



MIRAMAR CON MINE, LTD.
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July 20, 2005

Mackenzie Valley Land
& Water Board

Mackenzie Valley Land and Water Board
P.O. Box 2130
Yellowknife, NT X1A 2P6

File

JUL 26 2005

Application # N1L2-0040

Copied To LH/Reg.

Attention: Bob Wooley, Executive Director

Re: Request for Extension of Con Mine Water License – N1L2-0040

Dear Mr. Wooley:

Earlier this year Miramar Con Mine Ltd. (MCML) contracted Golder Associates to prepare an application for renewal of the above captioned Water License, which is due to expire on June 29, 2006. An extensive review of the current situation at Con Mine revealed that the Water License, in its present form, covers all environmental aspects of the operation for the near future. As you are aware, production ceased at Con Mine in November 2003, and milling of ore from Giant Mine ceased on July 9, 2004, however some facilities continue to be used to carry out work related to progressive reclamation and final cleanup of the site in preparation for closure. These facilities include:

- The mill, autoclave, and blend plant, which are presently shut down but scheduled to be used to process the final accumulation of calcines and arsenic sludges in 2006.
- The Water Treatment Plant (WTP), which is currently in operation, to process surface water from precipitation, plus any water that is contaminated during processing of the final accumulation of calcines and arsenic sludges. It is anticipated that the WTP will continue to operate seasonally, under a Water License, for a number of years following final closure of the operation.
- The Environmental Services Laboratory, which is currently in operation, to provide analytical support to the mill, autoclave, blend plant, and WTP during operation, as well as periodic analyses required for the Surveillance Network Program and various Health and Safety or Industrial Hygiene requirements.
- Selected administrative offices, shops, and services that are required to provide support for the foregoing activities.

The remainder of the facilities on site are shut down and in various stages of preparation for final closure.

Minewater is no longer pumped to surface, eliminating the storage of saline Canadian Shield brine in the tailing containment areas. The use of Cyanide and Xanthates in the milling operation is permanently discontinued, as is the use of Chlorine gas to provide potable water. Asbestos is being gradually removed from the various buildings on site in preparation for demolition of these structures. The majority of bulk hydrocarbon storage tanks have already been taken out of service and removed from site.

All work conducted on site is now directed towards preparation for final closure activities, however it will be necessary to operate some of the facilities in the upcoming two years to ensure that the majority of hazardous materials remaining on site are rendered environmentally stable. As such, the Water License, in its present form, will ensure that these activities are conducted according to current regulations and environmental standards. Therefore, Miramar Con Mine Ltd. formally requests an extension of the existing Water License to September 30, 2008.

This period will enable handling and treatment of all remaining hazardous wastes on site, plus treatment of any contaminated water produced from these efforts. As outlined in the most recent draft of the final Closure and Reclamation Plan, which is expected to receive approval in the near future, it is anticipated that the mill, autoclave, and blend plant would operate in the latter part of 2006 and shut down by the end of the year. Contaminated water produced by this operation would be treated during the summer of 2007. All of the above facilities will be decommissioned and demolished during 2007. It will be necessary to high pressure wash or otherwise clean portions of these structures. Contaminated water produced by this activity would be treated during the summer of 2008. The conditions in the current Water License will more than adequately cover any contaminants produced by these operations.

An application for a new Water License, to cover the initial post closure period from October 01, 2008 to September 30, 2013, would be submitted the MVLWB for approval on or before October 01, 2007.

Should you require additional information, please contact the writer by telephone at 766-5317, or by e-mail at the following address: rconnell@miramaryk.com

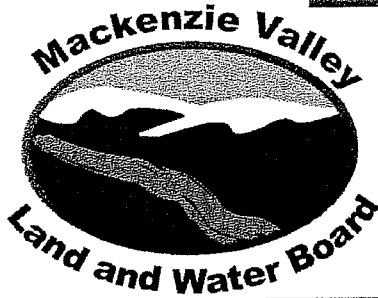
Sincerely,



Ron Connell,
Environmental Superintendent

Distribution:

Paula Spencer, Indian and Northern Affairs Canada
Scott Stringer, General Manager – Miramar Northern Operations



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STAFF REPORT

Company: Miramar Con Mine Ltd.	
Location: Con Mine - Yellowknife, NT	Application: N1L2-0040
Date Prepared: August 10, 2005	Meeting Date: August 24, 2005
Subject: Work plan for an Amendment to the Term of Water Licence N1L2-0040	

1. Purpose/Report Summary

The purpose of this report is to request a Public Hearing date be set by the Board to hear Miramar Con Mine Ltd's request for an Amendment to the Term of Water Licence N1L2-0040.

2. Background

- Water Licence N1L2-0040 was renewed and issued by the NWT Water Board on July 30, 2000 with an expiry date of July 29, 2006 for Miramar's Con Mine operation in Yellowknife, NT.
- A request for an extension (or Amendment to the Term) was received July 26, 2005.

3. Discussion

Miramar has requested to amend the term of their current Water Licence to September 30, 2008. In their letter dated July 20, 2005 (attached) they outline the rationale for this request. Primary among the reasons is that the current Water Licence covers all the facilities currently being operated on site, many of which will be closed off prior to the requested expiry date of September 30, 2008. Miramar has indicated that they would then apply for a Water Licence that would cover Final Closure and Monitoring activities.

In order to obtain Public and Government opinion on whether an amendment to the term should be approved by the MVLWB, a Public Hearing is required under the *MVRAMA* as per Section 21.(2)(b): Subject to subsection (3), a public hearing shall be held by the Board where the Board is considering an amendment to a type A licence pursuant to which the use, flow or quality of waters, or the term of the licence would be altered.

Following is the proposed work plan leading up to a Public Hearing:

July 26, 2005: Amendment to the Term Request Received from Miramar

August 24, 2005: Work Plan presented to the Board for approval

August 29, 2005: Advertisement for Interventions & Public Hearing placed in newspaper

October 11, 2005: Interventions & Presentations Due

October 21, 2005: Response to Interventions Due

Week of
November 7, 2005 Public Hearing Held

MVLWB Staff post-hearing activities will include review of transcripts and preparation of the Board Package. It is anticipated that this information could be prepared for the Board and a decision could be made by December 9, 2005.

4. Comments

N/A

5. Review comments

N/A

6. Security

N/A

7. Conclusion

It is my opinion that the work plan outlined above provides sufficient time to prepare for and conduct a Public Hearing.

