## MASS LOADING OF DELETERIOUS SUBSTANCE FOR EACH DAY SAMPLED

							1000		1, ,,	i
During The	Date	Ď	AILY MAS	DAILY MASS LOADING OF DELETERIOUS SUBSTANCE (kg/day)	3 OF DEL	ETERIOU	S SUBST	ANCE (KC		Flow Rate
Week of	Sample Taken	Arsenic	Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 226	(m³/day)
05-Jan-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
12-Jan-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
19-Jan-04	nd²	0	0	0	0	0	0	0	0	0
26-Jan-04	nd²	0	0	0	0	0	0	0	0	0
02-Feb-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
09-Feb-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
16-Feb-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
23-Feb-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
01-Mar-04	nd²	0	0	0	0	0	0	0	0	0
08-Mar-04	nd²	0	0	0	0	0	0	0	0	0
15-Mar-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
22-Mar-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
29-Mar-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0

Note¹ - Mass Loading is in kilograms per day of the deleterious substance deposited except Radium 226 which is in Bq per day Note 2 - "nd" refers to no deposit of effluent to sample

## MASS LOADING PER CALENDAR MONTH FOR EACH DELETERIOUS SUBSTANCE

									Average Weekly	Total Monthly
CALENDAR	2	MASS LOA	MASS LOADING FOR DELETERIOUS SUBSTANCE (kg/month)2	R DELETI	ERIOUS SI	UBSTANC	E (kg/mc	nth) <sup>2</sup>	Flow Rate <sup>3</sup>	Volume <sup>4</sup>
MONTH OF	Arsenic	Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 226 <sup>2</sup>	(m³/week)	(m²/month)
January/04	0	0	0	0	0	0	0	0	0	0
February/04	0	0	0	0	0	0	0	0	0	0
March/04	0	0	0	0	0	0	0	0	0	0

Note 1 - Total Mass Loading for Calendar month calculated by multiplying the Average Daily Mass Loading for the Month x # days in the month

Note<sup>2</sup> - Mass loading units are in kg per month except Radium 226, which is in Bq permonth

Note<sup>3</sup> - Average Weekly Flow Rate calculated by multiplying Average Daily Flow Rate x 7 days per week

Note<sup>4</sup> - Total Monthly Volume calculated by multiplying Average Daily Flow Rate for the month x days in month



## RESULTS OF EFFLUENT CHARACTERIZATION

## AS PER PARAGRAPH 15(1)(a)

No effluent samples were collected during the 1<sup>st</sup> Quarter of 2004 as there was no effluent discharge. No Acute Lethality Testing conducted during the quarter as there was no effluent being discharged.



August 11, 2004

Prairie & Northern Region Environment Canada Room 200, 4999 98<sup>th</sup> Ave. Edmonton, AB T6B 2X3

Attention: Peter Blackall, Regional Director of Environmental Protection

Dear Sir:

## Re: Polaris Mine – 2004 2<sup>nd</sup> Quarter Metal Mining Effluent Regulations Report

Despite having a designated discharge location for effluent identified under Section 9 of the MMER, there was no discharge from the Garrow Lake Tailings Impoundment Area during the period April 1, 2004 to June 30, 2004. While there is no data to report, I have completed the monitoring report as required by the regulations and have attached it to this letter.

If you have any questions regarding the quarterly report or aspects of the application of the MMER to the Polaris Mine, please feel free to contact me at any time.

