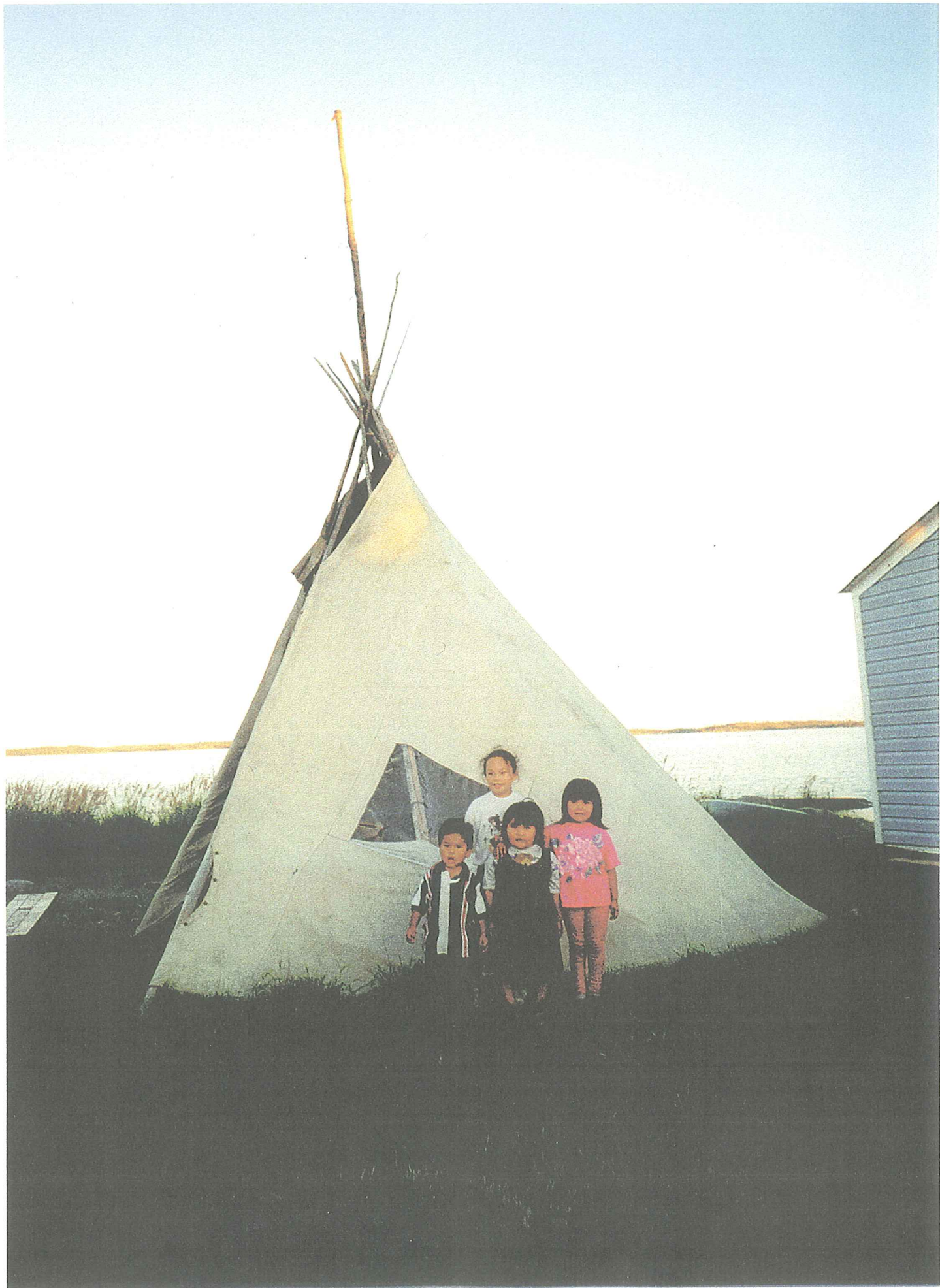




**YELLOWKNIVES DENE FIRST NATION
LAND AND ENVIRONMENT COMMITTEE'S
MEDICINAL PLANTS STUDY REPORT
2002-2003**

**Submitted to Northern Contaminants Program
DIAND, YELLOWKNIFE, NT**

Traditional and Current Medicines from the Bush

When I was young I have had the good luck to assist my family elders in the preparation of bush medicines when they needed to get rid of colds, coughs or the occasional serious pneumonia. Here are some of the stories of what was prepared in the making of the "bush medicine". There are other people's stories too that may help in traditional preparations of "bush medicines".

Boiled spruce tree cones:

I helped my grandmother Helen Drybones (nee Fishbone) when she was boiling spruce tree cones for helping someone who had a cold. She used a birch tree's inner soft layering of soft velvety pulp for boiling and it was supposed to help with inner tummy problems.

Lichen soup:

My grandmother's soup was made more than once but Mary Adele Sangris once talked about this soup my granny had made. She said that she, who was my grandmother's niece, had the chance to taste this soup. The lichen was boiled and my grandmother had put some fish into it for taste. I asked the woman Mary Adele, "What did the soup taste like?" She said it tasted terrible, probably like eating dirt! My grandmother believed that this lichen was supposed to be good for your whole system, keeps you regular and all that. At least that's what I understood then.

Birch tree pulp medicine/syrup:

My father Philip Crapeau used to talk about his mother Zeelee (Julie Tatsiechele) Crapeau to me. My grandmother used to make syrup from birch trees at Drybones Bay when they traveled to that area for spring hunts. My father said that it was the best syrup but that granny used to make a lighter version of the syrup which was used for helping with colds, or other maladies that hurt and ached you.

Cranberry Medicine:

Once when I was about ten or so, I was visiting my best friend Alice Charlo (now Alice Abel) at her home with her grandmother Marie Charlo in Wool Bay. Alice's aunt Madeline had just come back from checking the fish net with her nephew Jean Baptiste. I was there to see how many fish and to help eat the fish gizzards and fish pipes since when you are young, you are always hungry. Alice's granny would always allow us to cook whatever we wanted on the open fire and indulge. During one of these times, Madeline's son Peter had an infection from a cut on his face. She did not have any medicine from the Yellowknife doctor at home so she was going to get some cranberries and put it on his face and it was to stop the infection and help with the healing. Later in a

week or so I noticed that Peter's face was clear and noticed just a little marking but he was okay.

Labrador Tea leaves medicine:

A couple of years ago, when my father had pneumonia, I took him to the hospital and he was given antibiotics and sent home with me. I was afraid he would have a hard time to recover. Alfred Baillargeon came to visit and upon hearing about my father's illness he went home and came back with a bunch of Labrador tea, branches and all. He instructed me to boil it in a big cooking pot with lots of water and to let my father drink the tea.

With the antibiotics, deep heating medicine rubbing on the chest, back and neck and the Labrador tea, my father recovered within ten days. When I returned to the doctor's office for a checkup, the good doctor was amazed to see how the pneumonia had cleared up so well. He said that even with younger people who have pneumonia, they usually take quite a long time to get better. So he was wondering what we were doing to help my father get better so fast! I explained about the traditional medicines that Dene still used today.