8. Recommendation

I recommend that the Mackenzie Valley Land & Water Board commence the proceedings into the Amendment to the Term for the Miramar Con Mine Ltd. Water Licence N1L2-0040 by setting a Public Hearing date during the week of November 7, 2005.

9. Attachments

- Letter from Miramar Con Mine Ltd. to the MVLWB re: Request for Extension of Con Mine Water License – N1L2-0040

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'Lisa Hurley', written over a faint circular stamp or seal.

Lisa Hurley
Regulatory Officer

Sharon Debler

From: Lisa Hurley [lhurley@mvlwb.com]
Sent: Thursday, August 25, 2005 10:19 AM
To: 'MVLWB Permit'
Subject: Notice to Miramar re Amendment to the Term (Extension) of Con Mine Water License

File: N1L2-0040

-----Original Message-----

From: Connell, Ron [mailto:rconnell@miramaryk.com]
Sent: Thursday, August 25, 2005 10:15 AM
To: Lisa Hurley
Cc: Heather Mills; Paula Spencer
Subject: RE: Amendment to the Term (Extension) of Con Mine Water License

Lisa:

Thanks for the notice. It seems very reasonable to me. I anticipate that there will not be a lot of interest in an extension to the Water License for a shut down operation, but time will tell. In the meantime, if you hear of anything that we should be prepared for, please keep us informed.

Thanks,

Ron

From: Lisa Hurley [mailto:lhurley@mvlwb.com]
Sent: Thu 8/25/2005 8:37 AM
To: Connell, Ron
Cc: 'Heather Mills'; 'Paula Spencer'
Subject: Amendment to the Term (Extension) of Con Mine Water License

Good Morning Ron,

At the Board Meeting yesterday, the Board set a date for a Public Hearing into your request for an extension to your current Class 'A' Water License (as per Section 21(2)(b) of the NWT Waters Act). The date of the Hearing has been set for November 9, 2005 - location to be determined.

The workplan I have come up with to get us to this point is as follows:

August 29, 2005: The Public Hearing and date that Interventions are due will be advertised in the News North.

October 11, 2005: Written Interventions are due.

October 21, 2005: Miramar's response to these Interventions is due.

October 30, 2005: If no one has indicated that they would like to participate in the hearing (written or verbal) it can be canceled on this date.

November 9, 2005: Public Hearing.

The Board is very strict with the deadlines above - ie. the Written Interventions and Response to Interventions and will not give extensions.

I will be sending out the information regarding this workplan to the Working Group today and as noted above you will see it in the paper on Monday - we will likely advertise it again in a week or two to ensure that people are aware it will be taking place. It will

also be advertised on our website.

For your information, the scope of this hearing will be very narrow. We will be limiting to discussion to whether or not Miramar should be granted the extension or not, and reasons. We will not be entertaining a hearing on the C&R Plan or any thing else. We anticipate that it can be done in one day. If no one intervenes then the Board will take any evidence before it and make their decision accordingly.

If you have any questions at this time, or any time throughout this process please let me know.

Lisa

Comments from Reviewers and Action Items on Section 5.0 of the C&R Plan - Con Pond & Negus Pond

MCML #	Reviewer	Comment Number	Applicable section	Topic Area	Comment	MCML Response	Resolved? (yes/no)	Action if not resolved
1 (23 - carried from Section 2.0)	RWED	1	Blend Plant Facilities and Operations (Reclamation Plant)	Con & Negus Ponds	Could MCML provide a status report on the work being undertaken at Con and Negus ponds to removed caliche sludges and the power washing of the bedrock bottom of Con Pond?	Work in Con Pond continued until cold weather prompted operations to be shut down. It will resume when the weather is amenable to this type of work. All remaining caliches have been excavated and stockpiled in preparation for treatment. As of December 31st it is estimated that 10,000 tonnes remain to be treated.	no	Miramar will add testing data from clean up program completed for pond base. Work has been restarted (April 2005) and should be completed in late September (freeze up). Report on effort to be submitted in November 2005. Negus Pond clean up will be restarted in April 2006 and completed in September 2006. A report will be submitted after this work is complete in 2006.
2	RWED	2	Hazardous Sites - Pits	Testing of capping materials	RWED recommends inclusion of a statement/commitment from Miramar to perform confirmation testing of the waste rock material used in the capping of the Con/Negus/Blend Plant sites (referred to as "waste rock" in the text) to ensure the material at surface meets the industrial arsenic contamination criteria (340 mg/kg).	Miramar will carry out testing of "waste rock" to confirm material satisfies industrial criteria for arsenic (340 mg/kg). See also Comment 23.	no	Miramar will do tests to confirm that waste rock used for the cover of the Negus and Con ponds has less than 340 mg/kg arsenic. It is proposed to complete 4 to 6 "whole rock" sample tests (crush 250 gm rock) to determine arsenic levels.
3	RWED	3	Blend Plant Pit Liners	Bedrock competency	The text indicates that it is anticipated that "... bedrock is competent and would have a low permeability." Will any testing occur to ensure there are no major conduits through which water containing contaminants could escape? Could a grouting program be developed to address conduits if they are encountered?	A camera will be used to record wall conditions in the blend plant pits after the walls have been power-washed. Any minor cracks in the shotcrete will be sealed with an epoxy resin. However, if substantial defects (cracks greater than 3 cm wide and 5 m long) are encountered, other remediation methods will be considered at that time. Any changes to the plan would be subject to approval by an inspector and/or the MWLWB.	no	In addition to the camera survey, Miramar will take core samples at 2 random locations in each pit to confirm condition of shotcrete. Tests for arsenic will be on upper section of core and on a whole crushed core sample. Holes will be grouted with expanding grout mix after core removed.
4	RWED	4	Blend Plant Pits	Pit Dimensions	Could the proponent provide information regarding the dimensions/volume of the Blend Plant pits (As-Built engineering plans, 3D representations etc.)?	The Chief Engineer for Con Mine, has located hard copies of as-built drawings for the Blend Plant in the old Administration building vault. These drawings will be given to Golder for reproduce and inclusion in the Closure Plan.	no	Drawings provided by Con Mine will be copied and submitted as part of revised Chapter.
5	RWED	5	Cover Design	Cover Design Clarification	If a waste rock cover is selected to tolerate recreational vehicle use, a 20-30 cm sand or gravel layer will underlay the waste rock. If a vegetative cover is selected, will this layer also be placed - or is it contingency on the cover selected?	Recreational vehicle use will not be allowed on the cover at Negus or Con pond. A cover with a top layer that includes a growth medium will be used to promote vegetation and minimize erosion. See also Comment 12.	no	Large rocks will be placed at 1.0 m intervals around the area to restrict access to area and minimize disturbance on cover system.
6	RWED	6	Cover Design	Cover Design Clarification	Regarding the same 20-30 cm sand or gravel layer, how would it "provide drainage to the edge of the cover system"? What does this mean?	The sand/gravel drainage layer will connect to the ditch to allow drainage to flow from the cover to the ditches that drain to the TCA. The connection detail from the cover to the ditch will be developed at the detail design phase.	no	The ditch / drain detail will be provided to show design proposal.
7	Larry	1	Cover Design	Cover Design Infiltration	Based on the proposed cover design, how much precipitation is expected to infiltrate through the cover into the underlying contaminated soils? Will it vary depending on the geomembrane liner type selected or have you established an acceptable target infiltration rate which then sets the selection of thickness and type of geomembrane used?	A cover for a hazardous site is designed to minimize infiltration. The amount of infiltration minimized is independent on the components used in the cover design. The infiltration ranges for a given cover design were provided by Andy Robertson in a letter dated June 22, 2004 to the MWLWB, which states that without a cover, infiltration is 17.5% and with a soil cover and geomembrane, infiltration is reduced to 1 to 2%. The goal for the cover design at Negus and Con Pond is to reduce infiltration to 1 to 2%.	no	The results of modeling will be provided to confirm final design proposal. Preliminary modeling completed to date includes the option of using a geosynthetic clay liner (GCL) instead of geomembrane liner. The modeling compared different infiltration cover systems and considered a cover with no vegetation and a cover with fair to good vegetation. The infiltration rates from the base of the cover system were in the range 1.5 to 2% of average annual precipitation.