Yours truly,

Bruce Donald

Attachments: 2<sup>nd</sup> Quarter 2004 Monitoring Report

cc:

Walter Kuit (Teck Cominco Limited) Randy Baker (Azimuth Consulting Group)

## POLARIS MINE – MMER MONITORING REPORT

## 2<sup>nd</sup> QUARTER 2004

## APPENDIX A

i. Information specified by Section 8.1 of Reference Method EPS 1/Rm/13

## APPENDIX B

i. Information specified by Section 8.1 of Reference Method EPS 1/Rm/14

## APPENDIX C

- i. Concentration & monthly mean concentrations of each deleterious substance of Schedule 4
- ii. pH of the effluents samples as required by subsection 12(1)
- iii. Description of sample collection method
- iv. Total volume of effluent deposited during each month of the quarter as per section 19
- v. Mass loading of the deleterious substances set out in Schedule 4 and as per section 20

## APPENDIX D

i. Results of the effluent characterization as per paragraph 15(1)(a)



## Section 8.1.1 Effluent

- i. Name & location of operation generating the effluent
  - · Polaris Mine, Little Cornwallis Island, Nunavut
  - Final Discharge Point for Garrow Lake is geo referenced as 75° 22' 32" N, 96° 48' 37" W.
- ii. Date & time of sampling
  - No sampling conducted as there was no effluent discharge during the quarter.
- iii. Type of sample
  - · No sampling conducted as there was no effluent discharge during the quarter
- iv. Brief description of sampling point
  - Discharge point of siphon at Garrow Lake dam
- v. Sampling method
  - · No sampling conducted as there was no effluent discharge during the quarter
- vi. Name of person submitting samples
  - · No sampling conducted as there was no effluent discharge during the quarter

## Section 8.1.2 Test Facilities and Conditions

- i. Test type & method
  - · No testing conducted as there was no effluent discharge during the quarter
- ii. Indications of deviations from requirements in Sections 2 to 7 of Method EPS 1/RM/13
  - · No deviations to report as there was no testing conducted during the quarter
- iii. Name and city of testing laboratory
  - · No laboratory used during the quarter
- iv. Percent mortality of fish in stock tank(s)
  - · None to report. There were no tests conducted during the period
- v. Species of test organism
  - · None to report as there were no tests conducted during the period
- vi. Date and time for start of definitive test
  - · None to report as there were no tests conducted during the period
- vii. Person(s) performing the test and verifying the results
  - · No tests performed during the quarter
- viii.pH, temperature, dissolved oxygen, and conductivity of unadjusted, undiluted effluent
  - · No data to report as there were no tests conducted during the period
- ix. Confirmation that no adjustment of sample or solution pH occurred
  - · No adjustment to report as there were no tests conducted during the period
- x. Indication of aeration of test solutions before introduction of fish
  - · None to report as there were no tests conducted during the period
- xi. Concentrations and volumes tested
  - No data to report as there were no tests conducted during the period
- xii. Measurements of dissolved oxygen, pH and temperature
  - No data to report as there were no tests conducted during the period
- xiii. Number of fish added to each test vessel
  - No fish added as there were no tests conducted during the period
- xiv. Mean and range of fork length of control fish at end of test
  - No data to report as there were no tests conducted during the period
- xv. Mean wet weight of individual control fish at end of the test
- No data to report as there were no tests conducted during the period xvi. Estimated loading density of fish in test solutions
  - · No data to report as there were no tests conducted during the period

## Reporting Requirements for Reference Method EPS 1/RM/13 - Continued

## Section 8.1.3 Results

- i. Number of mortalities of fish in each test solution
  - · None to report. No tests conducted during the period
- ii. Number of control fish showing atypical/stressed behaviour
  - · None to report. No tests conducted.
- iii. Mean mortality rate in solutions of effluent and control water
  - None to report. No tests conducted
- iv. Estimate of 96-h LC50 in multi-concentration tests
  - · No data to report. No tests conducted
- v. Most recent 96-h LC50 for reference toxicity test(s)
  - · No data to report. No tests conducted



## Section 8.1.1 Effluent

- i. Name & location of operation generating the effluent
  - · Polaris Mine, Little Cornwallis Island, Nunavut
  - Final Discharge Point for Garrow Lake is geo referenced as 75° 22' 32" N, 96° 48' 37" W.
- ii. Date & time of sampling
  - · No sampling conducted as there was no effluent discharge during the quarter.
- iii. Type of sample
  - · No sampling conducted as there was no effluent discharge during the quarter
- iv. Brief description of sampling point
  - · Discharge point of siphon at Garrow Lake dam
- v. Sampling method
  - · No sampling conducted as there was no effluent discharge during the quarter
- vi. Name of person submitting samples
  - · No sampling conducted as there was no effluent discharge during the quarter

