Environment Canada
Environmental Protection Service
Pacific Region
Yukon Branch

THE CHEMICAL AND BACTERIOLOGICAL EFFECTS OF MUNICIPAL DISCHARGES ON THE YUKON RIVER FROM THE CITY OF WHITEHORSE, 1977 - 1980

81-28

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ABSTRACT

The Yukon River passes through the town of Whitehorse, Yukon Territory, where it receives effluent from two sewage lagoon systems as well as storm sewers. This study is a chemical and bacteriological impact assessment of river water quality before and after construction of the largest lagoon system. Analyses were performed by the Environmental Protection Service (EPS) laboratories in West Vancouver, British Columbia, using standard methods. Bacteriological analyses were performed by EPS staff in Whitehorse using membrane filter techniques for total and faecal coliforms.

Water chemistry results suggest an oligotrophic river system which shows an insignificant chemical impact from municipal efflents. Bacteriological results show characteristics found in other northern rivers receiving municipal effluents. Recreational use standards for faecal coliforms of 200 counts per 100 mililitres are exceeded by individual samples taken downstream of lagoon discharges, especially during river low flow conditions. The study shows that the lagoon systems have made no significant reduction in faecal coliform counts in the river as compared to the discharge of raw sewage.

RÉSUMÉ

Whitehorse (Territoire du Yukon) est arrosée par le fleuve Yukon dans lequel se déversent les effluents provenant de deux systèmes d'étangs de stabilisation, ainsi que des égouts. L'étude, dont ceci est le résumé, a pour objet d'évaluer la qualité de l'eau de ce fleuve du point de vue chimique et biologique, avant et après l'aménagement du système d'étangs de stabilisation le plus important. Les analyses ont été faites suivant des méthodes éprouvées, par les laboratoires de Vancouver ouest (Colombie-Britannique) du Service de la protection de l'environnement. Quant aux analyses bactériologiques, elles ont été faites par le personnel de Whitehorse du Service de la protection de l'environnement, par les techniques utilisant les filtres à membrane pour l'analyse des coliformes totaux et fécaux.

Selon les résultats de l'analyse chimique de l'eau, nous avons affaire à un système fluvial oligotrophique, où les effluents municipaux jouent un rôle insignifiant sur la composition chimique. Les résultats des analyses bactériologiques révèlent les mêmes caractéristiques que pour d'autres rivières septentrionales recevant des effluents municipaux. Les échantillons prélevés en aval des points de décharge des étangs de stabilisation contiennent plus que les 200 coliformes fécaux par 100 millilitres d'eau qui représentent la norme exigée pour les usages d'ordre récréatif, surtout aux moments de l'année où le débit est réduit. L'étude montre que les systèmes des étangs de stabilisation n'ont pas réduit le nombre de coliformes fécaux du fleuve de façon significative, en comparaison de la décharge des eaux d'égout brutes.

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1 INTRODUCTION

1.1 Rationale

The Environmental Protection Service (EPS), Yukon Branch, undertook a four-year study (1977-80) to determine the impact of the City of Whitehorse sewage discharges on the Yukon River near Whitehorse (Figure 1). The primary objective was to measure the changes in the water quality and bacteriological conditions of the river following the construction of a large sewage treatment facility (Bethell, 1981). In particular the study was designed to determine the effect of municipal effluents on the receiving water and to see if the lagoon system improved receiving water quality.

1.2 Background

Prior to January 1979, the City of Whitehorse discharged raw sewage directly into the Yukon River near Station 4 and by Takhini Subdivision, Whitehorse, near Station 6 (Figure 2). An anaerobic lagoon facility became operational in Porter Creek July 1976. Prior to this date the subdivision was on private septic tank systems. The lagoons were poorly constructed and berm failure occurred in December 1976. The sewage then bypassed the lagoon and discharged directly into the Yukon River downstream of Station 14 (Figure 2). During the repairs the lagoons were lined and berms re-constructed. The facility began operating again in October 1977.

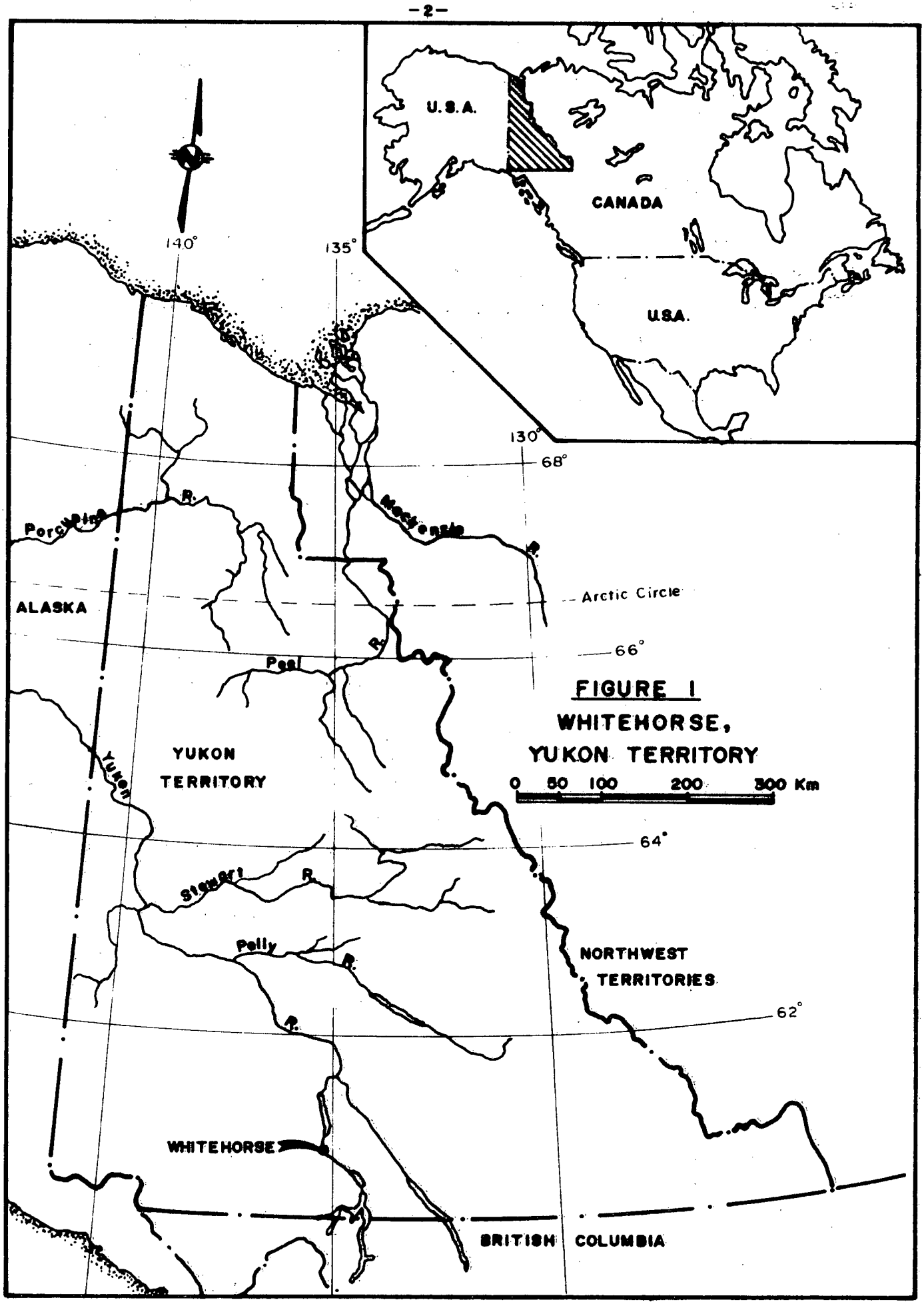

FIGURE 1
WHITEHORSE, YUKON TERRITORY

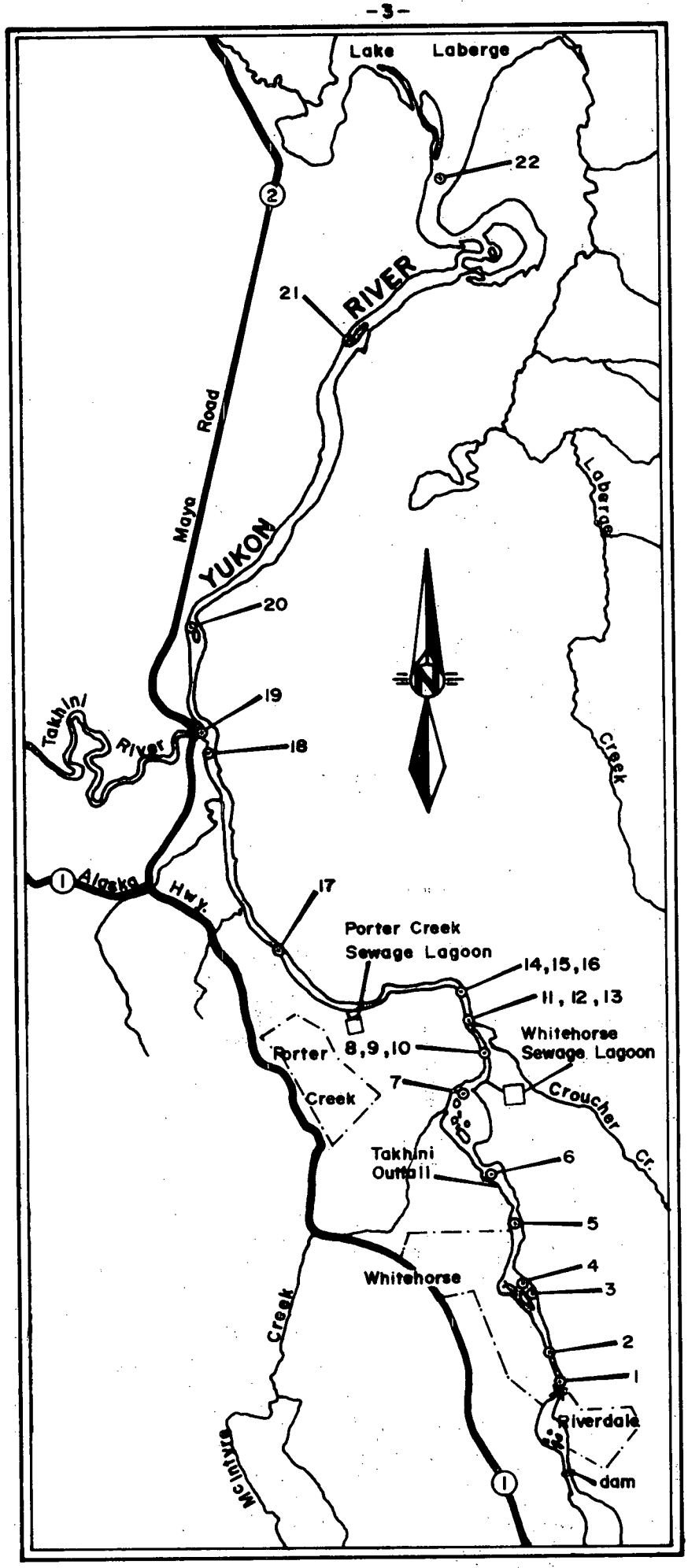

FIGURE 2

YUKON RIVER STUDY

SAMPLE STATION LOCATION

0 1 2 3 4 5 km

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2 STUDY AREA

The study area is located at 60°43'N latitude and 135°03'W longitude in the central southern part of the Yukon Territory (Figure 1). The Yukon River at Whitehorse drains a series of deep, intermontane lakes, and upstream of the sample stations it passes through a small hydroelectric installation. Consequently one might expect the river water to be somewhat warmer and less turbid than comparable rivers at these latitudes. It has a mean flow of 240 cubic metres per second, with a maximum flow in August of 493 m^3/s and a minimum (regulated) flow in April of about 100 m^3/s.

Whitehorse has a population of about 15,000. Its municipal effluents are similar to those of southern towns except that widespread use of bleeders on water lines in winter to prevent freezing causes the sewage to be comparatively dilute and cold. Other than these effluents and storm sewer drainage there are no other man-made discharges to the river in the study reach.

The sampling stations commence at the Robert Campbell Bridge in the City of Whitehorse, and extend 38 kilometers downstream to Lake Laberge. A total of 22 stations were sampled throughout the study period (Figure 2). A description of the sample sites is provided in Table 1. Table 2 illustrates the frequency of sampling, and Table 3 is a schedule of sampling throughout the duration of the study.

TABLE 1 DESCRIPTION OF SAMPLING STATIONS ON YUKON RIVER

STATION NUMBER	DESCRIPTION	DISTANCE IN KILOMETERS FROM WHITEHORSE OUTFALL
1	Mid-channel under Robert Campbell Bridge	8.0 upstream
2	Across from White Pass Station, mid-channel	7.6 upstream
3	20' below 1977-78 sewage outfall in effluent plume west side	6.1 upstream
4	Across island from #3, east side, mid-channel	6.0 upstream
5	Across from Valid Construction yard in the Marwell area	3.7 upstream
6	Below Takhini outfall, upstream of Whitehorse City Dump	1.88 upstream
7	Below Whitehorse City Dump after convergence of channels	0.65 upstream
8	East bank below Whitehorse outfall	0.5 downstream
9	Mid-channel below Whitehorse outfall	0.5 downstream
10	West bank below Whitehorse outfall	0.5 downstream
11	At confluence of Croucher Creek and Yukon River at East bank	1.14 downstream
12	Mid-channel	1.14 downstream
13	At confluence of Croucher Creek and Yukon River at West bank	1.14 downstream
14	At large bend downstream from Croucher Creek - East bank	2.1 downstream
15	Mid-channel	2.1 downstream
16	At large bend downstream from Croucher Creek - West bank	2.1 downstream
17	Mid-channel at confluence of an unnamed creek and the Yukon River	8.0 downstream
18	Mid-channel immediately upstream of confluence of Takhini and Yukon Rivers	9.0 downstream
19	Mid-channel of Takhini River at bridge	9.4 downstream
20	Downstream of confluence of Takhini and Yukon Rivers by small island	14.5 downstream
21	Downstream of #20 by an island	22.6 downstream
22	Mid-channel between pilings and west bank, upstream of Yukon River discharge into Lake Laberge	30.2 downstream

TABLE 2 SAMPLING FREQUENCY DURING YUKON RIVER STUDY

MONTH	1977	1978	1979	1980
JANUARY			x	x
FEBRUARY		x	x	x
MARCH		x		
APRIL			x	
MAY	x	x	x	x
JUNE	x	x x	x	x
JULY	x	x	x	x
AUGUST		x x	x	x
SEPTEMBER	x		x	x
OCTOBER	x			x
NOVEMBER				x
DECEMBER		x x	x	
TOTAL RUNS/YEAR	5	10	9	9

TABLE 3 STATION SAMPLING SCHEDULE FOR YUKON RIVER STUDY
1 = 1977 2 = 1978 3 = 1979 4 = 1980

STATION NUMBER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG*	SEP	OCT	NOV	DEC*
1	3,4	1,2,3,4	2	3	1,2,3,4	1,2,3,4	1,2,3,4	2,3,4	1,3,4	4	4	2,3
2		2	2		1	1	1		1	1		
3		2	2		1	1	1		1	1		
4		2	2		1	1	1		1	1		
5		2	2		1	1	1		1	1		
6		2	2		1	1	1		1	1		
7		2	2		1	1	1	4	1,4	1,4	4	
8	3	3		3	2,3	2,3	2,3	2,3	3			2,3
9	3	3		3	2,3	2,3	2,3	2,3	3			2
10	3	3		3	2,3	2,3	2,3	2,3	3			2
11	3,4	3,4		3	2,3,4	2,3,4	2,3,4	2,3,4	3,4	4	4	2,3
12	3,4	3,4		3	2,3,4	2,3,4	2,3,4	2,3,4	3,4	4	4	2
13	3,4	3,4		3	2,3,4	2,3,4	2,3,4	2,3,4	3,4	4	4	2
14	3	3		3	2,3	2,3	2,3	2,3	3			2
15	3	3		3	2,3	2,3	2,3	2,3	3			
16	3	3		3	2,3	2,3	2,3	2,3	3			
17	4	2,4			1,2,3,4	1,2,3,4	1,2,3,4	2,3,4	1,3,4	1,4	4	2
18	4	2,4	2		2,3,4	1,2,3,4	1,2,3,4	2,3,4	1,3,4	4	4	3
19		2	2		2,3	1,2,3	1,2,3	2,3	1,3			3
20	4	4			4	4	4	4	4	4	4	
21		2	2		2,3	1,2,3	1,2,3	2,3	1,3			
22		2	2		2	1,2,3	1,2,3	2,3	1,3			

*In 1978 sampling was done twice in the months of June, August and December.

3 METHODS

3.1 Water Quality

Temperature, conductivity and pH were measured in the field at each site. Samples were collected for analysis of nutrients, ionic constituents and metals. The analyses were performed at the Environmental Protection Service Regional Laboratory in West Vancouver. Appendix I describes standard sampling, preservation and analytical procedures used for all parameters.

3.2 Bacteria

Bacteria samples were collected for total coliform counts in 1977 through to 1980, and faecal coliform counts in 1978 through to 1980. These samples were analyzed at the Whitehorse Laboratory using the membrane filtration technique. Total coliform densities were analyzed on Difco M-Endo Agar after an incubation period of 18 to 24 hours at 35°C $\pm$ 0.5°C. Faecal coliform densities were analyzed on Difco M-FC Agar after incubation at 44.5°C $\pm$ 0.2°C for 18 to 24 hours. No preincubation period at room temperature was used for faecal coliforms.

4 RESULTS AND DISCUSSION

4.1 Water Quality

The water quality data obtained in this study are presented in Appendix II.

Parameters indicative of sewage contamination are nitrate, nitrite, phosphate, ammonia, chlorine, hydrocarbons (TOC) and heavy metals.

4.1.1 Nitrite, Nitrate, Ammonia and Phosphate. Elements nitrogen and phosphorus are essential for plant and algae metabolism and as such are known as nutrients. Although other elements such as trace metals and organic carbon are required for biological growth, nitrogen and phosphorus are considered to be the most important nutrients, for in excess they can lead to algal blooms and a deterioration of conditions in the receiving environment.

The Working Group on Water Quality Objectives (1977) has suggested a guideline of 1.0 mg/l maximum acceptable concentration for nitrite for public water supply. For the most part during the study the concentrations of nitrite measured were below the detection limit of 0.0050 mg/l and the highest value encountered was 0.0520 mg/l at Station 19 in July 1979.

The values for nitrate were well below the recommended guideline (Working Group, 1977) of 10 mg/l maximum acceptable concentration with the highest value obtained at Station 3 of 0.94 mg/l in October 1977.

The recommended limit of 0.5 mg/l for ammonia as set by the Working Group on Water Quality Objectives was exceeded on two occasions. Values of 1.7 and 1.4 mg/l were encountered at Station 3 in 1977 in May and October respectively, however these samples were then within the effluent plume. All other values were near or below the detection limit of 0.0050 mg/l.

Sources of phosphate in natural waterways are faecal matter, household products such as detergents, decaying plants and phosphate rocks. Phosphate occurring naturally in waterways rarely exceeds 0.05 mg/l. Orthophosphate is the uncombined phosphate ion, which in this form is available to plant and algae. Due to the fact that the analyses were performed in Vancouver and would not be completed within six hours, orthophosphates were not analyzed after April 1979.

The parameter total phosphate includes all phosphate compounds. The total phosphate results were generally low, although higher values occurred during the winter months. The highest concentration of 1.165 mg/l was encountered in January 1979 at Station 8, below the Whitehorse sewage outfall. Several of the samples taken near the entry to Lake Laberge (Stations 20, 21 and 22) had relatively high phosphate concentrations, although none of these values exceeded 0.1 mg/l.

4.1.2 Chlorides. Chlorides may be derived from human or domestic sewage. The Working Group on Water Quality Objectives (1977) has recommended a guideline of 250 mg/l for a public water supply. Chloride analyses were done only in 1979 and 1980 and these results were mostly below the detection level of 0.50 mg/l.

4.1.3 Total Organic Carbon. Organics discharged from domestic sources may seriously degrade the receiving water by causing problems of taste, odour, toxicity and depressed oxygen content.

Total organic carbon (TOC) is a technique for estimating the organic pollution in water and wastes. The Ontario Ministry of the Environment (1978) has recommended a maximum level of 5.0 mg/l for their public water supply. This value was exceeded twice in May and October of 1977 at Station 3 with concentrations of 7.0 and 8.0 mg/l respectively. Station 3 was located at the old raw sewage outfall. The remaining samples were all low with some below the detection limit of 1.0 mg/l.

4.1.4 Metals. There appears to be few anomalies in the metal parameters analyzed. Silver, arsenic, cadmium, cobalt, chromium, molybdenum, nickel, antimony, tin and vanadium were all below the detection limits throughout the study.

Iron exceeded the limit of 0.3 mg/l as recommended by the Working Group of Water Quality Objectives (1977) on many occasions throughout the study. Most frequently the highest concentrations were encountered at Station 19, at the mouth of the Takhini River. Station 8 had the highest concentration of the study with a value of 5.3 mg/l in January 1977. This station usually exceeded the limit but was normally below 1.0 mg/l. High values during summer could be attributed to leaching of iron from soil during heavy runoff, but this fails to explain the occurrences during winter months.

Mercury was detected once at Station 7 in May 1977 with a concentration of 0.00023 mg/l. This is below the acceptable limit of 0.002 mg/l as recommended by the Working Group of Water Quality Objectives (1977) for public water supply. In 1977 and 1978, analysis for mercury was the open flameless system, enabling a detection point of 0.00020 mg/l. For the remainder of the study mercury was measured on the ICAP which has a detection limit of 0.10 mg/l. The rest of the samples were below the latter detection point.

The Working Group on Water Quality Objectives (1977) has recommended an acceptable level of 0.05 mg/l of manganese for public water supply. This limit was exceeded on several occasions throughout the study. The California State Water Resources Control Board (1963) has set a limit of 1.0 mg/l to protect aquatic life. This limit was exceeded only once on July 7, 1978 at Station 14 with a concentration of 1.49 mg/l.

A concentration of 0.05 mg/l of lead has been recommended by the Working Group on Water Quality Objectives (1977) for public water supply but 1977 was the only year when the detection limit (0.02) was below this level. An excess could be seen in May, 1977 at Stations 1 and 3 with the highest concentration being 0.090 mg/l. Concentrations of lead in all other years were below detection li mit.

An acceptable level of 5.0 mg/l has been recommended for zinc for public water supply (Working Group on Water Quality Objectives 1977). All the results were near or below the detection limit of 0.020 mg/l.

4.1.5 Dissolved Oxygen. The solubility of oxygen in water varies with atmospheric pressure and temperature. Since oxygen is a poorly soluble gas, its solubility varies in direct proportion to the atmospheric pressure at any given temperature.

There are two sources of dissolved oxygen for the Yukon River: surface reaeration and photosynthetic reoxygenation. Surface reaeration is the more important with photosynthetic reoxygenation contributing primarily during the summer.

The Yukon River was always well saturated with dissolved oxygen which ranged from 82 to 124 percent saturation, (9.1 to 13.5 mg/l).

4.1.6 pH. pH is a very significant water quality parameter as it may influence the chemical speciation of metals and affect some organic compounds in an aquatic system. However, the pH values remained fairly consistant throughout the study, ranging from neutral (pH 7.3) to slightly basic (pH 8.55) conditions. This range is not expected to cause any adverse effects in this environment.

4.1.7 Conductivity, Alkalinity and Hardness. Conductivity values between 150 and 500 umhos/cm (25°C) are considered acceptable for specific conductance for support of fish populations in streams and rivers. Alkaline western streams can support fish adequately to 2000 umohs/cm (Environment Canada, 1976).

The conductivity values were low, ranging from 34 to 236 umhos/cm about a mean of 67 umhos/cm. Values in May were slightly lower than summer values. Inland Waters Directorate results (1975) show an average of 102 umhos/cm at a point on the same river section.

Alkalinity of less than 30 - 50 mg/l (as $CaCO_3$) is considered low, and natural water rarely exceeds 400 - 500 mg/l (as $CaCO_3$). The best range for aquatic life is in a pH of 7 to 8, with alkalinity of 100 mg/l (Environment Canada, 1976).

The total alkalinity results were low and ranged from 21.0 to 133.0 mg/l (as $CaCO_3$). This also indicates that the buffering capacity of the river is low.

The total hardness results throughout the study indicate that the water is soft (less than 60 mg/l as $CaCO_3$). Hardness is a measure of cations (Ca, Mg) which react with surfactants to form precipitates. Soft water is desirable to promote lathering of surfactants and prevent pipe cloggage. Conversely, soft water increases the sensitivity of fish to toxic metals.

4.1.8 Colour and Turbidity. True colour is caused by natural substances such as colloidal organic materials. (Apparent colour is due to suspended matter). Colour generally increased with an increase in pH and with the eutrophication process.

Turbidity is a measure of the way in which suspended matter causes light to be scattered or absorbed rather than transmitted through the water column. It is caused by clay, silt, fine organic and inorganic particles, and microscopic organisms (Rand *et al*, 1976).

The colour and turbidity results were low, indicating fairly clear water.

4.1.9 Non-Filterable Residue - NFR. The non-filterable residue is equivalent to the more familiar suspended solids and is measured as the solids fraction retained by a pre-weighed, standard glass fibre filter paper.

Although the NFR results fluctuated throughout the study they were generally low (less than 100 mg/l), but some elevated results did occur during January and February 1979. The highest result recorded (1460 mg/l NFR) was at Station 8 in January 1979. The new City of Whitehorse sewage lagoon came into operation in January 1979 and Station 8 is immediately downstream of the outfall. Thus the high levels recorded in January and February 1979 possibly reflect suspended solids that were flushed from the newly constructed lagoons and do not represent a continuing situation. The lagoons appeared to rapidly stabilize and high NFR levels in the Yukon River were not observed again during the study.

4.2 Bacteriology

Coliform bacteria are gram negative, rod-shaped bacterial organisms. They are metabolically facultative in that they can grow either aerobically (in the presence of oxygen) or anaerobically (in the absence of oxygen). In public health evaluations of water, total and faecal coliforms are used as indicator organisms for more dangerous pathogenic bacterical conditions. Their presence suggests potential for contamination by enteric (intestinal) bacteria, many of which can be extremely pathological to mankind. There is no definitive correlation between numbers of coliform and of pathogenic bacteria. Although faecal coliforms typically inhabit the intestinal tracts of man and warm-blooded animals, their presence in water is indicative of sewage contamination (Stanier et al, 1963). Waters contaminated by sewage are therefore a potential source of intestinal disease.

Bacterial genera Salmonella and Shigella are agents of intestinal disease in mankind and can cause, for example, dysentery, typhoid fever and 'food poisoning'. These pathogens are transmitted almost exclusively by faecal contamination of water, food and milk. Faecal coliforms are also indicators of disease-causing viruses such as poliomyelitis found in sewage and faecal-contaminated water and food.

In municipal and domestic wastewater the bacterial count is directly related to the strength of the sewage. Although The City of Whitehorse has dilute sewage - about one third the strength of normal municipal sewage. The bacteriological results show both total and faecal coliform counts one order of magnitude or approximately one tenth that of normal municipal sewage (Bethell, 1981).

The City of Whitehorse lagoon system discharges an average 3.64 million gallons per day (MIGPD) or 0.19 cubic meters per second of treated sewage. The minimum dilution ratio of this treated sewage into the Yukon River, which has a monthly minimum flow in April of 90.2 m^3/s (Inland Waters Directorate, 1980), is approximately 500 to 1. These conditions would apply to Sample Stations 17 to 19.

Summer monthly maximum flows (August) of 493.2 m^3/s would give a dilution of 2500:1. The Whitehorse and Porter Creek lagoons discharge coliform bacteria at average seasonal rates as shown in Table 4. Assuming that there is a complete mixing with the entire river flow, and the sampling program represent an average sample, the coliform counts in the Yukon River should never exceed theoretical values calculated for the low flow period which usually occurs some time between February to May (Table 5).

The assumption that complete mixing occurs is based on monitoring before and after lagoon construction. Before the treatment facility was commissioned, surface sampling across the river demonstrated that transverse mixing had not occurred even some twenty kilometers downstream (Appendix II). Smith and Gerard (1980) report that transverse mixing does not occur even 20 kilometers downstream from a point source of effluent.

The outfall system on the City of Whitehorse sewage treatment facility uses a diffuser across the Yukon River. While the mixing process is essentially a two dimensional phenomenon, it uses the full width of the river. The bacterial results following completion of the Whitehorse lagoons in late 1978 show that the sewage has mixed with the entire river in the immediate reaches downstream from the outfall (Appendix II). Effluents from the Porter Creek lagoon have much smaller flows and enter the river as a point source; there is no diffuser.

The theoretical faecal coliform counts can be compared to the maximum level of 200 organisms per 100 ml sample recommended by the Working Group on Water Quality Objectives (1977) for recreational water use. Seasonal average coliform counts as high as the theoretical values or higher than recreational standards have been found during the study. Occasionally during both summer and winter individual monthly samples were much below theoretical values and the proposed recreational standard. (Appendix II). Some individual faecal coliform counts as high as 800 organisms/100 ml were recorded. This information is important for utilities planning. From a Public Health protection

TABLE 4 AVERAGE BACTERIOLOGICAL COUNTS DISCHARGED FROM ANAEROBIC LAGOONS IN WHITEHORSE PER 100 ml

	WINTER	SUMMER
City of Whitehorse*		
total coliform	1,800,000	1,120,000
faecal coliform	320,000	180,000
Porter Creek**		
total coliform	5,500,000	2,500,000
faecal coliform	1,100,000	400,000

* Bethell, 1981

** EPS - Yukon Branch Files, 1979 and Nov. 1981 - single grab samples only

TABLE 5 CALCULATED BACTERIOLOGICAL COUNTS IN THE YUKON RIVER AT VARIOUS FLOWS (Counts per 100 ml)

LOCATION DOWNSTREAM OF	CALCULATED DILUTION APRIL MINIMUM FLOW	CALCULATED DILUTION AUGUST MAXIMUM FLOW
Whitehorse	3600 total 640 faecal	450 total 70 faecal
Porter Creek (only)	640 total 110 faecal	160 total 26 faecal
calculated total) both lagoons)	4200 total 750 faecal	610 total 96 faecal
* *		
February/August 1980) (downriver sampling)	1400 total 388 faecal (Feb)	385 total 43 faecal (Aug)

viewpoint, these faecal coliform counts should be reduced.