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CHAPTER 5
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Comments from Reviewers and Action Items on Section 5.0 of the C&R Plan - Con Pond & Negus Pond

MCML #	Reviewer	Comment Number	Section #	Applicable section	Topic Area	Comment	MCML Response	Resolved? (yes/no)	Action if not resolved
8	Larry	2	5.3.1	Cover Design	Cover Design Infiltration	How will seepage water that infiltrates into the closed out Con and Negus Ponds (either through the cover or through groundwater) be managed? Will there be an internal collection sump and/or monitoring well and will this sump be monitored? Will the seepage be pumped periodically to the tailings containment area? How will this system be operated?	As per the design, all surface runoff and seepage will report to Middle Pond TCA, and ultimately the water treatment plant, therefore a sump is not considered necessary. Water quality of the seepage from Con and Negus ponds will be also be monitored using groundwater monitoring wells.	no	Monitoring points (wells) will be installed down gradient to confirm cover system is working.
9	Larry	3	5.3.1	Cover Design	Cover Design Clarification	Can you please clarify the proposed cover design specifically the reference to the 30 cm Silt or Clayey Layer and the 15 cm transition zone. If an LDPE or PVC material is used to form the geomembrane layer then will there still be a 30 cm Silt or Clayey Layer and a 15 cm transition zone placed under the geomembrane above the contaminated soil. If a GCL liner is used in place of the LDPE or PVC liner then what changes in the underlining zones, i.e., the 30 cm Silt or Clayey Layer and 15 cm transition zones and what is the significance of this to the overall liner design? This point seemed to confuse me under Section 5.3.1.	As discussed in section 5.3.1, the liner is designed to reduce infiltration and separate the underlying soils from the drainage layer to the drainage ditch which does not flow through the geomembrane and the silt or clay layer as shown in Figure 5.1 attached. The transition zone is required to provide a flat level well compacted base for the overall liner system.	no	A detail of the options for the cover system has been provided to clarify proposed ditch / liner edge details.
10	Larry	4	5.3.1	Cover Design	Geomembrane Liner Thickness	How thick will the geomembrane liner be (LDPE, PVC, or GCL) and can you comment on their relative expected lives?	The geomembrane liner thickness will be 40 to 60 mils (1 to 1.5 mm). The thickness would be selected based on constructability criteria. The expected geomembrane service life will be confirmed by suppliers.	no	Both a geomembrane liner and a GCL liner were evaluated as alternatives. As the service life of the liner is an important design consideration, a GCL system was chosen as the low permeable liner component because it is anticipated that the service life would be greater than 100 years. If a geomembrane were to be used, the suppliers would have to confirm a design service life of greater than 100 years.
11	Larry	5	5.3.2	Surface Grading	Drainage Ditches	Will the proposed drainage ditches directing surface runoff from the lined Con and Negus pond areas be armoured with non-erosive material? How will these ditches be maintained over the long-term?	Based on preliminary calculations a 50 mm minus, well graded sand and gravel material can be used to protect the drainage ditches against erosion. The material specification will be provided at the detail design phase.	no	Details to be provided for design storm to confirm erosion protection for ditch.
12	Larry	6	5.3.2	Surface Grading	Barriers and Fencing	I am concerned that these lined ponds not be secured by some means of physical barrier, either fence or suitable alternate barrier. My concern is that if the surface of these closed out sites blends totally with the surrounding areas, then the memory of what underlies these sites will be lost over time and the risk of damaging the liners will become very real. I know fences are unsightly but somehow these sites have to be kept isolated to protect the integrity of the liner systems.	A rock barrier will be placed around the Negus and Con Ponds to deter vehicle traffic. A covenant will be placed on the property so that future generations will be aware of the Negus and Con pond locations.	yes	

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Comments from Reviewers and Action Items on Section 5.0 of the C&R Plan - Con Pond & Negus Pond

