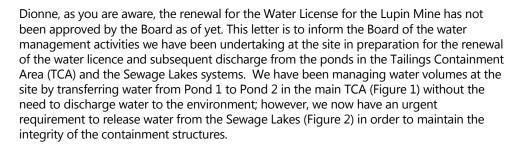
25 September 2008

Ms. Dionne Filiatrault Executive Director Nunavut Water Board P.O. Box 119 GJOA HAVEN NU X0B 1J0 Canada

Dear Ms. Filiatrault

# Emergency Discharge of Water from Sewage Lakes 1 and 2 at the Lupin Mine, Contwoyto Lake Area, Nunavut



# MAIN PONDS IN THE TCA

We have been able to manage water effectively within the TCA for the main tailings ponds without the need to discharge water outside the TCA. To preclude the requirement to discharge, OZ Minerals has transferred approximately 35,000 cubic meters of water by siphon from Pond 1 to Pond 2. We are currently transferring about 11,000 cubic metres per day and we plan to install a pump into the system which will transfer an additional 15,000 cubic metres per day. We will also attempt to start an additional 200 mm diameter siphon shortly, as weather permits. By taking these actions, we will be able to maintain regulated freeboards and avoid releasing water from the main tailings ponds to the environment this year.

We plan to lower Pond 1 by approximately one meter this fall, which would equate to about 250,000 cubic meters of water transferred. This transfer is expected to raise Pond 2 by approximately 0.2 m. The transfer of this volume of water from Pond 1 to Pond 2 will not result in a requirement to discharge water from the TCA facility into the receiving environment before next spring or summer, while preserving the integrity of the dam between the two ponds. Presumably the Water License will be in force to permit this discharge at the appropriate time in 2009.

# **SEWAGE LAKES 1 AND 2**

The water in the Sewage Lakes has reached a level where it is in danger of running over the crest of the dams (Plate 1), which, if it were to occur would result in an uncontrolled release of water to the environment. In a sudden breach, a significant volume of soil in the dam as well as any accumulated sludge in the ponds would be expected to run downstream. The water level is within 0.5 m of the crest of the dam, which does not provide the regulated freeboard of 1 m. To mitigate the risk of overtopping or dam failure, we are asking for an emergency approval to release water from the ponds into the receiving environment in advance of the approval of the Water License renewal in its full form.





Plate 1 - Photograph of Sewage Pond No. 2 on September 22, 2008 Showing High Water Level

The water quality in the Sewage Lakes has been tested recently and meets all discharge quality criteria under the previously enforced Water License for the site, and would therefore be suitable for discharge under the terms of the License. The analytical results are provided in Table 1 and the original analytical reports from ALS Environmental are attached as Appendix 1.

The Lupin mine/mill facility has not been in full operation for three years now and as a result these ponds have only received site runoff water, not sewage effluent, which was the intent of their original design. The water quality in these ponds is therefore very similar to the surrounding natural water bodies and its release is not expected to have a measurable impact on downstream water quality.

Table 1 – Water Quality Analysis Results and Discharge Limits						
Parameter	Result	Units	License Discharge Limit	Method Detection Limit		
Copper (Cu)	< 0.002	mg/L	0.20	0.001		
Nickel (Ni)	0.009	mg/L	0.30	0.002		
Lead (Pb)	<0.005	mg/L	0.05	0.005		
Zinc (Zn)	0.003	mg/L	0.50	0.001		
General Chemistry						
Arsenic (As) Total	0.0069	mg/L	0.05	0.0004		
Biochemical Oxygen Demand	16	mg/L	30	2		
Total Suspended Solids	<3	mg/L	<35	3		
рН	7.0	pH Units	6.0-9.5	-		
Faecal Coliform	<2	CFU/100 ml	<1000	2		
Oil and Grease	None	Visual Sheen	None	-		

Due to the critically high water level of these ponds it is imperative that we release at least a portion of their contents to the receiving environment through a controlled discharge, rather than allow water to flow over

the top of the dams and create a breach. We are therefore seeking an emergency amendment to the site's Water Licence which extends the term of the previous licence from June 30, 2008 to October 31, 2008 under **Section 55(5) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act** to cover the period required for discharge of the sewage ponds. This amendment would only apply to Sewage Lakes 1 and 2. A volume of 50,000 to 100,000 cubic metres of water would be discharged over a period of 8-10 days, prior to November 1, 2009.