A summary (Table 6) of the average total and faecal coliform counts before and after the commencement of the City of Whitehorse sewage treatment lagoons demonstrates the following phenomena:

(i) that the City of Whitehorse sewage treatment lagoons have not significantly reduced the number of coliform bacteria for up to 22 km downstream of the outfall;

(ii) that there does not appear to be any significant die-off of both total and faecal bacteria for up to 22 km downstream from the outfall;

(iii) that there appears to be an increase in survival of both total and faecal coliform bacteria during winter.

The present study did not examine the mixing characteristics and cannot provide definitive assessments of the bacterial die off processes. However, it seems as though the treatment facility has not significantly reduced the number of total and faecal coliforms downstream of the outfall over the raw sewage situation. The treatment facility does reduce the number of coliform bacteria by about 70 percent (Bethell, 1981), but the viable organisms discharged appear to remain active over the entire reach of the river studied; there is no discernable die off of coliform bacteria (Table 6).

TABLE 6 MEAN SEASONAL BACTERIA COUNTS IN THE YUKON RIVER BEFORE (1977-78) AND AFTER (1979-80) START-UP OF THE CITY OF WHITEHORSE SEWAGE LAGOON (in counts per 100 ml.)

	LOCATION	WINTER (LOW FLOWS)			SUMMER (HIGH FLOWS)		
		TOTAL COLIFORMS	FAECAL COLIFORMS	RATIO TOTAL/FAECAL	TOTAL COLIFORMS	FAECAL COLIFORMS	RATIO TOTAL/FAECAL
1977-78	i	4.7	0	-			-
1979-80		4.8	0				
1977-78	ii	1885	328	5.7	1580	154	10.3
1979-80		596	324	1.8	209	49	4.3
1977-78	iii	901	102	8.8	832	110	7.6
1979-80		857	177	4.8	353	72	4.9
1977-78	iv	790	135	5.9	1073	159	6.8
1979-80		692	168	4.1	226	63	3.6

Notes to Table 6:

1. Location i: Station 1, 8 km upstream from Whitehorse sewage outfall

   Location ii: Stations 8-16 inclusive, 0.5 to 2.1 km downstream

   Location iii: Stations 17, 18, 8-9 km downstream

   Location iv: Stations 20, 21, 22, 14.5 to 22.6 km downstream

2. Calculated averages disregard samples showing zero colonies, or those too numerous to count (TNTC).

3. Winter averages from sampling in October to May interval

4. Summer averages from sampling in June to September interval

5. No faecal counts made until May 1978

Ratios of total coliforms to faecal coliforms can illustrate the effect of the operation of the sewage lagoon system. During 1977-78, before the treatment lagoons were constructed, numbers of total coliforms were 6 to 8 times greater than faecal coliforms during winter flows. These results can be compared to a 1975 study on the bacterial content of the Tanana River in central Alaska (Davenport et al, 1976). The Alaskan data show a total to faecal coliform ratio of 4.5 close to the discharge, declining to 2.6 at a point some 300 kilometers downstream, with sampling done in March, and water temperatures close to 0°C. It would seem that survival of total coliforms is enhanced by warmer water; or conversely, that faecal coliform species are more resistant to cold thermal shock.

The total to faecal coliform ratios illustrate the effect of lagoon construction. Total coliform counts were reduced or faecal coliform survival was enhanced, so that the ratios obtained were about 4, compared to 6 or 8 before lagoon construction. This shows that the lagoons cause a die-off of total coliform species. Alternatively, work by Smith and Gerard (1980) suggests that faecal coliforms may acclimatize to the physical conditions in northern anaerobic sewage lagoons. The present study does not show that this process is occuring, but rather that following installation of the lagoons, and particularly during the winter, nearly half of the total coliforms are absent from the sample station downstream of the outfall (Table 6). Most important is the observation that there has been no substantive reduction in the numbers of faecal coliforms in the Yukon River after lagoon construction.

5.0 Conclusions

The water quality parameters measured were generally very low and often near or below the detection limits of the analytical method used. There are some exceptions to this generalization. Concentrations measured exceeded proposed water quality objectives for ammonia and total organic carbon during 1977. Iron, manganese and lead exceeded the proposed water quality objectives (1977) for the Yukon on several occasions. Possible sources of these metals may be gasoline for lead, and snow scrapers and natural leaching for iron and manganese, carried through from street drainage in the storm sewers.

Yukon River water was well saturated with oxygen. The pH ranged from near neutral to slightly basic conditions which is quite natural for this environment. Temperature fluctuated with seasonal conditions from 0°C to 15°C. Specific conductivity, alkalinity and total hardness were low, indicating soft water. Colour and turbidity results were also low, indicating fairly clean water. Non-filterable residues were less than 100 mg/l. Overall the water quality parameters suggest an oligotrophic water body indicative of a system with fairly low biological productivity.

The bacteriological results indicate that the City of Whitehorse lagoons have not significantly reduced the number of coliform bacteria over the study reach. There does not appear to be any significant die off of coliform bacteria; in fact, there appears to be an increase in survival of coliform bacteria during winter.

Faecal coliform counts in the Yukon River downstream of Whitehorse average in excess of 200 counts per 100 ml, which is the standard used by most jurisdictions as a maximum for safe recreational water use. While samples collected in summer flow conditions showed less than 200 counts, those taken in low flow conditions were sometimes greatly in excess of the standard.

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APPENDICES

APPENDIX I

WATER SAMPLE COLLECTION, PRESERVATION AND ANALYTICAL METHODS

APPENDIX I WATER SAMPLE COLLECTION, PRESERVATION AND ANALYSIS METHODS FOR YUKON RIVER 1977 (a), 1978 (b), 1979 (c), and 1980 (d)

PARAMETER	DETECTION LIMIT	FIELD COLLECTION, SAMPLING PROCEDURE, PRESERVATION*	ANALYTICAL PROCEDURE**
Temperature a,b,c,d		In situ temperature reading	A thermometer or a Yellow Springs Instrument (YSI) Model 33 salinity, conductivity, temperature meter was used
Dissolved Oxygen a,b,c,d	1.0 mg/l	Duplicate samples collected in 300 ml glass bottles. Preserved with 2 ml manganese sulfate and 2 ml alkali-iodide-azide solution.	Iodometric Azide Modification Winkler Titration Method
pH a,b,c,d		Small aliquots of sample taken and read soon after collection. No preservation.	Potentiometric
Conductivity a,b,c,d	0.2 mhos/cm	In-situ and lab measurement. No preservative.	Conductivity cell
Ammonia (NH_3-N) a,b,c,d	0.0050 mg/l	Single 2 litre samples collected in linear polyethylene containers. No preservative. Stored at 4°C.	Phenol hypochlorite-colorimetric-automated
Colour a b c,d	0 1 5	Same sample as NH_3	Tristimulus Method Platinum-cobalt Visual Comparison. Reported in color units
Turbidity a b,c,d	0.5 FTU 1.0 FTU	Same sample as NH_3	Nephelometric Turbidity

* As described in Environment Canada (1976)
** As described in Environment Canada (1979)

APPENDIX I WATER SAMPLE COLLECTION, PRESERVATION AND ANALYSIS METHODS FOR YUKON RIVER 1977 (a), 1978 (b), 1979 (c), and 1980 (d) (Continued)

PARAMETER	DETECTION LIMIT	FIELD COLLECTION, SAMPLING PROCEDURE, PRESERVATION*	ANALYTICAL PROCEDURE**
Non-filterable Residue a,b c,d	10 mg/l 5 mg/l	Same sample as NH_3	Filtration, drying and weighing
Filterable Residue c,d	10	Same sample as NH_3	Filtration, drying and weighing
Total and Faecal Coliform a,b,c,d		Sample collected in 6 oz. wide-mouth screw cap sterile glass bottles. Kept cool (<10°C) and analyzed within 6 hours.	Membrane filtration technique
Total Alkalinity a,b,c,d	1.0 mg/l as $CaCO_3$	Same sample as NH_3	Potentiometric Titration
Total Organic Carbon (TOC) a,b,c,d	1.0 mg/l	Single samples collected in 100 ml glass jars. No preservative. Stored at 4°C.	Carbon infra-red analyzer
Total Inorganic Carbon (TIC) a,b,c,d	1.0 mg/l	Same sample as TOC	Carbon infra-red analyzer
Ortho Phosphate O PO_4-P a,b,c	0.0050 mg/l	Same sample as NH_3. Should be analyzed within 6 hours.	Molybdate-ascorbic acid reduction. Colorimetric-automated

* As described in Environment Canada (1976)
** As described in Environment Canada (1979)

APPENDIX I WATER SAMPLE COLLECTION, PRESERVATION AND ANALYSIS METHODS FOR YUKON RIVER 1977 (a), 1978 (b), 1979 (c), and 1980 (d) (Continued)

PARAMETER	DETECTION LIMIT	FIELD COLLECTION, SAMPLING PROCEDURE, PRESERVATION*	ANALYTICAL PROCEDURE**
Total Phosphate a T PO_4-P b,c,d	0.010 mg/l 0.0050 mg/l	Same sample as NH_3	Acid-persulfate, autoclave digestion
Nitrite a,b,c,d NO_2-N	0.0050 mg/l	Same sample as NH_3	Diazotization Colorimetric-automated
Nitrate a,b,c,d NO_3-N	0.010 mg/l	Same sample as NH_3	Cadmium-copper reduction Colorimetric-automated
Sulphate c,d SO_4	1.00 mg/l	Same sample as NH_3	Barium chloranilate-UV Spectrophotometric
Chloride c,d Cl	0.50 mg/l	Same sample as NH_3	Thiocyanate-Combined Reagent-Colorimetric-Automated
EXTRACTABLE METALS			
Ag a,b,c,d	0.030 mg/l	200 ml single samples collected in linear polyethylene bottles. Preserved to a pH <1.5 using 2.0 ml concentrated HNO_3	Flame Atomic Absorption Spectrophotometry

* As described in Environment Canada (1976)
** As described in Environment Canada (1979)

APPENDIX I WATER SAMPLE COLLECTION, PRESERVATION AND ANALYSIS METHODS FOR YUKON RIVER 1977 (a), 1978 (b), 1979 (c), and 1980 (d) (Continued)

PARAMETER		DETECTION LIMIT	FIELD COLLECTION, SAMPLING PROCEDURE, PRESERVATION*	ANALYTICAL PROCEDURE**
Al	b c,d	0.20 mg/l 0.090 mg/l	Same sample as Ag	Inductively Coupled Argon Plasma (ICAP) combined with Optical Emmission Spectrometer (OES) was used in 1978, '79 and '80. In 1977, the Atomic Absorption (AA) method was used
As	b c,d	0.20 mg/l 0.15 mg/l	Same sample as Ag	Same as Al
Ba	b,c,d	0.0030 mg/l	Same sample as Ag	Same as Al
Ca	a b,c,d	0.040 mg/l 0.025 mg/l	Same sample as Ag	Same as Al
Cd	a,b,c,d	0.010 mg/l	Same sample as Ag	Same as Al
Co	b c,d	0.020 mg/l 0.015 mg/l	Same sample as Ag	Same as Al
Cr	b c,d	0.020 mg/l 0.015 mg/l	Same sample as Ag	Same as Al

* As described in Environment Canada (1976)
** As described in Environment Canada (1979)

APPENDIX I WATER SAMPLE COLLECTION, PRESERVATION AND ANALYSIS METHODS FOR YUKON RIVER 1977 (a), 1978 (b), 1979 (c), and 1980 (d) (Continued)

PARAMETER		DETECTION LIMIT	FIELD COLLECTION, SAMPLING PROCEDURE, PRESERVATION*	ANALYTICAL PROCEDURE**
Cu	a b c,d	0.010 mg/l 0.020 mg/l 0.010 mg/l	Same sample as Ag	Same as Al
Fe	a b,c d	0.030 mg/l 0.020 mg/l 0.010 mg/l	Same sample as Ag	Same as Al
Hg (total)	a,b	0.00020 mg/l	200 ml single samples collected in linear polyethylene bottles. Preserved with 5% nitric dichromate solution, 10 ml per 100 ml of sample	Open Flameless System for Hg-AAS determination
Hg	a,b,c,d	0.10 mg/l	Same sample as Ag	ICAP OES
K	c,d	0.010 mg/l	Same sample as Ag	Atomic Emission (AE)
Mg	a b,c d	0.030 mg/l 0.010 mg/l 0.025 mg/l	Same sample as Ag	Same as Al
Mn	b c,d	0.0040 mg/l 0.0030 mg/l	Same sample as Ag	Same as Al

* As described in Environment Canada (1976)
** As described in Environment Canada (1979)

APPENDIX I WATER SAMPLE COLLECTION, PRESERVATION AND ANALYSIS METHODS FOR YUKON RIVER 1977 (a), 1978 (b), 1979 (c), and 1980 (d) (Continued)

PARAMETER		DETECTION LIMIT	FIELD COLLECTION, SAMPLING PROCEDURE, PRESERVATION*	ANALYTICAL PROCEDURE**
Mo	b	0.10 mg/l	Same sample as Ag	Same as Al
	c,d	0.15 mg/l		
Na	a	0.10 mg/l	Same sample as Ag	Same as Al
	b,c,d	0.030 mg/l		
Ni	a	0.050 mg/l	Same sample as Ag	AA
	b	0.20 mg/l		ICAP OES
	c,d	0.080 mg/l		ICAP OES
Pb	a	0.020 mg/l	Same sample as Ag	AA
	b	0.10 mg/l		ICAP OES
	c,d	0.080 mg/l		ICAP OES
Sb	a	0.30 mg/l	Same sample as Ag	AA
	b	0.10 mg/l		ICAP OES
	c,d	0.080 mg/l		ICAP OES
Se	b	0.10 mg/l	Same sample as Ag	Same as Al
	c,d	0.15 mg/l		
Si^1 (Reactive)	b,c,d	0.50 mg/l	Same sample as NH_3	Ascorbic acid reduction-Colorimetric
Si^2	d	0.40 mg/l	Same sample as Ag	ICAP OES

* As described in Environment Canada (1976)
** As described in Environment Canada (1979)

APPENDIX I WATER SAMPLE COLLECTION, PRESERVATION AND ANALYSIS METHODS FOR YUKON RIVER 1977 (a), 1978 (b), 1979 (c), and 1980 (d) (Continued)

PARAMETER		DETECTION LIMIT	FIELD COLLECTION, SAMPLING PROCEDURE, PRESERVATION*	ANALYTICAL PROCEDURE**
Sn	a,b c,d	0.10 mg/l 0.20 mg/l	Same sample as Ag	ICAP OES
Sr	b c,d	0.0095 mg/l 0.0040 mg/l	Same sample as Ag	ICAP OES
Ti	b c d	0.010 mg/l 0.0090 mg/l 0.0085 mg/l	Same sample as Ag	ICAP OES
V	b c,d	0.030 mg/l 0.050 mg/l	Same sample as Ag	ICAP OES ICAP OES
Zn	a b,c,d	0.010 mg/l 0.020 mg/l	Same sample as Ag	AA ICAP OES
Hardness	a,b,c,d		Same sample as Ag	The sum of the ICAP results for Mg and Ca 1 mg/l Mg = 4.116 mg/l $CaCO_3$ 1 mg/l Ca = 2.497 mg/l $CaCO_3$

* As described in Environment Canada (1976)
** As described in Environment Canada (1979)

APPENDIX II

MONTHLY WATER CHEMISTRY AND BACTERIOLOGICAL DATA FOR 1977 THROUGH 1980 INCLUSIVE

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE
May and June, 1977

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	77/05/18	0	---	0	2.6	<5	---	5.0	11.5	97	8.0	7.9	59
2	77/05/18	0.50	---	0	2.4	<5	---	5.0	11.5	97	7.8	7.7	59
3	77/05/18	1.10×10^6	---	0	4.2	11	---	5.0	9.8	82	7.7	7.4	134
4	77/05/18	0.80	---	0	2.7	40	---	5.0	10.9	92	8.3	7.9	60
5	77/05/18	2.70×10^4	---	0	2.7	<5	---	5.2	11.6	96	8.2	8.0	62
6	77/05/18	1.24×10^3	---	0	2.5	<5	---	5.0	11.7	97	8.0	7.8	62
7	77/05/18	3.14×10^2	---	0	2.2	<5	---	5.0	11.6	99	8.3	8.0	62
17	77/05/18	4.15×10^2	---	0	2.7	<5	---	4.0	11.6	95	7.8	7.8	62
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	77/06/15	2.6×10^1	---	10	4.7	8	---	14.0	10.1	104	8.00	7.6	78
2	77/06/15	9.75	---	10	4.3	5	---	14.1	10.0	103	8.00	7.9	75
3	77/06/15	4.46×10^5	---	9	5.8	5	---	14.0	9.9	102	8.05	8.0	95
4	77/06/15	2.50×10^1	---	36	4.6	5	---	14.0	9.8	101	7.80	7.9	77
5	77/06/15	4.20×10^3	---	10	4.8	6	---	15.0	10.2	107	8.00	8.0	80
6	77/06/15	1.33×10^3	---	8	5.1	9	---	15.0	10.8	114	7.80	8.0	78
7	77/06/15	1.28×10^3	---	8	5.3	5	---	14.1	10.5	109	8.10	8.0	83
17	77/06/15	8.33×10^2	---	8	5.7	5	---	13.8	10.3	107	8.10	7.2	78
18	77/06/15	8.80×10^2	---	9	5.6	<4	---	13.5	10.2	105	8.00	7.9	81
19	77/06/15	1.63×10^1	---	60	70	58	---	13.0	10.0	101	7.90	7.9	46
21	77/06/15	8.83×10^2	---	27	28	37	---	13.0	10.0	101	7.90	7.9	70
22	77/06/15	1.39×10^3	---	25	27	42	---	13.0	9.9	100	7.90	7.9	71

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
July and September, 1977

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	77/07/21	1.05×10^1	---	1	1.3	<4	---	16.0	9.5	102	7.7	8.0	79
2	77/07/21	8.50	---	1	1.7	<4	---	16.0	9.4	101	7.6	8.0	78
3	77/07/21	6.10×10^4	---	-	---	--	---	16.0	9.6	103	7.8	---	122
4	77/07/21	1.10×10^1	---	1	1.8	<4	---	15.0	9.6	101	7.6	8.0	81
5	77/07/21	6.20×10^3	---	2	1.6	<4	---	15.0	9.5	100	7.7	8.0	83
6	77/07/21	1.80×10^3	---	1	1.8	<4	---	15.0	9.5	100	7.6	8.0	86
7	77/07/21	9.32×10^2	---	1	1.7	<4	---	15.0	9.5	100	7.7	8.0	83
17	77/07/21	1.01×10^3	---	1	1.8	<4	---	16.0	9.4	101	7.5	7.9	81
18	77/07/21	5.85×10^2	---	1	2.0	5	---	15.0	9.6	101	7.6	8.0	81
19	77/07/21	1.15×10^1	---	31	28.0	61	---	14.0	9.1	94	8.0	7.5	43
21	77/07/21	6.90×10^2	---	9	12.0	36	---	14.0	9.1	94	7.5	7.9	64
22	77/07/21	6.68×10^2	---	10	11.0	26	---	15.0	9.2	97	7.5	7.9	70
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	77/09/15	6.25	---	0	1.3	8	---	13.0	10.4	105	7.70	7.9	65
2	77/09/15	7.75	---	0	1.2	<5	---	12.5	10.5	106	7.75	7.9	65
3	77/09/15	2.64×10^5	---	7	2.7	8	---	13.0	9.9	100	7.80	7.7	77
4	77/09/15	8.00	---	0	1.5	6	---	12.5	10.9	110	7.90	8.1	65
5	77/09/15	8.40×10^3	---	6	1.5	<5	---	12.5	10.2	103	7.90	7.9	68
6	77/09/15	6.75×10^3	---	0	1.8	<5	---	12.5	10.4	105	8.00	8.0	65
7	77/09/15	1.39×10^3	---	1	1.5	<5	---	12.5	10.4	105	7.95	8.0	70
17	77/09/15	7.09×10^2	---	0	1.5	<5	---	12.5	10.2	103	7.95	7.9	66
18	77/09/15	1.05×10^3	---	1	1.4	<5	---	12.5	10.5	106	7.95	8.0	65
19	77/09/15	4.50	---	13	11.0	20	---	10.5	10.0	97	7.95	7.7	37
21	77/09/15	1.09×10^3	---	1	4.5	6	---	11.5	10.5	105	7.95	8.0	60
22	77/09/15	1.48×10^3	---	3	3.1	8	---	12.0	10.4	103	7.90	7.9	59

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
October, 1977

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBI-DITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURA-TION	IN SITU pH	VAN.LAB pH	IN SITU CONDUC-TIVITY umhos/cm
1	77/10/17	1.40×10^1	---	1	0.5	<5	---	6.0	9.9	85	7.9	7.8	66
2	77/10/17	9.00	---	1	0.6	<5	---	6.0	10.3	89	7.9	7.8	65
3	77/10/17	8.03×10^5	---	12	7.6	20	---	6.0	---	---	7.8	7.5	111
4	77/10/17	3.50×10^1	---	1	0.6	<5	---	6.0	10.6	91	7.9	7.8	69
5	77/10/17	6.85×10^3	---	1	0.6	<5	---	6.0	12.8	110	8.0	7.9	69
6	77/10/17	4.30×10^3	---	1	0.7	<5	---	6.0	10.6	91	8.0	7.9	70
7	77/10/17	1.90×10^3	---	0	0.7	<5	---	5.5	10.8	93	7.9	7.9	70
17	77/10/17	5.55×10^2	---	0	0.7	<5	---	6.0	10.2	88	7.9	7.9	70

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
February and March, 1978

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	78/02/14	2.00	---	0	2.6	6.55	---	---	---	---	---	7.4	---
2	78/02/14	1.00×10^1	---	0	4.4	16.7	---	---	---	---	---	7.9	---
3	78/02/14	1.50×10^5	---	3	2.6	5.90	---	---	---	---	---	7.9	---
4	78/02/14	0	---	0	2.4	7.05	---	---	---	---	---	7.5	---
5	78/02/14	2.50×10^3	---	0	2.4	8.10	---	---	---	---	---	7.4	---
6	78/02/14	7.70×10^3	---	0	4.5	12.9	---	---	---	---	---	7.8	---
7	78/02/14	5.60×10^2	---	0	3.5	21.4	---	---	---	---	---	7.6	---
17	78/02/14	3.40×10^2	---	0	3.5	55.3	---	---	---	---	---	7.5	---
18	78/02/14	1.30×10^3	---	4	15.0	13.4	---	---	---	---	---	8.3	---
19	78/02/14	7.00	---	1	6.0	16.7	---	---	---	---	---	7.6	---
21	78/02/14	8.80×10^2	---	0	3.2	13.9	---	---	---	---	---	7.5	---
22	78/02/14	9.80×10^2	---	0	4.0	6.10	---	---	---	---	---	7.4	---
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/03/28	1.00	---	0	1.7	5	---	---	---	---	7.55	7.6	---
2	78/03/28	0	---	0	2.5	8	---	---	---	---	7.60	7.6	---
3	78/03/28	3.00×10^4	---	3	4.5	16	---	---	---	---	7.40	7.9	---
4	78/03/28	0	---	0	2.0	5	---	0.0	---	---	7.55	7.7	---
5	78/03/28	1.30×10^4	---	1	2.0	9	---	---	---	---	7.45	7.8	---
6	78/03/28	2.60×10^3	---	0	1.5	7	---	0.0	---	---	7.40	7.8	---
7	78/03/28	5.60×10^3	---	0	2.2	7	---	0.0	---	---	7.50	7.7	---
18	78/03/28	1.08×10^3	---	0	2.7	4	---	0.0	---	---	7.40	7.9	---
19	78/03/28	0	---	1	5.2	8	---	0.0	---	---	7.30	7.7	---
21	78/03/28	TNTC*	---	0	2.9	4	---	0.0	---	---	7.40	7.9	---
22	78/03/28	TNTC*	---	0	2.2	5	---	0.0	---	---	---	8.0	---

* TNTC - To Numerous to Count

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)

May and June, 1978

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	78/05/24	2.00	0	<5	1.7	<10	---	7.9	12.64	114	8.20	7.9	---
8	78/05/24	1.10×10^3	1.80×10^2	5	3.5	13	---	7.9	12.76	115	8.12	8.0	---
9	78/05/24	1.31×10^3	1.90×10^2	5	2.0	<5	---	7.5	12.74	115	8.05	7.9	---
10	78/05/24	1.66×10^3	1.90×10^2	7	2.3	12	---	8.0	12.72	115	8.00	8.1	---
11	78/05/24	1.18×10^3	1.70×10^2	--	---	---	---	6.8	12.56	111	7.85	---	---
12	78/05/24	1.23×10^3	2.40×10^2	6	2.3	11	---	7.8	13.27	120	8.19	8.0	---
13	78/05/24	9.10×10^2	3.00×10^1	6	2.4	28	---	7.1	13.09	115	8.00	8.0	---
14	78/05/24	5.90×10^2	1.50×10^2	6	2.3	14	---	7.7	13.04	117	7.82	8.0	---
15	78/05/24	5.60×10^2	1.80×10^2	6	2.3	<5	---	7.2	12.44	109	8.15	8.0	---
16	78/05/24	6.60×10^2	5.00×10^1	5	2.0	13	---	7.5	12.82	116	8.10	8.0	---
17	78/05/24	2.40×10^2	1.10×10^2	<5	2.3	<5	---	7.5	13.07	118	7.99	8.0	---
18	78/05/24	5.00×10^2	1.00×10^2	<5	1.6	<5	---	7.4	---	---	7.95	8.0	---
19	78/05/24	1.00	0	26	23.0	20	---	7.0	11.12	98	7.54	8.2	---
21	78/05/24	5.60×10^2	1.60×10^2	8	5.5	13	---	9.0	11.98	111	8.01	8.0	---
22	78/05/24	7.40×10^2	1.10×10^2	9	6.2	15	---	7.5	12.52	113	7.59	8.0	---
1	78/06/13	0	4.00	2	1.8	<10	---	12.5	10.43	104	7.78	7.9	70
8	78/06/13	2.60×10^2	5.00×10^1	4	2.1	11	---	13.5	11.13	115	7.75	7.9	72
9	78/06/13	1.20×10^2	6.00×10^1	3	1.9	<10	---	13.3	10.76	110	7.80	7.9	71
10	78/06/13	1.10×10^2	1.00×10^1	4	2.2	<10	---	14.5	10.77	111	7.90	8.0	80
11	78/06/13	3.00×10^2	7.00×10^1	4	2.5	17	---	13.5	10.94	113	7.65	7.9	72
12	78/06/13	2.30×10^2	1.20×10^2	4	2.9	20	---	13.5	10.87	120	7.75	8.0	72
13	78/06/13	1.20×10^2	5.00×10^1	4	2.6	21	---	13.8	10.62	110	7.90	8.0	75
14	78/06/13	2.30×10^2	2.00×10^1	4	8.0	27	---	13.5	11.30	171	7.85	8.0	74
15	78/06/13	2.80×10^2	6.00×10^1	4	2.8	13	---	13.5	10.79	112	7.80	8.0	72
16	78/06/13	2.00×10^2	3.00×10^1	4	2.8	<10	---	14.0	10.70	111	8.04	7.9	75
17	78/06/13	1.60×10^2	4.00×10^1	3	2.1	15	---	13.0	10.88	110	7.80	7.9	72
18	78/06/13	1.60×10^2	5.00×10^1	4	2.1	14	---	12.8	10.68	108	8.06	7.9	62
19	78/06/13	1.60×10^2	1.40×10^1	40	22.0	171	---	12.0	10.68	106	7.52	7.9	44
21	78/06/13	2.10×10^2	6.00×10^1	4	2.0	14	---	12.2	11.06	110	7.93	7.9	69
22	78/06/13	3.30×10^2	2.50×10^2	4	2.1	18	---	13.0	10.51	107	7.90	7.9	72