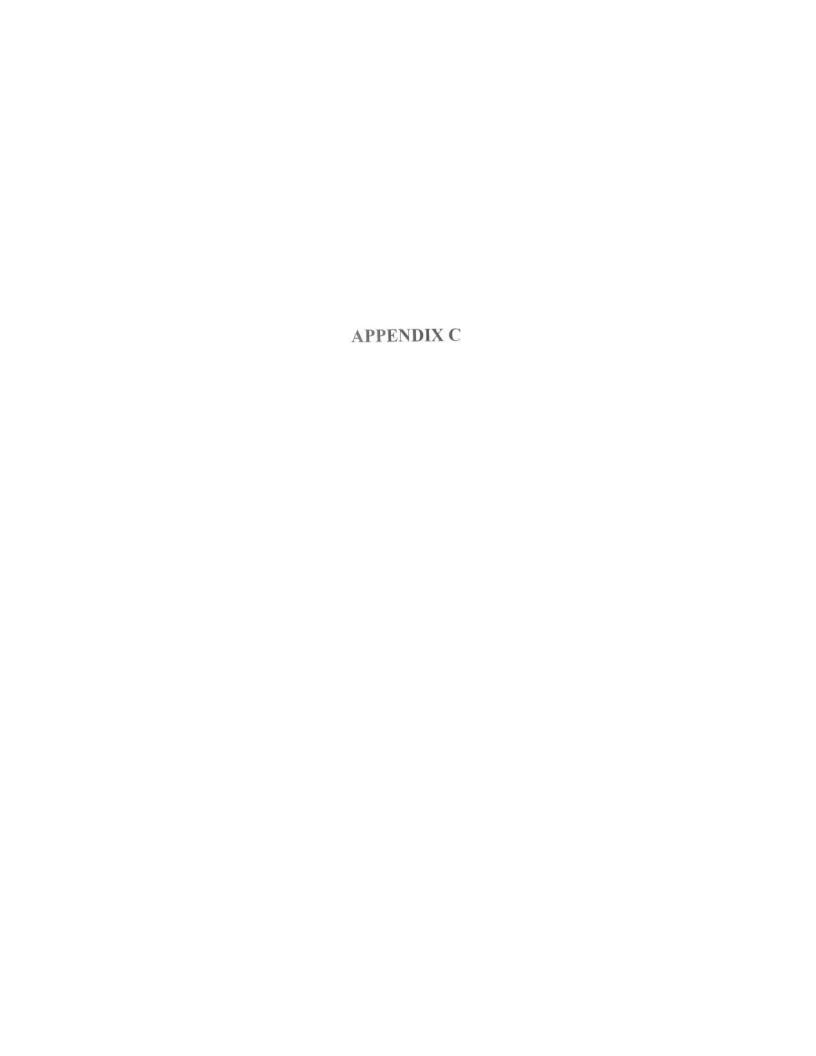
## Section 8.1.2 Test Facilities and Conditions

- i. Test type & method
  - No testing conducted as there was no effluent discharge during the quarter
- ii. Indications of deviations from requirements in Sections 2 to 7 of Method EPS 1/RM/13
  - · No deviations to report as there was no testing conducted during the quarter
- iii. Name and city of testing laboratory
  - · No laboratory used during the quarter
- iv. Species of test organism
  - None to report as there were no tests conducted during the period
- v. Date and time for start of definitive test
  - None to report as there were no tests conducted during the period
- vi. Person(s) performing the test and verifying the results
  - · No tests performed during the quarter
- vii. pH, temperature, dissolved oxygen, and conductivity of unadjusted, undiluted effluent
  - · No data to report as there were no tests conducted during the period
- viii. Confirmation that no adjustment of sample or solution pH occurred
  - · No adjustment to report as there were no tests conducted during the period
- ix. Indication of any adjustment of hardness of effluent sample
  - · No adjustment to report as there were no tests conducted during the period
- x. Indication of any aeration of sample
  - · No indication to report as there were no tests conducted during the period
- xi. Concentrations and volumes tested
  - · No data to report as there were no tests conducted during the period
- xii. Measurements of dissolved oxygen, pH and temperature
  - · No data to report as there were no tests conducted during the period
- xiii. Estimates of time to first brood, average number of neonates per brood, and percent mortality during the seven-day period prior to the test
  - No data to report as there were no tests conducted during the period
- xiv. Number of neonates per test vessel and milliliters of solution per daphnid
  - No data to report as there were no tests conducted during the period

