

# **ECHO BAY MINES LTD.**

9818 International Airport  
Edmonton, Alberta  
T5J 2T2

October 25, 2002

Our File: NWB1LUP0008-Monthly02  
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, NU.; Water Licence  
NWB1LUP0008; Surveillance Network Program Monthly Report**

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As required by Part A, Item 6 of the Surveillance Network Program (Schedule 1) of the Water Licence, please find attached a pdf file version of our monthly report for **September, 2002**.

All monitoring analyses have been completed by Norwest Labs. Ltd. in Edmonton and is summarized in the tables included, with the exception of the QC reports completed by Norwest. These items will be forwarded with the report in a hard copy format by regular mail. Also included in this reporting is the final flow monitoring information for Station 925-10 which has been reconciled due to errors found within the original spreadsheet that allocated flow recorded at the first of the month in August to July and flow measurement at the end of August due to the switching of syphon lines.

## **Monthly Water Use and Mill Production**

The monthly water use and mill production data are included in the attached report for your review.

## **Sewage Lakes Discharge**

The Lupin Sewage Lakes discharge from the culvert was again opened on September 9<sup>th</sup>, 2002 and allowed to run through to September 24, 2002, at which time the syphon stopped running sometime during the night due to freezing conditions. There were two additions of lime carried out during the last week of August and first week of September in order to increase the pH



above the required 6.0 for release. Samples obtained prior to release and during the following week indicated that the pH level had increased and were above a pH of 6. Results are included in the attached report and pH values recorded on site during the first week of discharge are summarized in the following table.

Site observed pH values for the Sewage Lakes discharge; September 2002.

Date	Recorded pH
September 8, 2002	5.93
September 9, 2002	6.40
September 10, 2002	6.36
September 11, 2002	6.20
September 12, 2002	6.19
September 13, 2002	6.18
September 14, 2002	6.24
September 15, 2002	6.26

The effort to increase pond water pH and release water was needed in order to lower the water levels and make repairs to the discharge culvert. This culvert had developed a leak in the spring on the upstream side, which initiated the decant. Again in August, the water levels had risen in the pond and a small amount of water was being released during the last two weeks of August that was uncontrolled. As a permanent measure, the culvert has been removed (it was rotting through in too many areas to repair) and the embankment was filled in. See photos 1 and 2 attached. The pH values observed at the lab, which were slightly lower than those observed on site, could have been a result of the time difference involved. Two sets of samples were submitted to Norwest Labs. Ltd. for analysis with the results included in the attached report.

### **Tailings Containment Area Discharge**

The Tailings Containment Area discharge for 2002 concluded on the 7<sup>th</sup> of September, 2002 at 0730 hrs. The last operating syphon was shut down in order to allow adequate time for completion of monitoring requirements for the downstream environment. During September approximately 199,501 m<sup>3</sup> of water was released from Pond No.2, giving an annual discharge total of 3,102,895 m<sup>3</sup>. The September average daily flow for 925-10 was determined to be 23,126 m<sup>3</sup>.

During the release of Pond No.2 water in September, approximately 91,396 m<sup>3</sup> of Pond No.1 water was transferred to Pond No.2. The total amount of water transferred from Pond No.1 for 2002 was 831,166 m<sup>3</sup>.

The summary includes the discharge flow monitoring for the syphons during the month of September. Flows for the spare syphon that was used were calculated using a portable flow meter that was read on a daily basis.

In addition to the SNP requirements for toxicity testing, a sample of water from Pond No.1 (August 8, 2002) was submitted to Norwest Labs Ltd. in Edmonton for Bioassay test purposes. Both the rainbow trout and the daphnia bioassay tests indicated a "pass" result. A sample of Pond No.2 water (925-10 on August 22, 2002) was also submitted to Norwest Labs for an initial check prior to sending in the sample to Env. Can. for the Licence requirement Bioassays. The daphnia test was the only one completed and indicated a pass result. These reports are included in this month's SNP report as additional information due to the unavailable results from the Env. Can. Sample which was received too late in the lab for testing and have been discussed with the Environmental Protection Department of Environment Canada.