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
June and July, 1978

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	78/06/26	---	---	<1	3.2	17	---	11.7	---	---	---	7.9	73
2	78/06/26	---	---	1	3.2	32	---	11.1	---	---	---	7.9	74
3	78/06/26	---	---	<1	1.2	<10	---	11.0	---	---	---	7.9	74
4	78/06/26	---	---	7	12.0	42	---	11.6	---	---	---	8.1	79
5	78/06/26	---	---	<1	2.5	<10	---	11.3	---	---	---	7.9	75
6	78/06/26	---	---	<1	2.0	<10	---	11.6	---	---	---	7.9	79
7	78/06/26	---	---	<1	2.5	<10	---	11.7	---	---	---	7.9	74
8	78/06/26	---	---	<1	2.5	<10	---	11.4	---	---	---	7.9	72
9	78/06/26	---	---	<1	2.1	<10	---	11.4	---	---	---	7.9	74
10	78/06/26	---	---	<1	1.9	<10	---	11.7	---	---	---	7.9	75
11	78/06/26	---	---	<1	1.7	<10	---	11.4	---	---	---	7.9	55
12	78/06/26	---	---	<1	1.9	<10	---	11.5	---	---	---	7.9	78
13	78/06/26	---	---	29	34.0	83	---	10.1	---	---	---	7.9	53
14	78/06/26	---	---	8	9.9	30	---	10.9	---	---	---	7.9	68
15	78/06/26	---	---	8	11.0	34	---	10.8	---	---	---	7.9	61
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/07/17	1.00	1.00	<1	1.2	14	---	---	9.92	---	8.20	7.8	--
8	78/07/17	4.50×10^2	1.00×10^1	<1	<1.0	<10	---	---	10.01	---	8.35	7.9	--
9	78/07/17	8.10×10^2	1.00×10^1	<1	<1.0	<10	---	---	9.92	---	8.20	7.8	--
10	78/07/17	8.20×10^2	4.00×10^1	<1	<1.0	<10	---	---	10.34	---	8.40	7.5	--
11	78/07/17	9.20×10^2	2.00×10^1	1	1.3	<10	---	---	10.48	---	8.20	7.8	--
12	78/07/17	1.07×10^2	6.00×10^1	<1	<1.0	<10	---	25.0	9.85	126	8.30	7.7	70
13	78/07/17	1.04×10^3	2.00×10^1	<1	<1.0	<10	---	25.0	10.29	132	8.10	7.6	70
14	78/07/17	5.60×10^2	2.00×10^1	<1	<1.0	<10	---	26.0	10.00	131	7.38	7.8	70
15	78/07/17	8.60×10^2	0	<1	<1.0	<10	---	25.0	10.30	132	8.25	7.7	70
16	78/07/17	5.40×10^2	1.00×10^1	<1	1.3	<10	---	22.0	8.96	110	8.55	7.9	70
17	78/07/17	6.00×10^2	2.00×10^1	<1	<1.0	<10	---	22.0	10.06	123	6.60	7.7	70
18	78/07/17	7.50×10^2	2.00×10^1	<1	<1.0	<10	---	15.2	10.45	110	8.20	7.7	71
19	78/07/17	1.00	4.00	22	9.2	50	---	13.8	10.04	104	8.70	7.7	38
21	78/07/17	5.00×10^2	0	4	4.0	22	---	14.0	10.45	108	8.15	7.7	60
22	78/07/17	4.30×10^3	6.00×10^1	<1	4.3	35	---	14.0	9.43	98	7.65	7.7	50

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
August, 1978

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	78/08/07	1.00×10^1	1.00	0	0.9	<10	---	15.7	10.20	110	8.52	8.0	73
8	78/08/07	7.80×10^2	1.09×10^2	0	0.9	<10	---	16.0	10.12	109	8.55	7.9	73
9	78/08/07	2.60×10^3	1.79×10^2	0	0.5	<10	---	16.3	10.10	109	8.60	7.8	75
10	78/08/07	2.60×10^3	3.19×10^2	7	26.0	97	---	16.5	10.19	110	7.00	8.2	80
11	78/08/07	2.60×10^3	2.27×10^2	0	0.8	<10	---	16.0	10.00	108	8.51	7.8	78
12	78/08/07	1.80×10^3	2.30×10^2	0	0.8	<10	---	16.0	10.08	108	8.30	7.9	73
13	78/08/07	1.52×10^3	2.54×10^2	0	0.7	<10	---	16.0	9.82	106	8.10	7.8	73
14	78/08/07	1.90×10^3	1.97×10^2	1	2.6	<10	---	16.0	10.16	109	8.00	7.9	73
15	78/08/07	2.20×10^3	1.37×10^2	0	1.9	<10	---	16.0	10.04	108	8.15	7.9	71
16	78/08/07	1.39×10^3	1.87×10^2	1	0.9	<10	---	16.0	9.72	105	8.30	7.9	72
17	78/08/07	1.26×10^3	1.51×10^2	1	0.9	<10	---	15.8	10.14	109	8.15	7.8	73
18	78/08/07	1.06×10^3	7.80×10^1	1	1.6	<10	---	15.0	9.90	104	8.10	7.8	72
19	78/08/07	3.10×10^1	1.10×10^1	17	19.0	34	---	14.0	9.63	100	7.85	7.4	40
21	78/08/07	1.01×10^3	9.10×10^1	3	5.9	13	---	14.3	9.89	102	7.90	7.7	66
22	78/08/07	2.10×10^3	1.98×10^2	3	6.7	14	---	14.8	9.73	103	7.35	7.7	61

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STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	78/08/29	1.80×10^1	0	-	---	---	---	13.2	10.14	103	---	---	--
8	78/08/29	7.00×10^2	7.70×10^1	-	---	---	---	14.5	9.95	103	---	---	--
9	78/08/29	1.48×10^3	2.29×10^2	-	---	---	---	14.2	9.84	102	---	---	--
10	78/08/29	1.52×10^3	1.16×10^2	-	---	---	---	14.5	10.00	103	---	---	--
11	78/08/29	1.23×10^3	6.10×10^1	0	0.7	<10	---	14.5	10.11	105	---	7.9	--
12	78/08/29	1.32×10^3	1.37×10^2	0	0.7	<10	---	14.0	10.00	103	---	7.9	--
13	78/08/29	1.56×10^3	7.20×10^1	0	1.4	<10	---	15.0	9.92	103	---	7.9	--
14	78/08/29	1.49×10^3	5.60×10^1	0	0.8	<10	---	14.0	9.80	101	---	7.9	--
15	78/08/29	1.07×10^3	1.04×10^2	2	0.7	<10	---	14.0	10.05	104	---	8.0	--
16	78/08/29	6.75×10^2	8.00×10^1	0	1.0	<10	---	14.0	9.90	82	---	7.9	--
17	78/08/29	6.15×10^2	7.10×10^1	0	0.6	<10	---	14.0	9.94	103	---	7.9	--
18	78/08/29	2.02×10^3	9.00×10^1	0	0.7	<10	---	14.0	10.14	105	---	7.9	--
19	78/08/29	1.60×10^1	9.00	-	---	---	---	14.0	10.48	108	---	---	--
21	78/08/29	1.70×10^3	9.00×10^1	-	---	---	---	14.0	9.68	100	---	---	--
22	78/07/29	1.90×10^3	2.00×10^2	3	2.7	<10	---	14.0	9.55	99	---	7.8	--

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
December, 1978

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	78/12/06	0	0	1	1.1	21	---	---	---	---	---	7.7	---
8	78/12/06	2.97×10^2	1.07×10^2	0	1.2	11	---	---	---	---	---	7.7	---
9	78/12/06	TNTC	4.20×10^1	0	21.0	136	---	---	---	---	---	7.8	---
10	78/12/06	TNTC	TNTC	2	38.0	456	---	---	---	---	---	7.9	---
11	78/12/06	TNTC	2.19×10^2	0	1.2	6	---	---	---	---	---	7.9	---
12	78/12/06	TNTC	2.90×10^2	1	1.1	6	---	---	---	---	---	7.8	---
13	78/12/06	TNTC	2.92×10^2	2	1.4	5	---	---	---	---	---	7.7	---
14	78/12/06	3.12×10^2	1.72×10^2	1	1.2	8	---	---	---	---	---	7.8	---
17	78/12/06	1.67×10^2	9.70×10^1	1	1.1	<5	---	---	---	---	---	8.0	---
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/12/20	0	0	<1	<1.00	<5	---	---	12.2	---	---	7.6	---
8	78/12/20	8.00×10^2	1.00×10^2	1	3.00	37	---	---	11.4	---	---	7.7	---
9	78/12/20	1.00×10^4	0	3	20.0	374	---	---	12.1	---	---	7.6	---
10	78/12/20	6.20×10^3	9.00×10^2	1	1.25	6	---	---	12.1	---	---	7.7	---
11	78/12/20	6.00×10^3	2.00×10^2	<1	1.25	<5	---	---	12.2	---	---	7.8	---
12	78/12/20	3.70×10^3	4.00×10^2	1	1.25	30	---	---	11.3	---	---	8.0	---
13	78/12/20	2.80×10^3	4.00×10^2	1	2.25	6	---	---	---	---	---	7.7	---
14	78/12/20	8.00×10^1	1.80×10^3	1	1.50	<5	---	---	11.8	---	---	7.8	---

TNTC: To Numerous to Count

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
January and February, 1979

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	79/01/17	4.0	0	2	<1.0	<5	---	---	12.2	---	---	7.6	---
8	79/01/17	1.5×10^3	3.0×10^2	8	20.0	1460	---	---	12.1	---	---	7.7	---
9	79/01/17	1.1×10^3	4.0×10^2	2	1.0	7	---	---	12.5	---	---	7.7	---
10	79/01/17	4.6×10^3	2.5×10^2	4	1.8	644	---	---	12.3	---	---	7.6	---
11	79/01/17	0	0	3	1.8	26	---	---	13.5	---	---	7.6	---
12	79/01/17	1.0×10^2	1.0×10^2	3	2.0	19	---	---	12.3	---	---	7.8	---
13	79/01/17	1.45×10^3	5.0×10^2	4	12.0	145	---	---	11.9	---	---	7.7	---
14	79/01/17	9.50×10^2	1.0×10^2	4	1.3	12	---	---	12.3	---	---	7.6	---
15	79/01/17	9.50×10^2	0	2	4.5	173	---	---	12.2	---	---	7.7	---
16	79/01/17	1.5×10^3	1.1×10^3	4	1.8	7	---	---	12.1	---	---	7.5	---

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STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	79/02/21	2.00	0	<1	---	<5	69	---	12.40	---	---	7.7	---
8	79/02/21	0	0	<1	---	6	81	---	---	---	---	7.7	---
9	79/02/21	0	0	<1	---	8	62	---	12.26	---	---	7.7	---
10	79/02/21	1.20×10^2	0	<1	---	64	78	---	12.27	---	---	7.7	---
11	79/02/21	1.49×10^3	7.50×10^2	<1	---	22	69	---	11.95	---	---	7.8	---
12	79/02/21	1.00×10^3	7.50×10^2	1	---	307	70	---	12.80	---	---	7.8	---
13	79/02/21	2.72×10^2	0	<1	---	7	69	---	12.24	---	---	7.8	---
14	79/02/21	7.27×10^2	5.00×10^2	<1	---	8	64	---	11.45	---	---	7.8	---
15	79/02/21	8.18×10^2	5.00×10^2	1	---	14	71	---	12.40	---	---	7.8	---
16	79/02/21	4.00×10^2	2.50×10^2	<1	---	<5	71	---	12.10	---	---	7.8	---

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
April and May, 1979

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	79/04/05	2.00	0	<5	---	<5	65	---	12.20	---	---	7.8	---
8	79/04/05	1.05×10^2	5.00×10^1	<5	---	35	62	---	12.20	---	---	7.8	---
9	79/04/05	1.58×10^2	6.20×10^1	<5	---	<5	61	---	12.13	---	---	7.8	---
10	79/04/05	2.40×10^2	5.80×10^1	<5	---	<5	66	---	12.15	---	---	7.8	---
11	79/04/05	1.86×10^2	TNTC	<5	---	19	61	---	12.25	---	---	7.8	---
12	79/04/05	9.80×10^2	2.32×10^2	<5	---	<5	61	---	12.20	---	---	7.8	---
13	79/04/05	1.80×10^2	1.20×10^2	<5	---	<5	67	---	12.15	---	---	7.8	---
14	79/04/05	1.48×10^3	8.10×10^2	<5	---	<5	65	---	12.08	---	---	7.8	---
15	79/04/05	6.20×10^2	1.10×10^2	<5	---	<5	61	---	12.18	---	---	7.8	---
16	79/04/05	3.64×10^2	1.24×10^2	<5	---	<5	62	---	12.10	---	---	7.8	---
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	79/05/29	6.00	0	7	4.2	11	---	6.0	11.10	95	---	7.8	60
8	79/05/29	2.00	0	5	3.6	9	---	6.5	11.30	97	---	7.8	61
9	79/05/29	1.10×10^1	3.05×10^2	6	3.3	9	---	6.0	11.50	99	---	7.8	60
10	79/05/29	1.10×10^1	6.00	7	3.9	20	---	6.5	11.35	98	---	7.9	68
11	79/05/29	3.10×10^2	7.80×10^1	5	4.7	9	---	5.8	11.45	98	---	7.9	60
12	79/05/29	3.90×10^2	7.00×10^1	5	4.2	10	---	5.1	11.70	98	---	7.9	61
13	79/05/29	1.90×10^2	4.20×10^1	7	3.2	11	---	6.2	11.47	99	---	7.9	61
14	79/05/29	2.90×10^2	5.70×10^1	6	4.2	11	---	5.9	11.45	98	---	7.8	62
15	79/05/29	3.60×10^2	5.70×10^1	<5	3.8	10	---	5.5	11.50	96	---	7.9	60
16	79/05/29	2.50×10^2	4.70×10^1	6	3.5	16	---	5.8	11.55	99	---	7.7	60
17	79/05/29	2.00×10^2	6.10×10^1	6	2.4	11	---	5.2	11.48	96	---	7.8	59
18	79/05/29	2.10×10^2	5.80×10^1	6	1.8	14	---	5.0	11.50	97	---	7.9	59
19	79/05/29	2.30×10^2	6.90×10^1	18	33.0	120	---	11.2	11.40	110	---	8.0	59
21	79/05/29	1.72×10^2	4.40×10^1	7	12.0	36	---	6.0	11.20	96	---	7.9	60

TNTC: Too Numerous to Count

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
June and July, 1979

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	79/06/12	5.45	2.00	<5	17.0	79	70	---	10.23	---	---	7.9	---
8	79/06/12	1.36×10^2	1.39×10^2	<5	4.4	16	69	---	10.20	---	---	7.9	---
9	79/06/12	1.48×10^2	1.49×10^2	<5	3.6	9	67	---	10.20	---	---	7.9	---
10	79/06/12	1.30×10^2	7.10×10^1	<5	32.0	315	77	---	10.20	---	---	8.0	---
11	79/06/12	4.70×10^2	3.60×10^2	<5	4.2	13	68	---	10.10	---	---	7.9	---
12	79/06/12	3.70×10^2	2.54×10^2	<5	3.6	11	70	---	10.27	---	---	7.9	---
13	79/06/12	4.10×10^2	1.83×10^2	<5	5.8	30	69	---	10.20	---	---	7.9	---
14	79/06/12	3.50×10^2	2.90×10^2	<5	23.0	115	72	---	10.30	---	---	7.9	---
15	79/06/12	3.80×10^2	2.15×10^2	<5	3.2	10	69	---	10.15	---	---	7.9	---
16	79/06/12	2.00×10^2	---	<5	7.2	67	75	---	10.28	---	---	7.9	---
17	79/06/12	1.10×10^2	1.43×10^2	<5	4.6	13	70	---	10.17	---	---	7.9	---
18	79/06/12	2.50×10^2	1.68×10^2	<5	4.8	14	71	---	10.18	---	---	7.9	---
19	79/06/12	3.00	---	8	69.0	195	60	---	10.00	---	---	7.8	---
21	79/06/12	2.80×10^2	1.76×10^2	<5	20.0	44	66	---	10.00	---	---	7.9	---
22	79/06/12	1.00×10^2	7.90×10^1	<5	3.5	9	69	---	10.39	---	---	7.9	---
1	79/07/16	0	2.00	<5	1.2	<5	60	14.0	10.30	107	---	7.8	70
8	79/07/16	6.00	8.00	<5	1.4	7	61	14.0	10.10	104	---	7.8	70
9	79/07/16	8.18	1.30×10^1	<5	<1.0	5	60	14.0	10.13	105	---	7.8	70
10	79/07/16	1.36×10^1	1.70×10^1	<5	4.2	29	64	14.0	10.33	107	---	8.0	75
11	79/07/16	1.00×10^2	4.50×10^1	<5	2.4	16	61	14.0	10.05	104	---	7.8	71
12	79/07/16	6.36×10^1	5.10×10^1	<5	2.1	<5	61	13.9	10.00	103	---	7.8	71
13	79/07/16	9.09×10^1	3.00×10^1	<5	2.3	10	60	13.8	10.15	105	---	7.9	71
14	79/07/16	1.45×10^2	3.80×10^1	<5	1.4	8	59	13.8	10.00	103	---	7.9	70
15	79/07/16	1.20×10^2	4.50×10^1	<5	2.2	14	63	13.9	10.13	105	---	7.8	70
16	79/07/16	1.18×10^2	3.20×10^1	<5	2.6	<5	60	13.0	9.95	101	---	7.9	65
17	79/07/16	6.36×10^1	3.40×10^1	<5	<1.0	9	62	13.5	9.95	101	---	7.8	62
18	79/07/16	7.27×10^1	3.70×10^1	<5	2.0	9	63	12.5	9.95	99	---	7.8	69
19	79/07/16	2.90×10^1	1.20×10^1	7	9.6	43	47	12.5	9.68	96	---	7.8	38
21	79/07/16	1.10×10^2	2.90×10^1	<5	5.0	23	56	13.0	9.80	99	---	7.8	59
22	79/07/16	0	4.00	<5	1.6	5	62	14.0	9.93	103	---	7.8	70

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
August and September, 1979

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	79/08/13	1.00	2.00	<5	<1.0	<5	60	16.0	9.63	104	---	7.7	70
8	79/08/13	1.00×10^1	0	<5	<1.0	<5	53	16.0	9.35	101	---	7.6	70
9	79/08/13	5.00	1.00×10^1	<5	<1.0	<5	60	15.9	9.53	102	---	7.6	72
10	79/08/13	7.00	0	<5	<1.0	<5	61	16.0	9.50	102	---	7.7	72
11	79/08/13	1.81×10^2	1.05×10^2	<5	<1.0	<5	60	15.5	9.53	102	---	7.7	70
12	79/08/13	2.20×10^2	1.47×10^2	<5	<1.0	<5	60	15.7	9.40	101	---	7.7	71
13	79/08/13	2.00×10^2	5.80×10^1	<5	<1.0	<5	58	15.6	9.35	101	---	7.8	71
14	79/08/13	2.00×10^2	1.18×10^2	<5	<1.0	<5	58	15.6	9.40	101	---	7.7	70
15	79/08/13	2.30×10^2	1.08×10^2	<5	<1.0	<5	60	15.5	9.35	101	---	7.7	70
16	79/08/13	2.30×10^2	6.30×10^1	<5	<1.0	<5	93	15.5	9.38	101	---	7.7	70
17	79/08/13	2.10×10^2	9.00×10^1	<5	<1.0	<5	58	15.5	9.35	101	---	7.7	70
18	79/08/13	3.70×10^2	1.07×10^2	<5	<1.0	<5	57	15.5	9.35	101	---	7.7	70
19	79/08/13	0	4.00	<5	<1.0	21	36	15.5	9.38	101	---	7.4	70
21	79/08/13	1.82×10^2	9.80×10^1	<5	<1.0	<5	53	15.0	8.80	95	---	7.7	39
22	79/08/13	---	---	<5	<1.10	<5	58	15.5	9.20	97	---	7.8	64
* * * * *													
1	79/09/27	1.55×10^1	0	5	<1.0	<5	62	9.8	10.70	102	---	7.6	66
8	79/09/27	1.27×10^1	9.00	5	3.0	<5	61	10.1	10.73	102	---	7.7	67
9	79/09/27	4.90×10^1	3.80×10^1	5	<1.0	<5	62	10.0	10.60	101	---	7.7	68
10	79/09/27	1.00×10^1	1.00	5	2.8	<5	67	10.0	10.75	102	---	7.7	70
11	79/09/27	2.90×10^2	4.00×10^1	5	<1.0	<5	58	10.2	10.50	100	---	7.7	67
12	79/09/27	3.70×10^2	5.80×10^1	5	<1.0	<5	63	9.8	10.53	100	---	7.7	67
13	79/09/27	2.70×10^2	3.60×10^1	5	<1.0	<5	55	10.0	10.75	102	---	7.7	68
14	79/09/27	3.30×10^2	3.60×10^1	5	<1.0	<5	56	10.2	10.53	100	---	7.7	68
15	79/09/27	1.64×10^2	4.50×10^1	5	<1.0	<5	61	10.0	10.60	101	---	7.8	68
16	79/09/27	2.70×10^2	4.00×10^1	5	<1.0	<5	63	10.0	10.75	102	---	7.8	68
17	79/09/27	3.90×10^2	3.50×10^1	5	<1.0	<5	64	9.8	10.40	99	---	7.8	69
18	79/09/27	5.60×10^2	4.40×10^1	5	<1.0	<5	64	8.9	10.48	97	---	7.7	69
19	79/09/27	5.00	0	5	6.3	17	41	7.0	10.33	91	---	7.5	42
21	79/09/27	4.00×10^2	6.10×10^1	5	2.0	<5	58	10.2	10.60	101	---	7.7	68
22	79/09/27	9.00×10^1	1.91×10^1	5	<1.0	7	62	9.0	10.40	96	---	7.8	62

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
December, 1979 and January and February, 1980

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	79/12/05	1.00	0	<5	1.7	6	65	0	12.25	90	---	7.7	---
8	79/12/05	8.00	0	<5	1.6	5	67	0	12.40	91	---	7.6	---
11	79/12/05	1.51×10^3	3.20×10^2	<5	1.3	<5	76	0	12.50	92	---	7.8	---
18	79/12/05	1.70×10^3	3.10×10^2	<5	1.2	<5	66	0	12.40	91	---	7.7	---
19	79/12/05	5.00	0	5	4.8	10	57	0	12.60	93	---	7.6	---
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	80/01/16	9.09	0	<5	<1.0	<5	64	0	12.40	91	---	7.6	---
11	80/01/16	2.40×10^2	4.50×10^1	<5	<1.0	<5	65	0	12.70	94	---	7.6	---
12	80/01/16	3.90×10^2	5.00×10^1	<5	3.0	29	69	0	13.00	96	---	7.6	---
13	80/01/16	2.10×10^2	4.10×10^1	<5	1.8	8	66	0	12.60	93	---	7.7	---
17	80/01/16	3.30×10^2	4.20×10^1	<5	42.0	172	70	0	12.60	93	---	7.7	---
18	80/01/16	4.80×10^2	5.10×10^1	<5	<1.0	5	68	0	12.40	91	---	7.6	---
20	80/01/16	4.10×10^2	6.60×10^1	<5	38.0	125	69	0	12.40	91	---	7.8	---
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	80/02/29	TNTC	7.00	<5	<1.0	<5	62	0	12.05	89	---	7.6	---
11	80/02/29	1.56×10^3	5.70×10^2	<5	<1.0	<5	62	0	12.05	89	---	7.6	---
12	80/02/29	2.30×10^3	4.40×10^2	<5	3.0	42	63	0	12.20	90	---	7.5	---
13	80/02/29	5.70×10^2	1.70×10^2	<5	3.9	38	65	0	12.28	90	---	7.5	---
17	80/02/29	1.31×10^3	3.70×10^2	<5	<1.0	<5	63	0	11.70	86	---	7.6	---
18	80/02/29	1.48×10^3	3.90×10^2	<5	<1.0	<5	69	0	11.55	85	---	7.6	---
20	80/02/29	1.18×10^3	3.90×10^2	<5	1.1	<5	64	0	11.95	88	---	7.6	---

TNTC: Too Numerous to Count

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
May, June and July, 1980

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	80/05/21	9.00	0	10	3.4	7	66	5.5	11.68	100	8.15	7.7	62
11	80/05/21	5.45×10^1	8.18	5	4.4	8	69	6.0	11.28	97	8.10	7.7	63
12	80/05/21	6.36×10^1	7.27	5	3.7	7	66	5.8	11.75	101	8.15	7.8	63
13	80/05/21	3.00×10^1	1.00	10	3.9	8	67	6.0	11.55	99	8.10	7.8	64
17	80/05/21	2.00×10^1	2.72	10	3.9	9	70	5.3	11.30	95	8.18	7.8	62
18	80/05/21	4.00×10^2	2.50×10^1	10	4.4	10	68	5.0	11.35	95	8.10	7.8	62
20	80/05/21	5.10×10^2	3.00×10^1	10	5.6	11	71	5.3	11.28	95	8.05	7.8	60
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	80/06/19	1.20×10^1	0	5	1.7	<5	54	13.0	10.02	102	8.10	7.7	65
11	80/06/19	2.09×10^2	1.09×10^1	5	1.7	7	56	13.0	9.77	99	8.10	7.8	71
12	80/06/19	3.90×10^2	1.27×10^1	5	1.6	<5	56	9.8	9.96	95	8.17	7.8	68
13	80/06/19	2.50×10^2	1.55	5	1.3	6	56	12.0	9.96	99	8.10	8.1	69
17	80/06/19	4.60×10^2	2.00	5	1.3	5	57	9.5	10.00	95	8.10	7.8	69
18	80/06/19	5.10×10^2	3.60×10^1	5	1.4	7	58	12.2	9.88	98	8.05	7.9	68
20	80/06/19	2.10×10^2	1.40×10^1	5	12.0	41	49	11.0	9.81	95	8.15	7.9	52
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	80/07/15	1.55×10^1	2.00	5	1.8	<5	62	13.0	---	---	8.00	7.8	---
11	80/07/15	3.40×10^2	9.20×10^1	5	1.7	<5	61	15.0	---	---	8.10	7.8	---
12	80/07/15	7.60×10^2	1.04×10^2	5	1.5	5	63	14.0	---	---	8.15	7.8	---
13	80/07/15	5.00×10^2	1.32×10^2	5	2.0	7	63	15.0	---	---	8.11	7.8	---
17	80/07/15	3.30×10^2	9.60×10^1	5	1.8	6	63	13.0	---	---	8.12	7.8	---
18	80/07/15	5.10×10^2	1.09×10^2	5	2.0	<5	83	14.0	---	---	8.06	7.8	---
20	80/07/15	2.80×10^2	9.20×10^1	5	8.4	17	56	13.0	---	---	8.10	7.8	---

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)

August, September and October, 1980

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBIDITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURATION	IN SITU pH	VAN.LAB pH	IN SITU CONDUCTIVITY umhos/cm
1	80/08/14	4.00	4.00	5	<1.0	<5	55	15.0	11.78	124	8.10	7.8	---
7	80/08/14	4.00×10^1	3.00	<5	1.3	<5	53	15.0	11.13	117	8.08	7.8	---
11	80/08/14	2.60×10^2	2.50×10^1	<5	1.5	<5	59	15.0	11.59	122	8.12	7.8	---
12	80/08/14	2.90×10^2	4.50×10^1	<5	1.3	<5	54	15.0	11.75	124	8.15	7.8	---
13	80/08/14	3.10×10^2	4.50×10^1	<5	1.2	<5	54	15.0	11.38	120	8.18	7.8	---
17	80/08/14	6.10×10^2	5.10×10^1	<5	1.5	<5	60	15.0	11.35	120	8.15	8.4	---
18	80/08/14	3.40×10^2	5.60×10^1	<5	1.6	<5	59	15.0	11.53	122	8.15	7.8	---
20	80/08/14	4.60×10^2	3.80×10^1	<5	5.0	7	50	15.0	11.43	120	8.05	7.7	---
* * * * * *													
1	80/09/12	0	0	4	2.1	<5	61	10	11.48	109	7.90	7.9	---
7	80/09/12	0	0	4	<1.0	<5	62	10	11.23	107	7.92	7.9	---
11	80/09/12	3.00×10^2	4.90×10^1	4	1.6	<5	61	10	11.28	107	8.00	7.9	---
12	80/09/12	3.80×10^2	1.01×10^2	4	<1.0	<5	60	10	11.20	107	7.88	7.9	---
13	80/09/12	3.60×10^2	1.91×10^1	4	1.3	<5	60	10	11.55	110	7.85	7.8	---
17	80/09/12	6.20×10^2	8.20×10^1	4	<1.0	<5	60	10	11.23	107	7.82	7.9	---
18	80/09/12	2.40×10^2	6.60×10^1	5	<1.0	<5	61	10	11.05	105	7.70	7.9	---
20	80/09/12	2.60×10^2	7.00×10^1	4	2.7	<5	58	10	10.65	101	7.65	7.9	---
* * * * * *													
1	80/10/22	6.00	1.00	<5	1.1	<5	60	---	12.10	---	7.88	7.9	---
7	80/10/22	2.00×10^1	2.00	<5	<1.0	<5	57	4.0	11.95	98	7.50	8.0	---
11	80/10/22	2.70×10^2	4.50×10^1	<5	4.5	<5	62	5.5	12.15	104	7.35	8.0	---
12	80/10/22	7.90×10^2	1.23×10^2	<5	1.0	<5	56	5.5	12.08	104	7.70	7.9	---
13	80/10/22	6.20×10^2	1.14×10^2	<5	1.1	<5	59	5.5	11.98	103	7.65	7.9	---
18	80/10/22	6.70×10^2	9.00×10^1	<5	<1.0	<5	59	5.0	11.95	100	7.53	7.9	---
20	80/10/22	3.50×10^2	7.20×10^1	<5	3.8	<5	57	4.5	11.95	100	7.60	7.9	---

APPENDIX II TABLE 1 YUKON RIVER BACTERIOLOGICAL AND WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
November, 1980

STATION	DATE YR/MO/DA	TOTAL COLIFORMS per 100 ml	FAECAL COLIFORMS per 100 ml	COLOUR UNITS	TURBI-DITY (FTU)	N.F.R. (mg/l)	F.R. (mg/l)	TEMP (°C)	D.O. (mg/l)	% D.O. SATURA-TION	IN SITU pH	VAN.LAB pH	IN SITU CONDUC-TIVITY umhos/cm
1	80/11/25	0	1.00	5	<1.0	<5	60	--	--	--	--	7.8	--
7	80/11/25	7.90×10^1	3.50×10^1	5	1.2	7	61	--	--	--	--	7.9	--
11	80/11/25	1.23×10^3	2.68×10^2	5	1.8	<5	62	--	--	--	--	7.9	--
12	80/11/25	8.00×10^2	4.90×10^2	4	2.6	71	62	--	--	--	--	7.9	--
13	80/11/25	1.66×10^3	5.10×10^2	5	2.1	8	61	--	--	--	--	7.9	--
17	80/11/25	2.05×10^3	5.00×10^2	5	2.4	5	61	--	--	--	--	7.9	--
18	80/11/25	1.25×10^3	1.30×10^2	4	2.0	<5	60	--	--	--	--	7.9	--
20	80/11/25	1.53×10^3	4.10×10^2	4	3.4	8	60	--	--	--	--	7.9	--