## Reporting Requirements for Reference Method EPS 1/RM/14 - Continued

## Section 8.1.3 Results

- i. Number of dead and/or immobile daphnids in each test solution including controls
  - · No data to report. No tests conducted during the period.
- ii. For single-concentration test the number of daphnids dead in each of three replicate effluent solutions and in each of three replicate control solutions at end of test. Also report the mean value.
  - · No data to report. No tests conducted during the period.
- iii. Estimate of 48-h LC50 and 95% confidence limits in multi-concentration tests, 48-h EC50 for immobilization and 95% confidence limits, indication of statistical method on which results are based.
  - · No data to report. No tests conducted during the period
- iv. Most recent 48-h LC50 for reference toxicant test(s), reference chemical(s), date test initiated, historic geometric mean LC50 and warning limits.
  - · No data to report. No tests conducted during the period.



## 2004 2nd QUARTER MMER REPORT

# LOCATION - FINAL DISCHARGE POINT FROM GARROW LAKE (GARROW LAKE DAM SIPHONS)

## CONCENTRATIONS OF EFFLUENT FOR MMER SCHEDULE 4 SAMPLED WEEKLY

Sample Taken											
<b>During The</b>	Date			DELET	ERIOUS S	DELETERIOUS SUBSTANCE (mg/L)	CE (mg/L)				Collection
Week of	Sample Taken	Arsenic	Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 2261	pH1	Method
05-Apr-04	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>					
12-Apr-04	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>					
19-Apr-04	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>					
26-Apr-04	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>					
03-May-04	nd <sup>2</sup>	nd <sup>2</sup>	nd²	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>					
10-May-04	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>					
17-May-04	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd²	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd²	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>
24-May-04	nd²	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd²	nd <sup>2</sup>	nd²	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>
31-May-04	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>					
07-Jun-04	nd <sup>2</sup>	nd <sup>2</sup>	nd²	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>					
14-Jun-04	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	pu J					
21-Jun-04	nd <sup>2</sup>	nd <sup>2</sup>	nd²	nd <sup>2</sup>	nd²	nd <sup>2</sup>	nd²	nd²	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>
28-Jun-04	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>	nd²	nd <sup>2</sup>	nd²	nd²	nd <sup>2</sup>	nd <sup>2</sup>	nd <sup>2</sup>

Note  $^1$  - All concentrations are in mg/L except Radium 226 which is Bq/L and pH which is in pH units Note  $^2$  - "nd" refers to no effluent discharge to sample

## MONTHLY MEAN CONCENTRATIONS OF EFFLUENT FOR MMER SCHEDULE 4

			0.00	T T CALL	70 10	0.0	00110	TARIOT3
	MON	II HLY ME	AN CONC	ENIKALI	ON OF DE	OF DELEIERIO	US SUBS	ANCE
MONTH OF	Arsenic	Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 226
April/04	nd <sup>2</sup>							
May/04	nd <sup>2</sup>							
June/04	nd <sup>2</sup>							

