Recd Apr 3/03
PB

ECHO BAY MINES LTD.

Lupin Operations, Nunavut
9818 International Airport
Edmonton, Alberta
T5J 2T2

March 17, 2003

Our File: NWB1LUP0008 02Annual
Your File: Water Register
NWB1LUP0008

Executive Director
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0B 1J0

Dear Sir:

RE: Echo Bay Mines Ltd., Lupin Gold Mine, Contwoyto Lake, NT; Water Licence No. NWB1LUP0008; 2002 Annual Report

Please find enclosed three (3) copies (via mail) of the 2002 Annual Report for Water Licence NWB1LUP0008 as required by Part B, Item 5. A PDF file version of the Report has been sent via email, however the metals scan data and the QC data from Norwest Labs Ltd. was not in a format that could be included in the email and is included in the hardcopy version for your review.

The 2002 Annual Report includes all the water use and waste disposal information as outlined in the mine's Water Licence. Discharge took place from the TCA in 2002 during the period July 15, 2002 through to September 7, 2002. Release of the Sewage Lakes Disposal system also took place from June through to October, 2002. All SNP data as outlined in the Licence is included within this report.

Should you have any questions or comments regarding this report, please feel free to contact the undersigned at (780) 890-8794.

Yours truly,

D. Hohnstein

D. Hohnstein C.E.T.
Environmental Coordinator, Lupin

Attach. 2002 Annual Report
cc B. Burton B. Lowe Mill Operations

ECHO BAY MINES LTD.

a subsidiary of

KINROSS
Gold Corporation

2002
ANNUAL REPORT
LUPIN OPERATIONS

Submitted under

WATER LICENCE NWB1LUP0008
NUNAVUT WATER BOARD

Date: March 17, 2003

Prepared by: David Hohnstein, C.E.T.
Environmental Coordinator, Lupin

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APPENDIX A

APPENDIX B

INTRODUCTION

This report is submitted to fulfil requirements under Part B, Item 5 of Water Licence NWB1LUP0008 granted by the Nunavut Water Board pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada.*

The Annual Report for 2002 contains the following information that is required under Part B, Items 5(a) through (k).

a) the monthly and annual quantity in cubic metres of water pumped from Contwoyto Lake at Station 925-01;

b) the monthly and annual quantities in cubic metres of treated tailings effluent discharged at Station 925-10

c) the monthly and annual quantity in cubic metres of minewater discharged at Station 925-11;

d) the monthly and annual quantity in cubic metres of treated sewage effluent discharged at Station 925-14;

e) tabular summaries of all data generated under the Surveillance Network Program;

f) a summary of modifications and/or major maintenance work carried out on the water supply and the waste disposal facilities including all associated structures;

g) a list of unauthorized discharges and follow-up action taken;

h) revisions to the Contingency Plan;

i) revisions to the Abandonment and Restoration Plan;

j) a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year; and

k) any other details on water use or waste disposal requested by the Board by November 1st of the year being reported.

A. INTAKE VOLUME; Station 925-01

The quantity of fresh water pumped on a monthly basis from Contwoyto Lake is shown in Table No.1, 2002 Pumping Report (Appendix A). The yearly total was 918,662 m^3 as determined by flowmeter. Of this volume, 835,431 m^3 was used for industrial purposes with the remaining 83,231 m^3 being used as potable water.

The quantity of fresh water used in 2002 had remained consistent with that of 2001 as operations were continuous and no changes to the system or demands were made during the year.

B. TAILINGS EFFLUENT; Station 925-10

Release of tailings effluent from Pond No.2 (Station 925-10) took place from July 15, 2002 through to September 7, 2002. Effluent release was carried out utilizing the syphons at Dam1a and monitored using two "Hot Tap Insertion Flow Sensors" and recorded using SeaFlow Model FT400 flow computers. Alternative monitoring and flow checks are provided by a Polysonics HYDRA SX30 DFD Flowmeter. Flow monitoring indicated a total release of 3,102,895 m^3 for the period in 2002. During July, the total release was measured to be 1,116,651 m^3 with an average daily flow of 65,685 m^3/day; August release was 1,786,743 m^3 with an average daily flow of 57,637 m^3/day and September release was 199,501 m^3 with an average daily flow of 33,250 m^3/day.

A survey of the TCA water elevations was completed on October 16, 2002. The end of the season water level in Pond No.2 was determined to be 479.328 metres. This elevation provides approximately four metres of freeboard on the lowest elevation dam within Pond No.2. Using an average annual increase in water elevation of approximately 1.5 metres due to precipitation and transfer of water from Pond No.1, this would allow a storage capacity of at least 24 months. This storage capacity would allow process waters and accumulated precipitation to be held through 2003 for release in 2004.

During the release of Pond No.2 water, approximately 831,166 m^3 of Pond No.1 water was transferred over to Pond No.2 allowing the release of discharge quality water from Pond No.1. All discharge flow data is summarized and included within Table No.2 located in Appendix A.

Pond No.1 elevation, after the transfer of water from Cell No.4 at the end of the season, was determined to be 481.009 meters.

C. MINEWATER; Station 925-11

The monthly and annual quantity of water pumped from the mine is included in Pumping Report, Table 1. For the most part of 2002, the minewater was directed to the lower sewage lake. During the first part of December, the minewater line froze and temporary storage

measures were set up within the mill. On December 9, 2002 the minewater was directed to the TCA via the tailings line. A more permanent solution is being investigated whereby an unused storage tank in the Paste Backfill Plant would be used as a surge tank allowing continual steady release to the TCA via the tailings box.

The total quantity of water pumped from underground in 2002 was 47,352 m^3. This included approximately 43,571 m^3 pumped to the second sewage lake and, in December, approximately 3,781 m^3 of minewater that was pumped to the TCA.

D. SEWAGE EFFLUENT; Station 925-14

The monthly and annual quantity of sewage effluent discharged to the environment from the second sewage lake at Station 925-14 is listed in the Pumping Report, Table No.1. Total flow for the seasonal discharge was approximately 273,122 m^3. The discharge volume is calculated from hydraulic tables for flow over a V-notch weir as well as an ultrasonic flow meter on the 8" syphon line.

For 2003, the total volume of effluent to be released from Station 925-14 is expected to be reduced through the elimination of the minewater input that was diverted to the TCA in December 2002. This volume, on average amounts to approximately 50,000 m^3/year.

During the last week of August and first week of September there were two additions of lime carried out in order to increase the pH of the second sewage lake above the required level of 6.0. The effluent was monitored on a daily basis during September 8-15, 2002 with pH values ranging from 6.18 to 6.40 (September monthly report). This addition of lime and the further release of effluent was needed in order to access the culvert for repairs (see maintenance).

E. SURVEILLANCE NETWORK PROGRAM DATA

Tabular summaries of data required under the Surveillance Network Program annexed to Water Licence NWB1LUP0008 are presented in the Tables attached. Table No.1 provides a summary the water use, waste disposal volumes and the monthly ore milled, recorded in dry tonnes. The summary of water quality data collected at all SNP stations is provided in Table No.2. The Quality Control data from Norwest Labs Ltd. with regard to their analytical precision is included in Appendix B.

Two sets of toxicity bioassays were completed under the monitoring requirements within the Licence. The first set was sampled on July 8, 2002 and submitted to the Environment Canada's Ecotoxicology Lab in Edmonton. The results indicated 0% mortality/immobile for both the Daphnia and rainbow trout bioassays.

With the expectation that effluent release would cease near the end of August, a sample of Pond No.2 effluent was obtained on August 22, 2002 and submitted to Norwest Labs in

Edmonton to conduct an initial bioassay check prior to submitting a sample to Env. Can. for Licence requirements. The Daphnia test was completed and indicated a "pass" result. A sample was collected on August 29, 2002 for submission to the Env. Can. Lab. However, due to a plane delay on the 29th of August, the late arrival in Edmonton on Friday August 30, 2002 and the Statutory holiday on the Monday September 2, 2002, the sample arrive at the Lab on Tuesday September 3, 2002, considerably beyond the holding time allowed for the toxicity testing. After discussion with Anne Wilson with Environment Canada in Yellowknife, it was agreed that Lupin would submit the results for the previous bioassay conducted at Norwest Labs along with an additional bioassay carried out on the Pond No.1 water being transferred over to Pond No.2 (August 8th) concurrent with discharge.

The results of the toxicity testing are included in Appendix C.

In addition to the freshwater use, mine water pumped from underground and the sewage lakes discharge volumes, the 2002 Pumping Report also includes the data for waste discharged to the tailings pond and tonnage used in the Paste Backfill process. These are calculated figures obtained from the mill daily statistics report.

F. MAINTENANCE WORK

Minimal modification and routine maintenance work was carried out on the water supply and sewage disposal facilities in 2002.

Repairs to the final discharge culvert of the Sewage Lakes Disposal System were again required in 2002 due to leakage into the culvert on the upstream side. Upon excavation of the surrounding material, the culvert was discovered corroded beyond ability to repair and the decision was made to remove the entire culvert. The embankment was backfilled to prevent any further problems associated with the culvert (see Photos 1 and 2 included in Appendix A). In the future, the 8 inch diameter pipe syphon system currently used during part of the season will be utilised as the discharge mechanism and sampling point.

Dam1a Syphons

The discharge syphons at Dam1a used for the release of effluent from the TCA were in need of repairs as one of the syphon pipes had been stressed by ice in 2000. The section downstream of the header pipe had broken and a replacement section from one of the two spare syphons was used in its place. This syphon location was preferred as the intake and discharge ends were optimal for maximum operation of the syphon system. The syphon was ready for operation at the beginning of discharge on July 15, 2002.

Mdam

The main tailings line was extended along the length of the Mdam in order to maximize the deposition of tailings during the winter months in Cell 5. This section of tailings pipe was completed with Sclair (plastic) piping with several available discharge locations along the dam.

Other maintenance items completed were as follows:

- All recommended maintenance work was completed as specified in the 2002 Geotechnical Inspection of the Tailings Containment Perimeter Embankments carried out by BGC Engineering Inc. There are currently no other outstanding issues with respect to the 2002 or previous geotechnical inspections.

  Repairs in the area of Dam 3 included the grading of a section of the downstream slope as well as grading of the access road area (see photos 3 and 4).

G. LIST OF UNAUTHORIZED DISCHARGES

There were four recorded unauthorized discharges during 2002 under Water Licence NWB1LUP0008.

- Spill Report No. 02-319. May 14, 2002. An estimated 110-135 litres of diesel fuel was spilled during the filling of the fuel truck at the bulk refueling station. The contaminated area was approximately 6m by 2.5m. Clean-up was completed.

- Spill Report No. 02-346. May 27, 2002. An estimated 75 litres of diesel fuel discovered on the ground near the refueling area at the mine portal. The contaminated area was minimal as snow and frozen ground contained the material. Clean-up was completed.

- Spill Report No. 02-528. September 27, 2002. An estimated $30m^3$ of paste was released onto the outside pad of waste rock which spread over an area of about $130m^2$. Clean-up was completed (see photos 5 and 6).

- Spill Report No. 02-591. December 8, 2002. An estimated 2-300 us gallons of mine water leaked from the minewater line onto the ground outside the mill building. Some water/ice was observed on the ground however the majority of the water was thought to have gone below the surface along the wall of the mill building. Clean-up of the ice on the ground surface was completed.

H. REVISIONS TO THE CONTINGENCY PLAN

A revised Contingency Plan was prepared in December 2000 in accordance with the Licence issued July 1, 2000 and submitted for Board approval by letter dated December 22, 2000. At the present time, with the change in management (KINROSS Gold Corporation), direction is being given on the format to be used prior to any major revision. Since the original document was drafted there are a few minor corrections to be made (generally in terms of site contact names and regulatory contact numbers) which will be submitted under a separate cover.