MCML #	Reviewer	Comment Number	Section #	Applicable section	Topic Area	Comment	MCML Response	Resolved? (yes/no)	Action if not resolved
13	Larry	7	5.3	Hazardous Sites - Plans	Hazardous Landfill Sites	From the initial C&R plan we have moved from having only one area remain as a hazardous landfill site to now having three distinct areas classified as hazardous landfill sites in the current C&R Plan. Is the reason solely related to not being able to achieve less than the 340 mg/kg industrial standard in the underlying rock/soils following final cleanup or is it based on required storage volume for potentially hazardous materials and soils that need to be managed over the long-term?	It is anticipated that cleanup of Con and Negus ponds will not remove all of the sludges that have arsenic levels above 340 ppm. Thus, as this target is not achievable, these areas would continue to be classified as hazardous sites. Therefore, Negus and Con pond will be capped to separate the contaminated material that cannot be removed, from the surrounding area. The former caliche storage area also has capacity for storage of additional potentially hazardous materials. It will be capped in a manner similar to Con and Negus Ponds. Surface runoff and/or seepage from the caliche storage area reports directly to Middle Pudding TCA. As such it is preferable to the other possible locations. Therefore, hazardous materials can be deposited in this location prior to capping. This location will be classified as hazardous landfill.	yes	
14	INAC	1	5.1	Arsenic Sludges and Caliches	Tailings	The text states that caliches were discharged with the tailings until 1983. This sentence should specify which tailings (i.e., location) the caliches were deposited with.	The 1990 Merco Con Mine Metallurgical Development Report, by Operations Engineer Chris Martin, summarizes historic operating data from Con Mine. The report indicates that "the Roaster Caliche Residue was stockpiled in two ponds adjacent to the coarse ore stockpile (Caliche produced after 1983)." This refers to an area southwest of the mill that was formerly bisected by a road that separated the caliche storage area into two ponds, which have since been excavated by Miramar. It also states that "the remainder, from before 1983, was mixed with the flotation tailings and discharged into Pudd Lake."	no	A copy of appropriate sections of the report by Chris Martin of Merco Con Mine has been provided to the Group.
15	INAC	2	5.2	Hazardous Sites - Issues	Figures	The text should define the Negus Pond/Blend Plant areas or direct readers to figures depicting the areas.	Refer to Figure 5.2. This will be fixed in the final report.	yes	
16	INAC	3	5.2	Hazardous Sites - Issues	Hazardous Sites Definition	The definition of hazardous sites, or the definition source, should be included either in this section or in the introduction section.	As defined in the "Guideline for the General Management of Hazardous Waste in the NWT," (www.gov.nl.ca/RWED/library/epchw&pic.pdf) Hazardous Waste is "A contaminant which is a dangerous good that is no longer used for its original purpose and is intended for recycling, treatment, disposal or storage. A hazardous waste does not include a contaminant that is: (a) household in origin; (b) included in class 1, Explosives or class 7, radioactive materials of TDGR; (c) exempted as a small quantity; (d) an empty container; or (e) intended for disposal in a sewage system or by landfilling that meet the applicable standards set out in schedules I, III or IV of the Guideline for Industrial Waste Discharges in the NWT."	no	This section of the closure plan has been modified to define a "hazardous site at the Con Mine". Further, a more detailed overview of the proposed plans for the 3 hazardous sites on the mine site are included.

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MCML #	Reviewer	Comment Number	Section #	Applicable section	Topic Area	Comment	MCML Response	Resolved? (yes/no)	Action If not resolved
17	INAC	4	5.2	Hazardous Sites - Issues	Hazardous Landfill Sites	The use of the north end of the landfill site as a hazardous disposal landfill area is new to the MCRWG. Discussions last year were moving towards establishing the Negus Pond as the hazardous disposal site. What is the rationale as to why a third hazardous area will be created as opposed to using Negus Pond (and, if required, the Con Pond) as the hazardous disposal landfill site(s)?	See comment above for MCML #13	yes	
18	INAC	4 - cont	5.2	Hazardous Sites - Issues	Hazardous Landfill Sites	What materials and what volumes of materials are to report to this hazardous landfill? The text states that steel structures with arsenic levels higher than 340 mg/kg are to report to this area. Is there a maximum arsenic concentration level acceptable to dispose items in this area? What is the volume (or holding capacity) of this proposed landfill?	The volume of the former Caline storage area, which is now recommended for use as a hazardous landfill, has not been determined. The capacity of this hazardous landfill location will be determined at the detail design stage. If additional hazardous waste storage capacity is required, the Middle Pud TCA could also be used to store hazardous construction debris. An upper arsenic limit would not be proposed for construction debris added to the landfill, since the landfill would then be considered a hazardous waste site.	no	This section of the closure plan has been expanded to provide a more detailed explanation of the procedure to be used to clean structural area and, based on the results of testing after cleaning, what would happen to the steel, - i.e. re-cycling or landfill. A clearer sequence for the closure of the autoclave is also provided. In addition, it is proposed to test random samples of dust around the autoclave area to confirm that the dust has arsenic levels similar or less than arsenic levels in tailing. Dust with higher levels of arsenic would be placed in the hazardous landfill.
19	INAC	4 - cont	5.2	Hazardous Sites - Issues	Hazardous Landfill Sites	The text states that the designs will be provided in Section 8.0 of the revised Plan. It is difficult to assess the potential concerns or hazards associated with this structure without a map, the dimensions, and the design drawings of the hazardous landfill. Soluble arsenic, or other harmful substances must not be released into the environment via the hazardous landfill site.	The design for the landfill would consider a low permeable base material or liner to direct any seepage to the Middle Pud TCA. A cover similar to that shown in Section 5.3.1, would reduce infiltration 1 to 2%. Seepage reporting to Middle Pud TCA would be treated in the water treatment plant.	yes	
20	INAC	5	5.3	Hazardous Sites - Plans	Hazardous Sites Capping	The text states that the hazardous sites will be capped, fertilized, and seeded. The general description of what is to be seeded (local grass species, other?) should be added.	A test plot will be constructed to help determine what types of vegetation can be grown on the cap. The objective of the test plot is to develop a seed mix that is self sustaining in the Yellowknife area.	yes	
21	INAC	6	5.3	Hazardous Sites - Plans	Clean-up post Autoclave	As discussed in previous working group meetings, the issue of clean-up of remaining sludge and wash water once the autoclave has been dismantled needs to be addressed. It is not acceptable to put high concentrations of soluble arsenic sludge or wash water directly into the TCA.	The objective is to treat all calchees and sludges in the autoclave prior to disposal in the Tailings Containment Area (TCA). No untreated material will be placed in the TCA.	no	A clearer timeline is to be provided for removal of various structures and when the autoclave is to be taken out of service. At present it is planned for the autoclave to operate from July to December 2006. At that time it is anticipated that all known sludges or calchees and other arsenic impacted material on the property will have been treated. This sequence will be developed for a later section on costs and schedule.
22	INAC	7	5.3	Hazardous Sites - Plans	Shotcrete Liner	Will the shotcrete lining from the three mixing pits in the Bland Plant be left in place regardless of the test results? What levels would initiate a contingency measure and what would that contingency measure be?	See comment above for MCML #3	yes	

