



*Environmental
Sciences Group
Royal Military College*



Bldg 62, Royal Military College, Kingston, Ont. K7K 5L0
Tel: (613) 541-6000 ext. 6161, FAX: (613) 541-6596
Email: reimer-k@rmc.ca

22 May 1996

Mr. Robert Phillips
Senior Environmental Health Officer
Kitikmeot Health Board
Cambridge Bay, Northwest Territories

PELLEY BAY WATER SAMPLES - ANALYTICAL RESULTS

Dear Mr. Phillips:

Please find attached the analytical results for the water samples that were collected from three locations in Pelly Bay.

The samples were analyzed for inorganics and other, standard, drinking water quality parameters by the Analytical Services Unit located at Queen's University, Kingston, Ontario. AXYS Analytical Services in Sidney, B.C. tested the samples for polychlorinated biphenyls.

I have taken the liberty of copying these results to Jack MacKinnon as he was involved during the early discussions of this issue. I would be pleased to receive your comments on the results and will be pleased to address any questions that you may have for us.

I presume that you will communicate the results to the appropriate authorities in Pelly Bay.

Sincerely,

K.J. Reimer
Professor
Director, ESG



Dr. John S. Poland,
Analytical Services Unit,

DEPARTMENT OF CHEMISTRY
Tel 613 545-2616
Fax 613 545-6669

Queen's University
Kingston, Canada
K7L 3N6

Results of Analysis of Samples from Pelly Bay
submitted on February 14, 1996

Project: Pelly Bay Drinking Water

| Parameter | Units | Bulk Supply | | Community Building | | Hotel | |
|--------------|-------|-------------|--------|--------------------|--------|--------|--------|
| | | A | B | A | B | A | B |
| Alkalinity | mg/L | 58 | 59 | 59 | 60 | 57 | 59 |
| Arsenic | mg/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Cadmium | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Calcium | mg/L | 6.7 | 6.9 | 7.2 | 6.9 | 7.1 | 6.9 |
| Chloride | mg/L | 6.2 | 6.3 | 6.1 | 6.2 | 6.1 | 6.3 |
| Conductivity | uS/cm | 137 | 137 | 138 | 138 | 136 | 136 |
| Iron | mg/L | <0.10 | <0.10 | 0.15 | <0.10 | <0.10 | <0.10 |
| Lead | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Magnesium | mg/L | 5.3 | 6.2 | 5.6 | 5.6 | 5.9 | 6.0 |
| Manganese | mg/L | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Mercury | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Nitrate | mg/L | <0.05 | <0.05 | 0.05 | 0.05 | 0.06 | 0.05 |
| Nitrite | mg/L | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| pH | - | 7.5 | 7.5 | 7.5 | 7.5 | 7.4 | 7.5 |

| Parameter | Units | Bulk Supply | | Community Building | | Hotel | |
|------------------|-------|-------------|---------|--------------------|---------|---------|---------|
| | | A | B | A | B | A | B |
| Phenols | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Potassium | mg/L | 0.94 | 1.0 | 0.81 | 0.76 | 0.84 | 0.87 |
| Sodium | mg/L | 5.5 | 5.2 | 4.6 | 4.3 | 4.6 | 5.0 |
| Sulphate | mg/L | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| TKN | mg/L | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | 0.4 |
| TOC | mg/L | 1.7 | 1.7 | 1.8 | 1.7 | 2.0 | 1.9 |
| Total Phosphorus | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| TSS | mg/L | <1.0 | <1.0 | 1.6 | 1.0 | <1.0 | 1.4 |
| PCBs | mg/L | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |

PCB analyses were performed by Axys Analytical Services Limited.

ANALYSIS REPORT

ANALYTICAL RESULTS FOR: PCBs

CLIENT: ESC

SAMPLE TYPE: WATER

AXYS FILE: 9508

DATE: 12/Apr/96

REVISED DATE: 01/May/96

METHOD NO.: CL-W-04/Ver.2

INSTRUMENT: GC-MS

CONCENTRATION IN: ug/L

| SAMPLE NO. | SAMPLE I.D. | SAMPLE SIZE: Litres | AROCLOR 1242 | AROCLOR 1254 | AROCLOR 1260 |
|------------|----------------------|---------------------|--------------|--------------|--------------|
| 9508-03 | Community Building A | 1.01 | <0.1 | <0.1 | <0.1 |
| 9508-05 | Hotel A | 1.06 | <0.1 | <0.1 | <0.1 |
| 3508-06 | Hotel B | 1.07 | <0.1 | <0.1 | <0.1 |
| 1508-07 | Bulk Supply A | 0.31 | <0.1 | <0.1 | <0.1 |
| 9508-08 | Bulk Supply B | 0.30 | <0.1 | <0.1 | <0.1 |

1. < = Less than the detection limit indicated
2. NDR = Peak detected but did not meet quantification criteria
3. Data have not been blank corrected.
4. Concentrations are recovery corrected


Approved