I. REVISIONS TO THE ABANDONMENT AND RESTORATION PLAN

A revised Interim Abandonment and Restoration Plan was submitted to the Board April 28, 2001 in accordance with the Licence NWB1LUP0008. The plan has been acknowledged and received by the Board and is currently under review. The scope of the final reclamation with regard to the TCA is currently being investigated and a proposal is anticipated to be available for submission to the Board in the near future. To this date there have been no immediate concerns or deficiencies raised from the Board and its review of the current plan.

J. SUMMARY OF ABANDONMENT AND RESTORATION ACTIVITIES

2002 Abandonment and Restoration Activities

Centre Zone Crown Pillar

During the latter part of 2002 a significant backfilling program was initiated with regard to the Centre Zone Crown Pillar. The Paste Backfill plant provided fill material for the opening at surface and during 2002 placed approximately 20,074 dry short tons of material within the opening. It is expected that filling of the opening will be completed early in 2003. This activity has served a dual purpose in that it has provided an opportunity to utilize the Paste Backfill plant more efficiently and effectively, and secondly it has allowed the backfilling of one of the open crown pillars at surface as a step towards reclamation of the site. (see photos 7 and 8)

Esker Cover

The areas of Cell No.1 and No. 2 have been covered with esker material since 1995. In the time since this cover placement there has been some natural vegetation that has established itself. In comparison with other areas reclaimed in the past (vacuum breaker spill area; 1995 and the old airstrip, Photos 9 and 10) the amount and variety of vegetation has not developed as well. In an effort to improve the ability for vegetation to establish naturally, a tillage unit was purchased and customised to work with a grader on site (photos 11 and 12). This unit proved to work well in opening up the surface of the esker cover and bringing some of the coarse materials to the surface. This should greatly enhance the surface's ability for natural placement

of seed and moisture retention to encourage plant growth in the area.

Several locations were worked with the tillage unit including the entire Cell 1a area, the north corner of Cell 1, the east corner of Cell 2 and the cover that was placed over the East Zone Crown Pillar. The corners of Cell 1 and Cell 2 were tilled with the expectation that a comparison might be made with the adjacent cell cover with regard to improvement in vegetation establishment (Photo 13).

Cell 1 Subsurface Investigations

During the past year discussions have been held among Echo Bay Mines Ltd. personnel and various consultants with regard to alternative options for closure of the TCA. Investigation work has been initiated with regard to a "Partialy Saturated Esker Cover" design. This has included subsurface pore water quality and current saturation status of the esker cover. This was accomplished by the simple installation of monitoring wells (six inch plastic piping; see Photo 14). The information gathered from this initial exercise will be synthesized into a proposal being prepared for the Lupin Operations and its Interim Abandonment and Restoration Plan by Igor Holubec, geotechnical specialist.

Ground Temperature Monitoring

Collection of data from thermistor strings that were installed during 1995 (esker cover of Cells No.1, No.2 and Dam 4) and in 2000 (Dam1a, Dam2 and Fingers Lake Esker) continued through 2002. A review of the containment dam temperature data was completed during data review of the 2002 Geotechnical Inspection of the TCA, carried out by BGC Engineering Inc. The information to date indicates that subzero temperatures exist at depth with no apparent indications of warming.

At Dam 1a, Graph No.1 indicates that the foundation appears to be cooling over time with the latest readings in 2002 cooler again than in previous years at both upstream and downstream locations. At depth within the dam, between 6 and 12 metres, the temperature has remained steady between -2.5° C and -5° C. The active layer from the surface of the dam appears is between 2.5 and 3 metres (with the exception of data from 2001, which indicated nearly a 4 metre active layer).

At the Dam 2 locations it was noted that the foundation zone appears to be cooling over the longer term with the downstream station being noticeably cooler than the upstream (Graph No.2). This can be expected due to the warming influence of the upstream water. The active layer of the dam section is shown to be about 2-2.5m. The temperature information demonstrates that the core of the dams appears to remain frozen and that the foundation of the dam is maintained below freezing year round.

Temperature monitoring in Dam 4 began with installation of thermistors in 1995. These strings were all installed along the downstream crest; one at each abutment and one in each of the "low" points of the foundation for a total of four strings. The four profiles are included within this Annual Report. As mentioned in the Geotechnical Inspection, the data indicates an active layer of approximately 2.5 to 3 metres at the downstream crest as shown in Graphs 5, 6, 7 and 8. Generally, with the exception of Dam 4-1, temperatures throughout the profile were the coolest recorded since 1997. These profiles are single date graphs for 1997-2002, using a date (October) that coincides with what is typically the warmest temperatures at a 2-3 metre depth, whereas the temperatures closer to surface are beginning to cool at this time.

The indicated active layer of the dams is not necessarily a true representation of the active surface layer as most thermistors that are currently in use on the dams have been installed near one of the crest slopes, not through the centre line of the dam. Therefor, there is some influence upon the active layer measured due to the slope of the dam (widening with vertical depth). This allows some warming to the dam crest (where the thermistor is located) from the slope side of the dam indicating a further active layer penetration than if the thermistor string were installed at the centre line. The temperature profile graphs for Dam 1a and Dam 2 (see Graphs 1 and 2) illustrate this further with the upstream thermistors (with a 1:2.5 embankment slope) indicating a slightly shallower active layer than the downstream thermistors (with a 1:1.5 embankment slope).

The data obtained from the Fingers Lake thermistor string (being on a near flat surface) gives a better representation of the true active layer. The data obtained over the last two seasons indicates an active layer of approximately 1.5m depth at 0°. Subzero temperatures occur beyond this depth through to the bedrock, which is encountered at approximately 12.3m and is maintained at approximately –6° to –7°C. A depth of approximately 3 metres maintains the temperature below -2°C. See Graph No.3 'Fingers Lake Esker Temperature Profile' in the appendix. Actual excavation investigations have placed the maximum thaw depth in September to be approximately 1.3m depth.

Temperature monitoring in Cell No.1 has been ongoing since installation of the original thermistor strings in 1995. The only string that is actively monitored is string TC1-3. This string is located at the north east end of the cell near Cell No.1a. The other two strings in this cell are not providing data at many of the depths and the data is sparse. Graph No.4 shows the temperature profile at TC1-3 for the month of October during the years of monitoring. October is usually the month when the active layer has penetrated the deepest and significant cooling has begun at surface. There is still some warming that occurs further at depth, however the temperatures at these locations remain below 0°C year round.

Planned Abandonment and Restoration Activities; 2003

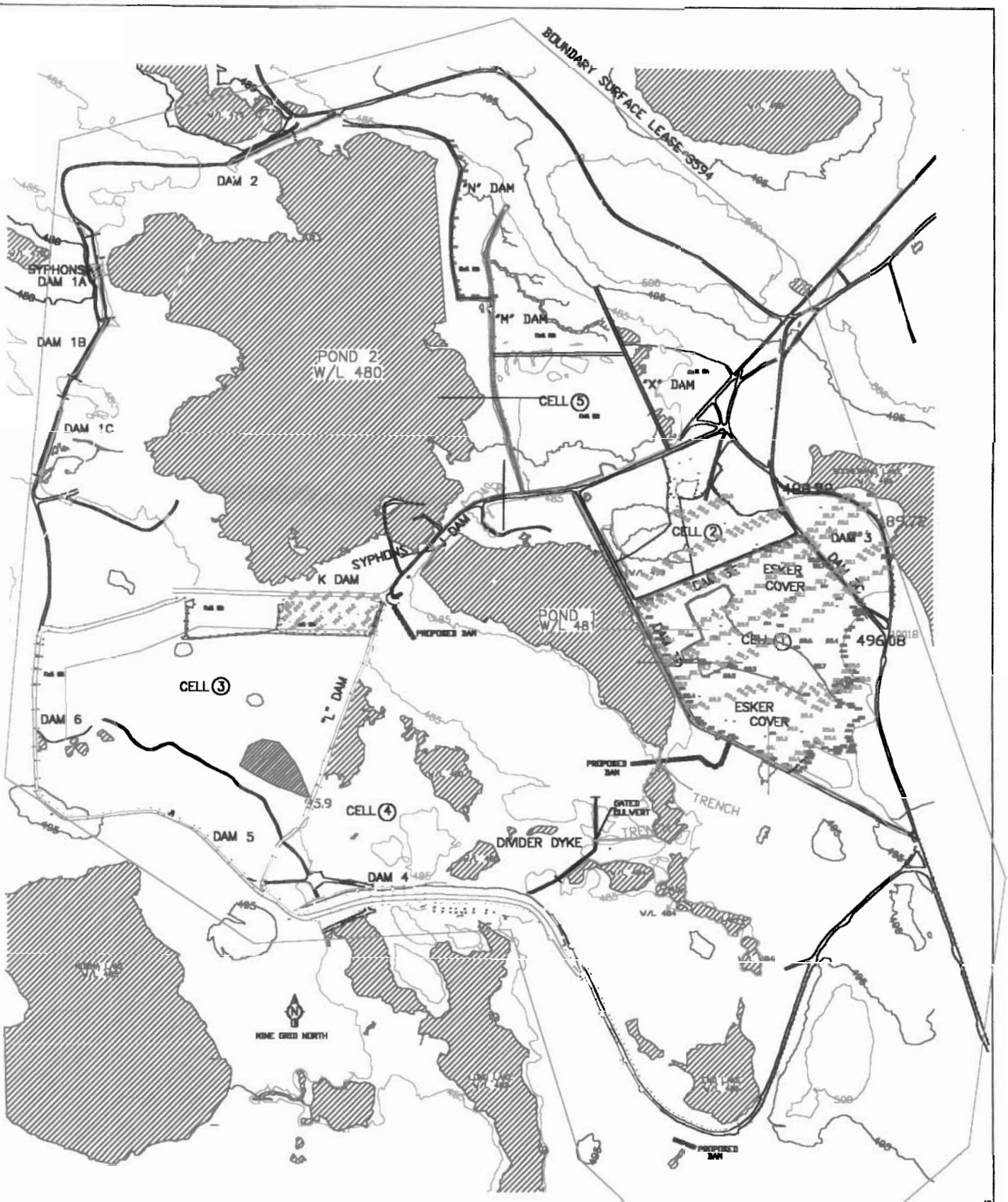
- Continue to monitor the thermistor strings installed in the esker cover of Cells 1 and 2, Dam4 and newer strings in Dam1a, Dam2 and the Fingers Lake Esker to build the database information regarding the characteristics of the active thaw zone in natural esker, constructed dams and covered tailings.
- Continue the paste backfill program into the Centre Zone Crown Pillar for eventual reclamation of this location

K. ANY OTHER DETAILS ON WATER USE OR WASTE DISPOSAL REQUESTED BY THE BOARD BY NOVEMBER 1st OF THE YEAR BEING REPORTED

There were no requests received from the Board prior to November 1, 2002 for additional information to be included in this annual report.