K'a K'o (leaves from a Hay River area):

I once drove the late Joe Charlo and his wife Judy Charlo and my sister Helen Tobie to Hay River for a funeral at the Hay River reserve several years ago. When we were at the cemetery, when my father noticed a willow type of tree growing with leaves and he started to break off branches. I helped him to pick some of the branches and while we were doing this he explained that this type of bush medicine was good for the kidneys and general good maintenance of the waterworks system of the body. I asked him if we had that type of branches in Wool Bay or Drybones Bay. He said this medicine was from south of Great Slave Lake only. He brought some home with him and when the late Sophie Potfighter heard he had some of this medicine, she asked him for some.

These are some of the types of medicinal plants that give the Dene residents of Dettah, Ndilo and Yellowknife good reasons to still use the bush medicine.

Background of study:

In 1998-1999, the Yellowknives Dene First Nation Land and Environment committee conducted a study of the berries in the Giant Mine, Yellowknife Bay, and surrounding areas. This study was done with DIAND's Northern Contaminants Program and the Dene Nation. The purposed was to have the berries checked for the quantity and toxicity of the arsenic content. The arsenic was on the land, water and quite possibly in the berries that families picked for eating. The arsenic was originally from the gold mine of Giant Mine.

The people of Dettah and Ndilo would go for berries and the Land & Environment committee members felt there could be problems with eating too many berries.

Therefore berries were picked and packaged and sent to CINE (Centre for Indigenous Nutrition and Environment) at McGill University of Montreal, Quebec. Dr. Laurie Chan of CINE laboratory checked the berries and provided some interesting answers for the people of Dettah and Ndilo.

The elders and the Land and Environment committee members then wanted to know if there could be some arsenic in berries, there certainly could be arsenic in medicine since elders still use bush medicine. We then asked Dr. Chan if he would check the medicinal plants for the committee. He agreed to check the plants and therefore the study was started.

Methodology:

There were five participants in the medicinal plant collection from Ndilo and Dettah. John Crapeau, Leo A. Betsina, Lawrence Goulet, Angus Martin and Noel Doctor. They traveled by vehicle and boat to various locations and picked medicinal plants.

The plants when they were all collected, locations were noted on the maps and reports and sent to CINE lab in Montreal to Dr. Laurie Chan. He was given instructions on how the usual preparations were done when using the "bush medicine".

Results of the study:

The medicinal plants from around the Giant Mine area, Ptarmigan Mine area; Con Mine area and locations closer to Yellowknife had some evidence of arsenic in them.

But most of the elders and the residents of the Ndilo and Dettah communities would only travel to places farther from Yellowknife to get their medicinal plants. They would go as far as Drybones Bay, Enodah area, Duck Lake near Dettah or even MacKay Lake when they go caribou hunting in the fall to collect the bush medicine.

These medicinal plants were checked and it seemed that the farther from Yellowknife plants were considered safe for use in the preparation for medicinal use by families of Dettah and Ndilo.

Dr. Laurie Chan had checked the medicinal plants and he provides us with the figures and explanation with his laboratory results from the CINE lab at McGill University in Montreal, Quebec.

Dr. Chan's study results are listed in his report attached:

RISK CHARACTERIZATION OF ARSENIC EXPOSURE FROM CONSUMPTION IN HERBAL TEA IN THE YELLOWKNIVES DENE FIRST NATION TERRITORY

SUMMARY IN PLAIN LANGUAGE

We have measured arsenic in herbal tea samples collected from the Yellowknives Dene First Nation territory. Higher concentrations of arsenic were found in samples collected near the Giant mine and Con mine areas. We found that the herbal plants can take up some arsenic in the soil and get into the brewed tea. It is not advisable to collect herbal plants from the nearby mine areas but tea made from other plants from other areas are safe.

I) OBJECTIVES:

The overall objective of this project is to characterize the risk of exposure to arsenic (As) from harvesting and consuming herbal tea for medicinal purposes from the Yellowknives Dene First Nation territory.

II) RATIONALE:

Dr. Laurie Chan of CINE reported the results of the previous meeting on (As) in berries to the Elders and the Environment Committee. There was a discussion on peoples' concern on the safety of herbal tea used in the community for medicinal purposes.

III) ACTIVITIES

Plant samples (n=122) received at CINE were stored at -20°C until analysis. One gram of material in 20 mL of water, held at 100°C for 15 min (it took approximately 1 hour to reach 100°C) produced a very thick mixture with some sample types such as spruce gum, labrador tea, rock tripe and birch tree kle'tah. Our mixtures is about 10 times more concentrated than a traditional preparation. Standards were prepared in a brew of commercial English breakfast tea (two bags in 200 mL water, boiled 10 minutes, then filtered). A second set of spiked standards was prepared in a brew of commercial herb tea (prepared as above) and run as unknowns. The 0 and 10 ppb samples produced values of 5.4 and 3.9 ppb, respectively. The 20 and 50 ppb samples produced values of 21.9 and 48.0 ppb, respectively. A 20 ppb spiked sample prepared in breakfast tea = 21.7 ppb. A hollow cathode lamp was used for all measurements. The mean detection limit for three runs was 15.99 ppb.

IV) RESULTS

(As) concentrations in the samples are presented in Table 1. Concentration of (As) measured in the lab was adjusted to estimate the concentrate of (As) in typical tea samples brewed in the community. The amount of samples supplied in each bag (Table 1) brewed in 5 L of water for

spruce branch and cones, 8 L for Labrador tea and 1 L for the others. All concentrations in tea are expressed as ug/L. Results are expressed by location.

Only 39 out of the 122 samples had detectable amount of (As). Highest concentration was found in the tea brewed from lichens collected from the Giant mine (527.4 ug/L). Four other samples from Con mine had (As) concentrations higher than 100 ug/L (spruce bark, spruce branch, lichen, and tamarack bark). The only sample that had higher (As) concentrations and not from the mine area is a birch tree from Wool Bay (158.5 ug/L).

The tolerable level for (As) in drinking guideline used by Health Canada is 25 ug/L and the guideline for fruit juices, cider, wine and beverages as consumed and water in sealed containers is 100 ug/L.

V) CONCLUSION

Using the Health Canada guidelines, it can be concluded that the tea samples collected from the Yellowknives Dene First Nation territory had minimal risk for human consumption in terms of (As) exposure. The people may be advised not to drink tea brewed from herbs collected from the Giant and Con Mine.

Tea Project : Yellowknives Dene First Nations

Calculations based on teas being prepared with the amount of sample supplied in each bag in the following amounts of water:
spruce branch + cones in 5 liters, labrador tea in 8 litres, all others in 1 litre.

Arsenic

Lab preparation was 1 g sample in 20mL water.