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE
May and June, 1977

STATION	DATE YR/MO/DA	VAN.LAB CONDUC-TIVITY umhos/cm	TOTAL ALKA-LINITY $CaCO_3$ (mg/l)	TOTAL HARD-NESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	$Cl-Cl_2$ (mg/l)
1	77/05/18	---	45	51	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
2	77/05/18	---	43	49	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
3	77/05/18	---	56	67	7.0	18.0	0.580	0.450	0.0110	0.028	1.70	---	---
4	77/05/18	---	45	49	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
5	77/05/18	---	45	49	2.0	10.0	0.016	<0.0050	<0.0050	<0.010	0.0070	---	---
6	77/05/18	---	44	49	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	0.0050	---	---
7	77/05/18	---	46	49	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	0.0120	---	---
17	77/05/18	---	49	51	3.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	77/06/15	---	46	48	2.0	12.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
2	77/06/15	---	47	50	1.0	13.0	0.130	<0.0050	<0.0050	<0.010	<0.0050	---	---
3	77/06/15	---	48	51	2.0	13.0	0.019	<0.0050	<0.0050	<0.010	0.0380	---	---
4	77/06/15	---	48	48	1.0	13.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
5	77/06/15	---	48	48	1.0	13.0	0.013	0.0050	<0.0050	<0.010	<0.0050	---	---
6	77/06/15	---	48	51	1.0	13.0	0.013	<0.0050	<0.0050	<0.010	<0.0050	---	---
7	77/06/15	---	49	48	1.0	13.0	0.014	0.0050	<0.0050	<0.010	<0.0050	---	---
17	77/06/15	---	44	48	1.0	13.0	0.012	0.0050	<0.0050	<0.010	<0.0050	---	---
18	77/06/15	---	49	53	1.0	13.0	0.012	<0.0050	<0.0050	<0.010	<0.0050	---	---
19	77/06/15	---	30	33	1.0	8.0	0.250	0.0330	<0.0050	0.018	0.0210	---	---
21	77/06/15	---	41	44	1.0	11.0	0.062	0.0190	<0.0050	<0.010	0.0120	---	---
22	77/06/15	---	43	44	1.0	12.0	0.067	0.0150	<0.0050	<0.010	0.0170	---	---

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
July and September, 1977

STATION	DATE YR/MO/DA	VAN.LAB CONDUC-TIVITY umhos/cm	TOTAL ALKA-LINITY $CaCO_3$ (mg/l)	TOTAL HARD-NESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	$Cl-Cl_2$ (mg/l)
1	77/07/21	---	41	45	1.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
2	77/07/21	---	42	47	1.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
3	77/07/21	---	--	--	---	---	---	---	---	---	---	---	---
4	77/07/21	---	41	46	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
5	77/07/21	---	42	46	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	0.0070	---	---
6	77/07/21	---	41	46	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
7	77/07/21	---	42	46	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
17	77/07/21	---	42	46	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
18	77/07/21	---	43	49	2.0	10.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
19	77/07/21	---	21	28	2.0	6.0	0.088	0.0300	<0.0050	0.018	0.0130	---	---
21	77/07/21	---	36	44	1.0	9.0	0.034	0.0090	<0.0050	<0.010	0.0080	---	---
22	77/07/21	---	36	42	1.0	9.0	0.037	0.0120	<0.0050	<0.010	0.0050	---	---
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	77/09/15	---	40	43	1.0	9.0	<0.010	<0.0050	<0.0050	<0.010	0.0050	---	---
2	77/09/15	---	40	42	1.0	9.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
3	77/09/15	---	45	50	4.0	9.0	0.110	0.0660	<0.0050	0.010	0.200	---	---
4	77/09/15	---	41	46	1.0	9.0	<0.010	<0.0050	<0.0050	<0.010	0.0050	---	---
5	77/09/15	---	41	42	1.0	9.0	0.010	0.0790	<0.0050	<0.010	0.0550	---	---
6	77/09/15	---	41	40	1.0	9.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
7	77/09/15	---	41	44	1.0	9.0	<0.010	<0.0050	<0.0050	<0.010	0.0060	---	---
17	77/09/15	---	40	42	1.0	9.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---
18	77/09/15	---	41	42	1.0	9.0	<0.010	<0.0050	<0.0050	<0.010	0.0060	---	---
19	77/09/15	---	22	22	<1.0	5.0	0.026	0.0090	<0.0050	0.016	0.0060	---	---
21	77/09/15	---	37	39	<1.0	8.0	0.013	0.0050	<0.0050	<0.010	0.0060	---	---
22	77/09/15	---	37	39	<1.0	9.0	<0.010	<0.0050	<0.0050	<0.010	<0.0050	---	---

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
October, 1977 and February, 1978

STATION	DATE YR/MO/DA	VAN.LAB CONDUCTIVITY umhos/cm	TOTAL ALKALINITY $CaCO_3$ (mg/l)	TOTAL HARDNESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	Cl-Cl_2 (mg/l)
1	77/10/17	---	43	43	1.0	11.0	<0.01	<0.0050	<0.0050	<0.010	<0.0050	---	---
2	77/10/17	---	43	46	1.0	11.0	<0.01	<0.0050	<0.0050	<0.010	<0.0050	---	---
3	77/10/17	---	65	62	8.0	18.0	0.76	0.320	0.0070	0.940	1.40	---	---
4	77/10/17	---	43	46	1.0	11.0	<0.01	<0.0050	<0.0050	<0.010	<0.0050	---	---
5	77/10/17	---	43	46	1.0	11.0	0.01	<0.0050	<0.0050	<0.010	0.0150	---	---
6	77/10/17	---	43	49	1.0	11.0	0.01	<0.0050	<0.0050	<0.010	0.0090	---	---
7	77/10/17	---	45	49	1.0	12.0	<0.01	<0.0050	<0.0050	<0.010	<0.0050	---	---
17	77/10/17	---	45	46	<1.0	12.0	<0.01	<0.0050	<0.0050	<0.010	<0.0050	---	---
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/02/14	84.0	37.5	52.1	2.0	---	<0.0100	<0.0050	<0.0050	0.018	<0.0050	---	---
2	78/02/14	93.0	38.5	53.1	1.0	---	0.0169	<0.0050	<0.0050	0.021	<0.0050	---	---
3	78/02/14	104	40.8	57.4	2.0	---	0.119	0.0556	<0.0050	0.025	0.149	---	---
4	78/02/14	87.0	35.3	49.2	0.0	---	<0.100	<0.0050	<0.0050	0.017	<0.0050	---	---
5	78/02/14	87.0	35.8	49.2	2.0	---	<0.100	<0.0050	<0.0050	0.016	<0.0050	---	---
6	78/02/14	88.0	36.5	53.5	1.0	---	0.0290	0.0055	<0.0050	0.017	0.0099	---	---
7	78/02/14	100	36.8	55.2	1.0	---	0.0180	0.0050	<0.0050	0.020	<0.0050	---	---
17	78/02/14	103	34.0	54.1	2.0	---	0.0170	<0.0050	<0.0050	0.017	<0.0050	---	---
18	78/02/14	76.0	35.0	55.1	1.0	---	0.0502	<0.0050	<0.0050	0.015	<0.0050	---	---
19	78/02/14	112	43.5	63.5	2.0	---	0.0125	<0.0050	<0.0050	0.060	<0.0050	---	---
21	78/02/14	91.0	35.5	54.2	1.0	---	<0.0100	<0.0050	<0.0050	0.021	<0.0050	---	---
22	78/02/14	88.0	37.5	54.5	2.0	---	<0.0100	<0.0050	<0.0050	0.024	<0.0050	---	---

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
March and May, 1978

STATION	DATE YR/MO/DA	VAN.LAB CONDUCTIVITY umhos/cm	TOTAL ALKALINITY $CaCO_3$ (mg/l)	TOTAL HARDNESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	$Cl-Cl_2$ (mg/l)
1	78/03/28	87.0	37.9	48.9	---	---	0.0156	0.0092	<0.0050	0.014	<0.0050	---	---
2	78/03/28	88.5	37.8	49.1	---	---	0.0050	<0.0050	<0.0050	0.017	0.0080	---	---
3	78/03/28	133	51.5	61.2	---	---	0.372	0.157	<0.0050	0.039	0.340	---	---
4	78/03/28	87.8	37.9	49.2	---	---	0.0050	<0.0050	<0.0050	0.044	<0.0050	---	---
5	78/03/28	85.5	36.8	49.0	---	---	0.0288	0.0120	<0.0050	0.014	0.0372	---	---
6	78/03/28	85.0	37.3	48.3	---	---	<0.0050	<0.0050	<0.0050	0.013	0.0080	---	---
7	78/03/28	90.2	39.0	50.0	---	---	0.0073	<0.0050	<0.0050	0.014	0.0113	---	---
18	78/03/28	90.5	40.9	49.8	---	---	<0.0050	<0.0050	<0.0050	0.014	0.0080	---	---
19	78/03/28	102	44.5	54.2	---	---	0.0067	<0.0050	<0.0050	0.039	<0.0050	---	---
21	78/03/28	92.5	50.8	49.5	---	---	<0.0050	<0.0050	<0.0050	0.017	0.0080	---	---
22	78/03/28	97.0	41.5	50.5	---	---	0.0060	<0.0050	<0.0050	0.020	0.0080	---	---
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1	78/05/24	63	46.6	---	2.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
8	78/05/24	69	47.7	---	2.0	10.0	0.0143	<0.0050	<0.0050	<0.010	<0.0050	---	---
9	78/05/24	65	47.2	---	2.0	10.0	0.0101	<0.0050	<0.0050	<0.010	<0.0050	---	---
10	78/05/24	71	51.8	---	2.0	10.0	0.0155	<0.0050	<0.0050	<0.010	0.0090	---	---
11	78/05/24	68	---	---	2.0	10.0	---	---	<0.0050	---	---	---	---
12	78/05/24	65	47.7	---	2.0	10.0	0.0155	<0.0050	<0.0050	<0.010	0.0072	---	---
13	78/05/24	65	48.7	---	2.0	10.0	0.0186	<0.0050	<0.0050	<0.010	0.0090	---	---
14	78/05/24	68	48.7	---	2.0	12.0	0.0158	<0.0050	<0.0050	<0.010	0.0065	---	---
15	78/05/24	65	49.2	---	2.0	10.0	0.0108	<0.0050	<0.0050	<0.010	0.0072	---	---
16	78/05/24	66	48.7	---	2.0	10.0	0.0159	<0.0050	<0.0050	<0.010	0.0120	---	---
17	78/05/24	69	48.2	---	2.0	10.0	0.0128	<0.0050	<0.0050	<0.010	0.0080	---	---
18	78/05/24	68	48.7	---	2.0	10.0	0.0087	<0.0050	<0.0050	<0.010	0.0065	---	---
19	78/05/24	65	54.3	---	3.0	11.0	0.0894	0.0386	<0.0050	<0.010	0.0150	---	---
21	78/05/24	80	49.2	---	2.0	10.0	0.0206	<0.0050	<0.0050	<0.010	0.0090	---	---
22	78/05/24	69	49.7	---	2.0	10.0	0.0213	<0.0050	<0.0050	<0.010	0.0095	---	---

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
June, 1978

STATION	DATE YR/MO/DA	VAN.LAB CONDUCTIVITY umhos/cm	TOTAL ALKALINITY $CaCO_3$ (mg/l)	TOTAL HARDNESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	Cl-Cl_2 (mg/l)
1	78/06/13	---	35.8	41.6	1.0	---	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
8	78/06/13	---	43.6	42.6	1.0	---	0.0110	<0.0050	<0.0050	<0.010	<0.0050	---	---
9	78/06/13	---	43.1	40.6	1.0	---	0.0080	<0.0050	<0.0050	<0.010	<0.0050	---	---
10	78/06/13	---	48.0	43.1	2.0	---	0.0093	<0.0050	<0.0050	<0.010	<0.0050	---	---
11	78/06/13	---	45.1	41.2	1.0	---	0.0115	<0.0050	<0.0050	<0.010	<0.0050	---	---
12	78/06/13	---	44.6	41.3	1.0	---	0.0160	<0.0050	<0.0050	<0.010	<0.0050	---	---
13	78/06/13	---	45.1	40.7	1.0	---	0.0220	<0.0050	<0.0050	<0.010	<0.0050	---	---
14	78/06/13	---	44.1	41.4	1.0	---	0.0280	<0.0050	<0.0050	<0.010	<0.0050	---	---
15	78/06/13	---	44.1	41.0	1.0	---	0.0110	<0.0050	<0.0050	<0.010	<0.0050	---	---
16	78/06/13	---	44.1	41.6	1.0	---	0.0110	<0.0050	<0.0050	<0.010	0.0100	---	---
17	78/06/13	---	44.1	39.3	1.0	---	0.0115	<0.0050	<0.0050	<0.010	<0.0050	---	---
18	78/06/13	---	44.1	38.9	1.0	---	0.0080	<0.0050	<0.0050	<0.010	<0.0050	---	---
19	78/06/13	---	28.9	33.8	1.0	---	0.140	0.0243	0.0058	0.028	0.0150	---	---
21	78/06/13	---	43.6	39.7	1.0	---	0.0120	<0.0050	<0.0050	<0.010	<0.0050	---	---
22	78/06/13	---	45.1	38.6	1.0	---	0.0150	<0.0050	<0.0050	<0.010	0.0650	---	---
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/06/26	---	41.2	44.3	2.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
2	78/06/26	---	41.7	42.8	2.0	10.0	0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
3	78/06/26	---	41.2	43.3	2.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
4	78/06/26	---	46.1	50.1	2.0	11.0	0.0240	0.0060	<0.0050	<0.010	<0.0050	---	---
5	78/06/26	---	41.7	43.7	2.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
6	78/06/26	---	41.7	43.7	2.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
7	78/06/26	---	42.1	43.3	2.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
8	78/06/26	---	41.7	45.7	2.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
9	78/06/26	---	41.7	44.0	2.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
10	78/06/26	---	41.7	44.9	2.0	10.0	0.0360	<0.0050	<0.0050	<0.010	<0.0050	---	---
11	78/06/26	---	41.7	46.0	2.0	10.0	0.0415	<0.0050	<0.0050	<0.010	<0.0050	---	---
12	78/06/26	---	41.7	45.1	2.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
13	78/06/26	---	24.0	26.3	2.0	5.0	0.0720	0.0210	<0.0050	0.016	<0.0050	---	---
14	78/06/26	---	34.8	40.7	2.0	8.0	0.0300	<0.0050	<0.0050	<0.010	<0.0050	---	---
15	78/06/26	---	36.8	39.0	3.0	8.0	0.0230	<0.0050	<0.0050	<0.010	<0.0050	---	---

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
July and August, 1978

STATION	DATE YR/MO/DA	VAN.LAB CONDUC-TIVITY umhos/cm	TOTAL ALKA-LINITY $CaCO_3$ (mg/l)	TOTAL HARD-NESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	$Cl-Cl_2$ (mg/l)
1	78/07/17	---	38.3	42.8	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
8	78/07/17	---	39.2	46.4	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
9	78/07/17	---	39.2	43.6	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
10	78/07/17	---	40.3	46.4	1.0	10.0	0.0067	<0.0050	<0.0050	<0.010	<0.0050	---	---
11	78/07/17	---	38.8	44.4	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
12	78/07/17	---	39.2	44.5	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
13	78/07/17	---	39.8	47.3	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
14	78/07/17	---	39.8	44.7	2.0	8.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
15	78/07/17	---	38.8	44.6	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
16	78/07/17	---	40.3	45.2	2.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0145	---	---
17	78/07/17	---	40.3	45.2	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
18	78/07/17	---	39.2	44.6	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
19	78/07/17	---	23.3	25.2	2.0	4.0	0.0014	0.0075	<0.0050	<0.010	<0.0063	---	---
21	78/07/17	---	35.4	41.3	2.0	8.0	0.0084	<0.0050	<0.0050	<0.010	<0.0050	---	---
22	78/07/17	---	34.9	40.0	1.0	8.0	0.0098	<0.0050	<0.0050	<0.010	<0.0050	---	---
* *													
1	78/08/07	---	39.0	41.8	2.0	9.0	0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
8	78/08/07	---	39.0	42.1	2.0	9.0	0.0070	<0.0050	<0.0050	<0.010	<0.0050	---	---
9	78/08/07	---	39.0	45.3	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
10	78/08/07	---	43.9	70.2	2.0	11.0	0.0920	0.0170	<0.0050	<0.010	<0.0050	---	---
11	78/08/07	---	39.0	45.2	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
12	78/08/07	---	39.0	44.5	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
13	78/08/07	---	39.0	42.4	1.0	9.0	0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
14	78/08/07	---	39.5	45.3	1.0	9.0	0.0080	<0.0050	<0.0050	<0.010	<0.0050	---	---
15	78/08/07	---	39.0	42.5	1.0	9.0	0.0070	<0.0050	<0.0050	<0.010	<0.0050	---	---
16	78/08/07	---	39.5	44.9	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
17	78/08/07	---	39.5	52.3	1.0	9.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
18	78/08/07	---	39.5	44.6	1.0	9.0	0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
19	78/08/07	---	22.0	26.1	2.0	4.0	0.0345	0.0200	<0.0050	0.016	0.0064	---	---
21	78/08/07	---	35.6	39.4	1.0	9.0	0.0165	0.0085	<0.0050	<0.010	<0.0050	---	---
22	78/08/07	---	36.1	37.9	1.0	8.0	0.0485	0.0850	<0.0050	<0.010	<0.0050	---	---

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
August and December, 1978

STATION	DATE YR/MO/DA	VAN.LAB CONDUCTIVITY umhos/cm	TOTAL ALKALINITY $CaCO_3$ (mg/l)	TOTAL HARDNESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	Cl-Cl_2 (mg/l)
1	78/08/29	---	---	44.8	3.0	8.0	---	---	---	---	---	---	---
8	78/08/29	---	---	44.9	3.0	8.0	---	---	---	---	---	---	---
9	78/08/29	---	---	44.9	3.0	8.0	---	---	---	---	---	---	---
10	78/08/29	---	---	49.3	4.0	9.0	---	---	---	---	---	---	---
11	78/08/29	---	38.2	44.9	2.0	8.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
12	78/08/29	---	38.7	45.1	2.0	8.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
13	78/08/29	---	39.2	46.2	2.0	8.0	0.0105	<0.0050	<0.0050	<0.010	<0.0050	---	---
14	78/08/29	---	39.2	45.6	3.0	8.0	0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
15	78/08/29	---	38.7	44.9	3.0	8.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
16	78/08/29	---	38.7	45.0	3.0	8.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
17	78/08/29	---	38.2	44.9	2.0	8.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
18	78/08/29	---	39.2	44.6	2.0	8.0	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	---	---
19	78/08/29	---	---	23.2	2.0	4.0	---	---	---	---	---	---	---
21	78/08/29	---	---	---	2.0	8.0	---	---	---	---	---	---	---
22	78/08/29	---	35.3	39.9	1.0	9.0	0.0100	0.0085	<0.0050	<0.010	<0.0050	---	---
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1	78/12/06	100	42.7	44.8	3.0	9.0	0.0175	0.0750	<0.0050	<0.010	0.0140	---	---
8	78/12/06	98.5	42.7	53.0	1.0	9.0	0.0070	<0.0050	<0.0050	<0.010	0.0060	---	---
9	78/12/06	100	43.7	58.7	2.0	7.0	0.0895	<0.0050	<0.0050	<0.010	0.0055	---	---
10	78/12/06	103	44.8	49.1	3.0	9.0	0.263	0.0070	<0.0050	0.010	0.0066	---	---
11	78/12/06	99.0	42.7	49.1	2.0	9.0	0.0050	<0.0050	<0.0050	<0.010	0.0090	---	---
12	78/12/06	99.0	43.0	51.1	2.0	9.0	0.0050	0.0050	<0.0050	<0.010	0.0605	---	---
13	78/12/06	103	44.2	49.8	2.0	9.0	0.0070	<0.0050	<0.0050	<0.010	0.0193	---	---
14	78/12/06	100	43.9	114	2.0	9.0	0.0050	<0.0050	<0.0050	<0.010	0.0072	---	---
17	78/12/06	236	101	50.8	4.0	20	0.0065	<0.0050	<0.0050	<0.010	0.0068	---	---

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
December, 1978 and January and February, 1979

STATION	DATE YR/MO/DA	VAN.LAB CONDUCTIVITY umhos/cm	TOTAL ALKALINITY $CaCO_3$ (mg/l)	TOTAL HARDNESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	Cl-Cl_2 (mg/l)
1	78/12/20	100	42.5	51.4	1.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	0.0060	---	---
8	78/12/20	107	45.3	53.1	1.0	9.0	0.0100	<0.0050	<0.0050	<0.010	0.0065	---	---
9	78/12/20	103	43.8	62.9	3.0	10.0	0.0395	0.0085	<0.0050	<0.010	0.0165	---	---
10	78/12/20	102	43.5	50.0	2.0	10.0	0.0055	<0.0050	<0.0050	<0.010	0.0125	---	---
11	78/12/20	100	42.5	49.8	<1.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	0.0085	---	---
12	78/12/20	104	45.3	53.2	1.0	9.0	0.0250	<0.0050	<0.0050	<0.010	0.0125	---	---
13	78/12/20	104	44.3	52.1	2.0	10.0	0.0145	<0.0050	<0.0050	<0.010	0.0100	---	---
14	78/12/20	102	45.1	51.4	1.0	10.0	<0.0050	<0.0050	<0.0050	<0.010	0.0085	---	---
* * * * * * * * * *													
1	79/01/17	100	43.8	49.7	<1.0	11.0	<0.0050	<0.0050	<0.0050	0.029	0.0100	---	---
8	79/01/17	101	44.3	78.3	4.0	11.0	1.17	<0.0050	<0.0050	0.029	0.0124	---	---
9	79/01/17	100	44.1	---	<1.0	11.0	0.0095	<0.0050	<0.0050	0.057	0.0069	---	---
10	79/01/17	106	45.3	---	4.0	12.0	0.365	0.0050	<0.0050	0.050	0.0185	---	---
11	79/01/17	121	52.5	59.2	2.0	14.0	0.0090	<0.0050	<0.0050	0.032	0.0115	---	---
12	79/01/17	112	48.2	58.1	2.0	13.0	0.0115	<0.0050	<0.0050	0.038	0.0160	---	---
13	79/01/17	104	45.3	55.9	1.0	11.0	0.111	<0.0050	<0.0050	0.046	0.0111	---	---
14	79/01/17	104	44.3	50.3	3.0	11.0	0.0200	<0.0050	<0.0050	0.048	0.0550	---	---
15	79/01/17	107	46.1	54.2	3.0	11.0	0.0285	<0.0050	<0.0050	0.057	0.0440	---	---
16	79/01/17	104	44.8	52.0	1.0	11.0	0.0095	<0.0050	<0.0050	0.038	0.0294	---	---
* * * * * * * * * *													
1	79/02/21	101	40.4	46.6	2.0	12.0	<0.0050	<0.0050	<0.0050	0.013	<0.0050	6.90	<0.50
8	79/02/21	125	54.8	58.8	1.0	14.0	0.0080	<0.0050	<0.0050	0.023	<0.0050	8.20	<0.50
9	79/02/21	102	44.5	46.7	1.0	12.0	<0.0050	<0.0050	<0.0050	0.013	<0.0050	6.50	<0.50
10	79/02/21	108	47.6	51.7	2.0	12.0	0.0265	<0.0050	<0.0050	0.014	<0.0050	6.75	<0.50
11	79/02/21	104	44.3	48.5	1.0	11.0	0.0214	<0.0050	<0.0050	0.013	<0.0050	6.50	<0.50
12	79/02/21	104	45.0	47.9	3.0	12.0	0.1970	0.0065	<0.0050	0.016	0.0115	6.75	<0.50
13	79/02/21	104	45.6	47.8	1.0	12.0	0.0050	<0.0050	<0.0050	0.016	<0.0050	6.30	<0.50
14	79/02/21	101	43.8	46.5	1.0	11.0	0.0080	<0.0050	<0.0050	0.014	0.0080	6.25	<0.50
15	79/02/21	102	44.3	47.9	1.0	12.0	0.0230	<0.0050	<0.0050	0.016	0.0065	6.40	<0.50
16	79/02/21	104	45.5	47.3	1.0	12.0	0.0063	<0.0050	<0.0050	0.019	0.0065	6.75	<0.50

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
April and May, 1979

STATION	DATE YR/MO/DA	VAN.LAB CONDUCTIVITY umhos/cm	TOTAL ALKALINITY $CaCO_3$ (mg/l)	TOTAL HARDNESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	Cl-Cl_2 (mg/l)
1	79/04/05	102	43.3	47.6	<1.0	11.0	<0.0050	<0.0050	<0.0050	0.020	0.0115	6.75	<0.50
8	79/04/05	102	44.0	49.9	1.0	10.0	0.0430	<0.0050	<0.0050	0.019	<0.0050	6.32	<0.50
9	79/04/05	102	43.8	47.5	1.0	10.0	<0.0050	<0.0050	<0.0050	0.019	<0.0050	6.60	<0.50
10	79/04/05	109	47.4	51.3	<1.0	12.0	<0.0050	<0.0050	<0.0050	0.021	0.0050	6.55	<0.50
11	79/04/05	101	43.5	48.4	<1.0	11.0	0.0315	<0.0050	<0.0050	0.021	0.0140	6.55	<0.50
12	79/04/05	100	43.5	47.4	<1.0	10.0	<0.0050	<0.0050	<0.0050	0.019	0.0090	6.40	<0.50
13	79/04/05	108	46.9	50.3	1.0	11.0	<0.0050	<0.0050	<0.0050	0.020	0.0050	6.70	<0.50
14	79/04/05	103	44.8	47.8	<1.0	10.0	0.0055	<0.0050	<0.0050	0.019	0.0090	6.55	<0.50
15	79/04/05	103	45.0	47.7	1.0	10.0	<0.0050	<0.0050	<0.0050	0.019	0.0085	6.50	<0.50
16	79/04/05	104	45.9	48.4	1.0	10.0	0.0055	<0.0050	<0.0050	0.020	0.0065	6.65	<0.50
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1	79/05/29	101.6	46.0	48.0	2.0	11.0	0.0120	----	<0.0050	<0.010	<0.0050	5.50	<0.50
8	79/05/29	103.9	46.0	48.0	3.0	11.0	0.0120	----	<0.0050	<0.010	<0.0050	5.84	<0.50
9	79/05/29	102.7	46.0	48.0	2.0	11.0	0.0120	----	<0.0050	<0.010	<0.0050	5.77	<0.50
10	79/05/29	112.5	50.0	52.0	3.0	12.0	0.0143	----	<0.0050	<0.010	<0.0050	5.77	<0.50
11	79/05/29	103.7	46.0	50.0	2.0	11.0	0.0312	----	<0.0050	<0.010	<0.0050	5.80	<0.50
12	79/05/29	103.7	46.0	50.0	2.0	11.0	0.0135	----	<0.0050	<0.010	0.0050	5.77	<0.50
13	79/05/29	106.6	48.0	50.0	2.0	11.0	0.0125	----	<0.0050	<0.010	<0.0050	5.85	<0.50
14	79/05/29	106.0	48.0	48.0	2.0	11.0	0.0167	----	<0.0050	<0.010	<0.0050	5.88	<0.50
15	79/05/29	102.2	46.0	48.0	2.0	11.0	0.0183	----	<0.0050	<0.010	<0.0050	5.86	<0.50
16	79/05/29	102.8	46.0	48.0	2.0	11.0	0.0220	----	<0.0050	<0.010	<0.0050	5.40	<0.50
17	79/05/29	103.3	48.0	50.0	2.0	11.0	0.0168	----	<0.0050	<0.010	<0.0050	5.90	<0.50
18	79/05/29	102.8	46.0	48.0	2.0	11.0	0.0135	----	<0.0050	<0.010	<0.0050	5.53	<0.50
19	79/05/29	102.9	49.0	48.0	3.0	11.0	0.125	----	0.0060	<0.010	0.0095	3.80	1.1
21	79/05/29	102.3	48.0	50.0	2.0	11.0	0.0380	----	<0.0050	<0.010	0.0050	5.48	0.55