APPENDIX A

FIGURES, GROUND TEMPERATURE GRAPHS



NOTES
ORIGINAL SCALE - 1:5000 - PLOTTING RATIO OF 1:1 (METRIC)
REDUCED SCALE OF 1:5000 - PLOTTING RATIO IS 1:5 (METRIC)
SHEET NUMBERS REFER TO 1:5000 STEWART WEIR LAND DATA MAPS

MAPPING BASED ON PHOTOGRAMMETRY BY STEWART WEIR , AUG. 1989

0 50 100 200 METERS

JAN/95 RJN/DWE

ECHO BAY MINES LTD.
FIGURE (1)

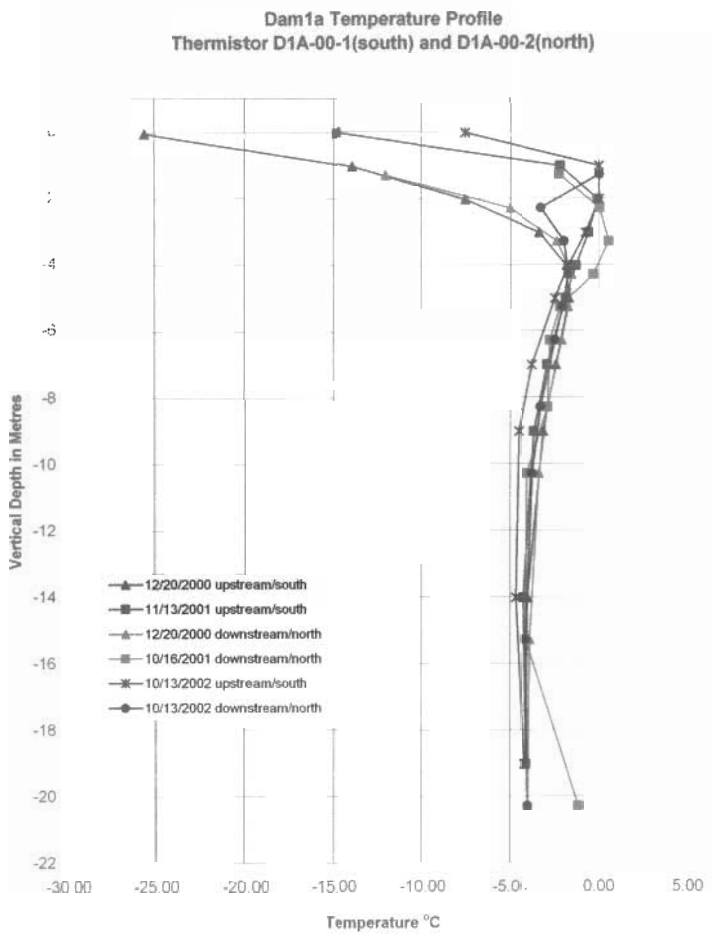
LUPIN DEVELOPMENT

LUPIN MINE
TAILINGS AREA

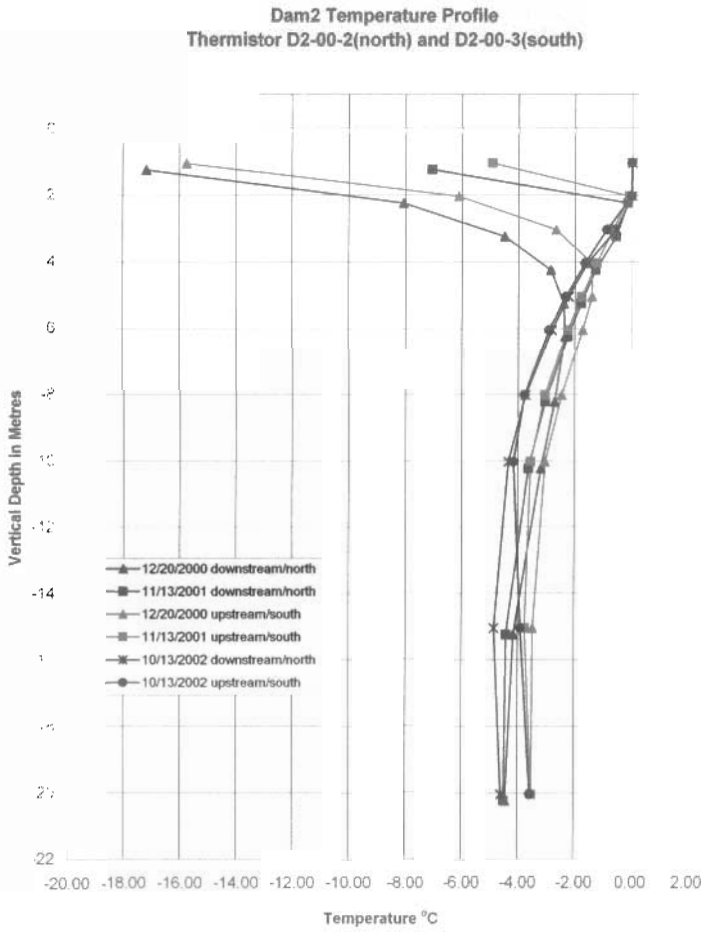
NTS

LUDAM8.DWG

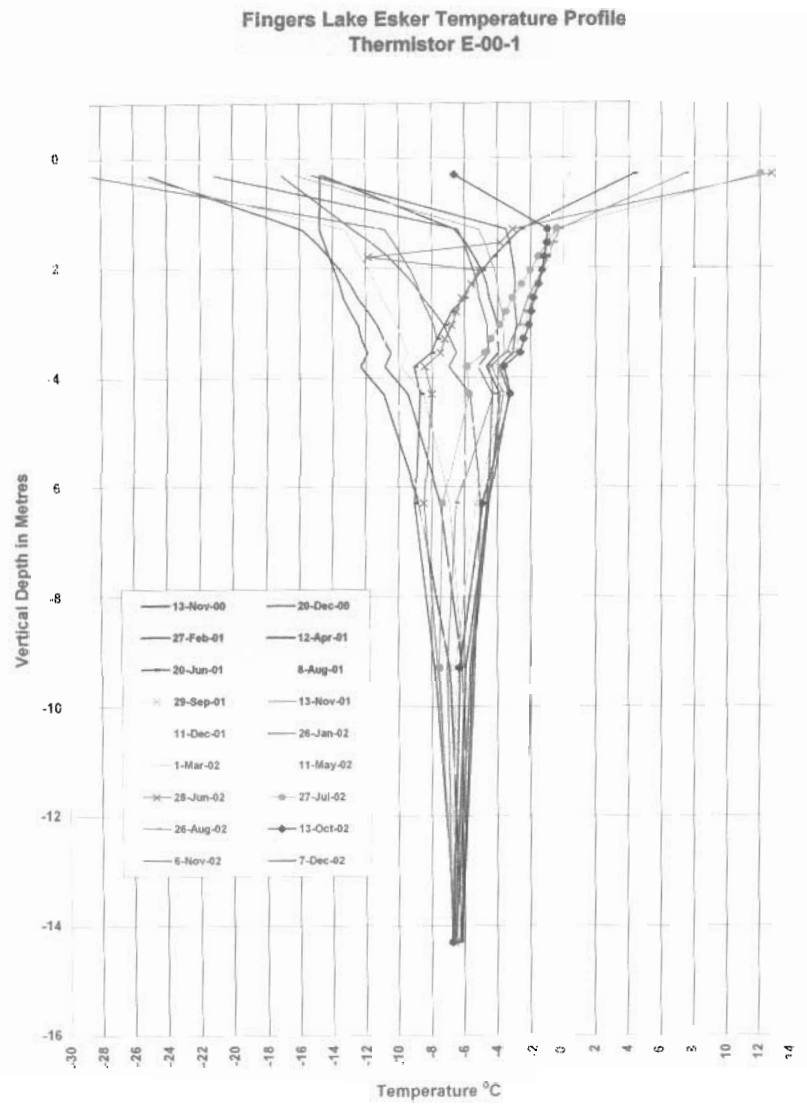
Graph No.1



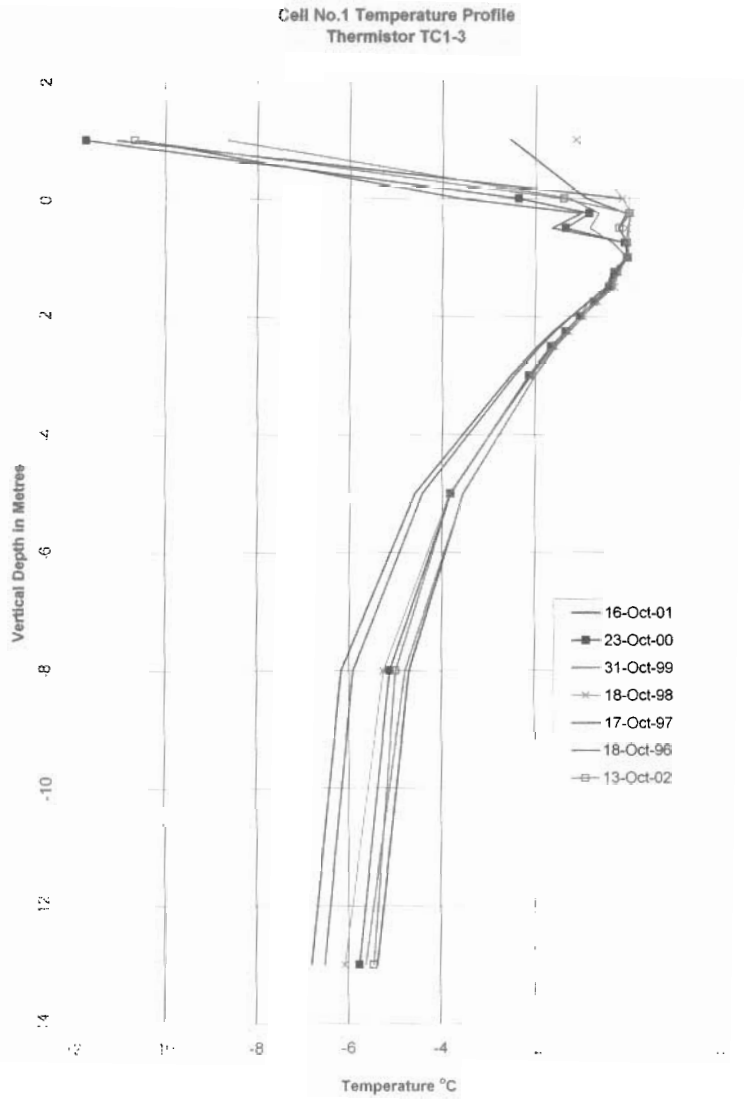
Graph No.2



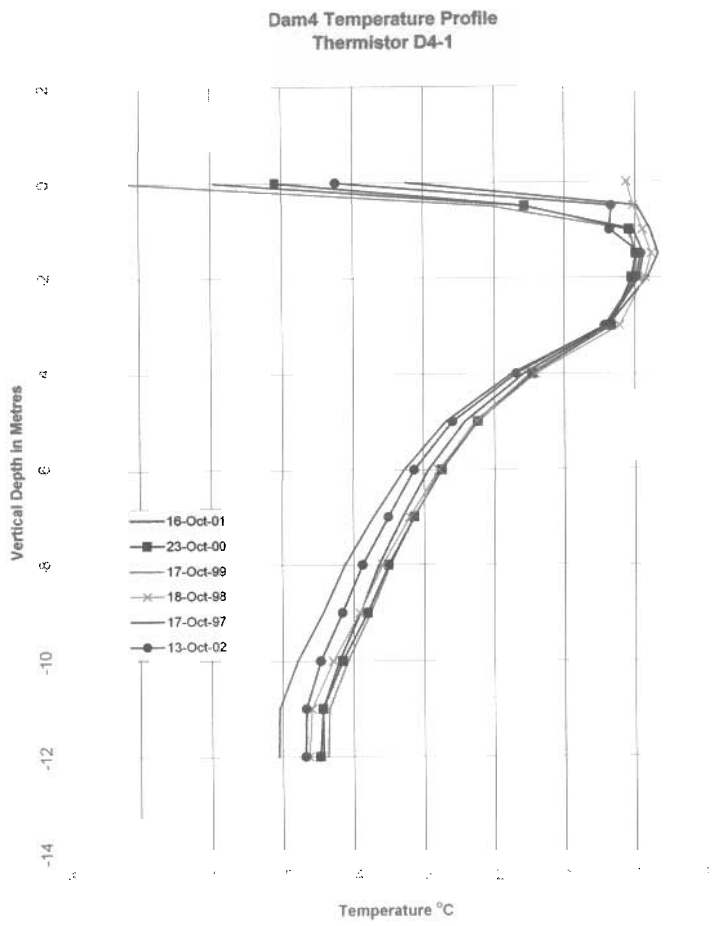
Graph No.3



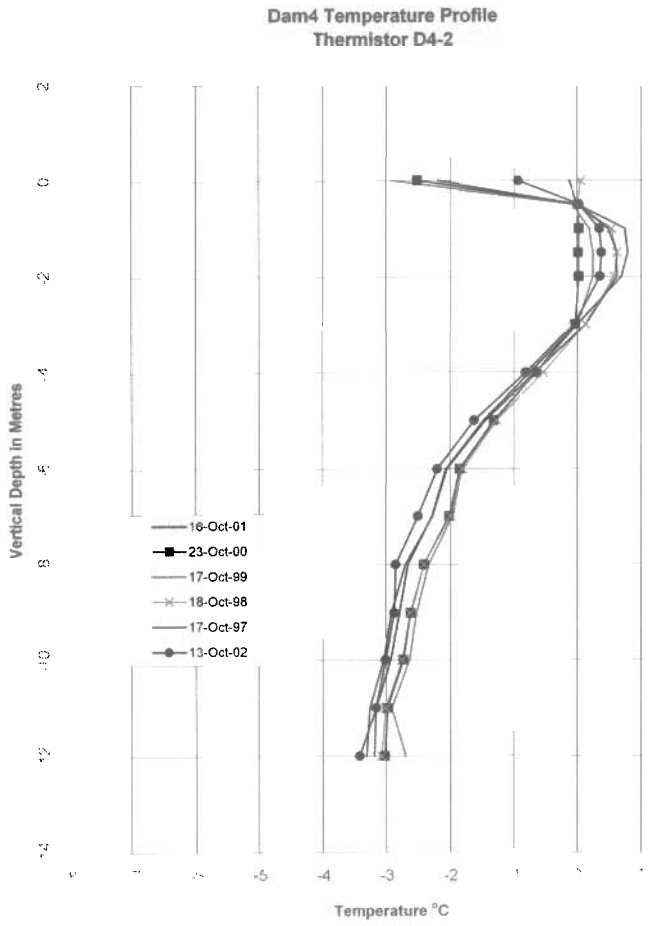
Graph No.4



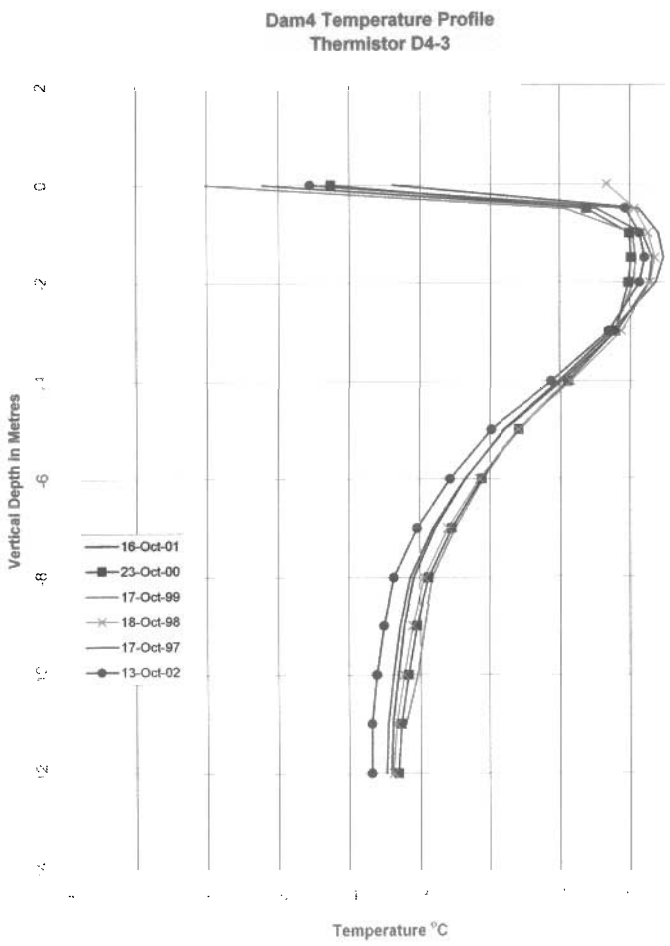
Graph No.5



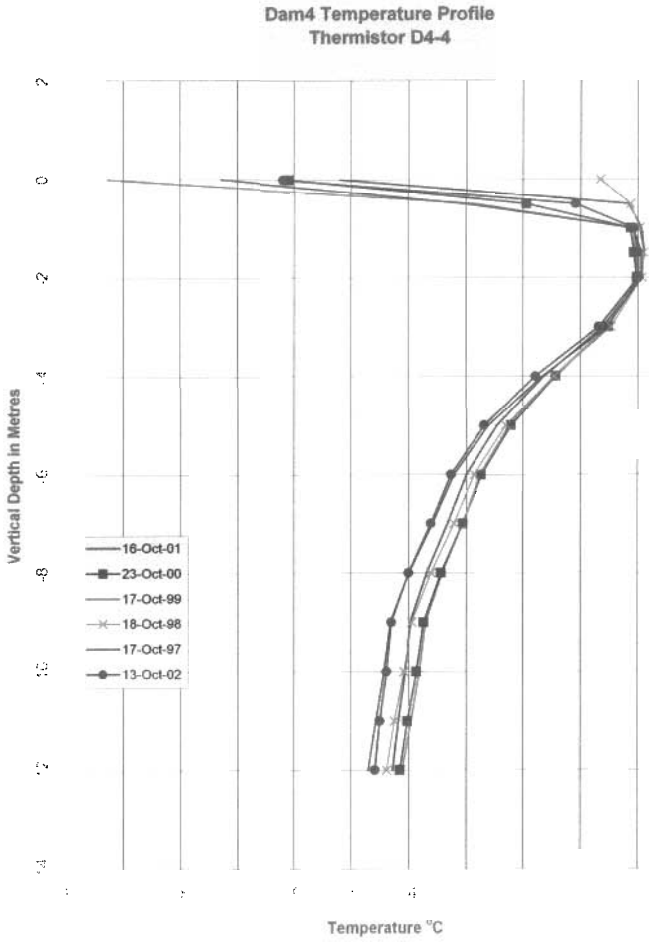
Graph No.6



Graph No.7



Graph No.8



APPENDIX B

PUMPING REPORT
SNP DATA
NORWEST METAL SCANS and
PHOTOS

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut

WATER LICENCE NWB1LUP0008

2002

PUMPING REPORT

(CUBIC METERS)*

TABLE NO.1

	FRESHWATER FROM CONTWOYTO LAKE (METERED)			WASTE DISCHARGED TO TAILINGS POND (CALCULATED)						
MONTH	TOTAL	PROCESS	POTABLE	TOTAL	SOLUTION	SOLIDS	ORE Milled TONNES	BACKFILL SOLIDS	MINEWATER (METERED)	SEWAGE (CALC.)
January-02	68,750	62,334	6,416 *	66,724	55,096	11,627	48,043	4,939	4,057	0
February-02	64,518	58,505	6,013	79,597	66,623	12,974	44,264	2,289	3,017	0
March-02	66,793	60,312	6,481	61,300	50,840	10,460	41,838	3,967	4,332	0
April-02	67,118	60,497	6,621	54,359	46,531	7,828	43,595	7,204	3,773	0
May-02	72,195	64,649	7,546	66,442	56,892	9,550	44,533	5,806	4,533	0
June-02	77,076	69,175	7,901	70,634	56,033	14,601	45,082	944	4,643	113,155
July-02	84,321	76,074	8,247	75,068	60,103	14,964	51,738	2,877	3,436	95,242
August-02	80,412	73,424	6,988	65,722	52,203	13,519	47,247	2,773	5,140	0
September-02	80,538	74,292	6,246	70,041	57,070	12,971	47,025	3,245	4,656	64,725
October-02	87,522	80,146	7,376	71,877	58,470	13,408	52,729	4,775	3,591	0
November-02	84,163	77,786	6,377	70,487	57,889	12,598	51,060	5,009	2,392	0
December-02	85,256	78,235	7,021	71,189	57,662	13,527	49,223	3,446	3,781	0
TOTAL (m^3)	918,662	835,431	83,231	823,441	675,413	148,028	566,377 t	47,274	47,352	273,122

ore milled reported in tonnes

ECHO BAY MINES LTD.
LUPIN GOLD MINE, Nunavut

WATER LICENCE NWB1LUP0008

SURVEILLANCE NETWORK PROGRAM

Station 925-01 and 925-14 (June 2002)

- all units are in mg/L except pH which is unitless and where otherwise indicated.

DATE	SAMPLING STATION	TEMP °C	pH	TSS	Total CN	Total As	TOTAL METALS Cd	Cu	Hg	Ni	Pb	Fe	Zn	TEMP °C	F-col #/100mL	T-Alk	BOD_5
15-Apr-02	925-01	3.5	6.38	< 1		0.0012	<0.0005	0.003	0.0004	<0.001	0.002		0.005		< 1		
6-Jun-02	925-14	5.6	7.17	1	-	0.0146	<0.0001	0.007		0.0226	0.0007		0.048		<1		<4