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MCML #	Reviewer	Comment Number	Section #	Applicable section	Topic Area	Comment	MCML Response	Resolved? (yes/no)	Action if not resolved
23	INAC	8	5.3	Hazardous Slides - Plans	Hazardous Materials Clean-up	The clean-up measures for the Con and Negus Ponds are not complete. Sludge and calcine materials are to be treated through the autoclave. Will the Ponds be washed down? What will happen with the oversized materials? Will these be washed down before capping? Removed to the hazardous landfill area? What size fractions will be treated through the autoclave? It was previously stated that materials <5mm would be treated through the autoclave, and oversized materials >5 mm, contaminated soils and Pond walls would be power washed. Is this still the case? The fate of all materials associated with the Con and Negus Ponds should be clearly defined in this section.	The sludge and calcine materials will be treated through the autoclave. The area of the Con and Negus ponds above the cap elevation will be washed down and the water will be sent to the treatment plant prior to disposal in the Tailings Containment Areas (TCA). Materials will be removed and deposited into the TCA if <5mm. Larger material will be washed and tested (surface scrape and whole rock analysis). Based on analysis results, the larger material will either be deposited in the hazardous or non-hazardous landfills.	yes	
24	INAC	9	5.3.1	Cover Design	Geomembrane Liner Lifeline	The proposed cover for the Pond areas includes a geomembrane liner as a key feature for limiting infiltration. There should be provision in the cost estimate for cover replacements or repair as these liners have a life of about 100 years.	The proposed cover for the pond features a geosynthetic clay liner (GCL), or a geomembrane as the key feature for limiting infiltration. The longevity of the material will be determined in the design phase. The recommended cover will be subject to approval by an inspector and/or the MWLWB prior to construction.	no	There are no plans to provide a long term bond for a new cover system at some time in the future. Instead it is proposed to monitor evaluate the efficiency of the cover system during the post closure monitoring period. Contingency planning will be covered in the post closure monitoring section.
25	INAC	10	5.3.1	Cover Design	Area covered by Liner	A critical construction detail for the covers will be the edge of the covered area. Positive drainage away from the covered area is ideal for preventing runoff from seeping under the edge of the liner and into the contaminated area. If may be necessary to extend the perimeter of the liner well beyond the immediate area to be covered in order to ensure that seepage and/or groundwater does not enter the contaminated material. The concepts for covering the areas should be expanded to include: targets for infiltration, including the effects of construction imperfections and liner degradation in time; and a monitoring program with instrumentation to verify performance targets.	See comments above for MCML #6, #7 and #8	yes	
26	INAC	11	5.3.1	Cover Design	Cover Material	The cover system calls for local sandy or silty soil with a high organic content. Where would this material come from and what volume would be needed?	If adequate volumes of borrow material are not available at Con mine site, then borrow materials will be purchased from local suppliers. Volumes required would be determined at the detail design stage.	yes	
27	INAC	12	5.3.1	Cover Design	Cover Material	The same comment as above (INAC - 11) applies for crushed rock required for the cover system.	If adequate volumes of borrow material are not available at Con mine site, then borrow materials will be purchased from local suppliers. Volumes required would be determined at the detail design stage.	yes	
28	INAC	13	5.3.1	Cover Design	End use Objective for Cover	The end use or objective of the cover is unclear. What is the closure objective here? Will there be a vegetative cover or a crushed rock cover? If end uses are not identifiable at this point, what are the decisions pending on?	The objective of the cover, as indicated in MCML #9 and discussed in Section 5.3.1, is to reduce infiltration and separate the underlying soils from the surrounding area. The covers will incorporate a growth medium to promote vegetation. A crushed rock cover will not be used since that may encourage vehicle traffic.	no	A more detailed "end land use" statement has been provided in the chapter.

MIRAMAR CON MINE
CHAPTER 5
RESTORATION PLAN
August 2005

Comments from Reviewers and Action Items on Section 5.0 of the C&R Plan - Con Pond & Negus Pond

MCML #	Reviewer	Comment Number	Section #	Applicable section	Topic Area	Comment	MCML Responses	Resolved? (yes/no)	Action if not resolved
29	INAC	14	5.3.2	Surface Grading	Bedrock competency	The text states that "observations at Con Pond suggest that bedrock is close to the surface." If design plans are reliant on the bedrock being near surface, observations suggesting that the bedrock is close to the surface is not acceptable. The text should state that the bedrock is close to the surface (if it is), or should present the method that will be used to confirm whether it is or is not close to the surface.	At Con Pond, bedrock is exposed on surface for the southern half of the pond area. The depth to bedrock for the northern half will be determined in 2005 as cleanup work is completed. The design will be completed to reflect the actual rock surfaces once they are determined.	yes	
30	INAC	15	5.3.2	Surface Grading	Hazardous Landfill Sites - Material	Will any testing be done to the gravel berm material and the concrete wall to the south of Con Pond that are to report to the hazardous landfill? It is important that all materials reporting to this landfill are adequately characterized.	Construction debris reporting to the hazardous landfill at the former Cabine storage area will be considered hazardous and will therefore not need to be characterized.	yes	
31	INAC	16	5.3.2	Surface Grading	Figures	Figure 5.1 is not present in the received Section 5 Plan.	The figures have been renumbered to reflect order given in text.	yes	
32	City of Yellowstone	32 from Chapter 6	5	Cover Design		Top layer be blasted rock instead of an organic cover. It is envisioned that the area would be reserved as an open space and it is the City's position that these ponds should appear in a way to allow vegetation.	It is desirable that people or animals do not utilize these areas in the future therefore a rock cap is planned in order to discourage any future use as opposed to a vegetative cap that may entice both humans and animals to visit these sites.		

City of
Yellowknife



Nov.
October 7, 2005

FAXED
Nov. 7/25

PC Doc's#109729

Via Fax

Peter Lennie-Misgeld
Mackenzie Valley Land and Water Board
P.O. Box 2130
Yellowknife, NT X1A 2P6

Dear Mr. Lennie-Misgeld:

**Re: Preliminary Screening and Miramar Con Mine Ltd.'s ("Miramar")
application for amendment to Type "A" Water License N1L2-0040**

This letter is further to your e-mail correspondence to Catherine Mallet (formerly of our organization) sent Tuesday November 1, 2005. In that correspondence you requested that the City of Yellowknife ("City") provide you with feedback on whether we consider Miramar Con Mine Ltd.'s ("Miramar") application for an amendment to the term of their Type "A" Water License N1L2-0040 ("Water License") to be exempt from preliminary screening. Ultimately the interpretation of the legislation governing this matter lies with your Board.

We will provide you with the requested 'feedback', however we must first object to the manner in which this request was posed and the deadline for the submission of this information, as it is less than one (1) week from the date it was requested. The request is also two (2) days prior to the Hearing with respect to Miramar's request for an extension to the term of its Water License. This would appear to be in contravention of the rules of natural justice as they apply to administrative bodies such as this one.