Lab Code	Bag#	Sample	Harvest location	Wt in bag (g)	g/mL as used for tea	g/mL as prepared in lab	ratio lab/tea	ng/mL lab	mg/L tea
T 35	7	Birch tree bark	Tsi Shi Kla (beside Willow Lake)	50.32	0.050	0.05	0.99	bdl	bdl
T 19	5	Birch tree kle'tah	Mol K'e (near Wool Bay)	52.16	0.052	0.05	0.96	20.22	21.1
T 44	8	birch tree kle'tah	Tsi Shi Kla (between Bear Lake)	151.00	0.151	0.05	0.33	bdl	bdl
T 21	6	birch tree kle'tah	Wool Bay (near creek)	169.02	0.169	0.05	0.30	46.89	158.5
T 75	1	Blueberries	Drybone Bay	8.35	0.008	0.05	5.99	bdl	bdl
T 63	3	blueberry	Moose Bay	1.12	0.001	0.05	44.64	bdl	bdl
T 87	11	cranberries	Con Mine, near Meg Lake	5.29	0.005	0.05	9.45	bdl	bdl
T 96	12	cranberries	Con Mine, near Meg Lake	5.78	0.006	0.05	8.65	bdl	bdl
T 101	13	cranberries	Down creek fr Peg Lake, so of	7.47	0.007	0.05	6.69	bdl	bdl
T 82	10	Cranberries	Giant Mine shoreline	4.52	0.005	0.05	11.06	16.26	1.5
T 116	14	cranberries	So of Con Mine, shore of small lake	4.46	0.004	0.05	11.21	bdl	bdl
T 111	15	cranberries	To be confirmed with collector	3.21	0.003	0.05	15.58	bdl	bdl
T 122	17	cranberries	To be confirmed with collector	11.03	0.011	0.05	4.53	bdl	bdl
T 76	2	cranberry	Drybone Bay	18.40	0.018	0.05	2.72	bdl	bdl
T 46	9	cranberry	Duck Lake (near creek)	6.43	0.006	0.05	7.78	bdl	bdl
T 68	4	cranberry	Jackfish Cove	1.02	0.001	0.05	49.02	bdl	bdl
T 11	3	cranberry	Moose Bay	13.98	0.014	0.05	3.58	bdl	bdl
T 30	7	cranberry	Tsi Shi Kla (beside Willow Lake)	13.87	0.014	0.05	3.60	bdl	bdl
T 36	8	cranberry	Tsi Shi Kla (between Bear Lake)	5.82	0.006	0.05	8.59	bdl	bdl
T 71	4	Elder berry	Jackfish Cove	6.08	0.006	0.05	8.22	bdl	bdl
T 14	5	elderberry	Mol K'e (near Wool Bay)	6.70	0.007	0.05	7.46	bdl	bdl
T 20	5	Grass from shore	Mol K'e (near Wool Bay)	2.71	0.003	0.05	18.45	18.04	1.0
T 98	12	Juniper beries	Con Mine, near Meg Lake	10.61	0.011	0.05	4.71	bdl	bdl
T 100	13	juniper beries	Down creek fr Peg Lake, so of Con Mine	7.50	0.008	0.05	6.67	bdl	bdl
T 114	14	juniper beries	So of Con Mine, shore of small	11.18	0.011	0.05	4.47	bdl	bdl
T 108	15	juniper beries	To be confirmed with collector	19.55	0.020	0.05	2.56	bdl	bdl
T 29	7	juniper berry	Tsi Shi Kla (beside Willow Lake)	28.87	0.029	0.05	1.73	bdl	bdl
T 56	12	labrador tea	Con Mine	61.72	0.008	0.05	6.48	105.29	16.2
T 88	11	labrador tea	Con Mine, near Meg Lake	1.24	0.000	0.05	322.58	21.24	0.1
T 97	12	labrador tea	Con Mine, near Meg Lake	13.53	0.002	0.05	29.56	47.09	1.6
T 105	13	labrador tea	Down creek fr Peg Lake, so of Con Mine	9.21	0.001	0.05	43.43	bdl	bdl
T 74	1	Labrador tea	Drybone Bay	23.10	0.003	0.05	17.32	bdl	bdl
T 49	9	labrador tea	Duck Lake (near creek)	7.95	0.001	0.05	50.31	bdl	bdl
T 54	11	labrador tea	Giant Mine	256.12	0.032	0.05	1.56	45.44	29.1
T 78	10	labrador tea	Giant Mine shoreline	0.92	0.000	0.05	434.78	34.94	0.1
T 69	4	labrador tea	Jackfish Cove	5.70	0.001	0.05	70.18	bdl	bdl
T 17	5	labrador tea	Mol K'e (near Wool Bay)	0.88	0.000	0.05	454.55	bdl	bdl
T 12	3	labrador tea	Moose Bay	8.87	0.001	0.05	45.10	bdl	bdl
T 60		labrador tea	Ptarmigan Mine	49.64	0.006	0.05	8.06	24.95	3.1
T 113	14	labrador tea	So of Con Mine, shore of small lake	8.75	0.001	0.05	45.71	bdl	bdl
T 107	15	labrador tea	To be confirmed with collector	11.11	0.001	0.05	36.00	bdl	bdl
T 120	16	labrador tea	To be confirmed with collector	9.00	0.001	0.05	44.44	17.44	0.4
T 124	17	labrador tea	To be confirmed with collector	18.12	0.002	0.05	22.08	bdl	bdl
T 32	7	labrador tea	Tsi Shi Kla (beside Willow Lake)	5.78	0.001	0.05	69.20	bdl	bdl
T 62	8	labrador tea	Tsi Shi Kla (between Bear Lake)	12.66	0.002	0.05	31.60	bdl	bdl
T 28	6	labrador tea	Wool Bay (near creek)	14.52	0.002	0.05	27.55	bdl	bdl

Tea Project : Yellowknives Dene First Nations

Calculations based on teas being prepared with the amount of sample supplied in each bag in the following amounts of water:
spruce branch + cones in 5 liters, labrador tea in 8 litres, all others in 1 litre.

Arsenic

Lab preparation was 1 g sample in 20mL water.

