



Curragh
Resources Inc.

020432

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December 30th, 1987

Mr. R.A. Steers,
Yukon Territory Water Board,
Suite 200 - 4114 Fourth Avenue,
Whitehorse, Yukon,
Y1A 4N7

Dear Mr. Steers:

I enclose the sample data for November 1987 and results from a bioassay at X5.

Ammonia at X5 remains high. The monthly mean was within acceptable limits but one sample was above the limit.

Cyanide at X5 also continues to be a problem, testing continues to solve this.

Even with the high ammonia and cyanide, the bioassay shows the discharge at this point to be notoxic.

Other analyses appear to fall within normal ranges.

Yours truly,

D.E. Wright
Chief Assayer
DEW/nn
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CURRAGH RESOURCES

WATER ANALYSIS - MONTHLY MEAN

Sample Period *November 1987*

Sample Point	X1	X2	X3	X4	X5	X6	X7	X9	X10	X11	X12	X13	X14	X22	X23
pH	6.68	7.39	7.78	8.01	8.26		7.20	9.26	7.62	7.47	7.53	7.48	7.85	7.13	7.30
Temp °C	1	1	1	1	2		1	10	0	5	3	4	1	2	2
Suspended Solids mg/L	2023	<1	<1	13	2		185	274,000	<1	4	<1	3	2	26	2
Flows m3/min	2.67						3.35	20.4		0.99	0.44	6.50		4.91	
Ammonia mg/L	2.58	0.14	0.16	0.90	0.97		4.16	1.29	0.30	1.06	0.32	0.69	0.50	3.34	0.91
Copper mg/L	<0.01	<0.01	<0.01	0.09	0.05		0.03	0.94	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01
Lead mg/L	0.02	<0.01	<0.01	0.19	0.15		<0.01	0.06	<0.01	<0.01	<0.01	<0.01	0.05	0.07	<0.01
Zinc mg/L	59.73	0.05	0.02	0.21	0.24		65.80	<0.01	0.03	0.01	<0.01	<0.01	0.12	25.88	22.92
Cyanide mg/L	0.17	<0.01	<0.01	0.10	0.06		0.01	0.47	<0.01		<0.01		0.04	0.02	<0.01
Manganese mg/L	7.53	0.07	0.03	1.42	1.39		5.25	<0.01	0.02	4.08	1.06	0.65	1.06	1.21	13.00
Sodium mg/L	27.0	2.6	2.3	89.3	98.0		21.0	118.0	2.3	81.5	40.4	73.0	49.0	14.7	41.5
Sulfate mg/L	1033	15	17	374	383		864	274	16	478	238	486	229	328	1448

* sampled once monthly

CURRAGH RESOURCES

2-41-100-077-87010

96-h STATIC LC50 BIOASSAY RESULTS OF X5

SAMPLE TAKEN: UNKNOWN SAMPLE pH 7.6
 SAMPLE RECEIVED: Nov 30, 1987 SAMPLE D.O. 8.8 mg/l
 TEST STARTED: Dec 1, 1987 SAMPLE CONDUCTANCE 550 umho/cm

THE 96-h LC50 FOR THIS SAMPLE WAS >100 %v/v

	INIT pH	FINAL pH	INIT DO mg/l	FINAL DO mg/l	TEST CONC %v/v	PERCENT SURVIVAL			
						24h	48h	72h	96h
SAMPLE	7.6	7.5	9.4	9.4	100.0	100	100	100	100
CONTROL	6.1	6.2	9.8	10.2		100	100	100	100

TEST CONDITIONS

Bioassays conducted according to STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTE WATER, 15th edition, 1980 APHA - AWWA - WPCF.

Number of test fish 10 Test temperature (C) 15.0
 Test volume (liters) 10.0 Test solution pH not adjusted

TEST FISH

Juvenile Rainbow Trout (*Salmo gairdneri*)
 Acclimated to temperature 15.0 +/- 1 C.
 Weight 0.50 +/- 0.10 g Length 4.0 +/- 0.3 cm

Duplicate reference toxicant (sodium pentachlorophenate) bioassays were conducted in order to test the tolerance of the fish stock. These tests gave 96-h LC50 values of 107.5 ug/l (90, 120) and 91.2 ug/l (80, 120)

DILUTION WATER (Vancouver dechlorinated tap water)

Alkalinity (mg CaCO3/l) 3.0
 EDTA hardness (mg CaCO3/l) 5.0
 Total suspended solids (mg/l) <1.0
 Residual chlorine (mg/l) 0.002
 Conductance (umho/cm) 15

Other parameters available on request.

96-h LC50 is the 96-h lethal concentration for 50% mortality. Synonyms are TLM96 and 96-h TL50 (median tolerance limit). The 95% confidence limits are in parentheses. Values were calculated by computer following C.E. Stephens "Methods for Calculating an LC50" (ASTM STP 634. 1977).

ANALYST



B.C. RESEARCH