

MEMORANDUM NOTE DE SERVICE

4221-1
DATE January 28, 1975

TO: Mr. Hennie Veldhuizen
Head
Air Pollution Control Section
EPS, Northwest Region

FROM: Mr. C. A. Lewis
District Manager
Environmental Protection Service
Yellowknife

DATE: 4/22/75

4050-82/11

DATE: 4/22/75

SUBJECT: Re: Yellowknife Ambient Arsenic Concentrations

The available raw data to date for the 1974 monitoring program is attached. The early 1972-73 monitoring results have been excluded because of the difficulties encountered with the laboratory analyses of the filters. It should be noted that the data was collected by the current practice of high volume sampling of ambient air through a filter medium.

The Province of British Columbia has a 24 hour standard of $1 \mu\text{g}/\text{m}^3$. Please note that this level should be compared with the 24 hour monitoring results and not with yearly averages. If you wish to make some quick comparisons, the 1964 yearly average for 133 stations in urban US cities was $0.02 \mu\text{g}/\text{m}^3$ with yearly averages as high as $0.75 \mu\text{g}/\text{m}^3$ in El Paso, Texas and $0.25 \mu\text{g}/\text{m}^3$ in Charleston, West Virginia (Preliminary Air Pollution Survey of Arsenic and its Compounds - R. J. Sullivan).

Hennie Veldhuizen

H. Veldhuizen
Head
Air Pollution Control Section

c.c. J. R. Marsh
W. A. Lemmon
J. Roushorne

U.S.A HAS NO
Russia HAS 3.0 $\mu\text{g}/\text{m}^3$
over 24 Hrs
STANDARD

AMBIENT ARSENIC CONCENTRATIONS - YELLOWKNIFE

STATION - NERQ

<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>ARSENIC CONCENTRATION ($\mu\text{g}/\text{m}^3$)</u>	<u>TIME INTERVAL (hrs)</u>
3000	April 21/74	0.017	24
3001	April 24/74	0.024	24
3004	April 27/74	0.054	24
3009	April 30/74	0.009	24
3010	May 3/74	0.090	24
3015	May 6/74	0.035	24
3016	May 9/74	0.368	24
3019	May 12/74	0.018	24
3022	May 15/74	0.019	24
3027	May 18/74	0.025	24
1	May 24-26/74	0.037	72
4	May 27-28/74	0.186	48
7	May 29-June 1/74	0.100	96
10	June 4-7/74	0.017	96
13	June 7-10/74	0.035	96
15	June 10-12/74	0.022	72
17	June 12-14/74	0.122	72
18	June 17-19/74	0.133	72
21	June 21-23/74	0.044	72
24	June 24-26/74	0.386	72
32	July 19-21/74	0.008	72
35	July 22-25/74	0.017	96
38	July 25-29/74	0.028	120
44	Nov. 5/74	0.241	24
47	Nov. 7/74	0.092	24
48	Nov. 9/74	0.005	24
51	Nov. 13/74	0.007	24
54	Nov. 17/74	0.042	24
57	Nov. 19/74	0.014	24

THESE FIGURES
ARE ADJUSTED TO
THE 24 HR TIME
INTERVAL

AMBIENT ARSENIC CONCENTRATIONS - YELLOWKNIFE

STATION - GIANT MINE

<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>ARSENIC CONCENTRATION ($\mu\text{g}/\text{m}^3$)</u>	<u>TIME INTERVAL (hrs)</u>
3005	April 27/74	0.207	24
3008	April 30/74	0.047	24
3014	May 6/74	0.195	24
3017	May 9/74	0.715	24
3020	May 12/74	0.032	24
3023	May 15/74	0.010	24
3026	May 18/74	0.034	24
3	May 24-26/74	0.143	72
6	May 27-28/74	1.380	48
8	May 29-June 1/74	0.243	96
11	June 4-7/74	0.118	96
14	June 12-15/74	0.260	96
19	June 17-19/74	0.124	72
22	June 21-23/74	0.082	72
25	June 24-26/74	0.079	72
40	July 29-Aug. 2	0.106	120
43	Nov. 5/74	0.557	24
45	Nov. 7/74	0.051	24
49	Nov. 9/74	0.010	24
52	Nov. 13/74	0.016	24
55	Nov. 17/74	0.294	24
58	Nov. 19/74	0.024	24

STATION - AIRPORT

3003	April 24/74	0.009	24
3006	April 27/74	0.026	24
3007	April 30/74	0.008	24
3012	May 3/74	0.009	24
3013	May 6/74	0.110	24
3018	May 9/74	0.153	24
3021	May 12/74	0.342	24
3024	May 15/74	0.057	24

AMBIENT ARSENIC CONCENTRATIONS - YELLOWKNIFE

<u>SAMPLE NUMBER</u>	<u>DATE</u>	<u>ARSENIC CONCENTRATION ($\mu\text{g}/\text{m}^3$)</u>	<u>TIME INTERVAL (hrs)</u>
<u>STATION - AIRPORT</u>			
3025	May 18/74	0.010	24
2	May 24-26/74	0.106	24
5	May 27-28/74	0.004	48
9	May 29-June 1/74	0.313	96
12	June 4-7/74	0.098	96
16	June 13-15/74	0.024	72
20	June 17-19/74	0.034	72
23	June 21-23/74	0.261	72
26	June 24-26/74	0.164	72
30	July 19-22/74	0.002	96
33	July 22-25/74	0.010	72
36	July 25-29/74	0.005	120
39	July 29-Aug. 2/74	0.158	120
42	Nov. 5/74	0.414	24
46	Nov. 7/74	0.036	24
50	Nov. 9/74	0.005	24
59	Nov. 19/74	0.018	24