		Total Nitrate-N	Total Nitrite-N	TK-N	NH4-N	Total Ortho-P	Total Phosph.	Total O&G	Alk.	Hard.	uS/cm Cond.
15-Apr-02	925-01										19.9
6-Jun-02	925-14	7.19	<0.002	7.87	6.01	<0.05	0.09	n/v	24	364	

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut
Licence NWB1LUP008

July 2002 Discharge Flow Monitoring from Pond No.2 - Revised

Date	Time	Hours of Flow	Syphon No.1(4) Meter Reading	Syphon No.1(4) m^3/ Minute	Daily Flow m^3/day	Syphon No.2(3) Meter Reading	Syphon No.2(3) m^3/ Minute	Daily Flow m^3/day	Spare Syphon* Meter Reading	Spare Syphon* m^3/ Minute	Daily Flow m^3/day	Total Daily Discharge (m^3)	Cummulative Discharge (m^3)	Daily Water Drop (cm)	Cummulative Water Drop
7/15/2002	3:00 PM	0.0	1689.3	21.4	0		0.0	0	----	14.0	0	0	0	0	0
7/16/2002	9:30 AM	18.5	25106.7	20.7	25107		0.0	0	----	25.0	21645	46752	46752	6	6
7/17/2002	7:00 AM	21.5	47719.0	21.0	22612		0.0	0	----	24.0	31605	54217	100969	6	12
7/18/2002	6:45 AM	23.8	77455.6	20.2	29737		0.0	0	----	24.5	34556	64293	165262	7	19
7/19/2002	6:45 AM	24.0	106950.7	20.0	29495	3992474	0.0	0	----	24.5	35280	64775	230037	8	27
7/20/2002	6:30 AM	24.0	142977.0	25.4	36026	4015319	19.8	22845	----	0.0	11760	70631	300668	7	34
7/21/2002	8:00 AM	25.5	184054.5	25.5	41078	4045920	19.9	30601	----	0.0	0	71679	372347	7	41
7/22/2002	6:30 AM	22.5	218278.0	25.5	34224	4074967	19.9	29047	----	0.0	0	63271	435617	9	50
7/23/2002	6:30 AM	24.0	255565.3	25.5	37287	4106734	22.2	31767	----	0.0	0	69054	504671	5	55
7/24/2002	6:30 AM	24.0	292157.5	26.5	36592	4137909	21.8	31175	----	0.0	0	67767	572439	7	62
7/25/2002	6:30 AM	24.0	328981.9	25.0	36824	4169245	21.4	31337	----	0.0	0	68161	640600	7	69
7/26/2002	6:30 AM	24.0	364939.2	25.1	35957	4199667	21.9	30422	----	0.0	0	66379	706979	7	76
7/27/2002	6:30 AM	24.0	401073.5	25.7	36134	4231461	22.2	31794	----	0.0	0	67928	774907	7	83
7/28/2002	6:30 AM	24.0	437025.9	24.1	35952	4264441	23.6	32980	----	0.0	0	68932	843839	8	91
7/29/2002	6:30 AM	24.0	472673.3	24.1	35647	4298523	23.8	34082	----	0.0	0	69729	913568	6	97
7/30/2002	6:30 AM	24.0	508628.8	24.5	35956	4333229	23.5	34707	----	0.0	0	70662	984230	9	106
7/31/2002	6:30 AM	24.0	542435.9	23.1	33807	4351946	23.1	33552	----	0.0	14835	67359	1051590	8	114
8/1/2002	6:30 AM	24.0	575797.5	22.8	33362	4383646	23.0	31700				65062	1116651	8	122
July Totals/Averages			**575798**	**23.7**	**33870**	**406008**	**22.0**	**31231**	—	**22.4**	**26969**	**65685**	**1116651**	**7**	**122**

*Spare syphon discharge was calculated based on flow rate (m^3/min) and hours of flow using the following formula:

Daily Flow (m^3/day) = flow rate (m^3/min) x (60min/hour) x hours of flow

This total has been adjusted (by 14,835.4 cu. Metres) from the metered total due to a stoppage of the meter on July 31, 2002.