Note 1 - All concentrations are in mg/L except Radium 226 which is Bq/L

## MASS LOADING OF DELETERIOUS SUBSTANCE FOR EACH DAY SAMPLED

Note 2 - "nd" refers to no effluent discharge to sample

Note<sup>3</sup> - Monthly Mean Concentrations - the MEAN value of the concentrations measured in all water samples collected during each month when a deleterious substance is deposited

cample lanell										
<b>During The</b>	Date	Ď.	AILY MAS	DAILY MASS LOADING OF DELETERIOUS SUBSTANCE (kg/day)	G OF DEL	ETERIOU	S SUBST	ANCE (kg	/day)	Flow Rate
Week of	Sample Taken	Arsenic	Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 2261	(m³/day)
05-Apr-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
12-Apr-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
19-Apr-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
26-Apr-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
03-May-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
10-May-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
17-May-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
24-May-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
31-May-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
07-Jun-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
14-Jun-04	nd²	0	0	0	0	0	0	0	0	0
21-Jun-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0
28-Jun-04	nd <sup>2</sup>	0	0	0	0	0	0	0	0	0

Note 1 - Mass Loading is in kilograms per day of the deleterious substance deposited except Radium 226 which is in Bq per day Note 2 - "nd" refers to no effluent discharge to sample

## MASS LOADING PER CALENDAR MONTH FOR EACH DELETERIOUS SUBSTANCE

									Average Weekly	Total Monthly
CALENDAR	_	MASS LOA	IDING FO	R DELETI	FOR DELETERIOUS SUBSTA	UBSTANC	E (kg/mo	nth) <sup>2</sup>	Flow Rate <sup>3</sup>	Volume <sup>4</sup>
MONTH OF	Arsenic	Arsenic Copper	Cyanide	Lead	Nickel	Zinc	TSS	Radium 226 <sup>2</sup>	(m³/week)	(m³/month)
April/04	0	0	0	0	0	0	0	0	0	0
May/04	0	0	0	0	0	0	0	0	0	0
June/04	0	0	0	0	0	0	0	0	0	0

Note 1 - Total Mass Loading for Calendar month calculated by multiplying the Average Daily Mass Loading for the Month x # days in the month

Note<sup>2</sup> - Mass loading units are in kg per month except Radium 226, which is in Bq permonth

Note<sup>3</sup> - Average Weekly Flow Rate calculated by multiplying Average Daily Flow Rate x 7 days per week

Note\* - Total Monthly Volume calculated by multiplying Average Daily Flow Rate for the month x days in month



Bruce J. Donald
Reclamation Manager

November 17, 2004

Prairie & Northern Region Environment Canada Room 200, 4999 98<sup>th</sup> Ave. Edmonton, AB T6B 2X3

Attention: Peter Blackall, Regional Director of Environmental Protection

Dear Sir:

## Re: Polaris Mine - 2004 3rd Quarter Metal Mining Effluent Regulations Report

Please find attached the Metal Mining Effluent Report for the Polaris Mine for the 3<sup>rd</sup> Quarter of 2004. Discharge from Garrow Lake is no longer controlled by siphoning as Garrow Dam was removed earlier this year. As a result the timing of flow and a wide fluctuation in the flow rates was experienced this year. Flow initiated at the beginning of July, later than expected due to an unseasonably cold winter and spring. Flow continued through July and August.

The associated water quality sampling and environmental effects monitoring were conducted as required but with some complications. To ensure we captured two sub-lethal toxicity tests this year, we initiated testing with our first water sampling event of the season. However, on our first attempt, there were problems with the laboratory specimens (the Echinoderms were stimulated to spawn and only one of 39 partially spawned so the test was not initiated) and the Champia parvula sexual reproduction tests were not conducted due to problems at the commercial laboratory. Sandra Blenkinsopp was kept informed of these issues as they arose. We subsequently conducted two additional sub-acute toxicity tests which were successfully processed. The available results from all three sub-acute sampling events are presented in this report.