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
June and July, 1979

STATION	DATE YR/MO/DA	VAN.LAB CONDUCTIVITY umhos/cm	TOTAL ALKALINITY $CaCO_3$ (mg/l)	TOTAL HARDNESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	Cl-Cl_2 (mg/l)
1	79/06/12	104	45.9	51.3	1.0	11.0	0.0873	----	<0.0050	<0.010	<0.0050	5.91	<0.50
8	79/06/12	104	45.9	49.4	2.0	11.0	0.0110	----	<0.0050	<0.010	<0.0050	5.12	<0.50
9	79/06/12	104	45.9	49.4	1.0	11.0	0.0070	----	<0.0050	<0.010	0.0053	6.06	<0.50
10	79/06/12	112	50.0	53.3	2.0	12.0	0.304	----	<0.0050	<0.010	0.0055	6.41	<0.50
11	79/06/12	104	45.9	52.9	2.0	11.0	0.0100	----	<0.0050	<0.010	0.0056	6.12	<0.50
12	79/06/12	104	46.4	49.8	1.0	11.0	0.0090	----	<0.0050	<0.010	0.0090	6.12	<0.50
13	79/06/12	106	46.4	51.2	1.0	11.0	0.0242	----	<0.0050	<0.010	0.0074	6.26	<0.50
14	78/06/12	106	47.4	53.9	2.0	11.0	0.0942	----	<0.0050	<0.010	0.0152	5.95	<0.50
15	78/06/12	106	45.8	50.6	2.0	11.0	0.0100	----	<0.0050	<0.010	0.0065	5.91	<0.50
16	79/06/12	106	46.9	53.2	2.0	11.0	0.0510	----	<0.0050	<0.010	0.0055	6.42	<0.50
17	79/06/12	106	46.4	51.8	1.0	11.0	0.0148	----	<0.0050	<0.010	0.0060	6.53	<0.50
18	79/06/12	106	46.9	51.9	1.0	11.0	0.0173	----	<0.0050	<0.010	0.0055	6.24	<0.50
19	79/06/12	68.5	30.5	35.0	1.0	7.0	0.175	----	<0.0050	0.012	0.0120	3.56	<0.50
21	79/06/12	98.0	43.8	49.1	2.0	10.0	0.3970	----	<0.0050	<0.010	0.0125	5.72	<0.50
22	79/06/12	104	45.8	51.4	1.0	11.0	0.0106	----	<0.0050	<0.010	0.0125	6.00	<0.50
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1	79/07/16	98.2	41.7	46.6	1.0	10.0	<0.0050	----	<0.0050	<0.010	0.0050	5.99	<0.50
8	79/07/16	98.2	42.1	47.5	1.0	10.0	<0.0050	----	<0.0050	<0.010	0.0050	5.70	<0.50
9	79/07/16	98.1	43.1	46.5	1.0	10.0	<0.0050	----	<0.0050	<0.010	0.0050	5.80	<0.50
10	79/07/16	106	49.1	53.2	2.0	10.0	0.0255	----	<0.0050	<0.010	0.0055	6.00	<0.50
11	79/07/16	99.7	43.1	47.4	1.0	10.0	0.0075	----	<0.0050	<0.010	0.0055	6.11	<0.50
12	79/07/16	99.8	43.0	47.6	1.0	10.0	0.0050	----	<0.0050	<0.010	0.0055	5.79	<0.50
13	79/07/16	100	43.7	48.0	1.0	10.0	<0.0050	----	<0.0050	<0.010	0.0055	5.62	<0.50
14	79/07/16	100	43.0	47.6	1.0	10.0	<0.0050	----	<0.0050	<0.010	0.0055	6.06	<0.50
15	79/07/16	99.9	43.3	46.6	1.0	10.0	<0.0050	----	<0.0050	<0.010	0.0055	6.21	<0.50
16	79/07/16	99.8	43.1	46.9	1.0	10.0	<0.0050	----	<0.0050	<0.010	0.0055	6.02	<0.50
17	79/07/16	100	43.3	47.2	1.0	10.0	<0.0050	----	<0.0050	<0.010	0.0050	5.99	<0.50
18	79/07/16	100	42.8	47.5	1.0	10.0	<0.0050	----	<0.0050	0.014	0.0050	6.03	<0.50
19	79/07/16	67.3	29.5	30.3	2.0	6.0	0.0520	----	0.0520	<0.010	0.0070	3.71	<0.50
21	79/07/16	85.9	37.5	41.5	1.0	9.0	0.0237	----	0.0237	<0.010	0.0055	4.87	<0.50
22	79/07/16	98.2	42.4	46.2	1.0	10.0	<0.0050	----	<0.0050	<0.010	0.0055	5.99	<0.50

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
August and September, 1979

STATION	DATE YR/MO/DA	VAN.LAB CONDUCTIVITY umhos/cm	TOTAL ALKALINITY $CaCO_3$ (mg/l)	TOTAL HARDNESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	$Cl-Cl_2$ (mg/l)
1	79/08/13	90.5	38.8	42.7	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.81	<0.50
8	79/08/13	91.6	38.1	42.5	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.81	<0.50
9	79/08/13	91.8	38.6	43.0	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.70	<0.50
10	79/08/13	95.2	38.8	44.9	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.43	<0.50
11	79/08/13	92.0	39.1	42.7	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.78	<0.50
12	79/08/13	92.3	39.8	43.5	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.81	<0.50
13	79/08/13	93.2	40.9	43.5	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.81	<0.50
14	79/08/13	92.6	39.6	43.8	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.78	<0.50
15	79/08/13	92.4	39.1	43.6	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.88	<0.50
16	79/08/13	92.7	39.8	44.2	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	6.10	<0.50
17	79/08/13	92.7	40.2	43.7	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.78	<0.50
18	79/08/13	92.8	39.6	43.7	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.88	<0.50
19	79/08/13	50.5	22.3	23.6	1.0	5.0	0.0093	----	<0.0050	<0.010	<0.0050	2.40	<0.50
21	79/08/13	84.5	36.3	39.5	<1.0	8.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.78	<0.50
22	79/08/13	91.2	39.1	44.9	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.55	<0.50
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1	79/09/27	91.5	38.4	44.1	<1.0	9.0	<0.0050	----	<0.0050	<0.010	0.0050	6.10	<0.50
8	79/09/27	89.5	39.3	44.3	<1.0	9.0	<0.0050	----	<0.0050	0.010	0.0050	6.15	<0.50
9	79/09/27	89.0	39.5	44.3	<1.0	9.0	<0.0050	----	<0.0050	<0.010	0.0053	6.13	<0.50
10	79/09/27	96.5	42.1	45.4	<1.0	9.0	0.0050	----	<0.0050	<0.010	0.0051	6.15	<0.50
11	79/09/27	92.0	39.9	42.4	<1.0	9.0	<0.0050	----	<0.0050	<0.010	0.0061	6.10	<0.50
12	79/09/27	91.5	39.9	42.3	<1.0	9.0	<0.0050	----	<0.0050	<0.010	0.0068	6.02	<0.50
13	79/09/27	92.0	39.9	44.5	<1.0	9.0	<0.0050	----	<0.0050	<0.010	0.0063	6.15	<0.50
14	79/09/27	91.5	39.8	42.5	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	6.35	<0.50
15	79/09/27	91.5	40.0	42.5	<1.0	9.0	<0.0050	----	<0.0050	<0.010	0.0050	6.00	<0.50
16	79/09/27	92.0	39.8	42.5	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	6.20	<0.50
17	79/09/27	91.5	39.3	44.4	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	6.35	<0.50
18	79/09/27	91.5	40.0	42.4	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	6.60	<0.50
19	79/09/27	52.2	23.1	25.2	1.0	6.0	0.0112	----	<0.0050	0.022	<0.0050	5.70	<0.50
21	79/09/27	87.0	37.9	39.8	<1.0	9.0	<0.0050	----	<0.0050	0.005	0.0060	5.80	<0.50
22	79/09/27	91.0	39.3	42.5	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	6.80	<0.50

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)

December, 1979 and January and February, 1980

STATION	DATE YR/MO/DA	VAN.LAB CONDUC-TIVITY umhos/cm	TOTAL ALKA-LINITY $CaCO_3$ (mg/l)	TOTAL HARD-NESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4-P$ (mg/l)	$O.PO_4-P$ (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	$Cl-Cl_2$ (mg/l)
1	79/12/05	102	43.1	48.6	1.0	10.0	0.0072	<0.0050	<0.0050	0.0102	<0.0050	6.60	<0.50
8	79/12/05	105	43.1	49.0	1.0	10.0	0.0166	<0.0050	<0.0050	0.0102	0.0100	7.40	0.70
11	79/12/05	118	52.0	57.7	1.0	12.0	0.0093	<0.0050	<0.0050	0.0102	0.0260	6.65	<0.50
18	79/12/05	105	44.4	50.1	1.0	10.0	0.0093	<0.0050	<0.0050	0.0100	0.0119	6.81	<0.50
19	79/12/05	81.8	34.5	36.4	1.0	8.0	0.0125	<0.0050	<0.0050	0.0520	0.0104	4.81	<0.50
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1	80/01/16	103	44.0	50.2	----	---	<0.0050	----	<0.0050	0.0190	0.0055	6.70	<0.50
11	80/01/16	106	44.9	49.2	----	---	0.0065	----	<0.0050	0.0125	0.0115	7.70	<0.50
12	80/01/16	110	47.2	54.1	----	---	0.0225	----	<0.0050	0.0135	<0.0050	7.65	<0.50
13	80/01/16	108	46.2	50.5	----	---	0.0071	----	<0.0050	0.0125	0.0060	7.50	<0.50
17	80/01/16	110	47.7	56.1	----	---	0.192	----	<0.0050	0.0140	0.0088	7.20	0.83
18	80/01/16	106	46.2	50.1	----	---	0.0085	----	<0.0050	0.0130	0.0118	7.00	<0.50
20	80/01/16	110	46.7	55.2	----	---	0.130	----	<0.0050	0.0310	0.0140	7.20	0.97
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1	80/02/29	98.0	42.6	45.4	1.0	10.0	0.0055	----	<0.0050	0.0246	<0.0050	6.4	<0.50
11	80/02/29	99.0	43.6	45.9	1.0	10.0	0.0106	----	<0.0050	0.0291	0.0088	6.5	<0.50
12	80/02/29	99.0	43.9	47.1	1.0	10.0	0.0358	----	<0.0050	0.0255	0.0065	6.4	0.50
13	80/02/29	101	44.7	48.3	<1.0	10.0	0.0394	----	<0.0050	0.0290	0.0092	6.6	0.64
17	80/02/29	101	45.0	47.6	<1.0	10.0	0.0096	----	<0.0050	0.0265	0.0082	6.4	0.57
18	80/02/29	101	44.7	47.6	1.0	10.0	0.0081	----	<0.0050	0.0271	0.0122	7.1	<0.50
20	80/02/29	101	44.7	47.4	1.0	10.0	0.0089	----	<0.0050	0.0418	0.0097	7.0	<0.50

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)

May, June and July, 1980

STATION	DATE YR/MO/DA	VAN.LAB CONDUC-TIVITY umhos/cm	TOTAL ALKA-LINITY $CaCO_3$ (mg/l)	TOTAL HARD-NESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	Cl-Cl_2 (mg/l)
1	80/05/21	110	48.0	54.8	1.0	11.0	0.0090	----	<0.0050	<0.010	<0.0050	6.50	<0.50
11	80/05/21	112	49.0	55.5	1.0	12.0	0.0108	----	<0.0050	<0.010	0.0119	6.50	<0.50
12	80/05/21	112	48.5	55.9	1.0	12.0	0.0113	----	<0.0050	<0.010	0.0066	6.40	<0.50
13	80/05/21	114	49.0	55.7	1.0	12.0	0.0107	----	<0.0050	<0.010	0.0058	6.90	<0.50
17	80/05/21	114	49.0	56.3	1.0	12.0	0.0114	----	<0.0050	<0.010	0.0064	7.10	<0.50
18	80/05/21	114	49.5	56.8	1.0	12.0	0.0120	----	<0.0050	<0.010	0.0071	6.90	<0.50
20	80/05/21	115	48.5	56.8	1.0	12.0	0.0145	----	<0.0050	<0.010	0.0076	7.30	<0.50
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1	80/06/19	97.0	41.9	45.1	1.0	10.0	0.0063	----	<0.0050	<0.010	<0.0050	7.90	0.76
11	80/06/19	100	42.9	47.8	2.0	10.0	0.0096	----	<0.0050	<0.010	<0.0050	6.80	0.87
12	80/06/19	97.0	42.4	45.5	1.0	10.0	0.0089	----	<0.0050	<0.010	<0.0050	5.90	<0.50
13	80/06/19	97.0	43.9	46.3	2.0	10.0	0.0081	----	<0.0050	<0.010	<0.0050	5.95	0.34
17	80/06/19	97.0	41.4	46.0	1.0	10.0	0.0070	----	<0.0050	<0.010	<0.0050	7.25	0.61
18	80/06/19	97.0	41.9	45.8	1.0	10.0	0.0083	----	<0.0050	<0.010	<0.0050	6.15	0.31
20	80/06/19	82.0	36.4	39.9	3.0	8.0	0.0372	----	<0.0050	0.012	0.0100	4.95	0.64
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1	80/07/15	92.1	38.2	45.4	2.0	8.0	0.0053	----	<0.0050	<0.010	<0.0050	---	----
11	80/07/15	93.5	39.2	46.1	2.0	8.0	0.0062	----	<0.0050	<0.010	<0.0050	---	----
12	80/07/15	93.0	39.2	46.3	2.0	8.0	0.0068	----	<0.0050	<0.010	0.0138	---	----
13	80/07/15	93.0	39.0	45.7	2.0	8.0	<0.0050	----	<0.0050	<0.010	<0.0050	---	----
17	80/07/15	93.0	39.2	46.3	2.0	8.0	0.0059	----	<0.0050	<0.010	<0.0050	---	----
18	80/07/15	93.0	39.4	45.9	2.0	8.0	<0.0050	----	<0.0050	<0.010	<0.0050	---	----
20	80/07/15	79.8	34.0	39.3	2.0	7.0	0.0200	----	<0.0050	<0.010	0.0100	---	----

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
August, September and October, 1980

STATION	DATE YR/MO/DA	VAN.LAB CONDUC-TIVITY umhos/cm	TOTAL ALKA-LINITY $CaCO_3$ (mg/l)	TOTAL HARD-NESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	$T.PO_4$-P (mg/l)	$O.PO_4$-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	$Cl-Cl_2$ (mg/l)
1	80/08/14	91.5	39.1	42.1	1.0	8.0	<0.0050	----	<0.0050	<0.010	0.0110	6.10	<0.50
7	80/08/14	92.0	38.9	42.7	1.0	8.0	0.0066	----	<0.0050	<0.010	0.0090	6.10	<0.50
11	80/08/14	93.8	39.1	44.3	1.0	8.0	<0.0050	----	<0.0050	<0.010	0.0100	6.20	<0.50
12	80/08/14	92.5	38.8	45.3	1.0	8.0	0.0062	----	<0.0050	<0.010	0.0113	6.25	<0.50
13	80/08/14	92.0	38.8	44.0	1.0	8.0	<0.0050	----	<0.0050	<0.010	0.0070	6.15	<0.50
17	80/08/14	93.0	42.0	44.7	1.0	8.0	0.0077	----	<0.0050	<0.010	0.0105	6.00	<0.50
18	80/08/14	93.0	38.9	45.3	1.0	8.0	0.0081	----	<0.0050	<0.010	0.0090	6.10	<0.50
20	80/08/14	81.0	33.8	39.2	1.0	7.0	0.0142	----	<0.0050	<0.010	0.0094	5.20	<0.50
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1	80/09/12	93.5	40.5	41.1	<1.0	10.0	0.0071	----	<0.0050	<0.010	<0.0050	6.60	<0.50
7	80/09/12	94.5	40.6	41.4	<1.0	10.0	<0.0050	----	<0.0050	<0.010	<0.0050	6.10	<0.50
11	80/09/12	96.0	41.6	42.8	<1.0	10.0	0.0075	----	<0.0050	<0.010	<0.0050	5.95	<0.50
12	80/09/12	93.0	41.5	41.9	<1.0	10.0	0.0052	----	<0.0050	<0.010	0.0055	6.10	<0.50
13	80/09/12	89.5	41.5	42.4	<1.0	10.0	0.0110	----	<0.0050	<0.010	<0.0050	6.00	<0.50
17	80/09/12	93.5	41.7	42.5	<1.0	10.0	0.0057	----	<0.0050	<0.010	0.0058	6.00	<0.50
18	80/09/12	91.0	41.8	41.6	1.0	9.0	0.0059	----	<0.0050	<0.010	0.0053	6.00	<0.50
20	80/09/12	85.0	37.3	38.6	1.0	8.0	0.0087	----	<0.0050	<0.010	0.0058	5.25	<0.50
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1	80/10/22	97.5	43.9	47.4	<1.0	9.0	0.0066	----	<0.0050	<0.010	<0.0050	6.00	<0.50
7	80/10/22	97.0	44.3	48.2	<1.0	9.0	<0.0050	----	<0.0050	<0.010	<0.0050	5.80	<0.50
11	80/10/22	99.5	44.3	50.0	<1.0	9.0	0.0141	----	<0.0050	<0.010	<0.0050	6.00	0.55
12	80/10/22	106	44.1	48.0	<1.0	9.0	0.0069	----	<0.0050	<0.010	<0.0050	5.90	0.61
13	80/10/22	106	43.9	48.0	<1.0	9.0	0.0063	----	<0.0050	<0.010	<0.0050	6.10	0.61
18	80/10/22	106	44.4	48.4	<1.0	9.0	0.0064	----	<0.0050	<0.010	<0.0050	5.90	0.56
20	80/10/22	90.0	40.8	44.4	<1.0	9.0	0.0116	----	<0.0050	<0.010	0.0050	5.35	0.80

APPENDIX II TABLE 2 YUKON RIVER WATER CHEMISTRY DATA FOR 1977 THROUGH 1980 INCLUSIVE (Continued)
November, 1980

STATION	DATE YR/MO/DA	VAN.LAB CONDUC-TIVITY umhos/cm	TOTAL ALKA-LINITY $CaCO_3$ (mg/l)	TOTAL HARD-NESS $CaCO_3$ (mg/l)	T.O.C. (mg/l)	T.I.C. (mg/l)	T.PO_4-P (mg/l)	O.PO_4-P (mg/l)	NO_2-N (mg/l)	NO_3-N (mg/l)	NH_3-N (mg/l)	SO_4 (mg/l)	Cl-Cl_2 (mg/l)
1	80/11/25	98.1	44.8	48.7	<1.0	10.0	0.0055	---	<0.0050	<0.010	0.0099	6.90	<0.50
7	80/11/25	101	45.4	49.5	<1.0	10.0	0.0055	---	<0.0050	<0.010	<0.0050	6.90	<0.50
11	80/11/25	102	46.9	50.6	<1.0	11.0	0.0100	---	<0.0050	<0.010	0.0130	7.00	<0.50
12	80/11/25	102	45.9	50.4	<1.0	11.0	0.0094	---	<0.0050	<0.010	0.0126	6.90	<0.50
13	80/11/25	101	46.2	50.3	<1.0	11.0	0.0098	---	<0.0050	<0.010	0.0110	7.05	<0.50
17	80/11/25	104	46.7	51.7	<1.0	11.0	0.0119	---	<0.0050	<0.010	0.0310	7.05	<0.50
18	80/11/25	103	46.5	51.4	3.0	9.0	0.0098	---	<0.0050	<0.010	0.0126	6.90	<0.50
20	80/11/25	98.0	45.5	47.8	2.0	9.0	0.0102	---	<0.0050	0.014	0.0103	6.50	<0.50

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE (Ag to K in mg/l)
May and June, 1977

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	77/05/18	<0.030	--	--	--	16	<0.010	--	--	<0.010	0.13	<0.20	--
2	77/05/18	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.04	<0.20	--
3	77/05/18	<0.030	--	--	--	18	<0.010	--	--	0.020	0.42	<0.20	--
4	77/05/18	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.19	<0.20	--
5	77/05/18	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.08	<0.20	--
6	77/05/18	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.09	<0.20	--
7	77/05/18	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.04	0.23	--
17	77/05/18	<0.030	--	--	--	16	<0.010	--	--	<0.010	0.06	<0.20	--
* *													
1	77/06/15	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.15	<0.20	--
2	77/06/15	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.16	<0.20	--
3	77/06/15	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.18	<0.20	--
4	77/06/15	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.16	<0.20	--
5	77/06/15	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.17	<0.20	--
6	77/06/15	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.29	<0.20	--
7	77/06/15	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.26	<0.20	--
17	77/06/15	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.16	<0.20	--
18	77/06/15	<0.030	--	--	--	16	<0.010	--	--	<0.010	0.33	<0.20	--
19	77/06/15	<0.030	--	--	--	10	<0.010	--	--	<0.010	1.50	<0.20	--
21	77/06/15	<0.030	--	--	--	13	<0.010	--	--	<0.010	1.00	<0.20	--
22	77/06/15	<0.030	--	--	--	13	<0.010	--	--	<0.010	0.70	<0.20	--

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
July and September, 1977

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	77/07/21	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.09	--	--
2	77/07/21	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.09	--	--
3	77/07/21	--	--	--	--	--	--	--	--	--	--	--	--
4	77/07/21	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.06	--	--
5	77/07/21	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.07	--	--
6	77/07/21	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.06	--	--
7	77/07/21	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.07	--	--
17	77/07/21	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.09	--	--
18	77/07/21	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.23	--	--
19	77/07/21	<0.030	--	--	--	8.6	<0.010	--	--	<0.010	1.00	--	--
21	77/07/21	<0.030	--	--	--	13	<0.010	--	--	<0.010	0.42	--	--
22	77/07/21	<0.030	--	--	--	13	<0.010	--	--	<0.010	0.45	--	--

* *

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	77/09/15	<0.030	--	--	--	13	<0.010	--	--	<0.010	0.25	<0.00020	--
2	77/09/15	<0.030	--	--	--	13	<0.010	--	--	<0.010	0.06	<0.00020	--
3	77/09/15	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.41	<0.00020	--
4	77/09/15	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.70	<0.00020	--
5	77/09/15	<0.030	--	--	--	13	<0.010	--	--	<0.010	0.23	<0.00020	--
6	77/09/15	<0.030	--	--	--	12	<0.010	--	--	<0.010	0.19	<0.00020	--
7	77/09/15	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.11	<0.00020	--
17	77/09/15	<0.030	--	--	--	13	<0.010	--	--	<0.010	0.06	<0.00020	--
18	77/09/15	<0.030	--	--	--	13	<0.010	--	--	<0.010	0.17	<0.00020	--
19	77/09/15	<0.030	--	--	--	6.8	<0.010	--	--	<0.010	0.78	<0.00020	--
21	77/09/15	<0.030	--	--	--	12	<0.010	--	--	<0.010	0.35	<0.00020	--
22	77/09/15	<0.030	--	--	--	12	<0.010	--	--	<0.010	0.23	<0.00020	--

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
October, 1977

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	77/10/17	<0.030	--	--	--	13	<0.010	--	--	<0.010	0.05	<0.00020	--
2	77/10/17	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.04	<0.00020	--
3	77/10/17	<0.030	--	--	--	17	<0.010	--	--	0.020	0.36	<0.00020	--
4	77/10/17	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.06	<0.00020	--
5	77/10/17	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.04	<0.00020	--
6	77/10/17	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.07	<0.00020	--
7	77/10/17	<0.030	--	--	--	15	<0.010	--	--	<0.010	0.09	<0.00020	--
17	77/10/17	<0.030	--	--	--	14	<0.010	--	--	<0.010	0.08	<0.00020	--

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
February and March, 1978

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	78/02/14	--	<0.30	<0.20	0.0288	16.4	<0.010	<0.020	<0.020	<0.020	0.038	<0.00020	--
2	78/02/14	--	0.60	<0.20	0.0388	16.3	<0.010	<0.020	<0.020	<0.020	0.841	<0.00020	--
3	78/02/14	--	<0.30	<0.20	0.0301	17.5	<0.010	<0.020	<0.020	<0.020	0.048	<0.00020	--
4	78/02/14	--	<0.30	<0.20	0.0270	15.5	<0.010	<0.020	<0.020	<0.020	0.051	<0.00020	--
5	78/02/14	--	<0.30	<0.20	0.0270	15.5	<0.010	<0.020	<0.020	<0.020	0.047	<0.00020	--
6	78/02/14	--	<0.30	<0.20	0.0310	16.7	<0.010	<0.020	<0.020	<0.020	0.122	<0.00020	--
7	78/02/14	--	0.33	<0.20	0.0341	17.1	<0.010	<0.020	<0.020	<0.020	0.462	<0.00020	--
17	78/02/14	--	<0.30	<0.20	0.0331	16.8	<0.010	<0.020	<0.020	<0.020	0.346	<0.00020	--
18	78/02/14	--	<0.30	<0.20	0.0321	17.2	<0.010	<0.020	<0.020	<0.020	0.255	<0.00020	--
19	78/02/14	--	0.30	<0.20	0.0293	18.8	<0.010	<0.020	<0.020	<0.020	0.418	<0.00020	--
21	78/02/14	--	<0.30	<0.20	0.0292	16.9	<0.010	<0.020	<0.020	<0.020	0.075	<0.00020	--
22	78/02/14	--	<0.30	<0.20	0.0295	17.0	<0.010	<0.020	<0.020	<0.020	0.075	<0.00020	--
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/03/28	<0.030	<0.30	<0.20	0.0268	15.3	<0.010	<0.020	<0.020	<0.020	0.044	<0.10	--
2	78/03/28	<0.030	<0.30	<0.20	0.0280	15.4	<0.010	<0.020	<0.020	<0.020	0.042	<0.10	--
3	78/03/28	<0.030	<0.30	<0.20	0.0353	17.4	<0.010	<0.020	<0.020	<0.020	0.464	<0.10	--
4	78/03/28	<0.030	<0.30	<0.20	0.0275	15.5	<0.010	<0.020	<0.020	<0.020	0.023	<0.10	--
5	78/03/28	<0.030	<0.30	<0.20	0.0273	15.3	<0.010	<0.020	<0.020	<0.020	0.020	<0.10	--
6	78/03/28	<0.030	<0.30	<0.20	0.0277	15.2	<0.010	<0.020	<0.020	<0.020	<0.020	<0.10	--
7	78/03/28	<0.030	<0.30	<0.20	0.0277	15.7	<0.010	<0.020	<0.020	<0.020	0.065	<0.10	--
18	78/03/28	<0.030	<0.30	<0.20	0.0279	15.6	<0.010	<0.020	<0.020	<0.020	0.033	<0.10	--
19	78/03/28	<0.030	<0.30	<0.20	0.0233	16.7	<0.010	<0.020	<0.020	<0.020	0.195	<0.10	--
21	78/03/28	<0.030	<0.30	<0.20	0.0267	15.5	<0.010	<0.020	<0.020	<0.020	0.045	<0.10	--
22	78/03/28	<0.030	<0.30	<0.20	0.0299	15.9	<0.010	<0.020	<0.020	<0.020	0.043	<0.10	--

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
May and June, 1978

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	78/05/24	--	<0.20	<0.20	0.0278	14.6	<0.010	<0.020	<0.020	<0.020	0.075	<0.00020	--
8	78/05/24	--	0.30	<0.20	0.0329	15.2	<0.010	<0.020	<0.020	<0.020	0.323	<0.00020	--
9	78/05/24	--	0.23	<0.20	0.0311	15.1	<0.010	<0.020	<0.020	<0.020	0.189	<0.00020	--
10	78/05/24	--	0.36	<0.20	0.0335	16.2	<0.010	<0.020	<0.020	<0.020	0.322	<0.00020	--
11	78/05/24	--	0.40	<0.20	0.0340	15.2	<0.010	<0.020	<0.020	<0.020	0.350	<0.00020	--
12	78/05/24	--	0.32	<0.20	0.0353	15.3	<0.010	<0.020	<0.020	<0.020	0.322	<0.00020	--
13	78/05/24	--	0.46	<0.20	0.0367	15.5	<0.010	<0.020	<0.020	<0.020	0.526	<0.00020	--
14	78/05/24	--	0.45	<0.20	0.0372	15.8	<0.010	<0.020	<0.020	<0.020	0.410	<0.00020	--
15	78/05/24	--	0.25	<0.20	0.0314	14.9	<0.010	<0.020	<0.020	<0.020	0.261	<0.00020	--
16	78/05/24	--	0.40	<0.20	0.0340	15.5	<0.010	<0.020	<0.020	<0.020	0.370	<0.00020	--
17	78/05/24	--	0.23	<0.20	0.0317	15.1	<0.010	<0.020	<0.020	<0.020	0.244	<0.00020	--
18	78/05/24	--	<0.20	<0.20	0.0308	15.2	<0.010	<0.020	<0.020	<0.020	0.178	<0.00020	--
19	78/05/24	--	3.36	<0.20	0.0738	18.1	<0.010	<0.020	<0.020	<0.020	3.06	<0.00020	--
21	78/05/24	--	0.82	<0.20	0.0390	16.0	<0.010	<0.020	<0.020	<0.020	0.640	<0.00020	--
22	78/05/24	--	0.52	<0.20	0.0355	15.9	<0.010	<0.020	<0.020	<0.020	0.457	<0.00020	--
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/06/13	<0.030	<0.20	<0.20	0.0262	13.1	<0.010	<0.020	<0.020	<0.020	0.085	<0.00020	--
8	78/06/13	<0.030	<0.20	<0.20	0.0261	13.3	<0.010	<0.020	<0.020	<0.020	0.170	<0.00020	--
9	78/06/13	<0.030	<0.20	<0.20	0.0252	12.7	<0.010	<0.020	<0.020	<0.020	0.124	<0.00020	--
10	78/06/13	<0.030	<0.20	<0.20	0.0253	13.5	<0.010	<0.020	<0.020	<0.020	0.153	<0.00020	--
11	78/06/13	<0.030	<0.20	<0.20	0.0265	12.9	<0.010	<0.020	<0.020	<0.020	0.267	<0.00020	--
12	78/06/13	<0.030	0.31	<0.20	0.0283	12.9	<0.010	<0.020	<0.020	<0.020	0.374	<0.00020	--
13	78/06/13	<0.030	0.21	<0.20	0.0267	12.7	<0.010	<0.020	<0.020	<0.020	0.298	<0.00020	--
14	78/06/13	<0.030	0.28	<0.20	0.0280	12.8	<0.010	<0.020	<0.020	<0.020	0.392	<0.00020	--
15	78/06/13	<0.030	<0.20	<0.20	0.0270	12.8	<0.010	<0.020	<0.020	<0.020	0.256	<0.00020	--
16	78/06/13	<0.030	0.37	<0.20	0.0302	12.9	<0.010	<0.020	<0.020	<0.020	0.496	<0.00020	--
17	78/06/13	<0.030	<0.20	<0.20	0.0248	12.2	<0.010	<0.020	<0.020	<0.020	0.204	<0.00020	--
18	78/06/13	<0.030	<0.20	<0.20	0.0242	12.1	<0.010	<0.020	<0.020	<0.020	0.183	<0.00020	--
19	78/06/13	<0.030	3.89	<0.20	0.0795	9.59	<0.010	<0.020	<0.020	<0.020	4.71	<0.00020	--
21	78/06/13	<0.030	<0.20	<0.20	0.0246	12.4	<0.010	<0.020	<0.020	<0.020	0.208	<0.00020	--
22	78/06/13	<0.030	<0.20	<0.20	0.0240	12.0	<0.010	<0.020	<0.020	<0.020	0.174	<0.00020	--