July 2002 Discharge from Sewage Pond:

Culvert total	87678.305 m3	July 1-29
Syphon Total	7563.9 m3	July 27-31
Total discharge for July	95242.205 m3	July 1-31

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut
Licence NWB1LUP008

August 2002 Discharge Flow Monitoring from Pond No.2; Revised October 24, 2002

Date	Time	Hours of Flow	Syphon No.1(4) Meter Reading	Syphon No.1(4) m^3/ Minute	Daily Flow m^3/day	Hours of Flow	Syphon No.2(3) Meter Reading	Syphon No.2(3) m^3/ Minute	Daily Flow m^3/day	Hours of Flow	Spare Syphon* Meter Reading	Spare Syphon* m^3/ Minute	Daily Flow m^3/day	Total Daily Discharge (m^3)	Cummulative Discharge (m^3)	Daily Water Drop (cm)	Cummulative Water Drop
8/1/2002	6:30 AM		575798	22.8			4383646	23 0			----	0	0	0	0	7	0
8/2/2002	6:30 AM	24.0	609059	23.1	33261	24.0	4416633	23.2	32987		----	0	0	66248	66248	6	0
8/3/2002	6:30 AM	24.0	643108	22.3	34049	24.0	4449749	21.9	33116		----	0	0	67165	133413	4	0
8/4/2002	6:30 AM	24.0	676331	22.0	33224	24.0	4481816	22.2	32067		----	0	0	65290	198704	3	3
8/5/2002	6:30 AM	24.0	708283	22.1	31952	24.0	4513244	22.3	31428		----	0	0	63380	262083	3	6
8/6/2002	6:30 AM	24.0	741280	22.1	32996	24.0	4545603	22.8	32359		----	0	0	65356	327439	3	9
8/7/2002	6:30 AM	24.0	773119	22.0	31839	24.0	4576974	21.4	31371		----	----	0	63210	390649	3	12
8/8/2002	6:30 AM	24 0	805259	22.1	32140	24.0	4608100	21.8	31126		----	----	0	63266	453915	3	15
8/9/2002	8:00 AM	22.5	839872	22.9	34613	22.5	4642169	21.3	34069		----	----	0	68683	522597	4	19
8/10/2002	7:00 AM	22.5	870827	21.8	30955	22.5	4673266	21.5	31097		----	----	0	62052	584649	2	21
8/11/2002	8:00 AM	25.0	902339	21.9	31512	25.0	4704482	21.3	31216		----	----	0	62728	647377	2	23
8/12/2002	6:30 AM	22.5	932833	21.8	30494	22.5	4733590	22.2	29108		----	----	0	59602	706979	4	27
8/13/2002	7:00 AM	24.5	965144	21.5	32311	24.5	4765185	21.2	31595		----	----	0	63906	770885	0	27
8/14/2002	6:30 AM	23.5	996053	21 4	30909	23.5	4794602	21.2	29417		----	----	0	60326	831212	4	31
8/15/2002	6:30 AM	24.0	1027042	21.8	30988	24.0	4824504	21.4	29903		----	----	0	60891	892102	3	34
8/16/2002	6:30 AM	24.0	1058443	20.5	31401	24.0	4855188	21.1	30683		----	----	0	62084	954187	1	35
8/17/2002	6:30 AM	24.0	1088957	20.6	30514	24.0	4885546	21.1	30358					60873	1015060	1	36
8/18/2002	6:30 AM	24.0	1119880	21.3	30922	24.0	4914946	20.6	29400					60322	1075381	1	37
8/19/2002	6:30 AM	24.0	1150550	20.9	30670	24.0	4944714	19.9	29768					60438	1135820	3	40
8/20/2002	6:30 AM	24.0	1180840	21.6	30290	24.0	4973763	19.9	29049					59339	1195159	4	44
8/21/2002	6:30 AM	24.0	1210614	20.7	29774	24.0	5002013	19.4	28250					58024	1253183	0	44
8/22/2002	6:30 AM	24.0	1239838	20.4	29224	24.0	5029879	18.9	27866					57090	1310273	0	44
8/23/2002	6:30 AM	24.0	1269148	19.6	29310	24.0	5058137	19.0	28258					57568	1367841	0	44
8/24/2002	6:30 AM	24 0	1297699	19 9	28551	24 0	5085818	19.8	27680					56231	1424072	0	44
8/25/2002	6:30 AM	24.0	1325791	19.4	28092	24.0	5112884	18.3	27066					55159	1479231	0	44
8/26/2002	6.30 AM	24 0	1353250	18.8	27459	24 0	5138957	17.4	26073					53532	1532763	8	52
8/27/2002	7:00 AM	24.5	1381738	18.9	28488	24 5	5166419	17.9	27462					55950	1588713	4	56
8/28/2002	6:30 AM	23.5	1402555	0.0	20818	23.5	5192033	18.4	25614					46432	1635144	4	60
8/29/2002	7:00 AM		Spare Syphon (started at 7:45am)			24 0	5219088	18.1	27055					27055	1662199	3	63
8/30/2002	7:00 AM		---		0	24.0	5244937	18.6	25849			17.4	0	25849	1688048	0	63
8/31/2002	7:00 AM		---		0	24.0	5270496	17.5	25559	23.3		16.8	23906	49465	1737513	3	66
9/1/2002	7:00 AM		---		0	24.0	5295822	16.9	25326	24.0	----	16.4	23904	49230	1786743	5	71
August Totals/Averages			**826758**	**20.5**	**27559**		**912176**	**20.0**	**28984**		**----**	**17**	**15937**	**57637**	**1786743**	**3**	**71**

*Spare syphon discharge was calculated based on flow rate (m^3/min) and hours of flow using the following formula:

Daily Flow (m^3/day) = flow rate (m^3/min) x (60min/hour) x hours of flow

Changes from September report include removing previous first day of month flow (this went onto July's report) and corrected times for spare syphon operating.

August 2002 Discharge from Sewage Pond:

	Culvert total	90 m3	
	Syphon Total	0 m3	
	Total discharge for August	90 m3	

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut
Licence NWB1LUP008

September 2002 Discharge Flow Monitoring from Pond No.2

Date	Time	Hours of Flow	Syphon No.1(4) Meter Reading	Syphon No.1(4) m^3/ Minute	Daily Flow m^3/day	Hours of Flow	Syphon No.2(3) Meter Reading	Syphon No.2(3) m^3/ Minute	Daily Flow m^3/day	Hours of Flow	Spare Syphon* Meter Reading	Spare Syphon* m^3/ Minute	Daily Flow m^3/day	Total Daily Discharge (m^3)	Cummulative Discharge (m^3)	Daily Water Drop (cm)	Cummulative Water Drop
9/1/2002	7:00 AM	Not operating					5295822										
9/2/2002	7:00 AM					24.0	5319697	23.0	23875	24.0		16.0	23328	47203	47203	7	7
9/3/2002	7:00 AM					24.0	5342297	23.2	22600	24.0		15.9	22982	45582	92785	6	13
9/4/2002	7:00 AM					24.0	5365930	21.9	23633	0.0		0.0	11462	35095	127881	4	17
9/5/2002	7:00 AM					24.0	5389332	22.2	23402	24.0		16.5	2970	26372	154253	3	20
9/6/2002	7:00 AM					24.0	5412224	22.3	22892	0.0		0.0		22892	177145	3	23
9/7/2002	7:30 AM					24.5	5434580	22 8	22356	0.0		0.0		22356	199501	3	26
9/8/2002																	
						Syphon was shut down for season											
September Totals/Averages							**138758**	**22.8**	**23126**		**----**	**16.1**	**16427**	**33250**	**199501**	**4**	**26**

*Spare syphon discharge was calculated based on flow rate (m^3/min) and hours of flow using the following formula:

Daily Flow (m^3/day) = flow rate (m^3/min) x (60min/hour) x hours of flow

**Flows recorded from initial date to day following to give a daily flow (ie. 6:30 a.m. September 01/02 to 6:30 a.m. September 02/02 is recorded on September 02/02.)

September 2002 Discharge from Sewage Pond:

Culvert total	15311.58 m3
Syphon Total	49,413 m3
Total discharge for August	64,725 m3

2002 Tailings Containment Area discharge summary:

July	1116651	m^3	
August	1786743	m^3	**Total m^3**
September	199501	m^3	3,102,895