Upon review of the request, it is the City's respectful submission that a preliminary screening of the Miramar's request for an amendment to its Water License **does** appear to be required as it does not meet the criteria for exemption set out in Paragraph 2 of Part 1, Schedule 1 of the *Exemption List Regulations* annexed to s. 143(1) of the *Mackenzie Valley Resource Management Act* ("MVRMA").

Furthermore, it is the City's position that a preliminary screening of the amendment request for the Water License is required pursuant to s. 18(1) (b) of the *Northwest Territories Waters Act*, as such an amendment is a "trigger" and on the list of government approvals that require a preliminary screening as per the *Preliminary Screening Requirement Regulations*, Schedule 1, Item 12 (c). It is in these regulations that it is

November 7, 2005

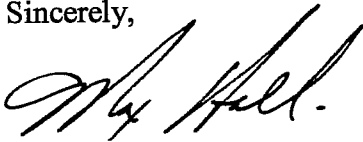
Page 2

stated that any matter listed under s. 18(1) (b) of the *Northwest Territories Waters Act* requires a preliminary screening.

This in turn would be the basis for a referral for an environmental assessment, which the City believes is warranted as the activities to be carried out during the term captured by the amendment request may have an adverse impact on the environment within the City's municipal boundaries and therefore be contrary to the public interest.

We look forward to receiving a copy of the Board's decision with respect to this matter as soon as it is available. If you have any questions or concerns with respect to the information contained in this correspondence, please feel free to contact me at your convenience at 920-5693.

Sincerely,

A handwritten signature in black ink, appearing to read "Max Hall", written in a cursive style.

Max Hall

Cc: Greg Kehoe – Director, Public Works and Engineering Department
Loretta M. Bouwmeester – Manager, Legal Services & Corporate Policy

City of Yellowknife



November 17, 2005

VIA FAX

Bob Wooley, Exec. Director
Mackenzie Valley Land and Water Board
P.O. Box 2130
Yellowknife, NT X1A 2P6

Dear Mr. Wooley:

**Re: Preliminary Screening and Miramar Con Mine Ltd.'s ("Miramar")
Application for Amendment to Type "A" Water License N1L2-0040 ("Water
License")**

This letter is further to our previous correspondence sent to Peter Lennie-Misgeld of your office on November 7, 2005 regarding the above matter. In that correspondence the City of Yellowknife set out its position that a preliminary screening is required with respect to Miramar's request for an amendment to its Water License. The purpose of this correspondence is to both confirm that this remains the City's position and to further provide an expanded rationale for this position.

As was requested at the November 9, 2005 Public Hearing with respect to Miramar's application for an amendment to the term of its Water License, we are submitting this correspondence to the Mackenzie Valley Land and Water Board ("Board") in keeping with its stated deadline of November 17, 2005.

Again it is the City's respectful submission that a preliminary screening of Miramar's request for an amendment to its Water License is required as it does not meet the criteria for exemption set out in Paragraph 2 of Part 1, Schedule 1 of the *Exemption List Regulations* annexed to s. 143(1) of the *Mackenzie Valley Resource Management Act* ("MVRMA"). In essence the preliminary screening under Part 5 of the MVRMA is required as what is being requested is an amendment to, rather than a renewal of, the Water Licence.

Given that s. 157.1 of Part 5 of the MVRMA only "[d]oes not apply in respect of any licence, permit or other authorization related to an undertaking that is the subject of a licence or permit issued before June 22, 1984, except a licence, permit or other authorization for an abandonment, decommissioning or other significant alteration of the

... / 2

November 17, 2005

Page 2

project.", and as it is the City's position that Miramar's request for an amendment to its Water Licence is an 'other authorization', a preliminary screening is required.

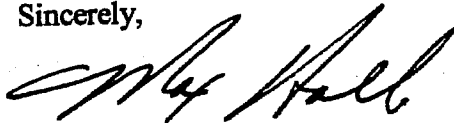
Furthermore, it remains the City's position that a preliminary screening of the Water Licence amendment request is required pursuant to s. 18(1) (b) of the *Northwest Territories Water Act* ("NWTWA"), as such an amendment is a 'trigger' and on the list of government approvals that require a preliminary screening as per the *Preliminary Screening Requirement Regulations* ("PSRR"), Schedule 1, Item 12(c). It is in these regulations that it is stated that any matter listed under s. 18(1) (b) of the NWTWA requires a preliminary screening.

This is particularly relevant given that s. 1 of the PSRR state that "[f]or the purpose of subsection 124(1) of the *Mackenzie Valley Resource Management Act*, a regulatory authority or a designated regulatory agency that receives an application for a licence, permit or other authorization required to carry out a proposed development, under a provision of a Federal Act set out in Part 1 of Schedule 1 or a provision of federal regulations set out in Part 2 of that Schedule, shall conduct a preliminary screening of the proposed development before the issuance of the licence, permit or authorization".

Lastly, many of the proposed activities set out in Miramar's July 20, 2005 correspondence, in which it makes its Water Licence amendment request, pertain specifically to decommissioning, reclamation, closure and abandonment. As such, the scope of any preliminary screening that takes place should capture all of these activities or undertakings; which significantly differ from those taking place when the current license came into effect. There is no longer an active 'mining and milling' operation on site, and it is the City's position that the proposed activities including the cleaning, demolition and removal of the mill, blend plant and autoclave prior to an approved closure plan being in place will potentially have an adverse effect on the environment within the City's municipal boundaries.

Thank-you for your consideration of the City's position on this important issue, we look forward to receiving a copy of the Board's decision and its written reasons for decision as soon as they are available. If you have any questions or concerns with respect to the City's position, please feel free to contact me at your convenience at 920-5624.

Sincerely,



Max Hall
City Administrator

Cc: Yellowknife City Council
Greg Kehoe, Director, Public Works & Engineering
Loretta Bouwmeester, Manager, Legal Services & Corporate Policy

REASONS FOR DECISION

Reference/File Number: Water License N1L2-0040 (Type "A")
Con Mine
Licensee: Miramar Con Mine Ltd.

Mackenzie Valley Land and Water Board

REASONS FOR DECISION

Preliminary Screening of the Amendment to the Term

Issued pursuant to Section 26
of the *Northwest Territories Waters Act*, R.S.C. 1992, c.39

BACKGROUND AND REGULATORY HISTORY

On July 30, 2000, Miramar Con Mine Ltd. (Miramar or the Licensee) was issued a renewal of Water License N1L2-0040 (the "License") by the NWT Water Board for their Con Mine operation located in the city of Yellowknife, NT. The expiry date for this License was set for July 29, 2006.