Lab Code	Bag#	Sample	Harvest location	Wt in bag (g)	g/mL as used for tea	g/mL as prepared in lab	ratio lab/tea	ng/mL lab	mg/L tea
T 75	1	Blueberries	Drybone Bay	8.35	0.008	0.05	5.99	bdl	bdl
T 74	1	Labrador tea	Drybone Bay	23.10	0.003	0.05	17.32	bdl	bdl
T 72	1	Spruce bark	Drybone Bay	55.89	0.056	0.05	0.89	17.51	19.6
T 73	1	Spruce gum	Drybone Bay	3.40	0.003	0.05	14.71	bdl	bdl
T 76	2	cranberry	Drybone Bay	18.40	0.018	0.05	2.72	bdl	bdl
T 4	2	Water lily	Drybone Bay	14.47	0.014	0.05	3.46	bdl	bdl
T 5	2	water lily	Drybone Bay	no sample				no sample	
T 63	3	blueberry	Moose Bay	1.12	0.001	0.05	44.64	bdl	bdl
T 11	3	cranberry	Moose Bay	13.98	0.014	0.05	3.58	bdl	bdl
T 12	3	labrador tea	Moose Bay	8.87	0.001	0.05	45.10	bdl	bdl
T 13	3	Rock tripe	Moose Bay	13.52	0.014	0.05	3.70	24.65	6.7
T 9	3	Saskatoon berry	Moose Bay	6.20	0.006	0.05	8.06	bdl	bdl
T 7	3	spruce bark	Moose Bay	41.28	0.041	0.05	1.21	bdl	bdl
T 8	3	spruce gum	Moose Bay	7.35	0.007	0.05	6.80	bdl	bdl
T 10	3	Water plant	Moose Bay	9.41	0.009	0.05	5.31	22.31	4.2
T 6	3	Willow with leaves	Moose Bay	100.54	0.101	0.05	0.50	bdl	bdl
T 68	4	cranberry	Jackfish Cove	1.02	0.001	0.05	49.02	bdl	bdl
T 71	4	Elder berry	Jackfish Cove	6.08	0.006	0.05	8.22	bdl	bdl
T 69	4	labrador tea	Jackfish Cove	5.70	0.001	0.05	70.18	bdl	bdl
T 70	4	rock tripe	Jackfish Cove	10.53	0.011	0.05	4.75	26.70	5.6
T 66	4	saskatoon berry	Jackfish Cove	9.44	0.009	0.05	5.30	bdl	bdl
T 64	4	spruce bark	Jackfish Cove	30.88	0.031	0.05	1.62	bdl	bdl
T 65	4	spruce gum	Jackfish Cove	14.90	0.015	0.05	3.36	bdl	bdl
T 67	4	water plant	Jackfish Cove	0.97	0.001	0.05	51.55	bdl	bdl
T 19	5	Birch tree kle'tah	Mol K'e (near Wool Bay)	52.16	0.052	0.05	0.96	20.22	21.1
T 14	5	elderberry	Mol K'e (near Wool Bay)	6.70	0.007	0.05	7.46	bdl	bdl
T 20	5	Grass from shore	Mol K'e (near Wool Bay)	2.71	0.003	0.05	18.45	18.04	1.0
T 17	5	labrador tea	Mol K'e (near Wool Bay)	0.88	0.000	0.05	454.55	bdl	bdl
T 41	5	rock tripe	Mol K'e (near Wool Bay)	6.80	0.007	0.05	7.35	61.46	8.4
T 15	5	saskatoon berry	Mol K'e (near Wool Bay)	6.12	0.006	0.05	8.17	bdl	bdl
T 16	5	spruce gum	Mol K'e (near Wool Bay)	5.24	0.005	0.05	9.54	bdl	bdl
T 18	5	water lily	Mol K'e (near Wool Bay)	18.24	0.018	0.05	2.74	bdl	bdl
T 21	6	birch tree kle'tah	Wool Bay (near creek)	169.02	0.169	0.05	0.30	46.89	158.5
T 28	6	labrador tea	Wool Bay (near creek)	14.52	0.002	0.05	27.55	bdl	bdl
T 25	6	Pine tree bark	Wool Bay (near creek)	69.00	0.069	0.05	0.72	bdl	bdl
T 23	6	rock tripe	Wool Bay (near creek)	4.78	0.005	0.05	10.46	39.92	3.8
T 27	6	saskatoon berry	Wool Bay (near creek)	8.65	0.009	0.05	5.78	bdl	bdl
T 22	6	spruce gum	Wool Bay (near creek)	10.15	0.010	0.05	4.93	bdl	bdl
T 24	6	water lily	Wool Bay (near creek)	22.80	0.023	0.05	2.19	bdl	bdl
T 26	6	Water lily, smaller	Wool Bay (near creek)	11.14	0.011	0.05	4.49	bdl	bdl
T 35	7	Birch tree bark	Tsi Shi Kla (beside Willow Lake)	50.32	0.050	0.05	0.99	bdl	bdl
T 30	7	cranberry	Tsi Shi Kla (beside Willow Lake)	13.87	0.014	0.05	3.60	bdl	bdl
T 29	7	juniper berry	Tsi Shi Kla (beside Willow Lake)	28.87	0.029	0.05	1.73	bdl	bdl
T 32	7	labrador tea	Tsi Shi Kla (beside Willow Lake)	5.78	0.001	0.05	69.20	bdl	bdl
T 33	7	rock tripe	Tsi Shi Kla (beside Willow Lake)	5.37	0.005	0.05	9.31	27.00	2.9
T 31	7	spruce gum	Tsi Shi Kla (beside Willow Lake)	4.07	0.004	0.05	12.29	bdl	bdl
T 34	7	water lily	Tsi Shi Kla (beside Willow Lake)	33.37	0.033	0.05	1.50	15.80	10.5
T 44	8	birch tree kle'tah	Tsi Shi Kla (between Bear Lake)	151.00	0.151	0.05	0.33	bdl	bdl
T 36	8	cranberry	Tsi Shi Kla (between Bear Lake)	5.82	0.006	0.05	8.59	bdl	bdl

Arsenic in tea summary
As in tea preps (by location)

1/12/2003

Lab Code	Bag#	Sample	Harvest location	Wt in bag (g)	g/mL as used for tea	g/mL as prepared in lab	ratio lab/tea	ng/mL lab	mg/L tea
T 62	8	labrador tea	Tsi Shi Kla (between Bear Lake)	12.66	0.002	0.05	31.60	bdl	bdl
T 38	8	Mooseberry	Tsi Shi Kla (between Bear Lake)	11.78	0.012	0.05	4.24	bdl	bdl
T 39	8	Mushroom	Tsi Shi Kla (between Bear Lake)	5.57	0.006	0.05	8.98	375.30	41.8
T 40	8	rock tripe	Tsi Shi Kla (between Bear Lake)	10.35	0.010	0.05	4.83	131.10	27.1
T 43	8	spruce gum	Tsi Shi Kla (between Bear Lake)	1.46	0.001	0.05	34.25	42.83	1.3
T 42	8	water lily	Tsi Shi Kla (between Bear Lake)	16.53	0.017	0.05	3.02	bdl	
T 37	8	Willow plant	Tsi Shi Kla (between Bear Lake)	22.53	0.023	0.05	2.22	bdl	bdl
T 46	9	cranberry	Duck Lake (near creek)	6.43	0.006	0.05	7.78	bdl	bdl
T 49	9	labrador tea	Duck Lake (near creek)	7.95	0.001	0.05	50.31	bdl	bdl
T 50	9	mushroom	Duck Lake (near creek)	2.82	0.003	0.05	17.73	84.16	4.7
T 45	9	saskatoon berry	Duck Lake (near creek)	11.22	0.011	0.05	4.46	bdl	bdl
T 47	9	spruce gum	Duck Lake (near creek)	4.32	0.004	0.05	11.57	bdl	bdl
T 48	9	water lily	Duck Lake (near creek)	18.49	0.018	0.05	2.70	17.65	6.5
T 51	9	willow with leaves	Duck Lake (near creek)	24.54	0.025	0.05	2.04	bdl	bdl
T 82	10	Cranberries	Giant Mine shoreline	4.52	0.005	0.05	11.06	16.26	1.5
T 78	10	labrador tea	Giant Mine shoreline	0.92	0.000	0.05	434.78	34.94	0.1
T 53	10	labrador tea	Yellowknife River	58.37	0.007	0.05	6.85	bdl	bdl
T 79	10	Lichen	Giant Mine shoreline	23.13	0.023	0.05	2.16	1140.00	527.4
T 83	10	mushrooms	Giant Mine shoreline	15.50	0.016	0.05	3.23	no sample	
T 77	10	Soapberry	Giant Mine shoreline	12.34	0.012	0.05	4.05	6.04	1.5
T 80	10	Spruce bark & needles	Giant Mine shoreline	61.28	0.061	0.05	0.82	52.76	64.7
T 52	10	Spruce branch + cones	Yellowknife River	83.70	0.017	0.05	2.99	15.51	5.2
T 81	10	spruce gum	Giant Mine shoreline	8.28	0.008	0.05	6.04	30.74	5.1
T 84	10	Willow branch + leaves	Giant Mine shoreline	9.75	0.010	0.05	5.13	17.02	3.3
T 87	11	cranberries	Con Mine, near Meg Lake	5.29	0.005	0.05	9.45	bdl	bdl
T 88	11	labrador tea	Con Mine, near Meg Lake	1.24	0.000	0.05	322.58	21.24	0.1
T 54	11	labrador tea	Giant Mine	256.12	0.032	0.05	1.56	45.44	29.1
T 86	11	mushrooms	Con Mine, near Meg Lake	3.03	0.003	0.05	16.50	353.80	21.4
T 85	11	spruce bark & needles	Con Mine, near Meg Lake	37.25	0.037	0.05	1.34	205.00	152.7
T 55	11	spruce branch + cones	Giant Mine	343.44	0.069	0.05	0.73	46.20	63.5
T 89	11	spruce gum	Con Mine, near Meg Lake	4.02	0.004	0.05	12.44	bdl	bdl
T 91	11	Tamarack	Con Mine, near Meg Lake	10.42	0.010	0.05	4.80	27.01	5.6
T 90	11	willow branch + leaves	Con Mine, near Meg Lake	18.59	0.019	0.05	2.69	10.97	4.1
T 96	12	cranberries	Con Mine, near Meg Lake	5.78	0.006	0.05	8.65	bdl	bdl
T 98	12	Juniper berries	Con Mine, near Meg Lake	10.61	0.011	0.05	4.71	bdl	bdl
T 56	12	labrador tea	Con Mine	61.72	0.008	0.05	6.48	105.29	16.2
T 97	12	labrador tea	Con Mine, near Meg Lake	13.53	0.002	0.05	29.56	47.09	1.6
T 94	12	lichen	Con Mine, near Meg Lake	6.34	0.006	0.05	7.89	802.50	101.8
T 95	12	spruce gum	Con Mine, near Meg Lake	10.00	0.010	0.05	5.00	43.22	8.6
T 57	12	Spruce branch + cones	Con Mine	214.96	0.043	0.05	1.16	121.91	104.8
T 92	12	Tamarack bark + needles	Con Mine, near Meg Lake	83.22	0.083	0.05	0.60	102.35	170.4
T 93	12	willow branch + leaves	Con Mine, near Meg Lake	15.47	0.015	0.05	3.23	88.00	27.2
T 101	13	cranberries	Down creek fr Peg Lake, so of Con Mine	7.47	0.007	0.05	6.69	bdl	bdl
T 100	13	juniper berries	Down creek fr Peg Lake, so of Con Mine	7.50	0.008	0.05	6.67	bdl	bdl
T 105	13	labrador tea	Down creek fr Peg Lake, so of Con Mine	9.21	0.001	0.05	43.43	bdl	bdl
T 103	13	lichen	Down creek fr Peg Lake, so of Con Mine	6.47	0.006	0.05	7.73	73.40	9.5
T 104	13	mushrooms	Down creek fr Peg Lake, so of Con Mine	1.04	0.001	0.05	48.08	42.83	0.9