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut
Licence NWB1LUP008

July SNP Sampling Report Rev.1 - Water Quality Results

*D-Daily *W-Weekly *M-Monthly				Routine Analysis				Total	Total	Total Metals (mg/L)							
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	As (mg/L)	CN (mg/L)	Zn	Cu	Pb	Ni	Cd	Alk. (mg/L)	NH_4 (mg/L)	Hard. (mg/L)
20014	7/3/2002	W	925-22	18.2	6.49	13.78	<1	0.0008	0.010	0.006	0.002	0.0001	0.0010	0.00002	<5	<0.05	4.5
20015	7/3/2002	W	925-24	11.6	6.34	14.09	2	0.0007	0.002	0.003	0.002	<0.0001	0.0011	<0.00001	<5	<0.05	4.5
20016	7/3/2002	W	925-25	8.4	6.33	14.07	1	0.0008	0.010	0.003	0.001	<0.0001	0.0011	<0.00001	<5	<0.05	4.5
20018	7/5/2002	M	925-14	16.3	6.96	442	<1	0.0094		0.030	0.004	0.0002	0.0128	0.00004	10	5.54	529
20037	7/9/2002	W	925-22	14.6	6.51	13.83	----	0.0007	<0.002	0.004	0.002	<0.0001	0.0006	<0.00001	----	<0.05	<7
20038	7/9/2002	W	925-24	9.67	6.39	14.13	----	0.0008	0.006	0.004	0.002	0.0002	0.0011	0.00001	----	<0.05	3.4
20039	7/9/2002	W	925-25	8.17	6.39	14.13	----	0.0007	0.004	0.004	<0.001	<0.0001	0.0007	<0.00001	----	<0.05	6.4
20046	7/15/2002	D	925-10	14.7	7.01	858	<1	0.0149	0.004	0.191	0.012	0.0005	0.0807	0.00019	20	1.08	245
20047	7/16/2002	W	925-20	14.7	6.45	163	4	0.0084	<0.002	0.022	0.007	<0.0001	0.0228	0.00004	9	<0.05	50.3
20048	7/16/2002	W	925-21	14.3	6.26	12.4	<1	0.0004	<0.002	<0.001	0.002	<0.0001	0.0005	<0.00001	<5	<0.05	4.6
20049	7/16/2002	W	925-22-1	14.4	6.27	13.5	1	0.0007	<0.002	0.001	0.002	<0.0001	0.0009	<0.00001	<5	<0.05	4.7
20052	7/16/2002	W	925-24	13.4	6.26	13.4	<1	0.0007	<0.002	<0.001	0.004	<0.0001	0.0008	<0.00001	<5	<0.05	4.4
20053	7/16/2002	W	925-25	9 5	6.24	13.3	1	0.0006	<0.002	0.002	0.003	0.0001	0.0007	<0.00001	<5	<0.05	3.7
20055	7/16/2002	D	925-10	14.2	6 68	---	<1	0.0075	<0.002	0.194	0.007	---	---	---	---	---	---
20068	7/17/2002	D	925-10	13.4	6.97	---	1	0.0087	0.006	0.206	0.014	---	---	---	---	---	---
20069	7/18/2002	D	925-10	13.3	7.17	853	<1	0.0070	0.008	0.185	0.007	---	---	---	---	---	---
20070	7/19/2002	D	925-10-1	14.2	7.12	851	<1	0.0071	0.012	0.185	0.007	---	---	---	---	---	---
20073	7/20/2002	D	925-10	14.4	7.19	880	<1	0.0111	0.022	0.225	0.010	---	---	---	---	---	---
20074	7/21/2002	D	925-10	15.6	7.00	866	<1	0.0071	0.018	0.190	0.007	---	---	---	---	---	---
20075	7/22/2002	W	925-10	15.6	7.20	878	<1	0.0069	0 014	0.186	0.007	0.0002	0.0775	0.00017	10	1.06	233
20077	7/23/2002	D	925-10	16.2	6.90	855	<1	0.0074	0.098	0.196	0.007	---	---	---	---	---	---
20078	7/23/2002	W	925-20	21.1	6 34	802	<1	0.0038	0.046	0.131	0.003	0.0003	0.0775	0.00019	<5	0.56	217
20079	7/23/2002	W	925-21	20.8	6.50	11.9	<1	0.0005	0.002	0.001	0.002	0 0001	0.0007	<0.00001	<5	<0.05	5.1
20080	7/23/2002	W	925-22-1	20.4	6.43	179	<1	0.0011	0.014	0.021	0.001	<0.0001	0.0134	0.00002	<5	<0.05	45.1
20083	7/23/2002	W	925-24	15.4	6.56	53.7	<1	0.0008	0.004	0.011	0.002	<0.0001	0.0035	<0.00001	<5	<0.05	14.2
20084	7/23/2002	W	925-25	11.2	6.43	12.9	<1	0.0006	0.002	0.002	0.001	<0.0001	0.0011	<0 00001	<5	<0.05	4.3
20086	7/24/2002	D	925-10	16.7	6.93	853	<1	0.0073	0.104	0.194	0.007	---	---	---	---	---	---
20090	7/25/2002	D	925-10	17.9	7.05	843	<1	0.0078	0.096	0.201	0.007	---	---	---	---	---	---
20091	7/26/2002	D	925-10	18.1	7.16	852	<1	0.0076	0.140	0.205	0.008	---	---	---	---	---	---
20092	7/27/2002	D	925-10	15.8	7.14	846	<1	0.0079	0.132	0 213	0.007	---	---	---	---	---	---
20093	7/28/2002	D	925-10	15.1	7 14	847	<1	0.0085	0.136	0.209	0 007	---	---	---	---	---	---
20094	7/29/2002	W	925-10-1	12.8	7.10	---	2	0.0121	0.144	0.209	0.007	0.0003	0.0866	0.00022	13	1.32	243
20098	7/30/2002	D	925-10	11.6	6.91	---	5	0.0109	0.092	0.207	0.007	---	---	---	---	---	---
20099	7/31/2002	D	925-10	10.8	6.79	---	2	0.0800	0.080	0.206	0.006	---	---	---	---	---	---

*D-Daily *W-Weekly *M-Monthly				Nutrient Analysis													
Log No.	Date		Station	Total Nitrate (mg/L)	Total N (mg/L)	Total Nitrite (mg/L)	Total OrthoP (mg/L)	Total Phosphorus (mg/L)	Faecal Coliform (CFU/100mL)	G/O Sheen (mg/L)	BOD (mg/L)						
20018	7/5/2002	M	925-14	9.5	5.93	<0.002	<0.05	0.15	<1	5	<4						

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut
Licence NWB1LUP008

August SNP Sampling Report - Water Quality Results

*D-Daily *W-Weekly *M-Monthly				Routine Analysis				Total	Total	Total Metals (mg/L)							
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	As (mg/L)	CN (mg/L)	Zn	Cu	Pb	Ni	Cd	Alk. (mg/L)	NH_4 (mg/L)	Hard. (mg/L)
20108	8/1/2002	D	925-10	9.0	6.85	---	2	0.0085	0.076	0.204	0.006	---	---	---	---	---	---
20110	8/2/2002	D	925-10	9.7	6.74	---	1	0.0080	0.062	0.197	0.006	---	---	---	---	---	---
20100	8/2/2002	W	925-20	10.7	6.41	820	<1	0.0028	0.006	0.151	0.003	0.0001	0.0804	0.00017	5	0.53	228
20101	8/2/2002	W	925-21	10.1	6.14	11.8	<1	0.0004	<0.002	<0.001	0.001	<0.0001	<0.0005	<0.00001	<5	0.07	4.9
20102	8/2/2002	W	925-22-1	8.4	6.19	392	<1	0.0013	0.002	0.055	0.002	0.0001	0.0317	0.00005	<5	0.21	100
20103	8/2/2002	W	925-22-2	8.2	6.18	396	1	0.0013	0.004	0.056	0.002	0.0002	0.0319	0.00006	<5	0.23	101
20104	8/2/2002	W	925-22-3	8.5	6.19	368	<1	0.0012	0.002	0.046	0.001	<0.0001	0.0280	0.00005	<5	0.18	92
20105	8/2/2002	W	925-24	9.2	5.81	184	<1	0.0008	<0.002	0.034	0.001	<0.0001	0.0102	<0.00001	5	0.12	44.9
20106	8/2/2002	W	925-25	8.6	5.69	34.2	<1	0.0005	<0.002	0.004	0.001	<0.0001	0.0015	<0.00001	<5	0.09	8.5
20111	8/3/2002	D	925-10	10.2	6.86	---	<1	0.0099	0.060	0.200	0.006	---	---	---	---	---	---
20118	8/4/2002	D	925-10	10.4	6.55	---	<1	0.0071	0.080	0.173	0.004	---	---	---	---	---	---
20123	8/5/2002	W	925-10	10.8	6.85	847	2	0.0104	0.082	0.197	0.006	0.0006	0.0893	0.00019	9	0.81	228
20124	8/6/2002	D	925-10	11.4	6.98	---	1	0.0115	0.104	0.201	0.006	---	---	---	---	---	---
20125	8/6/2002	W	925-20	11.3	6.45	832	<1	0.0028	0.008	0.176	0.003	0.0001	0.0870	0.00023	5	0.46	232
20126	8/6/2002	W	925-21	11.4	6.28	12.3	<1	0.0005	0.002	0.006	0.001	0.0002	0.0006	<0.00001	<5	<0.05	5.2
20127	8/6/2002	W	925-22-1	11.2	6.28	335	2	0.0012	0.002	0.058	0.003	0.0006	0.0249	0.00004	<5	0.22	88.1
20128	8/6/2002	W	925-22-2	11.7	6.29	326	<1	0.0012	0.006	0.045	0.002	0.0003	0.0237	0.00004	<5	0.17	86.3
20129	8/6/2002	W	925-22-3	11.8	6.29	334	<1	0.0012	0.008	0.050	0.002	0.0004	0.0246	0.00006	<5	0.17	87.3
20130	8/6/2002	W	925-24	11.6	6.26	271	<1	0.0012	0.006	0.035	0.003	0.0008	0.0152	0.00003	<5	0.08	69.1
20131	8/6/2002	W	925-25	10.0	6.34	26.4	<1	0.0005	0.002	0.008	0.002	0.0002	0.0017	<0.00001	<5	<0.05	7.3
20133	8/7/2002	D	925-10	11.2	6.75	---	<1	0.0132	0.092	0.201	0.006	---	---	---	---	---	---
20134	8/8/2002	D	925-10	11.3	6.89	---	<1	0.0123	0.092	0.247	0.007	---	---	---	---	---	---
20135	8/9/2002	D	925-10	12.4	6.83	---	<1	0.0157	0.098	0.195	0.006	---	---	---	---	---	---
20136	8/10/2002	D	925-10	12.2	6.77	---	1	0.0145	0.088	0.194	0.006	---	---	---	---	---	---
20137	8/11/2002	D	925-10	12.1	6.73	---	2	0.0146	0.080	0.195	0.006	---	---	---	---	---	---
20138	8/12/2002	W	925-10-1	15.9	6.95	855	<1	0.0108	0.078	0.193	0.006	0.0004	0.0838	0.00018	10	1.36	218
20141	8/12/2002	W	925-10-2	---	6.33	881	1	0.0132	0.074	0.190	0.005	0.0003	0.0831	0.00017	9	1.36	223
20142	8/12/2002	W	925-10-3	---	6.64	880	<1	0.0131	0.070	0.195	0.005	0.0004	0.0841	0.00016	8	1.31	222
20143	8/13/2002	D	925-10	11.6	6.98	---	2	0.0149	0.080	0.177	0.005	---	---	---	---	---	---
20144	8/14/2002	D	925-10	10.8	7.07	---	<1	0.0160	0.084	0.173	0.006	---	---	---	---	---	---
20145	8/14/2002	W	925-20	12.7	6.58	802	2	0.0034	0.012	0.153	0.003	0.0006	0.0751	0.00017	28	0.66	210
20146	8/14/2002	W	925-21	12.3	6.46	11.9	<1	0.0005	0.002	<0.001	<0.001	0.0002	0.0005	<0.00001	<5	<0.05	4.8
20147	8/14/2002	W	925-22-1	10.9	6.36	383	<1	0.0013	0.006	0.060	0.002	<0.0001	0.0303	0.00007	<5	0.21	92.8
20148	8/14/2002	W	925-22-2	11.0	6.39	384	<1	0.0020	0.010	0.061	0.002	<0.0001	0.0297	0.00007	<5	0.2	92.9
20149	8/14/2002	W	925-22-3	11.1	6.42	383	<1	0.0013	0.008	0.062	0.002	<0.0001	0.0293	0.00007	<5	0.21	91.3
20150	8/14/2002	W	925-24	11.1	6.29	342	<1	0.0010	0.006	0.041	0.002	<0.0001	0.0187	0.00005	<5	0.11	82.8
20151	8/14/2002	W	925-25	10.4	6.48	52.2	<1	0.0005	0.002	0.005	0.001	<0.0001	0.0026	<0.00001	<5	<0.05	12
20153	8/15/2002	D	925-10	11.3	6.61	---	2	0.0162	0.086	0.189	0.006	---	---	---	---	---	---
20155	8/16/2002	D	925-10	10.8	6.73	---	<1	0.0160	0.088	0.186	0.007	---	---	---	---	---	---