On July 26, 2005, an application for an amendment to the Term (characterized by Miramar as an "extension") of the License was received by the Mackenzie Valley Land & Water Board (MVLWB or the Board). This application was to extend the Term of the License to September 30, 2008.

At the August 24, 2005 Board meeting, a work plan addressing the Miramar application was presented to the Board and approved. A Public Hearing date was set for November 9, 2005, with Interventions due October 11, 2005 and the response to Interventions due October 21, 2005.

On November 1, 2005, the Board asked reviewers to provide their views on the applicability of the *Exemption List Regulations* to Miramar's application for an amendment to the Term of their Water License; the comment deadline was set for November 7, 2005.

Responses to this request were received from Environment Canada, the Department of Fisheries and Oceans, the Government of the Northwest Territories – Department of Environment and Natural Resources, the City of Yellowknife and Miramar.

The City of Yellowknife expressed concern about the short timeline for comments on this matter. The Chair of the MVLWB responded by informing participants in the proceeding at the Public Hearing that comments regarding the applicability of the *Exemption List Regulations* would be accepted until November 17, 2005. No additional comments were received from any party by this deadline.

SHOULD THERE BE A PRELIMINARY SCREENING

Section 60 of the *Mackenzie Valley Resource Management Act* (MVRMA or the "Act") gives the Board the jurisdiction to "issue, amend, renew and cancel licences". The Miramar application is clearly an application to amend the Term of the License. The *Preliminary Screening Requirement Regulations* set out the applications for which a preliminary screening is required under part 5 of the MVRMA. Part 1 of Schedule 1 item 7 sets out the requirement for applications made under the MVRMA to be screened. Column 4 of item 7 sets out some limitations or exceptions to the screening requirement. However, amendments are not one of the exceptions. The Board therefore concludes that an amendment should be screened unless the *Exemption List Regulations* apply.

Review of the *Exemption List Regulations*, Schedule 1, part 1 section 2 indicates that developments which are not modified and which have been the subject of an earlier environmental assessment process can be exempted. A change to the Term of the License without any other changes proposed to the operation could arguably be an application for a development that will not be modified. Likewise, the Board's files indicate that a screening was completed on February 22, 2000 for Miramar's water license.

There are two problems with this reasoning. First, Schedule 1, part 1 section 2 refers to the "renewal" of a licence, not an amendment which is what the Board is dealing with in this case. Secondly, the evidence at the hearing indicated that Miramar is engaged in the closure and reclamation of the Con mine site. The City of Yellowknife argued that these activities are different than those contemplated under the License issued in 2000.

The Board does not consider it necessary to rule on the difference between the activities authorized by the License and the current activity at the site. In the Board's opinion, the *Exemption List Regulations* are clear. The exemption is for renewal applications when no modifications are proposed. In this case we are dealing with an amendment which is something quite different. It would be wrong to equate an amendment with a renewal simply because this amendment is only dealing with the Term of the License. From a practical standpoint even an extension can increase the duration of an activity and the potential impacts on the environment arising for the activity, including cumulative effects. It seems to the Board that amendments must be subject to preliminary screening.

The Board therefore decided to conduct a preliminary screening on the application for an amendment to the Term of Water License N1L2-0040.

THE SCREENING DECISION


A preliminary screening was conducted for the amendment the Term. The Board decided that this screening, accompanied by the Preliminary Screening conducted by the Department of Indian Affairs and Northern Development on February 22, 2000 accounted for the activities occurring on site, and those expected to occur during the Term of the amended License (both Preliminary Screenings have been attached).

The information submitted by Miramar in their amendment application as well as the information from the Public Hearing was used as evidence for the Preliminary Screening. The Board approved the screening on December 20, 2005; deciding that the amendment to the Term should proceed through the regulatory process and not to an Environmental Assessment.

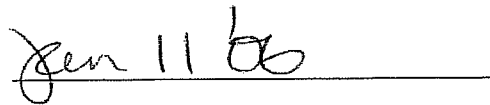
CONCLUSION

The Board conducted a preliminary screening in this case and decided pursuant to section 125(2)(a) of the MVRMA that in its opinion there is not likely to be a significant adverse impact on air, water or renewable resources or significant public concern if the extension to the Term of the License is granted.

Signed on behalf of the MVLWB:



Todd Burlingame
Chair



Date

PRELIMINARY SCREENING REPORT FORM

PRELIMINARY SCREENER: MVLWB REFERENCE / FILE NUMBER: N1L2-0040 TITLE: Mining & Milling, Con Mine ORGANIZATION: Miramar Con Mine Ltd. MEETING DATE: December 20, 2005	EIRB REFERENCE NUMBER:
---	---

Type of Development:
(CHECK ALL THAT APPLY)

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> | New |
| <input checked="" type="checkbox"/> | Amend, EIRB Ref. # |
| <input checked="" type="checkbox"/> | Requires permit, license or authorization |
| <input type="checkbox"/> | Does not require permit, license or authorization |

Project Summary - This preliminary screening addresses only the decommissioning of the site which was not addressed in the preliminary screening conducted in February 2000. Please consult that preliminary screening for additional detail.

Miramar Con Mine Ltd. operates the Con Mine located within in Yellowknife, Northwest Territories. In November 2003 production stopped at the mine, and it was allowed to begin flooding. In July 2004, the milling of ore from Giant Mine ceased. The mine is now in the process of being decommissioned, and the final arsenic sludge and calcines are being surveyed so that they can be processed through the autoclave in 2006 and 2007. Following this, the final closure of the mine will be undertaken as per the Final Closure & Reclamation Plan which is being vetted through the Miramar Con Mine Abandonment & Restoration Working Group set up by the MVLWB.