The first water sample of the discharge season taken on July 7<sup>th</sup> 2004 at the final discharge point was out of compliance with respect to Total Suspended Solids (TSS). Laboratory results indicated a TSS concentration of 117 mg/L compared to the MMER Schedule 4 limit of 30 mg/L for a single grab sample. All other Schedule 4 parameters were compliant. Concurrent with the July 7<sup>th</sup> sample, a set of monthly acute lethality samples were

also taken. The results of the acute lethality were compliant with the MMER and showed no acute toxicity to either the Rainbow Trout or the Daphnia magna (i.e. LC50s in both cases were > 100% effluent). Subsequent weekly sampling results for TSS, metals concentrations and acute toxicity results have all been compliant. Sid

Bruinsma and Craig Broome were both promptly notified upon our receiving the laboratory results.

Effluent from Garrow Lake ceased flowing by mid-August but surface run off from adjacent slopes maintained

water flow at the designated final discharge point into August. By August 17th there was still water at the final

discharge point in a pool but the flow was too low to be measured. However, we continued to collect water

samples for the remainder of August, so there are water quality results presented in the attached report until

August 31, 2004 but the loading calculations are zero due to the lack of flow for the last three weekly samples.

The flow conditions during August as well as their implications for effluent sampling were discussed with

Environmental Canada representatives in early August.

I will forward a paper copy of this report by mail. Please contact me if there are any questions related to enclosed

information.

Yours truly, Original signed by B Donald

Bruce Donald

Attachments: 3rd Quarterly Monitoring Report

cc:

Walter Kuit (Teck Cominco Limited)
Randy Baker (Azimuth Consulting Group)

## POLARIS MINE - MMER MONITORING REPORT

## 3rd QUARTER 2004

## APPENDIX A

i. Information specified by Section 8.1 of Reference Method EPS 1/Rm/13: 96 hr acute rainbow trout test

## APPENDIX B

i. Information specified by Section 8.1 of Reference Method EPS 1/Rm/14: 72 hr acute Daphnia magna test

## APPENDIX C

 Information specified in Schedule 5 of the MMER (June 2002) for Reference Method EPAW 95-EPA West Coast: 7-day Topsmelt Survival and Growth Tests.

## APPENDIX D

 Information specified in Schedule 5 of the MMER (June 2002) for Reference Method EPS 1/Rm/27-EC: 92 hr Echinoderm (sand dollar) Fertilization Test

## APPENDIX E

 Information specified in Schedule 5 of the MMER (June 2002) for Reference Method EPA/600/4-91-003, Method 1009.0: Algae (Champia parvula) 7-day Sublethal Growth Tests

## APPENDIX F (Mass Loadings)

- i. Concentration & monthly mean concentrations of each deleterious substance of Schedule 4
- ii. pH of the effluents samples as required by subsection 12(1)
- iii. Description of sample collection method
- iv. Total volume of effluent deposited during each month of the quarter as per section 19
- v. Mass loading of the deleterious substances set out in Schedule 4 and as per section 20

## APPENDIX G

i. Results of the effluent characterization as per paragraph 15(1)(a)

## APPENDIX A

96-h Acute Rainbow Trout Toxicity Test

## Section 8.1.1 Effluent

- i. Name & location of operation generating the effluent
  - · Polaris Mine, Little Cornwallis Island, Nunavut
  - Final Discharge Point for Garrow Lake is geo referenced as 75° 22' 32" N, 97° 48' 37" W.
- ii. Date & time of sampling
  - · Samples for monthly acute toxicity testing were collected
  - Test 1: Wednesday July 7, 2004 2200h
  - Test 2: Tuesday July 27, 2004 2130h
  - Test 3: Tuesday August 24, 2004 1500h
- iii. Type of sample
  - · Final effluent water
- iv. Brief description of sampling point
  - 20m downstream of the siphon discharge point at Garrow Lake dam
- v. Sampling method
  - · Water was collected from at least 15cm below the surface using a water pump with silicon tubing
  - Water was collected from the upstream direction
  - The pump was flushed with site water for at least one minute prior to sample collection
  - 2 x 20L sample bottles were filled
- vi. Name of person submitting samples
  - Dennis Lu (Gartner Lee) July 7, July 27, 2004
  - · Patrick Allard (Azimuth) August 24, 2004