August SNP Sampling Report - Water Quality Results

*D-Daily *W-Weekly *M-Monthly				Routine Analysis				Total	Total	Total Metals (mg/L)							
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	As (mg/L)	CN (mg/L)	Zn	Cu	Pb	Ni	Cd	Alk. (mg/L)	NH_4 (mg/L)	Hard. (mg/L)
20156	8/17/2002	D	925-10	10.4	6.77	---	<1	0.0179	0.088	0.181	0.007	---	---	---	---	---	---
20157	8/18/2002	D	925-10	10.4	6.84	---	2	0.0195	0.088	0.176	0.008	---	---	---	---	---	---
20164	8/19/2002	W	925-10-1	9.7	7.12	884	2	0.0196	0.084	0.181	0.008	0.0006	0.0813	0.00020	<5	2.09	224
20165	8/19/2002	W	925-10-2	9.7	7.18	885	<1	0.0194	0.084	0.176	0.007	0.0004	0.0816	0.00018	<5	2.09	223
20166	8/19/2002	W	925-10-3	9.6	7.21	885	2	0.0187	0.084	0.177	0.008	0.0005	0.0796	0.00018	<5	2.1	223
20168	8/20/2002	D	925-10	7.9	7.23	---	2	0.0201	0.080	0.186	0.007	---	---	---	---	---	---
20169	8/20/2002	W	925-20	8.7	6.79	792	<1	0.0044	0.016	0.153	0.007	0.0002	0.0771	0.00015	6	1.18	208
20170	8/20/2002	W	925-21	9.3	5.44	12.3	<1	0.0005	0.012	0.008	0.003	0.0001	0.0012	<0.00001	<5	<0.05	4.4
20171	8/20/2002	W	925-22-1	7.1	6.39	420	<1	0.0017	0.006	0.072	0.002	0.0002	0.0330	0.00008	<5	0.32	103
20172	8/20/2002	W	925-22-2	7.3	6.39	421	<1	0.0015	0.008	0.073	0.006	0.0001	0.0332	0.00006	<5	0.34	103
20173	8/20/2002	W	925-22-3	6.8	6.38	403	<1	0.0013	0.010	0.082	0.002	0.0001	0.0293	0.00007	<5	0.24	99.2
20174	8/20/2002	W	925-24	8.3	6.43	295	<1	0.0013	0.004	0.045	0.001	0.0001	0.0198	0.00004	<5	0.14	70.4
20175	8/20/2002	W	925-25	8.5	6.38	28	1	0.0006	0.002	0.011	0.005	0.0012	0.0038	<0.00001	<5	<0.05	7.1
20177	8/21/2002	D	925-10	8.6	6.95	---	2	0.0207	0.076	0.187	0.006	---	---	---	---	---	---
20178	8/22/2002	D	925-10	8.7	7.60	---	3	0.0200	0.078	0.192	0.006	---	---	---	---	---	---
20179	8/23/2002	D	925-10	8.9	6.99	---	2	0.0198	0.080	0.176	0.013	---	---	---	---	---	---
20180	8/24/2002	D	925-10	9.6	7.01	---	2	0.0183	0.078	0.175	0.007	---	---	---	---	---	---
20181	8/25/2002	D	925-10	9.4	7.00	---	1	0.0184	0.066	0.186	0.018	---	---	---	---	---	---
20182	8/26/2002	W	925-10-1	9.8	7.03	874	3	0.0182	0.080	0.172	0.006	0.0003	0.0181	0.00016	11	2.43	226
20183	8/26/2002	W	925-10-2	9.7	6.95	879	2	0.0185	0.078	0.173	0.034	0.0003	0.0803	0.00016	10	2.38	227
20184	8/26/2002	W	925-10-3	9.8	6.94	877	1	0.0182	0.066	0.169	0.007	0.0003	0.0881	0.00016	10	2.37	228
20186	8/27/2002	D	925-10	10.2	7.12	---	1	0.0179	0.060	0.195	0.006	---	---	---	---	---	---
20187	8/31/2002	W	925-20	11.9	6.35	519	2	0.0043	0.008	0.130	0.004	0.0001	0.0598	0.00014	<5	0.48	129
20188	8/31/2002	W	925-22-2	11.4	6.46	400	<1	0.0022	0.006	0.077	0.003	0.0003	0.0333	0.00009	<5	0.4	96.3
20190	8/31/2002	W	925-22-1	11.4	6.42	387	2	0.0019	0.006	0.069	0.002	<0.0001	0.0326	0.00008	<5	0.38	91.1
20191	8/31/2002	W	925-21	14.2	6.69	13	<1	0.0003	<0.002	0.004	<0.001	<0.0001	0.0006	<0.00001	6	<0.05	4.4
20192	8/31/2002	W	925-22-3	11.4	6.69	375	<1	0.0019	0.006	0.064	0.002	<0.0001	0.0308	0.00007	<5	0.33	85.7
20193	8/31/2002	W	925-24	11.2	6.75	389	<1	0.0013	0.004	0.056	0.001	<0.0001	0.0236	0.00005	5	0.2	90.9
20194	8/31/2002	W	925-25	9.6	6.83	39	<1	0.0005	<0.002	0.006	0.001	<0.0001	0.0021	<0.00001	<5	<0.05	9.3
20196	8/28/2002	D	925-10	10.4	6.94	---	<1	0.0171	0.066	0.183	0.01	---	---	---	---	---	---
20197	8/29/2002	D	925-10	10.1	6.95	---	2	0.0198	0.066	0.189	0.006	---	---	---	---	---	---
20198	8/30/2002	D	925-10	10.7	6.94	---	1	0.0191	0.070	0.187	0.008	---	---	---	---	---	---
20199	8/31/2002	D	925-10	10.6	7.10	---	1	0.0180	0.072	0.177	0.006	---	---	---	---	---	---

Note: See attached analyses Report from Norwest Labs. Ltd. for the monthly metal scan at station 925-10 on the 19th August 2002.

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut
Licence NWB1LUP008

September SNP Sampling Report - Water Quality Results

*D-Daily *W-Weekly *M-Monthly				Routine Analysis				Total	Total	Total Metals (mg/L)					Alk.	NH_4	Hard.
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	As (mg/L)	CN (mg/L)	Zn	Cu	Pb	Ni	Cd	(mg/L)	(mg/L)	(mg/L)
20201	9/1/2002	D	925-10	9.8	7.13	—	2	0.0178	0.064	0.191	0.006	—	—	—	—	—	—
20202	9/2/2002	W	925-10-1	9.2	7.01	9.6	<1	0.0180	0.072	0.185	0.006	0.0003	0.0796	0.00016	27	2.02	226
20205	9/3/2002	D	925-10	9.0	6.99		<1	0.0163	0.086	0.172	0.006						
20206	9/4/2002	D	925-10	8.8	6.94		2	0.0162	0.048	0.171	0.006						
20207	9/5/2002	D	925-10	7.6	6.95		2	0.0199	0.062	0.169	0.008						
20208	9/5/2002	W	925-20	7.0	6.44	670	<1	0.0036	0.006	0.129	0.004	0.0002	0.0717	0.00015	<5	1.14	169
20209	9/5/2002	W	925-21	8.6	6.47	13.8	1	0.0005	0.002	0.003	0.002	<0.0001	0.0007	<0.00001	<5	<0.05	5
20210	9/5/2002	W	925-22-1	7.6	6.42	253	1	0.0015	0.004	0.052	0.013	0.0006	0.0238	0.00008	<5	0.33	59.3
20213	9/5/2002	W	925-24	8.4	6.39	333	<1	0.0014	0.002	0.045	0.004	0.0001	0.0231	0.00005	<5	0.35	77.7
20214	9/5/2002	W	925-25	8.9	6.56	92.2	2	0.0007	<0.002	0.012	0.002	0.0001	0.0056	0.00002	<5	0.05	21.3
20216	9/6/2002	D	925-10	7.6	6.83		2	0.0171	0.058	0.172	0.006						
20217	9/7/2002	D	925-10	7.9	6.91		1	0.0174	0.054	0.171	0.007	0.0003	0.0823	0.00019		2.49	
20220	9/9/2002	M	925-14		5.85		7	0.0140		0.111	0.018	<0.0001	0.046	0.00033	<5	9.03	909
20221	9/10/2002	W	925-22-1	10.5	6.62	216	2	0.0012	0.004	0.035	0.002	<0.0001	0.0188	0.00004	<5	0.2	50.5
20224	9/10/2002	W	925-24	10.1	6.36	278	1	0.0012	0.004	0.042	0.004	0.0002	0.0213	0.00003	<5	0.25	66.1
20225	9/10/2002	W	925-25	9.8	6.59	51.6	<1	0.0005	0.002	0.009	0.001	0.0001	0.0035	0.00004	<5	<0.05	12
20227	9/10/2002		Blank		5.33	2.2	1	<0.0002	<0.002	0.011	0.008	0.0004	<0.0005	0.00001	<5	<0.05	<1
20236	9/16/2002		925-14		5.96	3850	8	0.0096		0 104	0 007	<0.0005	0.0402	0.00015	<5	8.87	
20237	9/19/2002	W	925-22-1	7 1	6.57	51.7	2	0.0009	0 004	0.014	0.002	<0.0001	0.007	0.00002	6	0.05	13
20240	9/19/2002	W	925-24	7.4	6.34	153	<1	0 0011	0.004	0.027	0.002	<0.0001	0.0131	0.00002	<5	0.14	35.7
20241	9/19/2002	W	925-25	8.2	6.51	66 5	<1	0.0005	0.006	0.012	0.001	<0.0001	0.0046	0.00001	<5	0.10	15.5
20242	9/19/2002	W	Blank		5.84	2.5	2	<0.0002	0.004	0.050	0.007	0.0004	<0.0005	0.00002	<5	<0.05	<1
20140	8/8/2002		104a	11.3	7.43	904	<1	0.0851	0.022	0.093	0.026	0.0069	0.079	0.00006	36	10.5	188

Station 104a (Pond 1) Bioassay Sample

*D-Daily *W-Weekly *M-Monthly				Nutrient Analysis													
Log No.	Date		Station	Total Nitrate (mg/L)	Total N (mg/L)	Total Nitrite (mg/L)	Total OrthoP (mg/L)	Total Phosphorus (mg/L)	Faecal Coliform (CFU/100mL)	G/O Sheen (mg/L)	BOD (mg/L)						
20220	9/9/2002	M	925-14	19.2	9.68	<0.01	<0.05	0.09	1	n/v	<4						
20236	9/16/2002		925-14	20.7	9.57	<0.02	<0.05	0.14	2	n/v	<4						