Analytical results are included in the tables for all SNP sampling requirements during discharge of the TCA for the month of September. Quality Control sample results can also be found in the tables which include replicate samples and a field blank submitted to the lab with each sample set. Copies of the Norwest Labs Ltd. laboratory Quality Control Reports for each sample set are included as well (hard copy mailing) for each sample set.

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

Yours truly,



D. Hohnstein  
Environmental Coordinator, Lupin

Attachments include;

September mill production data  
September analytical summary for TCA and sewage discharge  
September TCA discharge flow monitoring information

cc B. Burton  
H. Ducasse  
Mill Operations



Photo 1 - Sewage Lake No.2 downstream embankment showing culvert removed.



Photo 1 - Sewage Lake No.2 upstream embankment showing culvert removed.

**WATER LICENCE NWB1LUP0008**

 SURVEILLANCE NETWORK PROGRAM  
 MONTHLY REPORT

**SEPTEMBER 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	Cd	Cu	TOTAL METALS					Zn	F-col #/100mL	BOD <sub>5</sub>
									Hg	Ni	Pb					

Total Nitrate-N	Total Nitrite-N	TK-N	NH <sub>4</sub> -N	Total Ortho-P	Total Phosph.	Total O&G	Alk.	Hard.	uS/cm Cond.
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Note: For analytical results see attached summary tables.

	MONTHLY		YTD
TOTAL FRESHWATER METERED AT PUMPHOUSE (925-01)	80,538	CUBIC METERS	661,721
PROCESS	74,292	CUBIC METERS	599,263
POTABLE	6,246	CUBIC METERS	62,458
TOTAL TAILINGS AT 925-12 (CALCULATED TO TCA)	70,041	CUBIC METERS	609,888
SOLUTION	57,070	CUBIC METERS	501,392
SOLIDS	12,971	CUBIC METERS	108,496
DRY TAILINGS SOLIDS TO BACKFILL	3,245	CUBIC METERS	34,044
QUANTITY OF ORE MILLED	47,025	TONNES	413,366
MINE WATER PUMPED FROM UNDERGROUND	4,656	CUBIC METERS	37,587
SEWAGE LAKES DISCHARGE	64,725	CUBIC METERS	273,122

**COMMENTS :**

Sewage discharge for the month of September was calculated based flows from both the culvert and syphon.  
 At the end of the season, the sewage culvert was removed entirely and the opening backfilled. This will hopefully eliminate any further problems associated with the culvert leaking. Additional syphons will be used when required.



ENVIRONMENTAL COORDINATOR



# 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)		Daily Flow m³/day	Hours of Flow	Syphon No.2(3)		Daily Flow m³/day	Hours of Flow	Spare Syphon*		Daily Flow m³/day	Total Daily Discharge (m³)	Cummulative Discharge (m³)	Daily Water Drop (cm)	Cummulative Water Drop
			Meter Reading	m³/ Minute			Meter Reading	m³/ Minute			Meter Reading	m³/ Minute					
9/1/02	7:00 AM	Not operating					5295822										
9/2/02	7:00 AM					24.0	5319697	23.0	23875	24.0		16.0	23328	47203	47203	7	7
9/3/02	7:00 AM					24.0	5342297	23.2	22600	24.0		15.9	22982	45582	92785	6	13
9/4/02	7:00 AM					24.0	5365930	21.9	23633	0.0		0.0	11462	35095	127881	4	17
9/5/02	7:00 AM					24.0	5389332	22.2	23402	24.0		16.5	2970	26372	154253	3	20
9/6/02	7:00 AM					24.0	5412224	22.3	22892	0.0		0.0		22892	177145	3	23
9/7/02	7:30 AM					24.5	5434580	22.8	22356	0.0		0.0		22356	199501	3	26
9/8/02																	
						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<sup>3</sup>/min) and hours of flow using the following formula:

Daily Flow (m<sup>3</sup>/day) = flow rate (m<sup>3</sup>/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 <sup>3</sup>	Total m <sup>3</sup>
August	1786743	m <sup>3</sup>	
September	199501	m <sup>3</sup>	
			3,102,895