## Section 8.1.2 Test Facilities and Conditions

- i. Test type & method
  - 96-hour Rainbow Trout LC<sub>50</sub>
- ii. Indications of deviations from requirements in Sections 2 to 7 of Method EPS 1/RM/13
  - No deviations from requirements
  - · Salinity controls were run
  - Sample water salinity was 7ppt (Test 1); 3ppt (Test 2), and 6ppt (Test 3)
- iii. Name and city of testing laboratory
  - · EVS Environment Consultants, North Vancouver, BC
- iv. Percent mortality of fish in stock tank(s)
  - Test 1:0%
  - Test 2: 0.25%
  - Test 3: 0%
- v. Species of test organism
  - Rainbow Trout (Oncorhynchus mykiss)
- vi. Date and time for start of definitive test
  - Test 1: Monday July 12, 2004 1445h
  - Test 2: Sunday August 1, 2004 1030h
  - Test 3: Friday August 27, 2004 1100h
- vii. Person(s) performing the test and verifying the results
  - Rachel DeWynter, Robert Harrison
- viii.pH, temperature, dissolved oxygen, and conductivity of unadjusted, undiluted effluent
  - Test 1: pH 8.1, T 14.0°C, DO 10.0mg/L, C 11730 μS/cm
  - Test 2: pH 7.6, T 14.0°C, DO 10.1mg/L, C 4870 μS/cm
  - Test 3: pH 7.7, T 15.0°C, DO 9.9mg/L, C 7416 μS/cm

- ix. Confirmation that no adjustment of sample or solution pH occurred
  - · Test 1: No pH adjustment
  - · Test 2: No pH adjustment
  - · Test 3: No pH adjustment
- x. Indication of aeration of test solutions before introduction of fish
  - Test 1:  $6.5 \pm 1$  mL/min/L for 30mins
  - Test 2:  $6.5 \pm 1$  mL/min/L for 30mins
  - Test 3:  $6.5 \pm 1$  mL/min/L for 30mins
- xi. Concentrations and volumes tested
  - Concentrations (% effluent volume / total volume) tested and total volumes used were:
  - Control (0%) 10 L (test 1&2), 12 L (test 3)
  - 6.25% 10 L (test 1&2), 12 L (test 3)
  - 12.5% 10 L (test 1&2), 12 L (test 3)
  - 25% 10 L (test 1&2), 12 L (test 3)
  - 50% 10 L (test 1&2), 12 L (test 3)
  - 100% 10 L (test 1&2), 12 L (test 3)
  - Salinity Control 10 L (test 1&2), 12 L (test 3)
- xii. Measurements of dissolved oxygen, pH and temperature
  - Test 1: DO: 9.3 10.1 mg/L, pH: 7.0 8.3, T: 14.0 16.0 °C
  - Test 2: DO: 9.6 10.1 mg/L, pH: 6.8 8.3, T: 14.0 °C
  - Test 3: DO: 9.1 10.1 mg/L, pH: 7.2 7.9, T: 15.0 16.0 °C

xiii. Number of fish added to each test vessel

• 10 fish/ vessel

xiv. Mean and range of fork length of control fish at end of test

- Test 1: 34mm (29-37)
- Test 2: 33mm (31-35)
- Test 3: 40mm (38 -44)

xv. Mean wet weight of individual control fish at end of the test

- Test 1: 0.39g (0.22-0.54)
- Test 2: 0.34g (0.29-0.42)
- Test 3: 0.45g (0.31-0.61)

xvi. Estimated loading density of fish in test solutions

- Test 1: 0.39g/L
- Test 2: 0.34g/L
- Test 3: 0.38g/L

## Section 8.1.3 Results

- i. Number of mortalities of fish in each test solution
  - Results were the same for Test 1, Test 2, and Test 3, except where noted
  - Control (0%) 0
  - 6.25% 0
  - 12.5% 0
  - 25% 0
  - 50% 0
  - 100% 0
  - Salinity Control (