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
June and July, 1978

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	78/06/26	--	--	--	--	13.7	--	--	--	--	--	<0.00020	--
2	78/06/26	--	--	--	--	13.2	--	--	--	--	--	<0.00020	--
3	78/06/26	--	--	--	--	13.3	--	--	--	--	--	<0.00020	--
4	78/06/26	--	--	--	--	15.3	--	--	--	--	--	<0.00020	--
5	78/06/26	--	--	--	--	13.3	--	--	--	--	--	<0.00020	--
6	78/06/26	--	--	--	--	13.5	--	--	--	--	--	<0.00020	--
7	78/06/26	--	--	--	--	13.2	--	--	--	--	--	<0.00020	--
8	78/06/26	--	--	--	--	14.2	--	--	--	--	--	<0.00020	--
9	78/06/26	--	--	--	--	13.5	--	--	--	--	--	<0.00020	--
10	78/06/26	--	--	--	--	13.7	--	--	--	--	--	<0.00020	--
11	78/06/26	--	--	--	--	14.2	--	--	--	--	--	<0.00020	--
12	78/06/26	--	--	--	--	13.9	--	--	--	--	--	<0.00020	--
13	78/06/26	--	--	--	--	8.07	--	--	--	--	--	<0.00020	--
14	78/06/26	--	--	--	--	12.5	--	--	--	--	--	<0.00020	--
15	78/06/26	--	--	--	--	11.8	--	--	--	--	--	<0.00020	--
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/07/17	--	<0.20	<0.20	0.0229	13.5	<0.010	<0.020	<0.020	<0.020	0.095	<0.00020	--
8	78/07/17	--	<0.20	<0.20	0.0248	14.8	<0.010	<0.020	<0.020	<0.020	0.124	<0.00020	--
9	78/07/17	--	<0.20	<0.20	0.0241	13.7	<0.010	<0.020	<0.020	<0.020	0.105	<0.00020	--
10	78/07/17	--	<0.20	<0.20	0.0255	14.5	<0.010	<0.020	<0.020	<0.020	0.154	<0.00020	--
11	78/07/17	--	<0.20	<0.20	0.0254	13.9	<0.010	<0.020	<0.020	<0.020	0.140	0.00054	--
12	78/07/17	--	<0.20	<0.20	0.0242	14.0	<0.010	<0.020	<0.020	<0.020	0.106	<0.00020	--
13	78/07/17	--	<0.20	<0.20	0.0276	15.0	<0.010	<0.020	<0.020	<0.020	0.208	<0.00020	--
14	78/07/17	--	<0.20	<0.20	0.0274	14.1	<0.010	<0.020	<0.020	<0.020	0.114	<0.00020	--
15	78/07/17	--	<0.20	<0.20	0.0257	14.0	<0.010	<0.020	<0.020	<0.020	0.119	<0.00020	--
16	78/07/17	--	<0.20	<0.20	0.0252	14.1	<0.010	<0.020	<0.020	<0.020	0.160	<0.00020	--
17	78/07/17	--	<0.20	<0.20	0.0247	14.2	<0.010	<0.020	<0.020	<0.020	0.148	<0.00020	--
18	78/07/17	--	<0.20	<0.20	0.0205	14.0	<0.010	<0.020	<0.020	<0.020	<0.020	<0.00020	--
19	78/07/17	--	1.02	<0.20	0.0303	7.81	<0.010	<0.020	<0.020	<0.020	1.37	<0.00020	--
21	78/07/17	--	0.46	<0.20	0.0286	12.9	<0.010	<0.020	<0.020	<0.020	0.633	<0.00020	--
22	78/07/17	--	0.51	<0.20	0.0297	12.4	<0.010	<0.020	<0.020	<0.020	0.747	<0.00020	--

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K In mg/l] (continued)
August, 1978

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	78/08/07	--	--	--	--	13.0	--	--	--	--	--	<0.00020	--
8	78/08/07	--	--	--	--	13.0	--	--	--	--	--	<0.00020	--
9	78/08/07	--	--	--	--	13.9	--	--	--	--	--	<0.00020	--
10	78/08/07	--	--	--	--	22.0	--	--	--	--	--	<0.00020	--
11	78/08/07	--	--	--	--	13.7	--	--	--	--	--	<0.00020	--
12	78/08/07	--	--	--	--	13.5	--	--	--	--	--	<0.00020	--
13	78/08/07	--	--	--	--	13.5	--	--	--	--	--	<0.00020	--
14	78/08/07	--	--	--	--	14.5	--	--	--	--	--	<0.00020	--
15	78/08/07	--	--	--	--	12.9	--	--	--	--	--	<0.00020	--
16	78/08/07	--	--	--	--	14.2	--	--	--	--	--	<0.00020	--
17	78/08/07	--	--	--	--	15.6	--	--	--	--	--	<0.00020	--
18	78/08/07	--	--	--	--	14.0	--	--	--	--	--	<0.00020	--
19	78/08/07	--	--	--	--	7.6	--	--	--	--	--	<0.00020	--
21	78/08/07	--	--	--	--	12.3	--	--	--	--	--	<0.00020	--
22	78/08/07	--	--	--	--	11.7	--	--	--	--	--	<0.00020	--
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/08/29	--	<0.20	<0.20	0.0251	14.4	<0.010	<0.020	<0.020	<0.020	0.052	<0.10	--
8	78/08/29	--	<0.20	<0.20	0.0244	14.4	<0.010	<0.020	<0.020	<0.020	0.053	<0.10	--
9	78/08/29	--	<0.20	<0.20	0.0250	14.4	<0.010	<0.020	<0.020	<0.020	0.040	<0.10	--
10	78/08/29	--	<0.20	<0.20	0.0272	15.7	<0.010	<0.020	<0.020	<0.020	0.174	<0.10	--
11	78/08/29	--	<0.20	<0.20	0.0249	14.4	<0.010	<0.020	<0.020	<0.020	0.046	<0.10	--
12	78/08/29	--	<0.20	<0.20	0.0246	14.5	<0.010	<0.020	<0.020	<0.020	0.043	<0.10	--
13	78/08/29	--	<0.20	<0.20	0.0258	14.8	<0.010	<0.020	<0.020	<0.020	0.071	<0.10	--
14	78/08/29	--	<0.20	<0.20	0.0256	14.6	<0.010	<0.020	<0.020	<0.020	0.063	<0.10	--
15	78/08/29	--	<0.20	<0.20	0.0251	14.4	<0.010	<0.020	<0.020	<0.020	0.043	<0.10	--
16	78/08/29	--	<0.20	<0.20	0.0251	14.4	<0.010	<0.020	<0.020	<0.020	0.044	<0.10	--
17	78/08/29	--	<0.20	<0.20	0.0248	14.4	<0.010	<0.020	<0.020	<0.020	0.043	<0.10	--
18	78/08/29	--	<0.20	<0.20	0.0248	14.3	<0.010	<0.020	<0.020	<0.020	0.043	<0.10	--
19	78/08/29	--	0.36	<0.20	0.0187	7.61	<0.010	<0.020	<0.020	<0.020	0.388	<0.10	--
21	78/08/29	--	--	--	--	--	--	--	--	--	--	--	--
22	78/08/29	--	<0.20	<0.20	0.0248	12.8	<0.010	<0.020	<0.020	<0.020	0.171	<0.10	--

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)

December, 1978

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	78/12/06	<0.030	<0.090	<0.15	0.0274	14.6	<0.015	<0.020	<0.020	<0.010	0.106	<0.10	--
8	78/12/06	<0.030	0.480	<0.15	0.0474	15.5	<0.015	<0.020	<0.020	<0.010	0.941	<0.10	--
9	78/12/06	<0.030	1.08	<0.15	0.0695	16.7	<0.015	<0.020	<0.020	<0.010	2.10	<0.10	--
10	78/12/06	<0.030	<0.090	<0.15	0.0262	14.8	<0.015	<0.020	<0.020	<0.010	0.062	<0.10	--
11	78/12/06	<0.030	<0.090	<0.15	0.0257	14.8	<0.015	<0.020	<0.020	<0.010	0.045	<0.10	--
12	78/12/06	<0.030	<0.090	<0.15	0.0272	15.3	<0.015	<0.020	<0.020	<0.010	0.070	<0.10	--
13	78/12/06	<0.030	<0.090	<0.15	0.0258	15.0	<0.015	<0.020	<0.020	<0.010	0.038	<0.10	--
14	78/12/06	<0.030	<0.090	<0.15	0.0315	25.9	<0.015	<0.020	<0.020	<0.010	0.021	<0.10	--
17	78/12/06	<0.030	0.260	<0.15	0.0441	15.2	<0.015	<0.020	<0.020	<0.010	0.542	<0.10	--
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1	78/12/20	<0.030	<0.090	<0.15	0.0257	15.7	<0.015	<0.020	<0.020	<0.010	<0.020	<0.10	--
8	78/12/20	<0.030	<0.090	<0.15	0.0301	16.2	<0.015	<0.020	<0.020	<0.010	0.106	<0.10	--
9	78/12/20	<0.030	1.27	<0.15	0.0848	18.2	<0.015	<0.020	<0.020	<0.010	2.30	<0.10	--
10	78/12/20	<0.030	<0.090	<0.15	0.0259	15.4	<0.015	<0.020	<0.020	<0.010	0.021	<0.10	--
11	78/12/20	<0.030	<0.090	<0.15	0.0256	15.4	<0.015	<0.020	<0.020	<0.010	<0.020	<0.10	--
12	78/12/20	<0.030	<0.090	<0.15	0.0294	16.4	<0.015	<0.020	<0.020	<0.010	0.100	<0.10	--
13	78/12/20	<0.030	<0.090	<0.15	0.0276	16.0	<0.015	<0.020	<0.020	<0.010	0.028	<0.10	--
14	78/12/20	<0.030	<0.090	<0.15	0.0266	15.8	<0.015	<0.020	<0.020	<0.010	<0.020	<0.10	--

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
January and February, 1979

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	79/01/17	<0.030	<.090	<.15	0.0292	15.2	<0.015	<0.020	<0.020	<0.010	0.096	<0.10	---
8	79/01/17	<0.030	2.85	<.15	0.156	21.7	<0.015	<0.020	<0.020	0.020	5.30	<0.10	---
9	79/01/17	---	--	--	--	--	--	--	--	--	--	--	---
10	79/01/17	---	--	--	--	--	--	--	--	--	--	--	---
11	79/01/17	<0.030	0.100	<.15	0.0321	18.0	<0.015	<0.020	<0.020	<0.010	0.166	<0.10	---
12	79/01/17	<0.030	0.130	<.15	0.0329	17.7	<0.015	<0.020	<0.020	<0.010	0.193	<0.10	---
13	79/01/17	<0.030	0.700	<.15	0.0480	16.5	<0.015	<0.020	<0.020	<0.010	1.28	<0.10	---
14	79/01/17	<0.030	<.090	<.15	0.0289	15.3	<0.015	<0.020	<0.020	<0.010	0.120	<0.10	---
15	79/01/17	<0.030	0.430	<.15	0.0387	16.3	<0.015	<0.020	<0.020	<0.010	0.701	<0.10	---
16	79/01/17	<0.030	<.090	<.15	0.0291	15.8	<0.015	<0.020	<0.020	<0.010	0.105	<0.10	---
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1	79/02/21	---	<0.090	<0.15	0.0250	14.5	<0.015	<0.020	<0.020	<0.010	0.063	<0.10	0.994
8	79/02/21	---	0.110	<0.15	0.0363	18.2	<0.015	<0.020	<0.020	<0.010	0.132	<0.10	1.01
9	79/02/21	---	<0.090	<0.15	0.0247	14.4	<0.015	<0.020	<0.020	<0.010	0.063	<0.10	0.764
10	79/02/21	---	0.450	<0.15	0.0377	15.6	<0.015	<0.020	<0.020	<0.010	0.831	<0.10	0.864
11	79/02/21	---	0.110	<0.15	0.0267	14.9	<0.015	<0.020	<0.020	<0.010	0.176	<0.10	0.809
12	79/02/21	---	2.00	<0.15	0.110	14.9	<0.015	<0.020	<0.020	0.012	4.17	<0.10	1.17
13	79/02/21	---	<0.090	<0.15	0.0255	14.7	<0.015	<0.020	<0.020	<0.010	0.064	<0.10	0.758
14	79/02/21	---	<0.090	<0.15	0.0259	14.3	<0.015	<0.020	<0.020	<0.010	0.066	<0.10	0.767
15	79/02/21	---	0.170	<0.15	0.0293	14.6	<0.015	<0.020	<0.020	<0.010	0.217	<0.10	0.796
16	79/02/21	---	<0.090	<0.15	0.0261	14.5	<0.015	<0.020	<0.020	<0.010	0.068	<0.10	0.764

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
April and May, 1979

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	79/04/05	<0.030	<0.090	<0.15	0.0266	15.1	<0.015	<0.015	<0.015	<0.010	0.032	<0.10	0.750
8	79/04/05	<0.030	0.370	<0.15	0.0362	15.5	<0.015	<0.015	<0.015	<0.010	0.594	<0.10	0.717
9	79/04/05	<0.030	<0.090	<0.15	0.0267	15.0	<0.015	<0.015	<0.015	<0.010	0.027	<0.10	0.670
10	79/04/05	<0.030	<0.090	<0.15	0.0277	16.1	<0.015	<0.015	<0.015	<0.010	0.042	<0.10	0.710
11	79/04/05	<0.030	0.130	<0.15	0.0300	15.2	<0.015	<0.015	<0.015	<0.010	0.223	<0.10	0.704
12	79/04/05	<0.030	<0.090	<0.15	0.0267	15.0	<0.015	<0.015	<0.015	<0.010	0.039	<0.10	0.677
13	79/04/05	<0.030	<0.090	<0.15	0.0275	15.8	<0.015	<0.015	<0.015	<0.010	0.041	<0.10	0.694
14	79/04/05	<0.030	<0.090	<0.15	0.0268	15.1	<0.015	<0.015	<0.015	<0.010	0.038	<0.10	0.694
15	79/04/05	<0.030	<0.090	<0.15	0.0269	15.1	<0.015	<0.015	<0.015	<0.010	0.051	<0.10	0.684
16	79/04/05	<0.030	<0.090	<0.15	0.0299	15.3	<0.015	<0.015	<0.015	<0.010	0.073	<0.10	0.824

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STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	79/05/29	<0.030	0.250	<0.15	0.0287	15.0	<0.010	<0.015	<0.015	<0.010	0.345	<0.10	0.666
8	79/05/29	<0.030	0.190	<0.15	0.0285	15.0	<0.010	<0.015	<0.015	<0.010	0.316	<0.10	0.671
9	79/05/29	<0.030	0.150	<0.15	0.0275	15.0	<0.010	<0.015	<0.015	<0.010	0.315	<0.10	0.661
10	79/05/29	<0.030	0.180	<0.15	0.0282	16.7	<0.010	<0.015	<0.015	<0.010	0.403	<0.10	0.700
11	79/05/29	<0.030	0.100	<0.15	0.0252	15.0	<0.010	<0.015	<0.015	<0.010	0.312	<0.10	0.666
12	79/05/29	<0.030	<0.090	<0.15	0.0248	15.0	<0.010	<0.015	<0.015	<0.010	0.302	<0.10	0.661
13	79/05/29	<0.030	<0.090	<0.15	0.0243	15.0	<0.010	<0.015	<0.015	<0.010	0.326	<0.10	0.680
14	79/05/29	<0.030	<0.090	<0.15	0.0232	15.0	<0.010	<0.015	<0.015	<0.010	0.300	<0.10	0.671
15	79/05/29	<0.030	<0.090	<0.15	0.0223	15.0	<0.010	<0.015	<0.015	<0.010	0.286	<0.10	0.676
16	79/05/29	<0.030	0.100	<0.15	0.0249	15.0	<0.010	<0.015	<0.015	<0.010	0.496	<0.10	0.666
17	79/05/29	<0.030	<0.090	<0.15	0.0221	15.0	<0.010	<0.015	<0.015	<0.010	0.336	<0.10	0.671
18	79/05/29	<0.030	<0.090	<0.15	0.0216	15.0	<0.010	<0.015	<0.015	<0.010	0.285	<0.10	0.656
19	79/05/29	<0.030	0.190	<0.15	0.0429	15.0	<0.010	<0.015	<0.015	<0.010	2.47	<0.10	1.18
21	79/05/29	<0.030	0.290	<0.15	0.0274	15.0	<0.010	<0.015	<0.015	<0.010	0.757	<0.10	0.779

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
June and July, 1979

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	79/06/12	<0.030	0.340	<0.15	0.0377	15.9	<0.010	<0.015	<0.015	<0.010	0.515	<0.10	0.698
8	79/06/12	<0.030	0.250	<0.15	0.0330	15.2	<0.010	<0.015	<0.015	<0.010	0.505	<0.10	0.676
9	79/06/12	<0.030	0.100	<0.15	0.0299	15.3	<0.010	<0.015	<0.015	<0.010	0.135	<0.10	0.671
10	79/06/12	<0.030	0.210	<0.15	0.0346	16.4	<0.010	<0.015	<0.015	<0.010	0.293	<0.10	0.697
11	79/06/12	<0.030	0.400	<0.15	0.0421	16.3	<0.010	<0.015	<0.015	<0.010	0.621	<0.10	0.729
12	79/06/12	<0.030	0.090	<0.15	0.0297	15.3	<0.010	<0.015	<0.015	<0.010	0.142	<0.10	0.684
13	79/06/12	<0.030	0.160	<0.15	0.0323	15.8	<0.010	<0.015	<0.015	<0.010	0.231	<0.10	0.682
14	79/06/12	<0.030	0.590	<0.15	0.0503	16.3	<0.010	<0.015	<0.015	<0.010	1.14	<0.10	0.810
15	79/06/12	<0.030	<0.090	<0.15	0.0300	15.5	<0.010	<0.015	<0.015	<0.010	0.148	<0.10	0.669
16	79/06/12	<0.030	0.290	<0.15	0.0380	16.2	<0.010	<0.015	<0.015	<0.010	0.484	<0.10	0.709
17	79/06/12	<0.030	0.140	<0.15	0.0320	15.9	<0.010	<0.015	<0.015	<0.010	0.188	<0.10	0.690
18	79/06/12	<0.030	0.120	<0.15	0.0319	15.9	<0.010	<0.015	<0.015	<0.010	0.205	<0.10	0.684
19	79/06/12	<0.030	0.720	<0.15	0.0367	10.9	<0.010	<0.015	<0.015	<0.010	0.951	<0.10	0.896
21	79/06/12	<0.030	0.380	<0.15	0.0356	15.0	<0.010	<0.015	<0.015	<0.010	0.516	<0.10	0.742
22	79/06/12	<0.030	<0.090	<0.15	0.0308	15.7	<0.010	<0.015	<0.015	<0.010	0.159	<0.10	0.667
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1	79/07/16	<0.030	<0.090	<0.15	0.0271	14.1	<0.010	<0.015	<0.015	<0.010	0.116	<0.10	0.610
8	79/07/16	<0.030	0.150	<0.15	0.0287	14.4	<0.010	<0.015	<0.015	<0.010	0.193	<0.10	0.624
9	79/07/16	<0.030	0.110	<0.15	0.0277	14.1	<0.010	<0.015	<0.015	<0.010	0.133	<0.10	0.613
10	79/07/16	<0.030	0.450	<0.15	0.0346	16.0	<0.010	<0.015	<0.015	<0.010	0.548	<0.10	0.662
11	79/07/16	<0.030	0.120	<0.15	0.0285	14.4	<0.010	<0.015	<0.015	<0.010	0.156	<0.10	0.616
12	79/07/16	<0.030	<0.090	<0.15	0.0277	14.5	<0.010	<0.015	<0.015	<0.010	0.130	<0.10	0.613
13	79/07/16	<0.030	0.120	<0.15	0.0284	14.6	<0.010	<0.015	<0.015	<0.010	0.148	<0.10	0.616
14	79/07/16	<0.030	0.100	<0.15	0.0284	14.5	<0.010	<0.015	<0.015	<0.010	0.143	<0.10	0.610
15	79/07/16	<0.030	0.100	<0.15	0.0279	14.1	<0.010	<0.015	<0.015	<0.010	0.147	<0.10	0.612
16	79/07/16	<0.030	0.110	<0.15	0.0281	14.2	<0.010	<0.015	<0.015	<0.010	0.162	<0.10	0.621
17	79/07/16	<0.030	0.100	<0.15	0.0283	14.3	<0.010	<0.015	<0.015	<0.010	0.164	<0.10	0.617
18	79/07/16	<0.030	0.110	<0.15	0.0275	14.4	<0.010	<0.015	<0.015	<0.010	0.167	<0.10	0.617
19	79/07/16	<0.030	1.06	<0.15	0.0325	9.18	<0.010	<0.015	<0.015	<0.010	1.25	<0.10	0.799
21	79/07/16	<0.030	0.540	<0.15	0.0311	12.5	<0.010	<0.015	<0.015	<0.010	0.674	<0.10	0.706
22	79/07/16	<0.030	<0.090	<0.15	0.0269	14.0	<0.010	<0.015	<0.015	<0.010	0.130	<0.10	0.614

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
August and September, 1979

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	79/08/13	<0.030	<0.090	<0.15	0.0244	13.1	<0.010	<0.015	<0.015	<0.010	0.082	<0.10	0.592
8	79/08/13	<0.030	<0.090	<0.15	0.0243	13.0	<0.010	<0.015	<0.015	<0.010	0.099	<0.10	0.592
9	79/08/13	<0.030	<0.090	<0.15	0.0242	13.2	<0.010	<0.015	<0.015	<0.010	0.086	<0.10	0.592
10	79/08/13	<0.030	<0.090	<0.15	0.0247	13.7	<0.010	<0.015	<0.015	<0.010	0.106	<0.10	0.607
11	79/08/13	<0.030	<0.090	<0.15	0.0243	13.0	<0.010	<0.015	<0.015	<0.010	0.114	<0.10	0.592
12	79/08/13	<0.030	<0.090	<0.15	0.0242	13.3	<0.010	<0.015	<0.015	<0.010	0.096	<0.10	0.600
13	79/08/13	<0.030	<0.090	<0.15	0.0240	13.2	<0.010	<0.015	<0.015	<0.010	0.103	<0.10	0.596
14	79/08/13	<0.030	<0.090	<0.15	0.0243	13.4	<0.010	<0.015	<0.015	<0.010	0.101	<0.10	0.599
15	79/08/13	<0.030	<0.090	<0.15	0.0242	13.3	<0.010	<0.015	<0.015	<0.010	0.101	<0.10	0.601
16	79/08/13	<0.030	<0.090	<0.15	0.0252	13.5	<0.010	<0.015	<0.015	<0.010	0.132	<0.10	0.597
17	79/08/13	<0.030	<0.090	<0.15	0.0247	13.4	<0.010	<0.015	<0.015	<0.010	0.102	<0.10	0.607
18	79/08/13	<0.030	<0.090	<0.15	0.0247	13.4	<0.010	<0.015	<0.015	<0.010	0.125	<0.10	0.607
19	79/08/13	<0.030	0.580	<0.15	0.0219	7.34	<0.010	<0.015	<0.015	<0.010	0.754	<0.10	0.794
21	79/08/13	<0.030	0.140	<0.15	0.0242	12.1	<0.010	<0.015	<0.015	<0.010	0.251	<0.10	0.645
22	79/08/13	<0.030	<0.090	<0.15	0.0240	13.3	<0.010	<0.015	<0.015	<0.010	0.084	<0.10	0.601
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1	79/09/27	<0.030	<0.090	<0.15	0.0249	13.6	<0.010	<0.015	<0.015	<0.010	0.029	<0.10	0.598
8	79/09/27	<0.030	<0.090	<0.15	0.0247	13.6	<0.010	<0.015	<0.015	<0.010	0.041	<0.10	0.623
9	79/09/27	<0.030	<0.090	<0.15	0.0247	13.6	<0.010	<0.015	<0.015	<0.010	0.034	<0.10	0.630
10	79/09/27	<0.030	0.130	<0.15	0.0258	13.6	<0.010	<0.015	<0.015	<0.010	0.156	<0.10	0.649
11	79/09/27	<0.030	<0.090	<0.15	0.0246	12.8	<0.010	<0.015	<0.015	<0.010	0.047	<0.10	0.636
12	79/09/27	<0.030	<0.090	<0.15	0.0238	12.8	<0.010	<0.015	<0.015	<0.010	0.037	<0.10	0.621
13	79/09/27	<0.030	<0.090	<0.15	0.0247	13.6	<0.010	<0.015	<0.015	<0.010	0.070	<0.10	0.599
14	79/09/27	<0.030	<0.090	<0.15	0.0242	12.8	<0.010	<0.015	<0.015	<0.010	0.048	<0.10	0.626
15	79/09/27	<0.030	<0.090	<0.15	0.0245	12.8	<0.010	<0.015	<0.015	<0.010	0.040	<0.10	0.622
16	79/09/27	<0.030	<0.090	<0.15	0.0243	12.8	<0.010	<0.015	<0.015	<0.010	0.047	<0.10	0.627
17	79/09/27	<0.030	<0.090	<0.15	0.0251	13.6	<0.010	<0.015	<0.015	<0.010	0.045	<0.10	0.631
18	79/09/27	<0.030	<0.090	<0.15	0.0247	12.8	<0.010	<0.015	<0.015	<0.010	0.053	<0.10	0.613
19	79/09/27	<0.030	0.290	<0.15	0.0174	8.00	<0.010	<0.015	<0.015	<0.010	0.374	<0.10	0.738
21	79/09/27	<0.030	<0.090	<0.15	0.0242	12.0	<0.010	<0.015	<0.015	<0.010	0.089	<0.10	0.633
22	79/09/27	<0.030	<0.090	<0.15	0.0245	12.8	<0.010	<0.015	<0.015	<0.010	0.035	<0.10	0.623

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
December, 1979 and January and February, 1980

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	79/12/05	--	<0.090	<0.15	0.0286	14.8	<0.010	<0.015	<0.015	0.010	0.110	<0.10	0.820
8	79/12/05	--	<0.090	<0.15	0.0275	14.9	<0.010	<0.015	<0.015	<0.010	0.203	<0.10	0.759
11	79/12/05	--	<0.090	<0.15	0.0291	17.7	<0.010	<0.015	<0.015	<0.010	0.088	<0.10	0.760
18	79/12/05	--	<0.090	<0.15	0.0274	15.2	<0.010	<0.015	<0.015	<0.010	0.095	<0.10	0.749
19	79/12/05	--	0.180	<0.15	0.0220	11.4	<0.010	<0.015	<0.015	<0.010	0.221	<0.10	1.000
1	80/01/16	<0.030	<0.090	<0.15	0.0320	15.6	<0.010	<0.015	<0.015	<0.010	0.024	<0.10	0.784
11	80/01/16	<0.030	<0.090	<0.15	0.0343	15.0	<0.010	<0.015	<0.015	<0.010	0.059	<0.10	0.768
12	80/01/16	<0.030	0.258	<0.15	0.0408	16.4	<0.010	<0.015	<0.015	<0.010	0.386	<0.10	0.812
13	80/01/16	<0.030	<0.090	<0.15	0.0345	15.4	<0.010	<0.015	<0.015	<0.010	0.093	<0.10	0.762
17	80/01/16	<0.030	0.979	<0.15	0.0638	16.4	<0.010	<0.015	<0.015	<0.010	1.510	<0.10	1.27
18	80/01/16	<0.030	<0.090	<0.15	0.0341	15.3	<0.010	<0.015	<0.015	<0.010	0.062	<0.10	0.735
20	80/01/16	<0.030	1.03	<0.15	0.0621	16.1	<0.010	<0.015	<0.015	<0.010	1.650	<0.10	1.08
1	80/02/29	<0.030	<0.090	<0.15	0.0257	14.0	<0.010	<0.015	<0.015	<0.010	0.016	<0.10	0.470
11	80/02/29	<0.030	<0.090	<0.15	0.0275	14.1	<0.010	<0.015	<0.015	<0.010	0.052	<0.10	0.470
12	80/02/29	<0.030	0.183	<0.15	0.0328	14.4	<0.010	<0.015	<0.015	<0.010	0.274	<0.10	0.470
13	80/02/29	<0.030	0.184	<0.15	0.0327	14.8	<0.010	<0.015	<0.015	<0.010	0.270	<0.10	0.470
17	80/02/29	<0.030	<0.090	<0.15	0.0281	14.6	<0.010	<0.015	<0.015	<0.010	0.053	<0.10	0.047
18	80/02/29	<0.030	<0.090	<0.15	0.0282	14.6	<0.010	<0.015	<0.015	<0.010	0.042	<0.10	0.047
20	80/02/29	<0.030	<0.090	<0.15	0.0273	14.5	<0.010	<0.015	<0.015	<0.010	0.085	<0.10	0.047