# 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 As	Total CN	Total Metals (mg/L)					Alk.	NH <sub>4</sub>	Hard.
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	(mg/L)	(mg/L)	Zn	Cu	Pb	Ni	Cd	(mg/L)	(mg/L)	(mg/L)
20201	9/1/02	D	925-10	9.8	7.13	---	2	0.0178	0.064	0.191	0.006	---	---	---	---	---	---
20202	9/2/02	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	9/3/02	D	925-10	9.0	6.99		<1	0.0163	0.086	0.172	0.006						
20206	9/4/02	D	925-10	8.8	6.94		2	0.0162	0.048	0.171	0.006						
20207	9/5/02	D	925-10	7.6	6.95		2	0.0199	0.062	0.169	0.008						
20208	9/5/02	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	9/5/02	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	9/5/02	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	9/5/02	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	9/5/02	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	9/6/02	D	925-10	7.6	6.83		2	0.0171	0.058	0.172	0.006						
20217	9/7/02	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	9/9/02	M	925-14		5.85		7	0.0140		0.111	0.018	<0.0001	0.046	0.00033	<5	9.03	909
20221	9/10/02	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	9/10/02	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	9/10/02	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	9/10/02		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	9/16/02		925-14		5.96	3850	8	0.0096		0.104	0.007	<0.0005	0.0402	0.00015	<5	8.87	
20237	9/19/02	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		13
20240	9/19/02	W	925-24	7.4	6.34	153		0.0011	0.004	0.027	0.002	<0.0001	0.0131	0.00002	<5		
20241	9/19/02	W	925-25	8.2	6.51	66.5		0.0005	0.006	0.012	0.001	<0.0001	0.0046	0.00001	<5		
20242	9/19/02	W	Blank		5.84	2.5	2	<0.0002	0.004	0.050	0.007	0.0004	<0.0005	0.00002	<5		
20140	8/8/02		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

  Awaiting results;missed on submission

  Revised results

  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	9/9/02	M	925-14	19.2	9.68	<0.01	<0.05	0.09	1	n/v	<4					
20236	9/16/02		925-14	20.7	9.57		<0.05	0.14	2	n/v	<4					



# ECHO BAY MINES LTD.

LUPIN GOLD MINE, Nunavut  
Licence NWB1LUP008

## September SNP Sampling Quality Control

*D-Daily *W-Weekly *M-Monthly				Routine Analysis				Total As	Total CN	Total Metals (mg/L)					Alk.	NH <sub>4</sub>	Hard.
Log No.	Date		Station	Temp (C)	pH	Cond (us)	TSS (mg/L)	(mg/L)	(mg/L)	Zn	Cu	Pb	Ni	Cd	(mg/L)	(mg/L)	(mg/L)
20227	9/10/02	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	9/19/02	W	Blank		5.84	2.5	2	<0.0002	0.004	0.050	0.007	0.0004	<0.0005	0.00002	<5		
20202	9/2/02	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	9/2/02	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	9/2/02	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	9/5/02	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	9/5/02	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	9/5/02	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	9/10/02	W	925-22-1		6.62	216	2	0.0012	0.004	0.035	0.002	<0.0001	0.0188	0.00004	<5	0.20	51
20222	9/10/02	W	925-22-2		6.47	225	1	0.0012	0.002	0.039	0.004	<0.0001	0.0193	0.00004	<5	0.21	54
20223	9/10/02	W	925-22-3		6.43	231	<1	0.0012	0.004	0.037	0.002	<0.0001	0.0202	0.00004	<5	0.21	55
20237	9/19/02	W	925-22-1		6.57	51.7	2	0.0009	0.004	0.014	0.002	<0.0001	0.0070	0.00002	6		13
20238	9/19/02	W	925-22-2		6.44	21.6		0.0007	0.002	0.007	0.002	0.0001	0.0026	<0.00001	<5		
20239	9/19/02	W	925-22-3		6.40	32.7		0.0008	0.002	0.010	0.002	<0.0001	0.0044	<0.00001	<5		

Note: missing Norwest Data, currently being checked.