Note: Revised November 2002

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut
Licence NWB1LUP008

July SNP Sampling Quality Control Rev.1

*D-Daily *W-Weekly *M-Monthly				Routine Analysis				Total	Total	Total Metals (mg/L)							
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	As (mg/L)	CN (mg/L)	Zn	Cu	Pb	Ni	Cd	Alk. (mg/L)	NH_4 (mg/L)	Hard. (mg/L)
20017	7/4/2002	W	Blank	---	5.40	---	<1	<0.0002	<0.002	0.002	0.006	0.0008	<0.0005	<0.00001	<5	<0.05	<0.7
20030	7/9/2002	W	Blank	----	----	----	----	<0.0002	<0.002	0.004	0.003	0.0002	<0.0005	<0.00001	----	<0.05	3.9
20054	7/16/2002	W	Blank		7.14	1.2	1	<0.0002	<0.002	0.002	0.001	<0.0001	<0.0005	<0.00001	9	<0.05	<0.7
20076	7/22/2002	W	Blank		5.33	2.3	<1	<0.0002	0.004	0.002	0.004	0.0003	<0.0005	<0.00001	<5	<0.05	1.3
20085	7/23/2002	W	Blank		5.31	1.1	<1	<0.0002	0.002	0.003	0.002	0.0002	<0.0005	<0.00001	<5	<0.05	<0.7
20097	7/29/2002	W	Blank	---	4.91	1.3	<1	<0.0002	<0.002	0.002	0.005	0.0002	<0.0005	<0.00001	<5	<0.05	1.7
20070	7/19/2002	W	925-10-1	14.2	7.12	851	<1	0.0071	0.012	0.185	0.007	---	---	---	---	---	---
20071	7/19/2002	W	925-10-2	14.2	7.18	851	<1	0.0070	0.014	0.187	0.007	---	---	---	---	---	---
20072	7/19/2002	W	925-10-3	14.1	7.19	844	<1	0.0069	0.012	0.184	0.007	---	---	---	---	---	---
20094	7/29/2002	W	925-10-1	12.8	7.10	840	2	0.0121	0.144	0.209	0.007	0.0003	0.0866	0.00022	13	1.32	243
20095	7/29/2002	W	925-10-2	12.7	7.06	841	2	0.0105	0.136	0.205	0.006	0.0002	0.0851	0.00021	10	1.30	245
20096	7/29/2002	W	925-10-3	12.8	7.00	849	<1	0.0112	0.130	0.213	0.007	0.0003	0.0877	0.00024	9	1.29	245
20049	7/16/2002	W	925-22-1	14.4	6.27	13.5	1	0.0007	<0.002	0.001	0.002	<0.0001	0.0009	<0.00001	<5	<0.05	4.7
20050	7/16/2002	W	925-22-2	14.4	6.26	13.7	<1	0.0008	<0.002	<0.001	0.003	<0.0001	0.0008	<0.00001	<5	<0.05	4.7
20051	7/16/2002	W	925-22-3	14.4	6.26	14.1	<1	0.0008	<0.002	<0.001	0.001	<0.0001	0.0012	<0.00001	<5	<0.05	4.5
20080	7/23/2002	W	925-22-1	20.4	6.43	179	<1	0.0011	0.014	0.021	0.001	<0.0001	0.0134	0.00002	<5	<0.05	45.1
20081	7/23/2002	W	925-22-2	20.7	6.46	178	<1	0.0012	0.010	0.021	0.002	<0.0001	0.0130	0.00003	<5	<0.05	45.1
20082	7/23/2002	W	925-22-3	20.3	6.42	178	<1	0.0012	0.010	0.019	0.001	<0.0001	0.0125	0.00003	5	0.11	44.5

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut
Licence NWB1LUP008

August SNP Sampling Quality Control

*D-Daily *W-Weekly *M-Monthly				Routine Analysis				Total	Total	Total Metals (mg/L)								
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	As (mg/L)	CN (mg/L)	Zn	Cu	Pb	Ni	Cd	Alk. (mg/L)	NH_4 (mg/L)	Hard. (mg/L)
20109	8/1/2002	W	Blank	---	4.90	---	<1	<0.0002	<0.002	0.002	0.005	---	---	---	---	---	---
20107	8/2/2002	W	Blank	---	4.67	2.1	<1	<0.0002	<0.002	<0.001	0.005	0.0002	<0.0005	<0.00001	<5	0.08	<0.7
20132	8/6/2002	W	Blank	---	5.09	1.2	<1	<0.0002	0.004	0.005	0.006	0.0004	<0.0005	0.00001	<5	<0.05	<0.7
20139	8/12/2002	W	Blank	---	5.55	1.0	<1	<0.0002	0.008	0.002	0.004	0.0004	<0.0005	<0.00001	<5	<0.05	0.6
20152	8/14/2002	W	Blank	---	4.72	1.8	<1	<0.0002	0.002	<0.001	0.004	0.0004	<0.0005	<0.00001	<5	<0.05	<1
20167	8/19/2002	W	Blank	---	3.56	3.6	<1	<0.0002	0.002	0.006	0.003	0.0003	<0.0005	<0.00001	<5	<0.05	<1
20176	8/20/2002	W	Blank	---	5.35	1.0	1	<0.0002	0.004	0.009	0.004	0.0003	0.0006	<0.00001	<5	<0.05	<1
20185	8/26/2002	W	Blank	---	3.96	3.9	1	<0.0002	0.004	0.007	0.005	0.0002	<0.0005	<0.00001	<5	<0.05	1
20195	8/28/2002	W	Blank	---	5.90	1.1	<1	<0.0002	<0.002	0.002	0.002	<0.0001	<0.0005	<0.00001	<5	<0.05	2.3
20200	8/31/2002	W	Blank	---	5.77	1.3	<1	<0.0002	<0.002	0.003	0.002	0.0002	<0.0005	<0.00001	<5	<0.05	<1
20102	8/2/2002	W	925-22-1	8.4	6.19	392	<1	0.0013	0.002	0.055	0.002	0.0001	0.0317	0.00005	<5	0.21	100
20103	8/2/2002	W	925-22-2	8.2	6.18	396	1	0.0013	0.004	0.056	0.002	0.0002	0.0319	0.00006	<5	0.23	101
20104	8/2/2002	W	925-22-3	8.5	6.19	368	<1	0.0012	0.002	0.046	0.001	<0.0001	0.0280	0.00005	<5	0.18	92
20127	8/6/2002	W	925-22-1	11.2	6.28	335	2	0.0012	0.002	0.058	0.003	0.0006	0.0249	0.00004	<5	0.22	88.1
20128	8/6/2002	W	925-22-2	11.7	6.29	326	<1	0.0012	0.006	0.045	0.002	0.0003	0.0237	0.00004	<5	0.17	86.3
20129	8/6/2002	W	925-22-3	11.8	6.29	334	<1	0.0012	0.008	0.050	0.002	0.0004	0.0246	0.00006	<5	0.17	87.3
20138	8/12/2002	W	925-10-1	15.9	6.95	855	<1	0.0108	0.078	0.193	0.006	0.0004	0.0838	0.00018	10	1.36	218
20141	8/12/2002	W	925-10-2	---	6.33	881	1	0.0132	0.074	0.190	0.005	0.0003	0.0831	0.00017	9	1.36	223
20142	8/12/2002	W	925-10-3	---	6.64	880	<1	0.0131	0.070	0.195	0.005	0.0004	0.0841	0.00016	8	1.31	222
20147	8/14/2002	W	925-22-1	10.9	6.36	383	<1	0.0013	0.006	0.060	0.002	<0.0001	0.0303	0.00007	<5	0.21	92.8
20148	8/14/2002	W	925-22-2	11.0	6.39	384	<1	0.0020	0.010	0.061	0.002	<0.0001	0.0297	0.00007	<5	0.20	92.9
20149	8/14/2002	W	925-22-3	11.1	6.42	383	<1	0.0013	0.008	0.062	0.002	<0.0001	0.0293	0.00007	<5	0.21	91.3
20164	8/19/2002	M	925-10-1	9.7	7.12	884	2	0.0196	0.084	0.181	0.008	0.0006	0.0813	0.00020	<5	2.09	224

August SNP Sampling Quality Control

*D-Daily *W-Weekly *M-Monthly				Routine Analysis				Total	Total	Total Metals (mg/L)							
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	As (mg/L)	CN (mg/L)	Zn	Cu	Pb	Ni	Cd	Alk. (mg/L)	NH_4 (mg/L)	Hard. (mg/L)
20165	8/19/2002	M	925-10-2	9.7	7.18	885	<1	0.0194	0.084	0.176	0.007	0.0004	0.0816	0.00018	<5	2.09	223
20166	8/19/2002	M	925-10-3	9.6	7.21	885	2	0.0187	0.084	0.177	0.008	0.0005	0.0796	0.00018	<5	2.10	223
20171	8/20/2002	W	925-22-1	7.1	6.39	420	<1	0.0017	0.006	0.072	0.002	0.0002	0.0330	0.00008	<5	0.32	103
20172	8/20/2002	W	925-22-2	7.3	6.39	421	<1	0.0015	0.008	0.073	0.006	0.0001	0.0332	0.00006	<5	0.34	103
20173	8/20/2002	W	925-22-3	6.8	6.38	403	<1	0.0013	0.010	0.082	0.002	0.0001	0.0293	0.00007	<5	0.24	99
20182	8/26/2002	W	925-10-1	9.8	7.03	874	3	0.0182	0.080	0.172	0.006	0.0003	0.0181	0.00016	11	2.43	226
20183	8/26/2002	W	925-10-2	9.7	6.95	879	2	0.0185	0.078	0.173	0.034	0.0003	0.0803	0.00016	10	2.38	227
20184	8/26/2002	W	925-10-3	9.8	6.94	877	1	0.0182	0.066	0.169	0.007	0.0003	0.0881	0.00016	10	2.37	228
20190	8/31/2002	W	925-22-1	11.4	6.42	387	2	0.0019	0.006	0.069	0.002	<0.0001	0.0326	0.00008	<5	0.38	91
20188	8/31/2002	W	925-22-2	11.4	6.46	400	<1	0.0022	0.006	0.077	0.003	0.0003	0.0333	0.00009	<5	0.40	96
20192	8/31/2002	W	925-22-3	11.4	6.69	375	<1	0.0019	0.006	0.064	0.002	<0.0001	0.0308	0.00007	<5	0.33	86

ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut
Licence NWB1LUP008

September SNP Sampling Quality Control

*D-Daily *W-Weekly *M-Monthly				Routine Analysis				Total	Total	Total Metals (mg/L)							
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	As (mg/L)	CN (mg/L)	Zn	Cu	Pb	Ni	Cd	Alk. (mg/L)	NH_4 (mg/L)	Hard. (mg/L)
20227	9/10/2002	W	Blank		5.33	2.2	1	<0.0002	<0.002	0.011	0.008	0.0004	<0.0005	0.00001	<5	<0.05	<1
20242	9/19/2002	W	Blank		5.84	2.5	2	<0.0002	0.004	0.050	0.007	0.0004	<0.0005	0.00002	<5	<0.05	<1
20202	9/2/2002	W	925-10-1	9.2	7.01	9.6	<1	0.0180	0.072	0.185	0.006	0.0003	0.0796	0.00016	27	2.02	226
20203	9/2/2002	W	925-10-2	9.2	6.98	9.4	<1	0.0175	0.068	0.181	0.006	0.0003	0.0776	0.00018	15	2.02	229
20204	9/2/2002	W	925-10-3	9.2	6.98	9.5	1	0.0177	0.052	0.182	0.005	0.0003	0.0794	0.00019	10	1.99	231
20210	9/5/2002	W	925-22-1	7.6	6.42	253	1	0.0015	0.004	0.052	0.013	0.0006	0.0238	0.00008	<5	0.33	59
20211	9/5/2002	W	925-22-2	7.6	6.42	262	<1	0.0014	0.006	0.047	0.003	<0.0001	0.0248	0.00004	<5	0.35	62
20212	9/5/2002	W	925-22-3	7.6	6.42	263	<1	0.0015	<0.002	0.049	0.005	0.0001	0.0250	0.00006	<5	0.34	62
20221	9/10/2002	W	925-22-1	10.5	6.62	216	2	0.0012	0.004	0.035	0.002	<0.0001	0.0188	0.00004	<5	0.20	51
20222	9/10/2002	W	925-22-2	10.4	6.47	225	1	0.0012	0.002	0.039	0.004	<0.0001	0.0193	0.00004	<5	0.21	54
20223	9/10/2002	W	925-22-3	10.3	6.43	231	<1	0.0012	0.004	0.037	0.002	<0.0001	0.0202	0.00004	<5	0.21	55
20237	9/19/2002	W	925-22-1	7.1	6.57	51.7	2	0.0009	0.004	0.014	0.002	<0.0001	0.0070	0.00002	6	0.05	13
20238	9/19/2002	W	925-22-2	6.9	6.44	21.6	<1	0.0007	0.002	0.007	0.002	0.0001	0.0026	<0.00001	<5	<0.05	6
20239	9/19/2002	W	925-22-3	6.9	6.40	32.7	<1	0.0008	0.002	0.010	0.002	<0.0001	0.0044	<0.00001	<5	<0.05	9