We have considered alternative measures and believe that a discharge represents the most secure solution to the issue with the levels of the ponds and most secure protection for the integrity of the dams. It will not be feasible to pump the water from these ponds into the main TCF ponds. The pipeline to the TCF is no longer in service, nor is the power plant at the mine in service to provide electric power for the high lift pumps that would be required for this pumping.

Allowing the ponds to remain in their current state introduces a considerable risk of failure of the water retaining structures, during the winter when we have no continuous presence on site or in the vicinity of the site to permit us to take prompt corrective action. If the water is allowed to remain at its current level in the pond, the risk is that the dam core will start to thaw because of the heat transmitted into the embankment from the water. If this occurs, a progressive or sudden failure of the dam through internal erosion or piping is likely, since the dam was not designed to hold water without the core being frozen. If this type of failure occurs, a breach will rapidly form which will release water, soil and sludge from the pond and embankment into the downstream environment. This would have a severe impact on water and sediment quality in the downstream environment, which is avoidable by taking prompt action to control the water levels.

We have considered raising the dams; however, we do not have a suitable fleet of serviceable heavy equipment at the site to raise the earth embankment in the dam quickly in order to reduce the risk of failure to an acceptable level. At minimum, it will not be feasible to mobilize such equipment into the site until the Tibbit to Contwoyto winter road opens in February of 2009. Furthermore, the segment of the wither road from Lac Des Gras north will not be opened next year because there are no ongoing operations at the Jericho mine; therefore, mobilizing a suitable construction fleet to raise the dams would be prohibitively expensive when a secure and cost-effective measure such as lowering the water levels through a controlled discharge is available.

A potential dam failure is preventable by executing a controlled release of water from these ponds, which is of similar quality to the surrounding natural watercourses and would have no anticipated impact on the surrounding water or sediment quality. Furthermore, the water in the ponds meets discharge quality requirements and would be discharged as a matter of course when the Water License is in force; therefore, we feel the most prudent course of action is to draw these ponds down as soon as possible, to prevent an uncontrolled release to the environment.

If you have any questions regarding the above, please do not hesitate to contact me.