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
May, June and July, 1980

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	80/05/21	--	0.120	<0.15	0.0311	17.1	<0.010	<0.015	<0.015	<0.010	0.171	<0.10	0.715
11	80/05/21	--	0.160	<0.15	0.0317	17.3	<0.010	<0.015	<0.015	<0.010	0.187	<0.10	0.731
12	80/05/21	--	0.136	<0.15	0.0312	17.4	<0.010	<0.015	<0.015	<0.010	0.179	<0.10	0.734
13	80/05/21	--	0.171	<0.15	0.0314	17.4	<0.010	<0.015	<0.015	<0.010	0.184	<0.10	0.740
17	80/05/21	--	0.157	<0.15	0.0323	17.5	<0.010	<0.015	<0.015	<0.010	0.210	<0.10	0.737
18	80/05/21	--	0.161	<0.15	0.0326	17.6	<0.010	<0.015	<0.015	<0.010	0.211	<0.10	0.749
20	80/05/21	--	0.197	<0.15	0.0324	17.6	<0.010	<0.015	<0.015	<0.010	0.272	<0.10	0.785
1	80/06/19	<0.030	0.111	<0.15	0.0296	14.0	<0.010	<0.015	<0.015	<0.010	0.134	<0.10	0.653
11	80/06/19	<0.030	0.150	<0.15	0.0319	14.7	<0.010	<0.015	<0.015	<0.010	0.170	<0.10	0.641
12	80/06/19	<0.030	<0.090	<0.15	0.0292	14.1	<0.010	<0.015	<0.015	<0.010	0.090	<0.10	0.622
13	80/06/19	<0.030	<0.090	<0.15	0.0294	14.4	<0.010	<0.015	<0.015	<0.010	0.095	<0.10	0.639
17	80/06/19	<0.030	<0.095	<0.15	0.0299	14.3	<0.010	<0.015	<0.015	<0.010	0.091	<0.10	0.599
18	80/06/19	<0.030	<0.090	<0.15	0.0292	14.2	<0.010	<0.015	<0.015	<0.010	0.103	<0.10	0.600
20	80/06/19	<0.030	0.484	<0.15	0.0344	12.4	<0.010	<0.015	<0.015	<0.010	0.582	<0.10	0.699
1	80/07/15	<0.030	<0.090	<0.15	0.0243	14.5	<0.010	<0.015	<0.015	<0.010	0.059	<0.10	0.589
11	80/07/15	<0.030	<0.090	<0.15	0.0244	14.7	<0.010	<0.015	<0.015	<0.010	0.069	<0.10	0.600
12	80/07/15	<0.030	<0.090	<0.15	0.0251	14.8	<0.010	<0.015	<0.015	<0.010	0.075	<0.10	0.600
13	80/07/15	<0.030	<0.090	<0.15	0.0254	14.6	<0.010	<0.015	<0.015	<0.010	0.082	<0.10	0.594
17	80/07/15	<0.030	<0.090	<0.15	0.0250	14.8	<0.010	<0.015	<0.015	<0.010	0.082	<0.10	0.691
18	80/07/15	<0.030	<0.090	<0.15	0.0256	14.7	<0.010	<0.015	<0.015	<0.010	0.082	<0.10	0.589
20	80/07/15	<0.030	0.238	<0.15	0.0253	12.6	<0.010	<0.015	<0.015	<0.010	0.281	<0.10	0.666

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
August, September and October, 1980

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	80/08/14	<0.030	0.091	<0.15	0.0238	13.2	<0.010	<0.015	<0.015	<0.010	0.058	<0.10	0.655
7	80/08/14	<0.030	<0.090	<0.15	0.0244	13.4	<0.010	<0.015	<0.015	<0.010	0.089	<0.10	0.617
11	80/08/14	<0.030	<0.090	<0.15	0.0250	13.9	<0.010	<0.015	<0.015	<0.010	0.086	<0.10	0.620
12	80/08/14	<0.030	<0.090	<0.15	0.0260	14.2	<0.010	<0.015	<0.015	<0.010	0.100	<0.10	0.610
13	80/08/14	<0.030	<0.090	<0.15	0.0255	13.8	<0.010	<0.015	<0.015	<0.010	0.100	<0.10	0.604
17	80/08/14	<0.030	<0.090	<0.15	0.0258	14.0	<0.010	<0.015	<0.015	<0.010	0.113	<0.10	0.630
18	80/08/14	<0.030	<0.090	<0.15	0.0260	14.2	<0.010	<0.015	<0.015	<0.010	0.126	<0.10	0.607
20	80/08/14	<0.030	0.270	<0.15	0.0257	12.3	<0.010	<0.015	<0.015	<0.010	0.334	<0.10	0.646
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1	80/09/12	<0.030	<0.090	<0.15	0.0263	12.7	<0.010	<0.015	<0.015	<0.010	0.063	<0.10	0.604
7	80/09/12	<0.030	<0.090	<0.15	0.0252	12.8	<0.010	<0.015	<0.015	<0.010	0.040	<0.10	0.591
11	80/09/12	<0.030	<0.090	<0.15	0.0267	13.2	<0.010	<0.015	<0.015	<0.010	0.050	<0.10	0.598
12	80/09/12	<0.030	<0.090	<0.15	0.0258	12.9	<0.010	<0.015	<0.015	<0.010	0.042	<0.10	0.598
13	80/09/12	<0.030	<0.090	<0.15	0.0266	13.1	<0.010	<0.015	<0.015	<0.010	0.051	<0.10	0.591
17	80/09/12	<0.030	<0.090	<0.15	0.0262	13.1	<0.010	<0.015	<0.015	<0.010	0.051	<0.10	0.604
18	80/09/12	<0.030	<0.090	<0.15	0.0256	12.8	<0.010	<0.015	<0.015	<0.010	0.056	<0.10	0.591
20	80/09/12	<0.030	0.113	<0.15	0.0281	11.9	<0.010	<0.015	<0.015	<0.010	0.200	<0.10	0.642
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1	80/10/22	<0.030	<0.090	<0.15	0.0263	14.6	<0.010	<0.015	<0.015	<0.010	0.063	<0.10	0.633
7	80/10/22	<0.030	<0.090	<0.15	0.0260	14.8	<0.010	<0.015	<0.015	<0.010	0.040	<0.10	0.613
11	80/10/22	<0.030	0.165	<0.15	0.0283	15.3	<0.010	<0.015	<0.015	<0.010	0.209	<0.10	0.650
12	80/10/22	<0.030	<0.090	<0.15	0.0259	14.8	<0.010	<0.015	<0.015	<0.010	0.056	<0.10	0.620
13	80/10/22	<0.030	<0.090	<0.15	0.0257	14.8	<0.010	<0.015	<0.015	<0.010	0.041	<0.10	0.624
18	80/10/22	<0.030	<0.090	<0.15	0.0261	14.9	<0.010	<0.015	<0.015	<0.010	0.067	<0.10	0.637
20	80/10/22	<0.030	0.116	<0.15	0.0258	13.7	<0.010	<0.015	<0.015	<0.010	0.212	<0.10	0.656

APPENDIX II TABLE 3 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Ag to K in mg/l] (continued)
December, 1980

STATION	DATE YR/MO/DA	Ag	Al	As	Ba	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
1	80/11/25	<0.030	<0.090	<0.15	0.0278	14.9	<0.010	<0.015	<0.015	<0.010	0.054	<0.10	0.725
7	80/11/25	<0.030	<0.090	<0.15	0.0281	15.1	<0.010	<0.015	<0.015	<0.010	0.084	<0.10	0.666
11	80/11/25	<0.030	<0.090	<0.15	0.0282	15.4	<0.010	<0.015	<0.015	<0.010	0.084	<0.10	0.677
12	80/11/25	<0.030	<0.090	<0.15	0.0284	15.3	<0.010	<0.015	<0.015	<0.010	0.088	<0.10	0.679
13	80/11/25	<0.030	<0.090	<0.15	0.0283	15.3	<0.010	<0.015	<0.015	<0.010	0.098	<0.10	0.702
17	80/11/25	<0.030	<0.090	<0.15	0.0294	15.7	<0.010	<0.015	<0.015	<0.010	0.104	<0.10	0.701
18	80/11/25	<0.030	<0.090	<0.15	0.0291	15.6	<0.010	<0.015	<0.015	<0.010	0.094	<0.10	0.713
20	80/11/25	<0.030	0.139	<0.15	0.0276	14.6	<0.010	<0.015	<0.015	<0.010	0.148	<0.10	0.745

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l]

May and June, 1977

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	77/05/18	2.6	--	--	--	<0.050	0.080	<0.30	<0.20	--	--	--	--	--	<0.010
2	77/05/18	2.7	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
3	77/05/18	5.4	--	--	--	<0.050	0.090	<0.30	<0.20	--	--	--	--	--	0.020
4	77/05/18	2.7	--	--	--	<0.050	0.040	<0.30	<0.20	--	--	--	--	--	<0.010
5	77/05/18	2.8	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
6	77/05/18	2.7	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
7	77/05/18	2.7	--	--	--	<0.050	<0.020	<0.30	0.23	--	--	--	--	--	<0.010
17	77/05/18	2.8	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
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1	77/06/15	3.1	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
2	77/06/15	3.1	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
3	77/06/15	3.2	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
4	77/06/15	3.1	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
5	77/06/15	3.3	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
6	77/06/15	3.2	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
7	77/06/15	3.2	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
17	77/06/15	3.2	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
18	77/06/15	3.2	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
19	77/06/15	1.9	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
21	77/06/15	2.9	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010
22	77/06/15	2.9	--	--	--	<0.050	<0.020	<0.30	<0.20	--	--	--	--	--	<0.010

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
July and September, 1977

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	77/07/21	2.4	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
2	77/07/21	2.4	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
3	77/07/21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	77/07/21	2.6	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
5	77/07/21	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
6	77/07/21	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
7	77/07/21	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
17	77/07/21	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
18	77/07/21	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
19	77/07/21	1.5	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
21	77/07/21	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
22	77/07/21	2.4	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	77/09/15	2.5	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
2	77/09/15	2.4	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
3	77/09/15	3.1	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	0.020
4	77/09/15	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
5	77/09/15	2.3	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
6	77/09/15	2.4	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
7	77/09/15	2.2	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
17	77/09/15	2.4	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
18	77/09/15	2.3	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
19	77/09/15	1.2	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
21	77/09/15	2.2	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
22	77/09/15	2.1	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
October, 1977

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	77/10/17	2.6	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
2	77/10/17	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
3	77/10/17	4.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	0.020
4	77/10/17	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
5	77/10/17	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
6	77/10/17	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
7	77/10/17	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010
17	77/10/17	2.7	--	--	--	<0.050	<0.020	<0.30	--	--	--	--	--	--	<0.010

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
February and March, 1978

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	78/02/14	2.71	<0.0040	<0.10	1.20	<0.020	<0.10	<0.10	<0.10	1.51	<0.10	0.0786	<0.020	<0.030	<0.020
2	78/02/14	3.00	0.0340	<0.10	1.20	<0.020	<0.10	<0.10	<0.10	2.14	<0.10	0.0786	0.037	<0.030	<0.020
3	78/02/14	3.32	0.0102	<0.10	2.26	<0.020	<0.10	<0.10	<0.10	1.70	<0.10	0.0862	<0.020	<0.030	<0.020
4	78/02/14	2.56	<0.0040	<0.10	1.03	<0.020	<0.10	<0.10	<0.10	1.41	<0.10	0.0742	<0.020	<0.030	<0.020
5	78/02/14	2.56	<0.0040	<0.10	1.24	<0.020	<0.10	<0.10	<0.10	1.37	<0.10	0.0740	<0.020	<0.030	<0.020
6	78/02/14	2.86	0.0045	<0.10	1.76	<0.020	<0.10	<0.10	<0.10	1.89	<0.10	0.0812	<0.020	<0.030	<0.020
7	78/02/14	3.03	0.0120	<0.10	1.28	<0.020	<0.10	<0.10	<0.10	1.63	<0.10	0.0833	0.026	<0.030	<0.020
17	78/02/14	2.94	0.0097	<0.10	1.62	<0.020	<0.10	<0.10	<0.10	1.97	<0.10	0.0811	0.026	<0.030	<0.020
18	78/02/14	2.95	0.0066	<0.10	1.34	<0.020	<0.10	<0.10	<0.10	1.63	<0.10	0.0834	0.026	<0.030	<0.020
19	78/02/14	4.01	0.0091	<0.10	2.97	<0.020	<0.10	<0.10	<0.10	3.87	<0.10	0.105	0.021	<0.030	<0.020
21	78/02/14	2.92	<0.0040	<0.10	1.18	<0.020	<0.10	<0.10	<0.10	1.62	<0.10	0.0814	<0.020	<0.030	<0.020
22	78/02/14	2.93	<0.0040	<0.10	1.30	<0.020	<0.10	<0.10	<0.10	1.73	<0.10	0.0825	<0.020	<0.030	<0.020
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1	78/03/28	2.60	<0.0040	<0.20	0.84	<0.20	<0.10	<0.10	<0.10	1.23	<0.10	0.0768	<0.020	<0.030	<0.020
2	78/03/28	2.58	<0.0040	<0.20	1.00	<0.20	<0.10	<0.10	<0.10	0.94	<0.10	0.0769	<0.020	<0.030	<0.020
3	78/03/28	4.31	0.0187	<0.20	3.67	<0.20	<0.10	<0.10	<0.10	2.24	<0.10	0.0982	<0.020	<0.030	<0.020
4	78/03/28	2.56	<0.0040	<0.20	1.06	<0.20	<0.10	<0.10	<0.10	1.13	<0.10	0.0767	<0.020	<0.030	0.035
5	78/03/28	2.62	<0.0040	<0.20	1.05	<0.20	<0.10	<0.10	<0.10	1.04	<0.10	0.0773	<0.020	<0.030	<0.020
6	78/03/28	2.51	<0.0040	<0.20	0.92	<0.20	<0.10	<0.10	<0.10	0.10	<0.10	0.0767	<0.020	<0.030	<0.020
7	78/03/28	2.63	<0.0040	<0.20	0.88	<0.20	<0.10	<0.10	<0.10	1.38	<0.10	0.0798	<0.020	<0.030	<0.020
18	78/03/28	2.63	<0.0040	<0.20	1.27	<0.20	<0.10	<0.10	<0.10	1.27	<0.10	0.0812	<0.020	<0.030	<0.020
19	78/03/28	3.04	0.0056	<0.20	1.95	<0.20	<0.10	<0.10	<0.10	3.27	<0.10	0.0937	<0.020	<0.030	<0.020
21	78/03/28	2.62	<0.0040	<0.20	0.93	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	0.0792	<0.020	<0.030	<0.020
22	78/03/28	2.61	<0.0040	<0.20	1.07	<0.20	<0.10	<0.10	<0.10	1.30	<0.10	0.0826	<0.020	<0.030	<0.020

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
May and June, 1978

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	78/05/24	2.37	<0.0040	<0.20	1.29	<0.20	<0.10	<0.10	<0.10	1.84	<0.10	0.0786	<0.010	<0.030	<0.020
8	78/05/24	2.57	<0.0040	<0.20	1.36	<0.20	<0.10	<0.10	<0.10	2.25	<0.10	0.0811	0.013	<0.030	<0.020
9	78/05/24	2.45	<0.0040	<0.20	1.46	<0.20	<0.10	<0.10	<0.10	2.12	<0.10	0.0799	0.011	<0.030	<0.020
10	78/05/24	2.74	<0.0040	<0.20	1.54	<0.20	<0.10	<0.10	<0.10	2.50	<0.10	0.0880	0.016	<0.030	<0.020
11	78/05/24	2.55	<0.0040	<0.20	1.85	<0.20	<0.10	<0.10	<0.10	3.00	<0.10	0.0801	0.023	<0.030	<0.020
12	78/05/24	2.55	<0.0040	<0.20	1.45	<0.20	<0.10	<0.10	<0.10	2.35	<0.10	0.0882	0.020	<0.030	<0.020
13	78/05/24	2.68	0.0077	<0.20	1.41	<0.20	<0.10	<0.10	<0.10	2.53	<0.10	0.0863	0.025	<0.030	<0.020
14	78/05/24	2.67	<0.0040	<0.20	1.64	<0.20	<0.10	<0.10	<0.10	2.51	<0.10	0.0879	0.024	<0.030	<0.020
15	78/05/24	2.49	<0.0040	<0.20	1.38	<0.20	<0.10	<0.10	<0.10	2.05	<0.10	0.0793	0.013	<0.030	<0.020
16	78/05/24	2.65	<0.0040	<0.20	1.44	<0.20	<0.10	<0.10	<0.10	2.43	<0.10	0.0875	0.018	<0.030	<0.020
17	78/05/24	2.49	<0.0040	<0.20	1.35	<0.20	<0.10	<0.10	<0.10	2.09	<0.10	0.0799	0.011	<0.030	<0.020
18	78/05/24	2.51	<0.0040	<0.20	1.41	<0.20	<0.10	<0.10	<0.10	2.03	<0.10	0.0825	<0.010	<0.030	<0.020
19	78/05/24	3.22	0.0491	<0.20	3.05	<0.20	<0.10	<0.10	<0.10	8.97	<0.10	0.105	0.169	<0.030	<0.020
21	78/05/24	2.68	0.0059	<0.20	2.26	<0.20	<0.10	<0.10	<0.10	3.92	<0.10	0.0900	0.034	<0.030	<0.020
22	78/05/24	2.64	<0.0040	<0.20	2.17	<0.20	<0.10	<0.10	<0.10	3.20	<0.10	0.0880	0.023	<0.030	<0.020
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1	78/06/13	2.15	<0.0040	<0.20	0.54	<0.20	<0.10	<0.10	<0.10	0.95	<0.10	0.0697	<0.010	<0.030	<0.020
8	78/06/13	2.28	<0.0040	<0.20	0.53	<0.20	<0.10	<0.10	<0.10	1.11	<0.10	0.0688	<0.010	<0.030	<0.020
9	78/06/13	2.15	<0.0040	<0.20	0.47	<0.20	<0.10	<0.10	<0.10	1.01	<0.10	0.0687	<0.010	<0.030	<0.020
10	78/06/13	2.29	<0.0040	<0.20	0.61	<0.20	<0.10	<0.10	<0.10	1.20	<0.10	0.0693	<0.010	<0.030	<0.020
11	78/06/13	2.19	<0.0040	<0.20	0.70	<0.20	<0.10	<0.10	<0.10	1.95	<0.10	0.0692	0.016	<0.030	<0.020
12	78/06/13	2.21	<0.0040	<0.20	0.86	<0.20	0.13	<0.10	<0.10	1.72	<0.10	0.0690	0.021	<0.030	<0.020
13	78/06/13	2.18	<0.0040	<0.20	0.60	<0.20	<0.10	<0.10	<0.10	1.39	<0.10	0.0656	0.015	<0.030	<0.020
14	78/06/13	2.30	<0.0040	<0.20	0.62	<0.20	<0.10	<0.10	<0.10	1.58	<0.10	0.0690	0.020	<0.030	<0.020
15	78/06/13	2.20	<0.0040	<0.20	0.60	<0.20	<0.10	<0.10	<0.10	1.32	<0.10	0.0673	0.015	<0.030	<0.020
16	78/06/13	2.28	0.0043	<0.20	0.80	<0.20	<0.10	<0.10	<0.10	1.93	<0.10	0.0694	0.023	<0.030	<0.020
17	78/06/13	2.15	<0.0040	<0.20	0.50	<0.20	<0.10	<0.10	<0.10	1.14	<0.10	0.0631	<0.010	<0.030	<0.020
18	78/06/13	2.12	<0.0040	<0.20	0.48	<0.20	<0.10	<0.10	<0.10	1.05	<0.10	0.0632	<0.010	<0.030	<0.020
19	78/06/13	2.40	0.0888	<0.20	0.98	<0.20	<0.10	<0.10	<0.10	9.08	<0.10	0.0507	0.261	<0.030	<0.020
21	78/06/13	2.13	<0.0040	<0.20	0.59	<0.20	<0.10	<0.10	<0.10	1.16	<0.10	0.0634	0.010	<0.030	<0.020
22	78/06/13	2.10	<0.0040	<0.20	0.43	<0.20	<0.10	<0.10	<0.10	1.02	<0.10	0.0620	<0.010	<0.030	<0.020

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
June and July, 1978

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	78/06/26	2.46	--	--	--	--	--	--	--	--	--	--	--	--	--
2	78/06/26	2.40	--	--	--	--	--	--	--	--	--	--	--	--	--
3	78/06/26	2.46	--	--	--	--	--	--	--	--	--	--	--	--	--
4	78/06/26	2.90	--	--	--	--	--	--	--	--	--	--	--	--	--
5	78/06/26	2.55	--	--	--	--	--	--	--	--	--	--	--	--	--
6	78/06/26	2.43	--	--	--	--	--	--	--	--	--	--	--	--	--
7	78/06/26	2.52	--	--	--	--	--	--	--	--	--	--	--	--	--
8	78/06/26	2.49	--	--	--	--	--	--	--	--	--	--	--	--	--
9	78/06/26	2.49	--	--	--	--	--	--	--	--	--	--	--	--	--
10	78/06/26	2.59	--	--	--	--	--	--	--	--	--	--	--	--	--
11	78/06/26	2.55	--	--	--	--	--	--	--	--	--	--	--	--	--
12	78/06/26	2.52	--	--	--	--	--	--	--	--	--	--	--	--	--
13	78/06/26	1.49	--	--	--	--	--	--	--	--	--	--	--	--	--
14	78/06/26	2.31	--	--	--	--	--	--	--	--	--	--	--	--	--
15	78/06/26	2.31	--	--	--	--	--	--	--	--	--	--	--	--	--
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1	78/07/17	2.21	0.136	<0.20	1.01	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	0.011	<0.030	0.038
8	78/07/17	2.30	0.0633	<0.20	0.98	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	0.039
9	78/07/17	2.28	0.0697	<0.20	0.99	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	0.040	<0.030	<0.020
10	78/07/17	2.48	0.0925	<0.20	1.04	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	<0.020
11	78/07/17	2.35	0.147	<0.20	0.94	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	<0.020
12	78/07/17	2.32	0.184	<0.20	1.00	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	0.049
13	78/07/17	2.39	0.127	<0.20	1.06	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	0.039
14	78/07/17	2.31	1.49	<0.20	1.21	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	0.412
15	78/07/17	2.35	0.520	<0.20	1.00	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	0.157
16	78/07/17	2.42	0.0504	<0.20	1.06	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	0.140
17	78/07/17	2.37	0.0885	<0.20	1.00	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	<0.020
18	78/07/17	2.35	<0.0040	<0.20	1.04	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	<0.010	<0.030	<0.020
19	78/07/17	1.38	0.328	<0.20	1.00	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	0.050	<0.030	<0.020
21	78/07/17	2.20	0.0276	<0.20	1.03	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	0.027	<0.030	<0.020
22	78/07/17	2.19	0.0309	<0.20	0.99	<0.20	<0.10	<0.10	<0.10	--	<0.10	--	0.025	<0.030	0.041

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
August, 1978

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	78/08/07	2.26	--	--	--	--	--	--	--	--	--	--	--	--	--
8	78/08/07	2.34	--	--	--	--	--	--	--	--	--	--	--	--	--
9	78/08/07	2.58	--	--	--	--	--	--	--	--	--	--	--	--	--
10	78/08/07	3.71	--	--	--	--	--	--	--	--	--	--	--	--	--
11	78/08/07	2.66	--	--	--	--	--	--	--	--	--	--	--	--	--
12	78/08/07	2.62	--	--	--	--	--	--	--	--	--	--	--	--	--
13	78/08/07	2.10	--	--	--	--	--	--	--	--	--	--	--	--	--
14	78/08/07	2.22	--	--	--	--	--	--	--	--	--	--	--	--	--
15	78/08/07	2.50	--	--	--	--	--	--	--	--	--	--	--	--	--
16	78/08/07	2.30	--	--	--	--	--	--	--	--	--	--	--	--	--
17	78/08/07	3.23	--	--	--	--	--	--	--	--	--	--	--	--	--
18	78/08/07	2.34	--	--	--	--	--	--	--	--	--	--	--	--	--
19	78/08/07	1.74	--	--	--	--	--	--	--	--	--	--	--	--	--
21	78/08/07	2.10	--	--	--	--	--	--	--	--	--	--	--	--	--
22	78/08/07	2.10	--	--	--	--	--	--	--	--	--	--	--	--	--
* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
1	78/08/29	2.14	0.0133	<0.20	1.26	<0.20	<0.10	<0.10	<0.10	1.61	<0.10	0.0757	<0.010	<0.030	<0.020
8	78/08/29	2.17	0.0060	<0.20	1.21	<0.20	<0.10	<0.10	<0.10	1.54	<0.10	0.0766	<0.010	<0.030	<0.020
9	78/08/29	2.16	0.0287	<0.20	1.21	<0.20	<0.10	<0.10	<0.10	1.51	<0.10	0.0756	<0.010	<0.030	<0.020
10	78/08/29	2.45	0.0127	<0.20	1.33	<0.20	<0.10	<0.10	<0.10	1.82	<0.10	0.0817	<0.010	<0.030	<0.020
11	78/08/29	2.16	0.0076	<0.20	1.25	<0.20	<0.10	<0.10	<0.10	1.55	<0.10	0.0762	<0.010	<0.030	<0.020
12	78/08/29	2.17	0.0126	<0.20	1.23	<0.20	<0.10	<0.10	<0.10	1.54	<0.10	0.0769	<0.010	<0.030	<0.020
13	78/08/29	2.24	0.0102	<0.20	1.33	<0.20	<0.10	<0.10	<0.10	1.63	<0.10	0.0790	<0.010	<0.030	<0.020
14	78/08/29	2.21	0.0092	<0.20	1.24	<0.20	<0.10	<0.10	<0.10	1.57	<0.10	0.0730	<0.010	<0.030	<0.020
15	78/08/29	2.16	0.0107	<0.20	1.31	<0.20	<0.10	<0.10	<0.10	1.57	<0.10	0.0764	<0.010	<0.030	<0.020
16	78/08/29	2.20	0.0073	<0.20	1.23	<0.20	<0.10	<0.10	<0.10	1.51	<0.10	0.0765	<0.010	<0.030	<0.020
17	78/08/29	2.16	0.0106	<0.20	1.31	<0.20	<0.10	<0.10	<0.10	1.55	<0.10	0.0782	<0.010	<0.030	<0.020
18	78/08/29	2.17	0.0078	<0.20	1.27	<0.20	<0.10	<0.10	<0.10	1.52	<0.10	0.0762	<0.010	<0.030	<0.020
19	78/08/29	1.01	0.0174	<0.20	1.27	<0.20	<0.10	<0.10	<0.10	2.61	<0.10	0.0356	0.024	<0.030	<0.020
21	78/08/29	--	--	--	--	--	--	--	---	--	--	--	--	--	--
22	78/08/29	1.93	0.0459	<0.20	1.28	<0.20	<0.10	<0.10	<0.10	1.87	<0.10	0.0683	<0.010	<0.030	<0.020

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
December, 1978

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	78/12/06	2.90	0.0177	<0.15	0.88	<0.080	<0.090	<0.08	<0.15	--	<0.20	0.0754	<0.0090	<0.090	<0.045
8	78/12/06	3.47	0.1120	<0.15	0.89	<0.080	<0.090	<0.08	<0.15	--	<0.20	0.0781	0.0250	<0.090	<0.045
9	78/12/06	4.13	0.1260	<0.15	0.97	<0.080	<0.090	<0.08	<0.15	--	<0.20	0.0851	0.0370	<0.090	<0.045
10	78/12/06	2.94	0.0101	<0.15	0.85	<0.080	<0.090	<0.08	<0.15	--	<0.20	0.0773	<0.0090	<0.090	<0.045
11	78/12/06	2.95	0.0103	<0.15	0.90	<0.080	<0.090	<0.08	<0.15	--	<0.20	0.0774	<0.0090	<0.090	<0.045
12	78/12/06	3.14	0.0110	<0.15	0.90	<0.080	<0.090	<0.08	<0.15	--	<0.20	0.0792	<0.0090	<0.090	<0.045
13	78/12/06	2.99	<0.0040	<0.15	0.91	<0.080	<0.090	<0.08	<0.15	--	<0.20	0.0769	<0.0090	<0.090	<0.045
14	78/12/06	12.10	<0.0040	<0.15	4.17	<0.080	<0.090	<0.08	<0.15	--	<0.20	0.207	<0.0090	<0.090	<0.045
17	78/12/06	3.13	0.0380	<0.15	0.95	<0.080	<0.090	<0.08	<0.15	--	<0.20	0.0778	0.0150	<0.090	<0.045
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1	78/12/20	2.95	0.1000	<0.15	0.84	<0.080	<0.090	<0.08	<0.15	1.38	<0.20	0.0754	<0.0090	<0.090	<0.045
8	78/12/20	3.06	0.0774	<0.15	0.93	<0.080	<0.090	<0.08	<0.15	1.61	<0.20	0.0779	<0.0090	<0.090	<0.045
9	78/12/20	4.24	0.4900	<0.15	0.92	<0.080	<0.090	<0.08	<0.15	3.27	<0.20	0.0903	0.0330	<0.090	<0.045
10	78/12/20	2.80	0.0462	<0.15	0.89	<0.080	<0.090	<0.08	<0.15	1.47	<0.20	0.0753	<0.0090	<0.090	<0.045
11	78/12/20	2.76	0.0181	<0.15	0.87	<0.080	<0.090	<0.08	<0.15	1.45	<0.20	0.0745	<0.0090	<0.090	<0.045
12	78/12/20	2.97	0.0166	<0.15	0.90	<0.080	<0.090	<0.08	<0.15	1.58	<0.20	0.0783	<0.0090	<0.090	<0.045
13	78/12/20	2.96	0.0125	<0.15	0.87	<0.080	<0.090	<0.08	<0.15	1.51	<0.20	0.0770	<0.0090	<0.090	<0.045
14	78/12/20	2.89	<0.0040	<0.15	0.87	<0.080	<0.090	<0.08	<0.15	1.46	<0.20	0.0762	<0.0090	<0.090	<0.045