## **Reconciled Flow Tables for July and August**



# 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)		Daily Flow m <sup>3</sup> /day	Syphon No.2(3)		Daily Flow m <sup>3</sup> /day	Spare Syphon*		Daily Flow m <sup>3</sup> /day	Total Daily Discharge (m <sup>3</sup> )	Cummulative Discharge (m <sup>3</sup> )	Daily Water Drop (cm)	Cummulative Water Drop
			Meter Reading	m <sup>3</sup> / Minute		Meter Reading	m <sup>3</sup> / Minute		Meter Reading	m <sup>3</sup> / Minute					
7/15/02	3:00 PM	0.0	1689.3	21.4	0		0.0	0	----	14.0	0	0	0	0	0
7/16/02	9:30 AM	18.5	25106.7	20.7	25107		0.0	0	----	25.0	21645	46752	46752	6	6
7/17/02	7:00 AM	21.5	47719.0	21.0	22612		0.0	0	----	24.0	31605	54217	100969	6	12
7/18/02	6:45 AM	23.8	77455.6	20.2	29737		0.0	0	----	24.5	34556	64293	165262	7	19
7/19/02	6:45 AM	24.0	106950.7	20.0	29495	3992474	0.0	0	----	24.5	35280	64775	230037	8	27
7/20/02	6:30 AM	24.0	142977.0	25.4	36026	4015319	19.8	22845	----	0.0	11760	70631	300668	7	34
7/21/02	8:00 AM	25.5	184054.5	25.5	41078	4045920	19.9	30601	----	0.0	0	71679	372347	7	41
7/22/02	6:30 AM	22.5	218278.0	25.5	34224	4074967	19.9	29047	----	0.0	0	63271	435617	9	50
7/23/02	6:30 AM	24.0	255565.3	25.5	37287	4106734	22.2	31767	----	0.0	0	69054	504671	5	55
7/24/02	6:30 AM	24.0	292157.5	26.5	36592	4137909	21.8	31175	----	0.0	0	67767	572439	7	62
7/25/02	6:30 AM	24.0	328981.9	25.0	36824	4169245	21.4	31337	----	0.0	0	68161	640600	7	69
7/26/02	6:30 AM	24.0	364939.2	25.1	35957	4199667	21.9	30422	----	0.0	0	66379	706979	7	76
7/27/02	6:30 AM	24.0	401073.5	25.7	36134	4231461	22.2	31794	----	0.0	0	67928	774907	7	83
7/28/02	6:30 AM	24.0	437025.9	24.1	35952	4264441	23.6	32980	----	0.0	0	68932	843839	8	91
7/29/02	6:30 AM	24.0	472673.3	24.1	35647	4298523	23.8	34082	----	0.0	0	69729	913568	6	97
7/30/02	6:30 AM	24.0	508628.8	24.5	35956	4333229	23.5	34707	----	0.0	0	70662	984230	9	106
7/31/02	6:30 AM	24.0	542435.9	23.1	33807	4351946	23.1	33552	----	0.0	14835	67359	1051590	8	114
8/1/02	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<sup>3</sup>/min) and hours of flow using the following formula:

Daily Flow (m<sup>3</sup>/day) = flow rate (m<sup>3</sup>/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)		Daily Flow m <sup>3</sup> /day	Hours of Flow	Syphon No.2(3)		Daily Flow m <sup>3</sup> /day	Hours of Flow	Spare Syphon*		Daily Flow m <sup>3</sup> /day	Total Daily Discharge (m <sup>3</sup> )	Cumulative Discharge (m <sup>3</sup> )	Daily Water Drop (cm)	Cumulative Water Drop
			Meter Reading	m <sup>3</sup> / Minute			Meter Reading	m <sup>3</sup> / Minute			Meter Reading	m <sup>3</sup> / Minute					
8/1/02	6:30 AM		575798	22.8			4383646	23.0			----	0	0	0	0	7	0
8/2/02	6:30 AM	24.0	609059	23.1	33261	24.0	4416633	23.2	32987		----	0	0	66248	66248	6	0
8/3/02	6:30 AM	24.0	643108	22.3	34049	24.0	4449749	21.9	33116		----	0	0	67165	133413	4	0
8/4/02	6:30 AM	24.0	676331	22.0	33224	24.0	4481816	22.2	32067		----	0	0	65290	198704	3	3
8/5/02	6:30 AM	24.0	708283	22.1	31952	24.0	4513244	22.3	31428		----	0	0	63380	262083	3	6
8/6/02	6:30 AM	24.0	741280	22.1	32996	24.0	4545603	22.8	32359		----	0	0	65356	327439	3	9
8/7/02	6:30 AM	24.0	773119	22.0	31839	24.0	4576974	21.4	31371		----	----	0	63210	390649	3	12
8/8/02	6:30 AM	24.0	805259	22.1	32140	24.0	4608100	21.8	31126		----	----	0	63266	453915	3	15
8/9/02	8:00 AM	22.5	839872	22.9	34613	22.5	4642169	21.3	34069		----	----	0	68683	522597	4	19
8/10/02	7:00 AM	22.5	870827	21.8	30955	22.5	4673266	21.5	31097		----	----	0	62052	584649	2	21
8/11/02	8:00 AM	25.0	902339	21.9	31512	25.0	4704482	21.3	31216		----	----	0	62728	647377	2	23
8/12/02	6:30 AM	22.5	932833	21.8	30494	22.5	4733590	22.2	29108		----	----	0	59602	706979	4	27
8/13/02	7:00 AM	24.5	965144	21.5	32311	24.5	4765185	21.2	31595		----	----	0	63906	770885	0	27
8/14/02	6:30 AM	23.5	996053	21.4	30909	23.5	4794602	21.2	29417		----	----	0	60326	831212	4	31
8/15/02	6:30 AM	24.0	1027042	21.8	30988	24.0	4824504	21.4	29903		----	----	0	60891	892102	3	34
8/16/02	6:30 AM	24.0	1058443	20.5	31401	24.0	4855188	21.1	30683		----	----	0	62084	954187	1	35
8/17/02	6:30 AM	24.0	1088957	20.6	30514	24.0	4885546	21.1	30358					60873	1015060	1	36
8/18/02	6:30 AM	24.0	1119880	21.3	30922	24.0	4914946	20.6	29400					60322	1075381	1	37
8/19/02	6:30 AM	24.0	1150550	20.9	30670	24.0	4944714	19.9	29768					60438	1135820	3	40
8/20/02	6:30 AM	24.0	1180840	21.6	30290	24.0	4973763	19.9	29049					59339	1195159	4	44
8/21/02	6:30 AM	24.0	1210614	20.7	29774	24.0	5002013	19.4	28250					58024	1253183	0	44
8/22/02	6:30 AM	24.0	1239838	20.4	29224	24.0	5029879	18.9	27866					57090	1310273	0	44
8/23/02	6:30 AM	24.0	1269148	19.6	29310	24.0	5058137	19.0	28258					57568	1367841	0	44
8/24/02	6:30 AM	24.0	1297699	19.9	28551	24.0	5085818	19.8	27680					56231	1424072	0	44
8/25/02	6:30 AM	24.0	1325791	19.4	28092	24.0	5112884	18.3	27066					55159	1479231	0	44
8/26/02	6:30 AM	24.0	1353250	18.8	27459	24.0	5138957	17.4	26073					53532	1532763	8	52
8/27/02	7:00 AM	24.5	1381738	18.9	28488	24.5	5166419	17.9	27462					55950	1588713	4	56
8/28/02	6:30 AM	23.5	1402555	0.0	20818	23.5	5192033	18.4	25614					46432	1635144	4	60
8/29/02	7:00 AM		Spare Syphon (started at 7:45am)			24.0	5219088	18.1	27055					27055	1662199	3	63
8/30/02	7:00 AM		---		0	24.0	5244937	18.6	25849			17.4	0	25849	1688048	0	63
8/31/02	7:00 AM		---		0	24.0	5270496	17.5	25559	23.3		16.8	23906	49465	1737513	3	66
9/1/02	7:00 AM		---		0	24.0	5295822	16.9	25326	24.0	----	16.4	23904	49230	1786743	5	71
<b>August Totals/Averages</b>																	
			826758	20.5	27559		912176	20.0	28984		----	17	15937	57637	1786743	3	71

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

Daily Flow (m<sup>3</sup>/day) = flow rate (m<sup>3</sup>/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	

**Bioassay Results  
and  
Norwest Labs. Ltd. QC Reports**  
**(included in hard copy mailing)**