Yours sincerely

**Andrew Mitchell** 

Development Manager, Canadian Operations Manager, Lupin Mine Site

Tel: 807 346 1668 Fax: 807 345 0284

Email: andrew.mitchell@zinifex.com

andrew Mitchell

cc Dave Hohnstein, NWB Phyllis Beaulieu, NWB

Martin Mcfarlane, OZ Minerals

Aaron MacDonell, OZ Minerals

encl Figures 1 and 2

OZ MINERALS SUITE 200 1159 ALLOY DRIVE THUNDER BAY ON P7B 6M8 T 807 346 1668 F 807 345 0284 OZMINERALS.COM



FIGURE 1 – TCA SITE PLAN

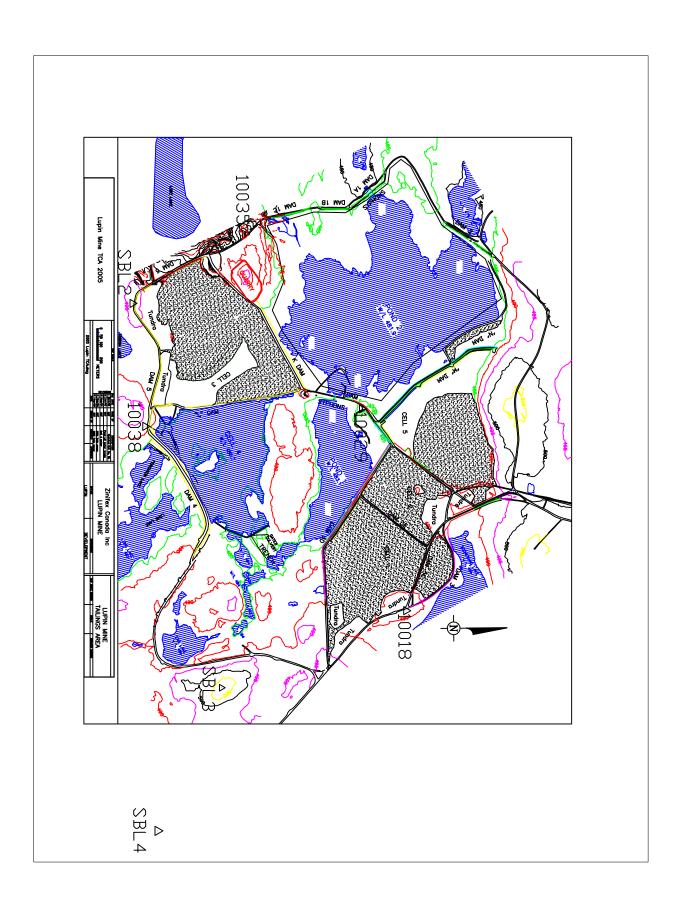
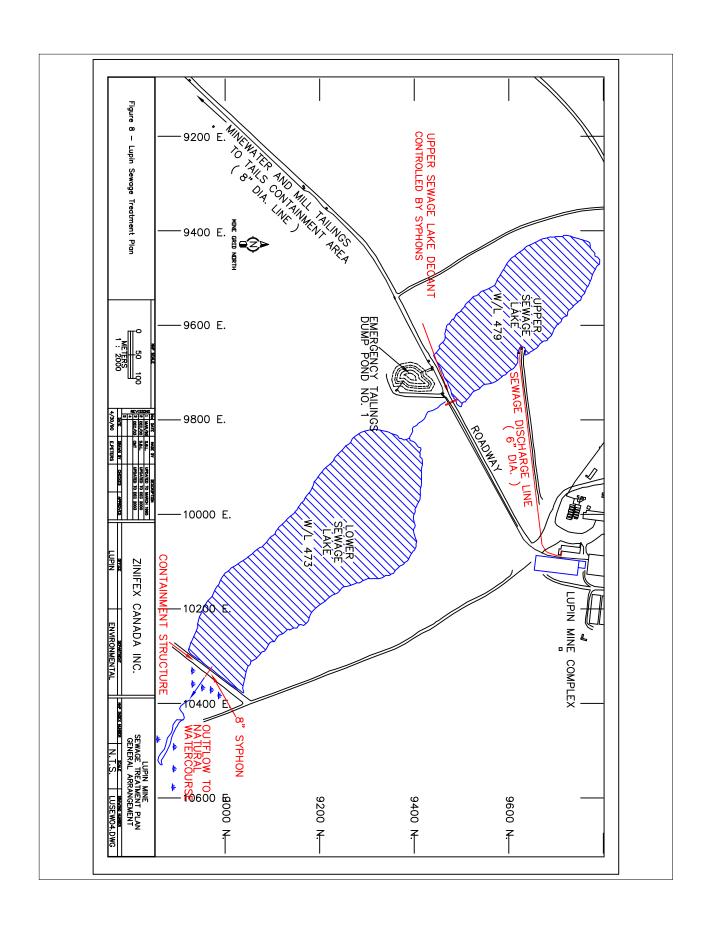


FIGURE 2 – SEWAGE LAKES SITE PLAN



ΟZ	MINERAL	S
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APPENDIX 1 – CHEMICAL ANALYTICAL TEST	REPORT FOR	SEWAGE LAKES	WATER
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# ALS

# **Environmental Division**

**Certificate of Analysis** 

**OZ MINERALS** 

ATTN: AARON MACDONELL

401 - 1113 JADE COURT

THUNDER BAY ON P7B 6M7

Reported On: 22-SEP-08 04:10 PM

Date Received: 15-SEP-08

Lab Work Order #: <u>L682428</u>

Project P.O. #: Job Reference: Legal Site Desc:

**CofC Numbers:** 08-010102

Other Information:

Comments:

Account Manager

MARTA PIETUCHA

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY. ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

# ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Ву	Batch
L682428-1 SEWAGE POND								
Sampled By: NOT PROVIDED on 15-SEP-08 @ 10:30								
Matrix: WATER								
Hardness								
Calcium (Ca)	39.8		0.5	mg/L		16-SEP-08	JWU	R723886
Hardness (as CaCO3)	127			mg/L		17-SEP-08		
Magnesium (Mg)	6.6		0.1	mg/L		16-SEP-08	JWU	R723886
Total Metals				3				
Total Major Metals								
Calcium (Ca)	37.7		0.5	mg/L		17-SEP-08	BOC	R724905
Potassium (K)	4.1		0.1	mg/L		17-SEP-08	BOC	R724905
Magnesium (Mg)	5.8		0.1	mg/L		17-SEP-08	BOC	R724905
Sodium (Na)	38		1	mg/L		17-SEP-08	BOC	R724905
Iron (Fe)	0.171		0.005	mg/L		17-SEP-08	BOC	R724905
Manganese (Mn) Total Trace Metals	0.020		0.001	mg/L		17-SEP-08	BOC	R724905
Silver (Ag)	<0.005		0.005	mg/L		17-SEP-08	SYF	R724125
Aluminum (Al)	0.04		0.003	mg/L		17-SEP-08	SYF	R724125
Boron (B)	<0.05		0.05	mg/L		17-SEP-08	SYF	R724125
Barium (Ba)	0.015		0.003	mg/L		17-SEP-08	SYF	R724125
Beryllium (Be)	<0.002		0.002	mg/L		17-SEP-08	SYF	R724125
Cadmium (Cd)	<0.001		0.001	mg/L		17-SEP-08	SYF	R724125
Cobalt (Co)	<0.002		0.002	mg/L		17-SEP-08	SYF	R724125
Chromium (Cr)	<0.005		0.005	mg/L		17-SEP-08	SYF	R724125
Copper (Cu)	0.002		0.001	mg/L		17-SEP-08	SYF	R724125
Molybdenum (Mo)	<0.005		0.005	mg/L		17-SEP-08	SYF	R724125
Nickel (Ni)	0.009		0.002	mg/L		17-SEP-08	SYF	R724125
Lead (Pb)	<0.005		0.005	mg/L		17-SEP-08	SYF	R724125
Tin (Sn) Strontium (Sr)	<0.05		0.05	mg/L		17-SEP-08 17-SEP-08	SYF SYF	R724125 R724125
Titanium (Ti)	0.468 <0.001		0.002	mg/L mg/L		17-SEP-08	SYF	R724125
Thallium (TI)	<0.05		0.05	mg/L		17-SET-08	SYF	R724125
Vanadium (V)	<0.001		0.001	mg/L		17-SEP-08	SYF	R724125
Zinc (Zn)	0.003		0.001	mg/L		17-SEP-08	SYF	R724125
(,/	0.000		0.00				•	
Alkalinity, Total (as CaCO3)	28		5	mg/L		17-SEP-08	CLTT	R724340
Arsenic (As)-Total	0.0069		0.0004	mg/L		17-SEP-08	SYF	R724125
Biochemical Oxygen Demand	16		2	mg/L		16-SEP-08	EKC	R726795
Nitrate-N	<0.1		0.1	mg/L		16-SEP-08	JXD	R724013
Orthophosphate (PO4-P)	<0.01		0.01	mg/L		16-SEP-08	AYX	R724237
Phosphorus, Total	0.02		0.02	mg/L	17-SEP-08	17-SEP-08	KFA	R724835
Total Suspended Solids	<3		3	mg/L		17-SEP-08	SVG	R724717
* Refer to Referenced Information for Q	ualifiers (if any) and	Methodolog	y.					

# **Reference Information**

### Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Preparation Method Reference(Based On)	Analytical Method Reference(Based On)
ALK-TOT-ED	Water	Alkalinity, Total		APHA 2320 B-Auto-Pot. Titration
AS-TOT-HYD-ED	Water	Arsenic (As)-Total (Hydi	ride)	EPA 6020
BOD-ED	Water	Biochemical Oxygen De (BOD)	mand	APHA 5210 B-5 day IncubO2 electrode
CA-ED	Water	Calcium (Ca)		APHA 3120 B-ICP-OES
ETL-HARDNESS-ROU-E	D Water	Hardness (from Routine Mg)	Ca and	APHA 2340 B-Calculation
MET1-TOT-ED	Water	Total Trace Metals		EPA 6020
MET2-TOT-ED	Water	Total Major Metals		EPA 200.7
MG-ED	Water	Magnesium (Mg)		APHA 3120 B-ICP-OES
NO3-ED	Water	Nitrate-N		APHA 4500 NO3H-Colorimetry
P-TOTAL-ED	Water	Phosphorus, Total		APHA 4500 P B,E-Auto-Colorimetry
PO4-ED	Water	Orthophosphate (PO4-F	?)	APHA 4500 P B,E-Auto-Colorimetry
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids		APHA 2540 D-Gravimetric

# Chain of Custody numbers:

08-010102

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
ED	ALS LABORATORY GROUP - EDMONTON, ALBERTA, CANADA		

# GLOSSARY OF REPORT TERMS

Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds. The reported surrogate recovery value provides a measure of method efficiency. The Laboratory control limits are determined under column heading D.L.

mg/kg (units) - unit of concentration based on mass, parts per million.

mg/L (units) - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory. UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION. UNLESS OTHERWISE STATED, SAMPLES ARE NOT CORRECTED FOR CLIENT FIELD BLANKS.

Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.