Lab Code	Bag#	Sample	Harvest location	Wt in bag (g)	g/mL as used for tea	g/mL as prepared in lab	ratio lab/tea		ng/mL lab	mg/L tea
T 102	13	spruce gum	Down creek fr Peg Lake, so of Con Mine	10.96	0.011	0.05	4.56		34.60	7.6
T 99	13	tamarack bark + needles	Down creek fr Peg Lake, so of Con Mine	57.80	0.058	0.05	0.87		46.28	53.5
T 116	14	cranberries	So of Con Mine, shore of small lake	4.46	0.004	0.05	11.21		bdl	bdl
T 114	14	juniper berries	So of Con Mine, shore of small lake	11.18	0.011	0.05	4.47		bdl	bdl
T 113	14	labrador tea	So of Con Mine, shore of small lake	8.75	0.001	0.05	45.71		bdl	bdl
T 115	14	lichen	So of Con Mine, shore of small lake	7.68	0.008	0.05	6.51		28.92	4.4
T 117	14	spruce gum	So of Con Mine, shore of small lake	4.22	0.004	0.05	11.85		13.72	1.2
T 112	14	tamarack bark + needles	So of Con Mine, shore of small lake	67.20	0.067	0.05	0.74		7.25	9.7
T 111	15	cranberries	To be confirmed with collector	3.21	0.003	0.05	15.58		bdl	bdl
T 108	15	juniper berries	To be confirmed with collector	19.55	0.020	0.05	2.56		bdl	bdl
T 107	15	labrador tea	To be confirmed with collector	11.11	0.001	0.05	36.00		bdl	bdl
T 109	15	mushrooms	To be confirmed with collector	1.75	0.002	0.05	28.57		331.30	11.6
T 110	15	spruce gum	To be confirmed with collector	1.07	0.001	0.05	46.73		bdl	bdl
T 106	15	tamarack bark + needles	To be confirmed with collector	52.23	0.052	0.05	0.96		12.94	13.5
T 120	16	labrador tea	To be confirmed with collector	9.00	0.001	0.05	44.44		17.44	0.4
T 121	16	Leaves	To be confirmed with collector	1.54	0.002	0.05	32.47		14.41	0.4
T 118	16	Spruce bark + gum	To be confirmed with collector	13.50	0.014	0.05	3.70		8.23	2.2
T 119	16	willow branch + leaves	To be confirmed with collector	10.80	0.011	0.05	4.63		5.51	1.2
T 122	17	cranberries	To be confirmed with collector	11.03	0.011	0.05	4.53		bdl	bdl
T 124	17	labrador tea	To be confirmed with collector	18.12	0.002	0.05	22.08		bdl	bdl
T 126	17	lichen	To be confirmed with collector	18.42	0.018	0.05	2.71		62.16	22.9
T 125	17	spruce gum	To be confirmed with collector	23.32	0.023	0.05	2.14		bdl	bdl
T 123	17	tamarack bark + needles	To be confirmed with collector	49.94	0.050	0.05	1.00		9.10	9.1
T 58	K 1	labrador tea		67.59	0.008	0.05	5.92		19.74	3.3
T 59	K 1	spuce branch + cones		131.55	0.026	0.05	1.90		26.81	14.1
T 60		labrador tea	Ptarmigan Mine	49.64	0.006	0.05	8.06		24.95	3.1
T 61		spuce branch + cones	Ptarmigan Mine	349.51	0.070	0.05	0.72		bdl	bdl