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
January and February, 1979

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	79/01/17	2.85	0.0625	<0.15	0.93	<0.080	<0.090	<0.080	---	1.37	<0.20	0.0759	<0.0090	<0.090	<0.045
8	79/01/17	5.86	0.0263	<0.15	1.02	<0.080	<0.090	<0.080	---	5.23	<0.20	0.1050	0.0440	<0.090	<0.045
9	79/01/17	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	79/01/17	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	79/01/17	3.46	0.0101	<0.15	1.06	<0.080	<0.090	<0.080	---	1.76	<0.20	0.0918	<0.0090	<0.090	<0.045
12	79/01/17	3.37	0.0091	<0.15	1.03	<0.080	<0.090	<0.080	---	1.74	<0.20	0.0898	<0.0090	<0.090	<0.045
13	79/01/17	3.57	0.0489	<0.15	0.97	<0.080	<0.090	<0.080	---	2.50	<0.20	0.0845	0.0260	<0.090	<0.045
14	79/01/17	2.94	0.0071	<0.15	1.11	<0.080	<0.090	<0.080	---	1.46	<0.20	0.0765	<0.0090	<0.090	<0.045
15	79/01/17	3.28	0.0202	<0.15	1.06	<0.080	<0.090	<0.080	---	2.04	<0.20	0.0807	0.0150	<0.090	<0.045
16	79/01/17	3.04	0.0077	<0.15	0.98	<0.080	<0.090	<0.080	---	1.52	<0.20	0.0801	<0.0090	<0.090	<0.045
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1	79/02/21	2.52	0.158	<0.15	1.03	<0.080	<0.090	<0.080	---	1.35	<0.20	0.0681	<0.0090	<0.090	<0.045
8	79/02/21	3.25	0.0117	<0.15	1.24	<0.080	<0.090	<0.080	---	1.75	<0.20	0.0947	<0.0090	<0.090	<0.045
9	79/02/21	2.61	<0.0040	<0.15	0.98	<0.080	<0.090	<0.080	---	1.90	<0.20	0.0695	<0.0090	<0.090	<0.045
10	79/02/21	3.09	0.0401	<0.15	1.03	<0.080	<0.090	<0.080	---	1.55	<0.20	0.0717	0.0230	<0.090	<0.045
11	79/02/21	2.75	0.0101	<0.15	1.01	<0.080	<0.090	<0.080	---	1.40	<0.20	0.0743	<0.0090	<0.090	<0.045
12	79/02/21	2.60	0.131	<0.15	1.15	<0.080	<0.090	<0.080	---	1.40	<0.20	0.0811	0.0760	<0.090	<0.045
13	79/02/21	2.69	<0.0040	<0.15	1.02	<0.080	<0.090	<0.080	---	1.45	<0.20	0.0633	<0.0090	<0.090	1.54
14	79/02/21	2.63	0.0059	<0.15	0.97	<0.080	<0.090	<0.080	---	1.40	<0.20	0.0670	<0.0090	<0.090	<0.045
15	79/02/21	2.77	0.0052	<0.15	0.97	<0.080	<0.090	<0.080	---	1.40	<0.20	0.0681	0.0100	<0.090	<0.045
16	79/02/21	2.70	<0.0040	<0.15	0.95	<0.080	<0.090	<0.080	---	1.40	<0.20	0.0650	<0.0090	<0.090	<0.045

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
April and May, 1979

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	79/04/05	2.41	0.0188	<0.15	0.95	<0.080	<0.080	<0.080	<0.15	1.31	---	0.0769	<0.0090	<0.050	<0.020
8	79/04/05	2.71	0.0234	<0.15	1.01	<0.080	<0.080	<0.080	<0.15	1.32	---	0.0788	0.0170	<0.050	<0.020
9	79/04/05	2.43	<0.0030	<0.15	0.96	<0.080	<0.080	<0.080	<0.15	1.32	---	0.0762	<0.0090	<0.050	<0.020
10	79/04/05	2.69	0.0038	<0.15	1.11	<0.080	<0.080	<0.080	<0.15	1.58	---	0.0823	<0.0090	<0.050	<0.020
11	79/04/05	2.54	0.0178	<0.15	1.01	<0.080	<0.080	<0.080	<0.15	1.32	---	0.0770	<0.0090	<0.050	<0.020
12	79/04/05	2.42	0.0034	<0.15	0.97	<0.080	<0.080	<0.080	<0.15	1.32	---	0.0766	<0.0090	<0.050	<0.020
13	79/04/05	2.64	0.0035	<0.15	1.02	<0.080	<0.080	<0.080	<0.15	1.58	---	0.0802	<0.0090	<0.050	<0.020
14	79/04/05	2.45	0.0053	<0.15	1.00	<0.080	<0.080	<0.080	<0.15	1.40	---	0.0769	<0.0090	<0.050	<0.020
15	79/04/05	2.42	<0.0030	<0.15	1.05	<0.080	<0.080	<0.080	<0.15	1.40	---	0.0774	<0.0090	<0.050	<0.020
16	79/04/05	2.48	0.0065	<0.15	1.13	<0.080	<0.080	<0.080	<0.15	1.45	---	0.0779	<0.0090	<0.050	<0.020
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1	79/05/29	2.56	0.0130	<0.15	0.77	<0.080	<0.080	<0.080	<0.15	1.40	<0.20	0.0754	0.0100	<0.050	<0.020
8	79/05/29	2.56	0.0125	<0.15	0.75	<0.080	<0.080	<0.080	<0.15	1.40	<0.20	0.0762	0.0090	<0.050	<0.020
9	79/05/29	2.56	0.0120	<0.15	0.66	<0.080	<0.080	<0.080	<0.15	1.30	<0.20	0.0744	0.0100	<0.050	<0.020
10	79/05/29	2.50	0.0156	<0.15	0.60	<0.080	<0.080	<0.080	<0.15	1.50	<0.20	0.0780	0.0120	<0.050	<0.020
11	79/05/29	3.05	0.0123	<0.15	0.44	<0.080	<0.080	<0.080	<0.15	1.30	<0.20	0.0699	0.0100	<0.050	<0.020
12	79/05/29	3.05	0.0121	<0.15	0.41	<0.080	<0.080	<0.080	<0.15	1.30	<0.20	0.0682	0.0100	<0.050	<0.020
13	79/05/29	3.05	0.0126	<0.15	0.42	<0.080	<0.080	<0.080	<0.15	1.30	<0.20	0.0687	0.0090	<0.050	<0.020
14	79/05/29	2.56	0.0123	<0.15	0.35	<0.080	<0.080	<0.080	<0.15	1.40	<0.20	0.0654	0.0100	<0.050	<0.020
15	79/05/29	2.56	0.0113	<0.15	0.32	<0.080	<0.080	<0.080	<0.15	1.30	<0.20	0.0627	0.0090	<0.050	<0.020
16	79/05/29	2.56	0.0166	<0.15	0.33	<0.080	<0.080	<0.080	<0.15	1.30	<0.20	0.0650	0.0130	<0.050	<0.020
17	79/05/29	3.05	0.0123	<0.15	0.29	<0.080	<0.080	<0.080	<0.15	1.30	<0.20	0.0616	0.0090	<0.050	<0.020
18	79/05/29	2.56	0.0111	<0.15	0.29	<0.080	<0.080	<0.080	<0.16	1.30	<0.20	0.0616	<0.0090	<0.050	<0.020
19	79/05/29	2.56	0.0635	<0.15	0.58	<0.080	<0.080	<0.080	<0.15	2.58	<0.20	0.0682	0.0770	<0.050	<0.020
21	79/05/29	3.05	0.0219	<0.15	0.39	<0.080	<0.080	<0.080	<0.15	1.70	<0.20	0.0662	0.0250	<0.050	<0.020

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
June and July, 1979

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	79/06/12	2.81	0.0175	<0.15	1.07	<0.080	<0.080	<0.080	<0.15	1.40	---	0.0766	0.0140	<0.050	<0.020
8	79/06/12	2.78	0.0119	<0.15	1.18	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0784	0.0240	<0.050	<0.020
9	79/06/12	2.71	0.0075	<0.15	1.01	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0755	<0.0090	<0.050	<0.020
10	79/06/12	3.00	0.0142	<0.15	1.05	<0.080	<0.080	<0.080	<0.15	1.58	---	0.0794	0.0130	<0.050	<0.020
11	79/06/12	2.97	0.0330	<0.15	1.13	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0780	0.0260	<0.050	<0.020
12	79/06/12	2.81	0.0080	<0.15	0.91	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0746	<0.0090	<0.050	<0.020
13	79/06/12	2.86	0.0117	<0.15	1.03	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0763	0.0140	<0.050	<0.020
14	79/06/12	3.21	0.0622	<0.15	1.03	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0798	0.0350	<0.050	<0.020
15	79/06/12	2.90	0.0084	<0.15	0.93	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0759	<0.0090	<0.050	<0.020
16	79/06/12	3.10	0.0254	<0.15	1.02	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0788	0.0160	<0.050	<0.020
17	79/06/12	2.94	0.0100	<0.15	1.03	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0778	0.0100	<0.050	<0.020
18	79/06/12	2.96	0.0107	<0.15	0.95	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0772	0.0090	<0.050	<0.020
19	79/06/12	1.88	0.0344	<0.15	1.21	<0.080	<0.080	<0.080	<0.15	2.10	---	0.0501	0.0390	<0.050	<0.020
21	79/06/12	2.82	0.0178	<0.15	1.02	<0.080	<0.080	<0.080	<0.15	1.58	---	0.0724	0.0220	<0.050	<0.020
22	79/06/12	2.96	0.0088	<0.15	0.94	<0.080	<0.080	<0.080	<0.15	1.50	---	0.0768	<0.0090	<0.050	<0.020
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1	79/07/16	2.76	0.0054	<0.15	1.13	<0.080	<0.080	<0.080	<0.15	1.25	<0.20	0.0775	<0.0090	<0.050	<0.020
8	79/07/16	2.80	0.0076	<0.15	1.31	<0.080	<0.080	<0.080	<0.15	1.25	<0.20	0.0799	<0.0090	<0.050	<0.020
9	79/07/16	2.74	0.0068	<0.15	1.18	<0.080	<0.080	<0.080	<0.15	1.25	<0.20	0.0771	<0.0090	<0.050	<0.020
10	79/07/16	3.22	0.0183	<0.15	1.34	<0.080	<0.080	<0.080	<0.15	1.25	<0.20	0.0855	0.0190	<0.050	<0.020
11	79/07/16	2.79	0.0074	<0.15	1.21	<0.080	<0.080	<0.080	<0.15	1.25	<0.20	0.0792	<0.0090	<0.050	<0.020
12	79/07/16	2.76	0.0065	<0.15	1.32	<0.080	<0.080	<0.080	<0.15	1.25	<0.20	0.0796	<0.0090	<0.050	<0.020
13	79/07/16	2.80	0.0069	<0.15	1.34	<0.080	<0.080	<0.080	<0.15	1.25	<0.20	0.0802	<0.0090	<0.050	<0.020
14	79/07/16	2.77	0.0071	<0.15	1.32	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0795	<0.0090	<0.050	<0.020
15	79/07/16	2.77	0.0069	<0.15	1.14	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0776	0.0090	<0.050	<0.020
16	79/07/16	2.79	0.0079	<0.15	1.20	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0781	<0.0090	<0.050	<0.020
17	79/07/16	2.79	0.0071	<0.15	1.22	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0788	<0.0090	<0.050	<0.020
18	79/07/16	2.80	0.0066	<0.15	1.19	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0787	<0.0090	<0.050	<0.020
19	79/07/16	1.80	0.0342	<0.15	1.27	<0.080	<0.080	<0.080	<0.15	1.60	<0.20	0.0455	0.0510	<0.050	<0.020
21	79/07/16	2.51	0.0198	<0.15	1.12	<0.080	<0.080	<0.080	<0.15	1.35	<0.20	0.0662	0.0290	<0.050	<0.020
22	79/07/16	2.74	0.0058	<0.15	1.12	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0766	<0.0090	<0.050	<0.020

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)

August and September, 1979

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	79/08/13	2.43	0.0034	<0.15	0.98	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0702	<0.0090	<0.050	<0.020
8	79/08/13	2.43	0.0031	<0.15	0.94	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0699	<0.0090	<0.050	<0.020
9	79/08/13	2.45	0.0033	<0.15	0.96	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0703	<0.0090	<0.050	<0.020
10	79/08/13	2.60	0.0046	<0.15	0.98	<0.080	<0.080	<0.080	<0.15	1.35	<0.20	0.0727	<0.0090	<0.050	<0.020
11	79/08/13	2.48	0.0045	<0.15	0.87	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0694	<0.0090	<0.050	<0.020
12	79/08/13	2.50	0.0042	<0.15	0.94	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0704	<0.0090	<0.050	<0.020
13	79/08/13	2.55	0.0046	<0.15	0.80	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0699	<0.0090	<0.050	<0.020
14	79/08/13	2.52	0.0044	<0.15	0.92	<0.080	<0.080	<0.080	<0.15	1.35	<0.20	0.0707	<0.0090	<0.050	<0.020
15	79/08/13	2.52	0.0044	<0.15	0.90	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0708	<0.0090	<0.050	<0.020
16	79/08/13	2.54	0.0047	<0.15	0.94	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0714	<0.0090	<0.050	<0.020
17	79/08/13	2.49	0.0041	<0.15	0.97	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0707	<0.0090	<0.050	<0.020
18	79/08/13	2.49	0.0042	<0.15	0.93	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0706	<0.0090	<0.050	<0.020
19	79/08/13	1.27	0.0190	<0.15	1.07	<0.080	<0.080	<0.080	<0.15	1.95	<0.20	0.0358	0.0330	<0.050	<0.020
21	79/08/13	2.26	0.0082	<0.15	0.90	<0.080	<0.080	<0.080	<0.15	1.42	<0.20	0.0636	0.0120	<0.050	<0.020
22	79/08/13	2.45	0.0044	<0.15	0.97	<0.080	<0.080	<0.080	<0.15	1.29	<0.20	0.0703	<0.0090	<0.050	<0.020
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1	79/09/27	2.47	0.0031	<0.15	1.02	<0.080	<0.080	<0.080	<0.15	1.10	<0.20	0.0674	<0.0090	<0.050	<0.020
8	79/09/27	2.52	0.0031	<0.15	0.92	<0.080	<0.080	<0.080	<0.15	1.10	<0.20	0.0672	<0.0090	<0.050	<0.020
9	79/09/27	2.52	0.0030	<0.15	0.92	<0.080	<0.080	<0.080	<0.15	1.10	<0.20	0.0672	<0.0090	<0.050	<0.020
10	79/09/27	2.78	0.0073	<0.15	0.97	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0699	<0.0090	<0.050	<0.020
11	79/09/27	2.54	0.0035	<0.15	1.01	<0.080	<0.080	<0.080	<0.15	1.10	<0.20	0.0681	<0.0090	<0.050	<0.020
12	79/09/27	2.52	<0.0030	<0.15	0.93	<0.080	<0.080	<0.080	<0.15	1.10	<0.20	0.0670	<0.0090	<0.050	<0.020
13	79/09/27	2.57	0.0045	<0.15	0.95	<0.080	<0.080	<0.080	<0.15	1.10	<0.20	0.0681	<0.0090	<0.050	<0.020
14	79/09/27	2.55	0.0031	<0.15	0.88	<0.080	<0.080	<0.080	<0.15	1.10	<0.20	0.0676	<0.0090	<0.050	<0.020
15	79/09/27	2.55	0.0030	<0.15	0.90	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0675	<0.0090	<0.050	<0.020
16	79/09/27	2.55	0.0032	<0.15	0.92	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0675	<0.0090	<0.050	<0.020
17	79/09/27	2.53	<0.0030	<0.15	0.99	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0683	<0.0090	<0.050	<0.020
18	79/09/27	2.54	<0.0030	<0.15	0.92	<0.080	<0.080	<0.080	<0.15	1.20	<0.20	0.0681	<0.0090	<0.050	<0.020
19	79/09/27	1.27	0.0108	<0.15	1.02	<0.080	<0.080	<0.080	<0.15	1.70	<0.20	0.0359	0.0210	<0.050	<0.020
21	79/09/27	2.40	0.0049	<0.15	0.96	<0.080	<0.080	<0.080	<0.15	1.10	<0.20	0.0647	<0.0090	<0.050	<0.020
22	79/09/27	2.55	0.0033	<0.15	0.87	<0.080	<0.080	<0.080	<0.15	1.10	<0.20	0.0671	<0.0090	<0.050	<0.020

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
December, 1979 and January and February, 1980

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	79/12/05	2.82	0.0780	<0.15	1.11	<0.080	<0.080	<0.080	<0.15	1.49	<0.20	0.0746	<0.0085	<0.050	0.035
8	79/12/05	2.87	0.0154	<0.15	1.09	<0.080	<0.080	<0.080	<0.15	1.49	<0.20	0.0760	<0.0085	<0.050	<0.020
11	79/12/05	3.28	0.0128	<0.15	1.38	<0.080	<0.080	<0.080	<0.15	1.80	<0.20	0.0875	<0.0085	<0.050	<0.020
18	79/12/05	2.96	0.0108	<0.15	1.15	<0.080	<0.080	<0.080	<0.15	1.53	<0.20	0.0765	<0.0085	<0.050	<0.020
19	79/12/05	1.92	0.331	<0.15	1.49	<0.080	<0.080	<0.080	<0.15	2.63	<0.20	0.0550	0.0119	<0.050	<0.020
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1	80/01/16	2.75	0.0055	<0.15	1.09	<0.080	<0.080	<0.080	<0.15	1.47	<0.20	0.0753	<0.0085	<0.050	<0.020
11	80/01/16	2.84	0.0056	<0.15	1.13	<0.080	<0.080	<0.080	<0.15	1.51	<0.20	0.0781	<0.0085	<0.050	<0.020
12	80/01/16	3.19	0.0168	<0.15	1.17	<0.080	<0.080	<0.080	<0.15	1.60	<0.20	0.0823	0.0124	<0.050	<0.020
13	80/01/16	2.92	0.0149	<0.15	1.14	<0.080	<0.080	<0.080	<0.15	1.55	<0.20	0.0787	<0.0085	<0.050	<0.020
17	80/01/16	3.68	0.0688	<0.15	1.28	<0.080	<0.080	<0.080	<0.15	1.81	<0.20	0.0848	0.0398	<0.050	<0.020
18	80/01/16	2.88	0.0044	<0.15	1.17	<0.080	<0.080	<0.080	<0.15	1.52	<0.20	0.0792	<0.0085	<0.050	<0.020
20	80/01/16	3.65	0.0615	<0.15	1.29	<0.080	<0.080	<0.080	<0.15	2.00	<0.20	0.0836	0.0468	<0.050	<0.020
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1	80/02/29	2.53	0.0031	<0.15	0.881	<0.080	<0.080	<0.080	<0.15	1.70	<0.20	0.0713	<0.0085	<0.050	<0.020
11	80/02/29	2.59	0.0039	<0.15	0.936	<0.080	<0.080	<0.080	<0.15	1.56	<0.20	0.0723	<0.0085	<0.050	<0.020
12	80/02/29	2.71	0.0192	<0.15	0.974	<0.080	<0.080	<0.080	<0.15	1.83	<0.20	0.0734	0.0101	<0.050	<0.020
13	80/02/29	2.75	0.0248	<0.15	1.030	<0.080	<0.080	<0.080	<0.15	1.76	<0.20	0.0753	0.0090	<0.050	<0.020
17	80/02/29	2.70	0.0037	<0.15	1.060	<0.080	<0.080	<0.080	<0.15	1.74	<0.20	0.0748	<0.0085	<0.050	<0.020
18	80/02/29	2.70	0.0078	<0.15	1.030	<0.080	<0.080	<0.080	<0.15	1.74	<0.20	0.0749	<0.0085	<0.050	<0.020
20	80/02/29	2.72	0.0050	<0.15	1.130	<0.080	<0.080	<0.080	<0.15	2.05	<0.20	0.0749	<0.0085	<0.050	<0.020

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
May, June, and July, 1980

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	80/05/21	2.94	0.0086	<0.15	1.13	<0.080	<0.080	<0.080	<0.15	1.51	<0.20	0.0777	0.0092	<0.050	<0.020
11	80/05/21	2.98	0.0086	<0.15	1.33	<0.080	<0.080	<0.080	<0.15	1.52	<0.20	0.0792	<0.0085	<0.050	<0.020
12	80/05/21	3.02	0.0093	<0.15	1.19	<0.080	<0.080	<0.080	<0.15	1.50	<0.20	0.0789	<0.0085	<0.050	<0.020
13	80/05/21	2.98	0.0088	<0.15	1.34	<0.080	<0.080	<0.080	<0.15	1.50	<0.20	0.0788	<0.0085	<0.050	<0.020
17	80/05/21	3.06	0.0100	<0.15	1.25	<0.080	<0.080	<0.080	<0.15	1.49	<0.20	0.0793	0.0090	<0.050	<0.020
18	80/05/21	3.11	0.0101	<0.15	1.22	<0.080	<0.080	<0.080	<0.15	1.46	<0.20	0.0798	0.0090	<0.050	<0.020
20	80/05/21	3.12	0.0109	<0.15	1.29	<0.080	<0.080	<0.080	<0.15	1.58	<0.20	0.0803	0.0117	<0.050	<0.020
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1	80/06/19	2.47	0.0142	<0.15	1.13	<0.080	<0.080	<0.080	<0.15	<0.50	<0.20	0.0723	<0.0085	<0.050	<0.020
11	80/06/19	2.69	0.0134	<0.15	1.24	<0.080	<0.080	<0.080	<0.15	<0.50	<0.20	0.0760	<0.0085	<0.050	<0.020
12	80/06/19	2.49	0.0097	<0.15	1.13	<0.080	<0.080	<0.080	<0.15	<0.50	<0.20	0.0727	<0.0085	<0.050	<0.020
13	80/06/19	2.51	0.0119	<0.15	1.18	<0.080	<0.080	<0.080	<0.15	<0.50	<0.20	0.0751	<0.0085	<0.050	<0.020
17	80/06/19	2.51	0.0064	<0.15	1.14	<0.080	<0.080	<0.080	<0.15	<0.50	<0.20	0.0747	<0.0085	<0.050	<0.020
18	80/06/19	2.50	0.0062	<0.15	1.14	<0.080	<0.080	<0.080	<0.15	<0.50	<0.20	0.0736	<0.0085	<0.050	<0.020
20	80/06/19	2.16	0.0216	<0.15	1.18	<0.080	<0.080	<0.080	<0.15	<0.50	<0.20	0.0619	0.0309	<0.050	<0.020
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1	80/07/15	2.23	0.0049	<0.15	1.20	<0.080	<0.080	<0.080	<0.15	1.36	<0.20	0.0747	<0.0085	<0.050	<0.020
11	80/07/15	2.28	0.0052	<0.15	1.16	<0.080	<0.080	<0.080	<0.15	1.40	<0.20	0.0752	<0.0085	<0.050	<0.020
12	80/07/15	2.27	0.0050	<0.15	1.26	<0.080	<0.080	<0.080	<0.15	1.42	<0.20	0.0766	<0.0085	<0.050	<0.020
13	80/07/15	2.25	0.0056	<0.15	1.25	<0.080	<0.080	<0.080	<0.15	1.39	<0.20	0.0756	<0.0085	<0.050	<0.020
17	80/07/15	2.27	0.0409	<0.15	1.31	<0.080	<0.080	<0.080	<0.15	1.40	<0.20	0.0767	<0.0085	<0.050	<0.020
18	80/07/15	2.24	0.0055	<0.15	1.30	<0.080	<0.080	<0.080	<0.15	1.38	<0.20	0.0764	<0.0085	<0.050	<0.020
20	80/07/15	1.90	0.0110	<0.15	1.18	<0.080	<0.080	<0.080	<0.15	1.57	<0.20	0.0637	0.0172	<0.050	<0.020

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
August, September and October, 1980

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	80/08/14	2.22	0.0083	<0.15	1.10	<0.080	<0.080	<0.080	<0.15	1.32	<0.20	0.0672	<0.0085	<0.050	<0.020
7	80/08/14	2.25	0.0045	<0.15	1.04	<0.080	<0.080	<0.080	<0.157	1.33	<0.20	0.0681	<0.0085	<0.050	<0.020
11	80/08/14	2.33	0.0048	<0.15	1.03	<0.080	<0.080	<0.080	<0.15	1.35	<0.20	0.0706	<0.0085	<0.050	<0.020
12	80/08/14	2.38	0.0053	<0.15	0.965	<0.080	<0.080	<0.080	<0.15	1.33	<0.20	0.0713	<0.0085	<0.050	<0.020
13	80/08/14	2.32	0.0052	<0.15	1.05	<0.080	<0.080	<0.080	<0.15	1.31	<0.20	0.0689	<0.0085	<0.050	<0.020
17	80/08/14	2.36	0.0055	<0.15	1.04	<0.080	<0.080	<0.080	<0.15	1.32	<0.20	0.0703	<0.0085	<0.050	<0.020
18	80/08/14	2.40	0.0056	<0.15	1.09	<0.080	<0.080	<0.080	<0.15	1.32	<0.20	0.0703	<0.0085	<0.050	<0.020
20	80/08/14	2.06	0.0101	<0.15	1.06	<0.080	<0.080	<0.080	<0.15	1.49	<0.20	0.0600	0.0178	<0.050	<0.020
1	80/09/12	2.28	0.0069	<0.15	1.04	<0.080	<0.080	<0.080	<0.15	1.38	<0.20	0.0692	<0.0085	<0.050	<0.020
7	80/09/12	2.29	<0.0030	<0.15	1.03	<0.080	<0.080	<0.080	<0.15	1.38	<0.20	0.0691	<0.0085	<0.050	<0.020
11	80/09/12	2.40	0.0056	<0.15	1.08	<0.080	<0.080	<0.080	<0.15	1.39	<0.20	0.0712	<0.0085	<0.050	<0.020
12	80/09/12	2.35	<0.0030	<0.15	1.07	<0.080	<0.080	<0.080	<0.15	1.39	<0.20	0.0704	<0.0085	<0.050	<0.020
13	80/09/12	2.35	0.0051	<0.15	1.06	<0.080	<0.080	<0.080	<0.15	1.36	<0.20	0.0709	<0.0085	<0.050	<0.020
17	80/09/12	2.37	<0.0030	<0.15	1.04	<0.080	<0.080	<0.080	<0.15	1.38	<0.20	0.0708	<0.0085	<0.050	<0.020
18	80/09/12	2.33	<0.0030	<0.15	1.04	<0.080	<0.080	<0.080	<0.15	1.38	<0.20	0.0699	<0.0085	<0.050	<0.020
20	80/09/12	2.15	0.0167	<0.15	1.07	<0.080	<0.080	<0.080	<0.15	1.54	<0.20	0.0651	<0.0085	<0.050	<0.020
1	80/10/22	2.65	0.0055	<0.15	0.972	<0.080	<0.080	<0.080	<0.15	1.43	<0.20	0.0714	<0.0085	<0.050	<0.020
7	80/10/22	2.72	<0.0030	<0.15	0.993	<0.080	<0.080	<0.080	<0.15	1.44	<0.20	0.0722	<0.0085	<0.050	<0.020
11	80/10/22	2.86	0.0076	<0.15	0.991	<0.080	<0.080	<0.080	<0.15	1.54	<0.20	0.0739	0.0100	<0.050	<0.020
12	80/10/22	2.68	<0.0030	<0.15	0.989	<0.080	<0.080	<0.080	<0.15	1.44	<0.20	0.0721	<0.0085	<0.050	<0.020
13	80/10/22	2.69	<0.0030	<0.15	0.989	<0.080	<0.080	<0.080	<0.15	1.47	<0.20	0.0722	<0.0085	<0.050	<0.020
18	80/10/22	2.71	0.0059	<0.15	0.979	<0.080	<0.080	<0.080	<0.15	1.46	<0.20	0.0724	<0.0085	<0.050	<0.020
20	80/10/22	2.47	0.0066	<0.15	0.991	<0.080	<0.080	<0.080	<0.15	1.62	<0.20	0.0656	0.0104	<0.050	<0.020

APPENDIX II TABLE 4 YUKON RIVER EXTRACTABLE METALS DATA FOR 1977 THROUGH 1980 INCLUSIVE [Mg to Zn in mg/l] (continued)
November, 1980

STATION	DATE YR/MO/DA	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	V	Zn
1	80/11/25	2.78	0.0084	<0.15	1.07	<0.080	<0.080	<0.080	<0.15	1.28	<0.20	0.0740	<0.0085	<0.050	0.025
7	80/11/25	2.86	0.0059	<0.15	1.06	<0.080	<0.080	<0.080	<0.15	1.34	<0.20	0.0751	<0.0085	<0.050	<0.020
11	80/11/25	2.96	0.0063	<0.15	1.10	<0.080	<0.080	<0.080	<0.15	1.30	<0.20	0.0770	<0.0085	<0.050	<0.020
12	80/11/25	2.95	0.0065	<0.15	1.10	<0.080	<0.080	<0.080	<0.15	1.30	<0.20	0.0774	<0.0085	<0.050	<0.020
13	80/11/25	2.94	0.0109	<0.15	1.11	<0.080	<0.080	<0.080	<0.15	1.33	<0.20	0.0772	<0.0085	<0.050	<0.020
17	80/11/25	3.04	0.0102	<0.15	1.14	<0.080	<0.080	<0.080	<0.15	1.33	<0.20	0.0787	<0.0085	<0.050	<0.020
18	80/11/25	3.02	0.0095	<0.15	1.14	<0.080	<0.080	<0.080	<0.15	1.34	<0.20	0.0779	<0.0085	<0.050	<0.020
20	80/11/25	2.76	0.0099	<0.15	1.27	<0.080	<0.080	<0.080	<0.15	1.58	<0.20	0.0723	0.0085	<0.050	<0.020