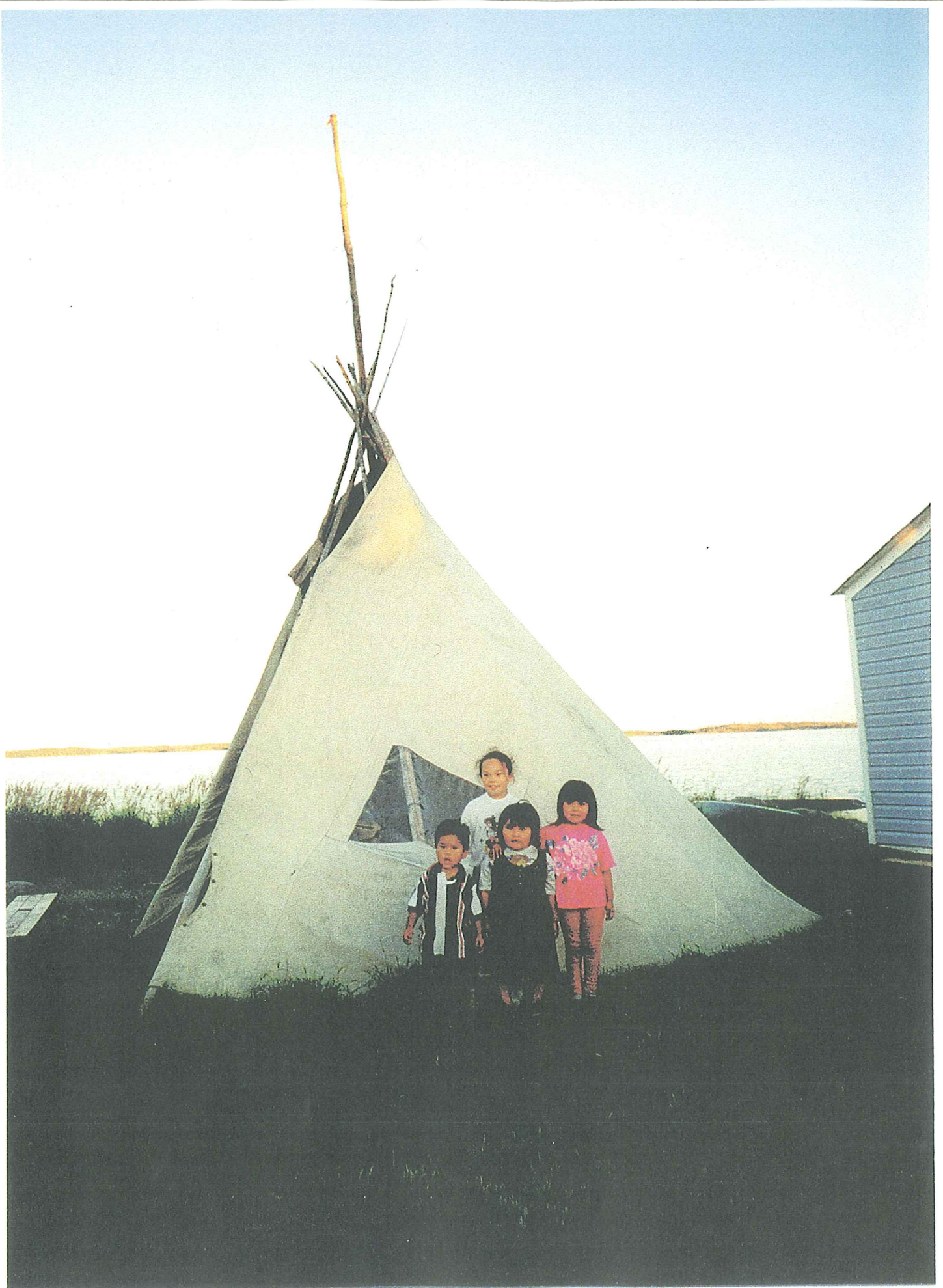
Lab Code	Bag#	Sample	Harvest location	Wt in bag (g)	g/mL as used for tea	g/mL as prepared in lab	ratio lab/tea	ng/mL lab	mg/L tea
T 53	10	labrador tea	Yellowknife River	58.37	0.007	0.05	6.85	bdl	bdl
T 58	K 1	labrador tea		67.59	0.008	0.05	5.92	19.74	3.3
T 121	16	Leaves	To be confirmed with collector	1.54	0.002	0.05	32.47	14.41	0.4
T 94	12	lichen	Con Mine, near Meg Lake	6.34	0.006	0.05	7.89	802.50	101.8
T 103	13	lichen	Down creek fr Peg Lake, so of Con Mine	6.47	0.006	0.05	7.73	73.40	9.5
T 79	10	Lichen	Giant Mine shoreline	23.13	0.023	0.05	2.16	1140.00	527.4
T 115	14	lichen	So of Con Mine, shore of small lake	7.68	0.008	0.05	6.51	28.92	4.4
T 126	17	lichen	To be confirmed with collector	18.42	0.018	0.05	2.71	62.16	22.9
T 38	8	Mooseberry	Tsi Shi Kla (between Bear Lake)	11.78	0.012	0.05	4.24	bdl	bdl
T 50	9	mushroom	Duck Lake (near creek)	2.82	0.003	0.05	17.73	84.16	4.7
T 39	8	Mushroom	Tsi Shi Kla (between Bear Lake)	5.57	0.006	0.05	8.98	375.30	41.8
T 86	11	mushrooms	Con Mine, near Meg Lake	3.03	0.003	0.05	16.50	353.80	21.4
T 104	13	mushrooms	Down creek fr Peg Lake, so of Con Mine	1.04	0.001	0.05	48.08	42.83	0.9
T 83	10	mushrooms	Giant Mine shoreline	15.50	0.016	0.05	3.23	no sample	
T 109	15	mushrooms	To be confirmed with collector	1.75	0.002	0.05	28.57	331.30	11.6
T 25	6	Pine tree bark	Wool Bay (near creek)	69.00	0.069	0.05	0.72	bdl	bdl
T 70	4	rock tripe	Jackfish Cove	10.53	0.011	0.05	4.75	26.70	5.6
T 41	5	rock tripe	Mol K'e (near Wool Bay)	6.80	0.007	0.05	7.35	61.46	8.4
T 13	3	Rock tripe	Moose Bay	13.52	0.014	0.05	3.70	24.65	6.7
T 33	7	rock tripe	Tsi Shi Kla (beside Willow Lake)	5.37	0.005	0.05	9.31	27.00	2.9
T 40	8	rock tripe	Tsi Shi Kla (between Bear Lake)	10.35	0.010	0.05	4.83	131.10	27.1
T 23	6	rock tripe	Wool Bay (near creek)	4.78	0.005	0.05	10.46	39.92	3.8
T 45	9	saskatoon berry	Duck Lake (near creek)	11.22	0.011	0.05	4.46	bdl	bdl
T 66	4	saskatoon berry	Jackfish Cove	9.44	0.009	0.05	5.30	bdl	bdl
T 15	5	saskatoon berry	Mol K'e (near Wool Bay)	6.12	0.006	0.05	8.17	bdl	bdl
T 9	3	Saskatoon berry	Moose Bay	6.20	0.006	0.05	8.06	bdl	bdl
T 27	6	saskatoon berry	Wool Bay (near creek)	8.65	0.009	0.05	5.78	bdl	bdl
T 77	10	Soapberry	Giant Mine shoreline	12.34	0.012	0.05	4.05	6.04	1.5
T 72	1	Spruce bark	Drybone Bay	55.89	0.056	0.05	0.89	17.51	19.6
T 64	4	spruce bark	Jackfish Cove	30.88	0.031	0.05	1.62	bdl	bdl
T 7	3	spruce bark	Moose Bay	41.28	0.041	0.05	1.21	bdl	bdl
T 85	11	spruce bark & needles	Con Mine, near Meg Lake	37.25	0.037	0.05	1.34	205.00	152.7
T 80	10	Spruce bark & needles	Giant Mine shoreline	61.28	0.061	0.05	0.82	52.76	64.7
T 118	16	Spruce bark + gum	To be confirmed with collector	13.50	0.014	0.05	3.70	8.23	2.2
T 55	11	spruce branch + cones	Giant Mine	343.44	0.069	0.05	0.73	46.20	63.5
T 52	10	Spruce branch + cones	Yellowknife River	83.70	0.017	0.05	2.99	15.51	5.2
T 89	11	spruce gum	Con Mine, near Meg Lake	4.02	0.004	0.05	12.44	bdl	bdl
T 95	12	spruce gum	Con Mine, near Meg Lake	10.00	0.010	0.05	5.00	43.22	8.6
T 102	13	spruce gum	Down creek fr Peg Lake, so of Con Mine	10.96	0.011	0.05	4.56	34.60	7.6
T 73	1	Spruce gum	Drybone Bay	3.40	0.003	0.05	14.71	bdl	bdl
T 47	9	spruce gum	Duck Lake (near creek)	4.32	0.004	0.05	11.57	bdl	bdl
T 81	10	spruce gum	Giant Mine shoreline	8.28	0.008	0.05	6.04	30.74	5.1
T 65	4	spruce gum	Jackfish Cove	14.90	0.015	0.05	3.36	bdl	bdl
T 16	5	spruce gum	Mol K'e (near Wool Bay)	5.24	0.005	0.05	9.54	bdl	bdl
T 8	3	spruce gum	Moose Bay	7.35	0.007	0.05	6.80	bdl	bdl
T 117	14	spruce gum	So of Con Mine, shore of small lake	4.22	0.004	0.05	11.85	13.72	1.2
T 110	15	spruce gum	To be confirmed with collector	1.07	0.001	0.05	46.73	bdl	bdl

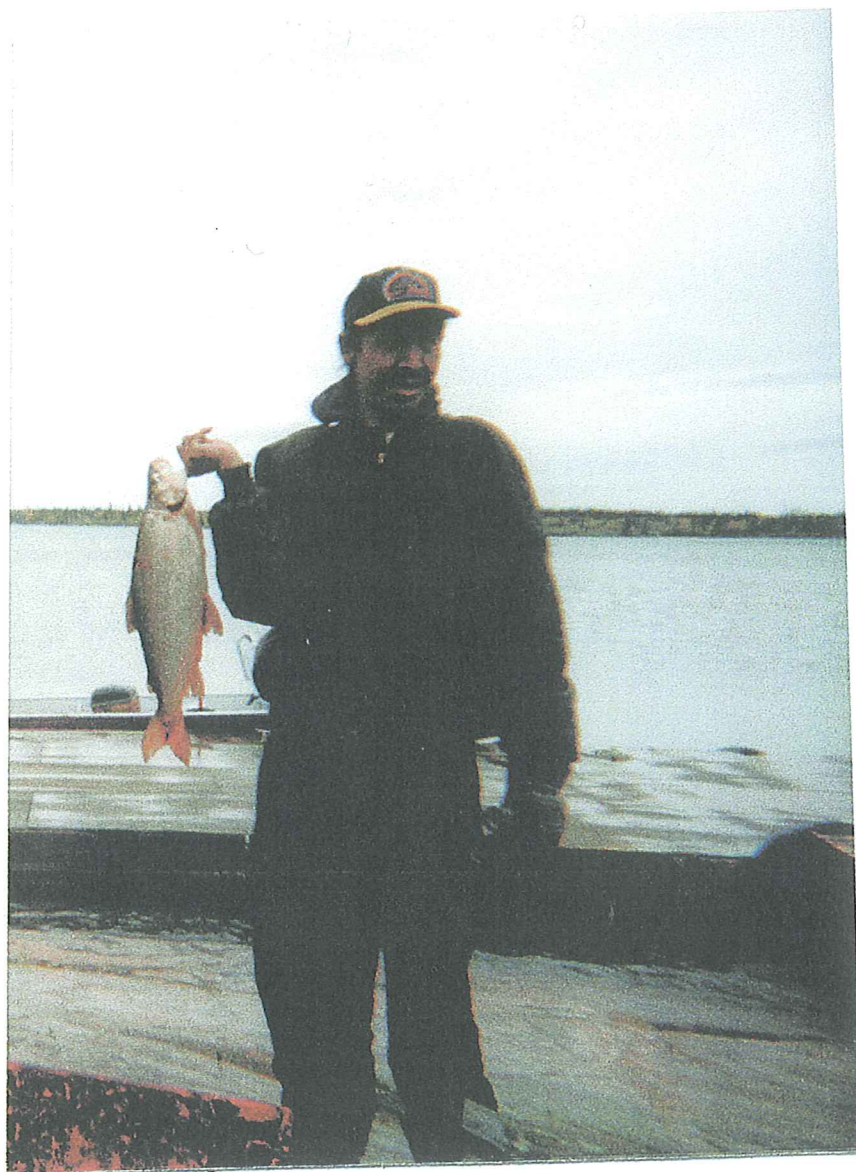
Lab Code	Bag#	Sample	Harvest location	Wt in bag (g)	g/mL as used for tea	g/mL as prepared in lab	ratio lab/tea	ng/mL lab	mg/L tea
T 125	17	spruce gum	To be confirmed with collector	23.32	0.023	0.05	2.14	bdl	bdl
T 31	7	spruce gum	Tsi Shi Kla (beside Willow Lake)	4.07	0.004	0.05	12.29	bdl	bdl
T 43	8	spruce gum	Tsi Shi Kla (between Bear Lake)	1.46	0.001	0.05	34.25	42.83	1.3
T 22	6	spruce gum	Wool Bay (near creek)	10.15	0.010	0.05	4.93	bdl	bdl
T 57	12	Spuce branch + cones	Con Mine	214.96	0.043	0.05	1.16	121.91	104.8
T 61		spuce branch + cones	Ptarmigan Mine	349.51	0.070	0.05	0.72	bdl	bdl
T 59	K 1	spuce branch + cones		131.55	0.026	0.05	1.90	26.81	14.1
T 91	11	Tamarack	Con Mine, near Meg Lake	10.42	0.010	0.05	4.80	27.01	5.6
T 92	12	Tamarack bark + needles	Con Mine, near Meg Lake	83.22	0.083	0.05	0.60	102.35	170.4
T 99	13	tamarack bark + needles	Down creek fr Peg Lake, so of Con Mine	57.80	0.058	0.05	0.87	46.28	53.5
T 112	14	tamarack bark + needles	So of Con Mine, shore of small lake	67.20	0.067	0.05	0.74	7.25	9.7
T 106	15	tamarack bark + needles	To be confirmed with collector	52.23	0.052	0.05	0.96	12.94	13.5
T 123	17	tamarck bark + needles	To be confirmed with collector	49.94	0.050	0.05	1.00	9.10	9.1
T 4	2	Water lily	Drybone Bay	14.47	0.014	0.05	3.46	bdl	bdl
T 5	2	water lily	Drybone Bay	no sample				no sample	
T 48	9	water lily	Duck Lake (near creek)	18.49	0.018	0.05	2.70	17.65	6.5
T 18	5	water lily	Mol K'e (near Wool Bay)	18.24	0.018	0.05	2.74	bdl	bdl
T 34	7	water lily	Tsi Shi Kla (beside Willow Lake)	33.37	0.033	0.05	1.50	15.80	10.5
T 42	8	water lily	Tsi Shi Kla (between Bear Lake)	16.53	0.017	0.05	3.02	bdl	
T 24	6	water lily	Wool Bay (near creek)	22.80	0.023	0.05	2.19	bdl	bdl
T 26	6	Water lily, smaller	Wool Bay (near creek)	11.14	0.011	0.05	4.49	bdl	bdl
T 67	4	water plant	Jackfish Cove	0.97	0.001	0.05	51.55	bdl	bdl
T 10	3	Water plant	Moose Bay	9.41	0.009	0.05	5.31	22.31	4.2
T 90	11	willow branch + leaves	Con Mine, near Meg Lake	18.59	0.019	0.05	2.69	10.97	4.1
T 93	12	willow branch + leaves	Con Mine, near Meg Lake	15.47	0.015	0.05	3.23	88.00	27.2
T 84	10	Willow branch + leaves	Giant Mine shoreline	9.75	0.010	0.05	5.13	17.02	3.3
T 119	16	willow branch + leaves	To be confirmed with collector	10.80	0.011	0.05	4.63	5.51	1.2
T 51	9	willow with leaves	Duck Lake (near creek)	24.54	0.025	0.05	2.04	bdl	bdl
T 6	3	Willow with leaves	Moose Bay	100.54	0.101	0.05	0.50	bdl	bdl
T 37	8	Willow plant	Tsi Shi Kla (between Bear Lake)	22.53	0.023	0.05	2.22	bdl	bdl

Picture below of Joe Martin, Modeste Sangris, Joseph Lacorne and a youth who worked in the Mola K'o K'e area. These two elders also helped with medicinal plants study initiation last year.

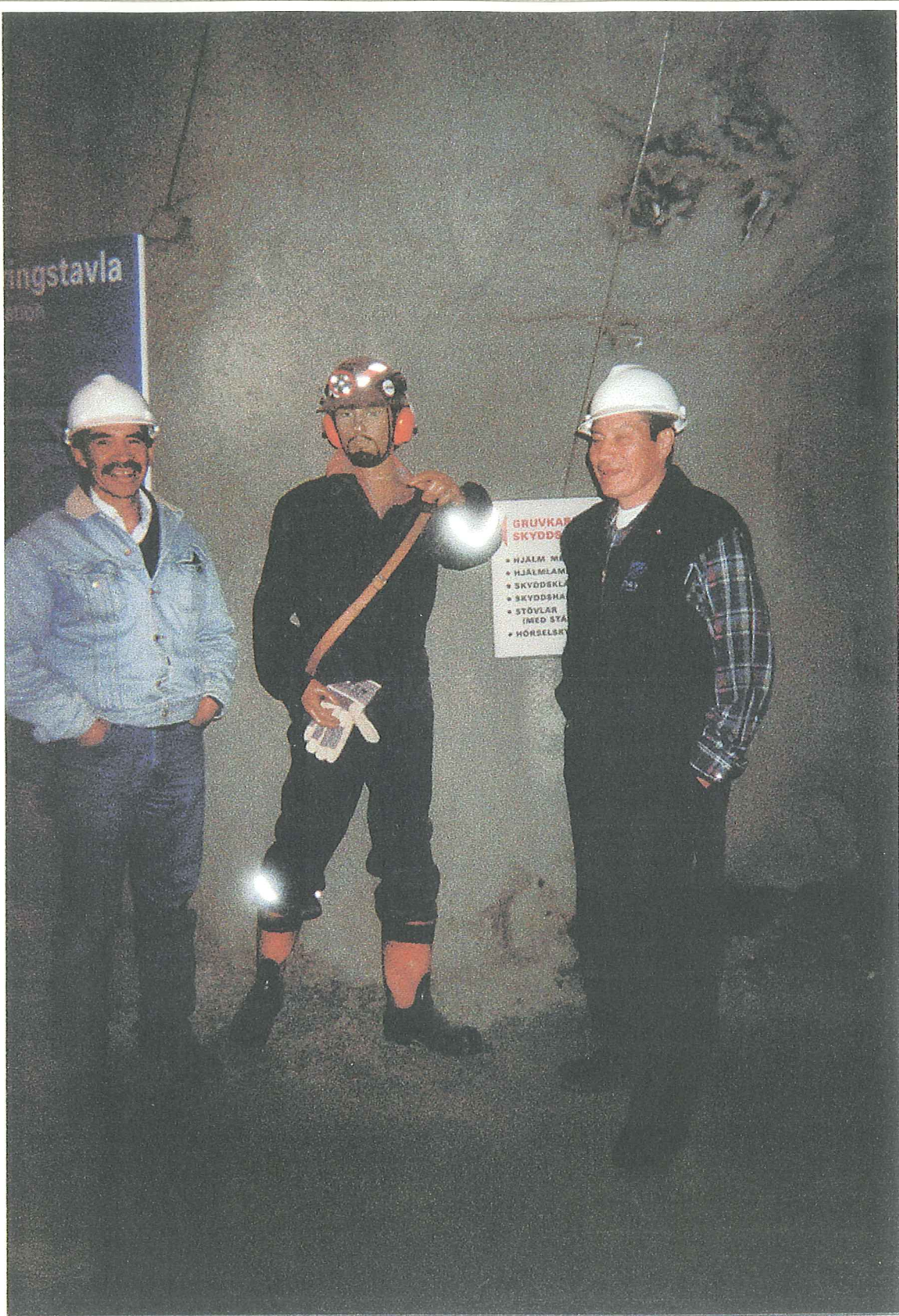
The next photo shows some young children who may someday use medicinal plants in the future. Their use will provide proof that the use of medicinal plants will never die. Elders still say that the medicines from the bush are sometimes and most often more effective than modern day medicines from the drugstore. YKDFN – Elders 2003







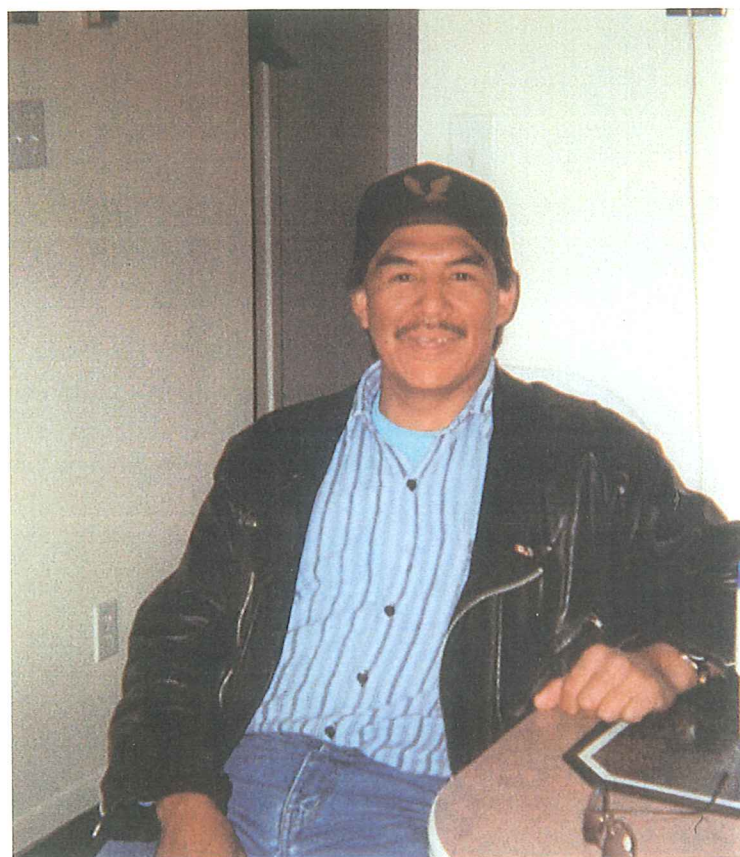
John Crapeau of Dettah who participated in the Yellowknives Dene First Nation – Northern Contaminants program medicinal plants study in 2002.



Lawrence Goulet and Alfred Baillargeon who helped with the medicinal plants study of Yellowknives Dene First Nation Land and Environment Committee – Northern Contaminants program in 2002.



Noel Doctor of Ndilo who participated in the Yellowknives Dene First Nation Land and Environment Committee – Northern Contaminants program medicinal plants study in 2002.



Leo A. Betsina of Dettah participated
in the medicinal plants study in
2002 for the Yellowknives Dene First Nation
and the Northern Contaminants program of DIAND.