Scope

This License entitles Miramar Con Mine Ltd. to use Water and dispose of Waste for a mining and milling operation and associated activities at the Con Mine, located in Yellowknife, Northwest Territories (approximate Latitude 62°26' N and Longitude 114°23' W)

Principal Activities (related to scoping)

(CHECK ALL THAT APPLY)

- | | | |
|---------------------------------------|--|---|
| <input type="checkbox"/> Construction | <input type="checkbox"/> Exploration | <input checked="" type="checkbox"/> Decommissioning |
| <input type="checkbox"/> Installation | <input type="checkbox"/> Industrial | <input type="checkbox"/> Abandonment |
| <input type="checkbox"/> Maintenance | <input type="checkbox"/> Recreation | <input type="checkbox"/> Aerial |
| <input type="checkbox"/> Expansion | <input type="checkbox"/> Municipal | <input type="checkbox"/> Harvesting |
| <input type="checkbox"/> Operation | <input type="checkbox"/> Quarry | <input type="checkbox"/> Camp |
| <input type="checkbox"/> Repair | <input type="checkbox"/> Linear / Corridor | <input type="checkbox"/> Scientific/ |
| <input type="checkbox"/> Research | | |
| <input type="checkbox"/> Water Intake | <input type="checkbox"/> Sewage | <input type="checkbox"/> Solid Waste |
| <input type="checkbox"/> Other: | | |

Principal Development Components (related to scoping)

- | | |
|---|---|
| <input type="checkbox"/> Access Road | <input checked="" type="checkbox"/> Waste Management |
| <input type="checkbox"/> construction | <input checked="" type="checkbox"/> disposal of hazardous waste |
| <input type="checkbox"/> abandonment/removal | <input type="checkbox"/> waste generation |
| <input type="checkbox"/> modification e.g., widening, straightening | <input type="checkbox"/> Sewage |
| <input type="checkbox"/> Automobile, Aircraft or Vessel Movement | <input type="checkbox"/> disposal of sewage |
| <input type="checkbox"/> Blasting | <input type="checkbox"/> Geoscientific Sampling |
| <input type="checkbox"/> Building | <input type="checkbox"/> trenching |
| <input type="checkbox"/> Burning | <input type="checkbox"/> diamond drill |
| <input type="checkbox"/> Burying | <input type="checkbox"/> borehole core sampling |
| <input type="checkbox"/> Channelling | <input type="checkbox"/> bulk soil sampling |
| <input type="checkbox"/> Cut and Fill | <input type="checkbox"/> Gravel |
| <input type="checkbox"/> Cutting of Trees or Removal of Vegetation | <input type="checkbox"/> Hydrological Testing |
| <input type="checkbox"/> Dams and Impoundments | <input checked="" type="checkbox"/> Site Restoration |
| <input type="checkbox"/> construction | <input type="checkbox"/> fertilization |
| <input type="checkbox"/> abandonment/removal | <input type="checkbox"/> grubbing |
| <input type="checkbox"/> modification | <input checked="" type="checkbox"/> planting/seeding |
| <input type="checkbox"/> Ditch Construction | <input type="checkbox"/> reforestation |
| <input type="checkbox"/> Drainage Alteration | <input type="checkbox"/> scarify |
| <input type="checkbox"/> Drilling other than Geoscientific | <input type="checkbox"/> spraying |
| <input type="checkbox"/> Ecological Surveys | <input checked="" type="checkbox"/> recontouring |
| <input type="checkbox"/> Excavation | <input type="checkbox"/> Slashing and removal of vegetation |
| <input type="checkbox"/> Explosive Storage | <input type="checkbox"/> Soil Testing |
| <input type="checkbox"/> Fuel Storage | <input type="checkbox"/> Stream Crossing/Bridging |
| <input type="checkbox"/> Topsoil, Overburden or Soil | <input type="checkbox"/> Tunneling/Underground |
| <input type="checkbox"/> fill | <input type="checkbox"/> Other (describe): |
| <input type="checkbox"/> disposal | |
| <input type="checkbox"/> removal | |
| <input type="checkbox"/> storage | |

- ☐ temperature
- ☐ wetland changes / loss
- ☐ other:
- ☐ N/A

IMPACT

3. Noise

- ☐ noise in/near water
- ☒ other: noise increase

☐ N/A

MITIGATION

There will be noise on the property due to the use of machinery during the clean-up, as this mine has been in operation for a number of years, the level of disturbance from this noise is no greater than what has been experienced in the past.

IMPACT

4. Land

- ☐ geologic structure changes
- ☒ soil contamination

- ☐ buffer zone loss
- ☐ soil compaction & settling
- ☐ Destabilization / erosion
- ☐ permafrost regime alteration
- ☐ other: explosives/scarring
- ☐ N/A

MITIGATION

In the previous preliminary screening, it was noted that DOE recommended a post closure monitoring program and that final disposal of contaminated soils and sludges should be completely contained, and not subject to leaching or erosion. Other parameters besides arsenic should be evaluated during site contamination investigations.

IMPACT

5. Non Renewable Natural Resources

- ☒ resource depletion

☐ other:

☐ N/A

MITIGATION

There has been discussion about using gravel/sand/silt to cover the tailings areas. It has been anticipated that the primary location for this material will be onsite, however should this not be available, it will be purchased locally. No mitigation is suggested for this as the area of the site is already disturbed and the tailings areas do need to be covered. Effects resulting from quarry material that is being purchased should be mitigated at the source.

IMPACT

6. Air/Climate/ Atmosphere

- ☒ Other

☐ N/A

MITIGATION

In the previous preliminary screening, it was noted that the company may assist the city with further studies to define general background arsenic levels across the city, and then to monitor air borne dust at various locations to assist with the risk assessment model for the site and city in general, for the final A&R Plan.

INTERACTING ENVIRONMENT

IMPACT

1. Habitat and Communities

- ☐ predator-prey
- ☐ wildlife habitat / ecosystem
Composition changes
- ☐ reduction / removal of
keystone or endangered
species
- ☐ removal of wildlife corridor or
buffer zone
- ☐ other:
- ☐ N/A

IMPACT

2. Social and Economic

- ☒ planning / zoning changes or
conflicts

- ☐ increase in urban facilities or
services use
- ☐ rental house
- ☐ airport operations / capacity
changes
- ☐ human health hazard
- ☐ impair the recreational use of
water or aesthetic quality
- ☐ affect water use for other
purposes
- ☐ affect other land use
operations
- ☐ quality of life changes
- ☐ public concern
- ☐ other:
- ☐ N/A

IMPACT

3. Cultural and Heritage

- ☒ effects to historic property

MITIGATION

MITIGATION

Concerns have been raised by the City of Yellowknife regarding future land use and the standards to which Miramar Con Mine Ltd. will be remediating the site to. The leases held by Miramar Con Mine Ltd. are with the Commissioner through the Government of the Northwest Territories; therefore the level to which the area is remediated (i.e. Industrial vs. Residential standards) is at their discretion.

In the previous preliminary screening, the NWT Water Board noted that progressive reclamation should continue as per the A&R Plan, and identification of tailings disposal areas located off the GNWT land lease and resolution of current and future land use zoning requirements of the Con Mine site. Miramar Con Mine Ltd. is carrying out progressive reclamation while the Final Closure & Reclamation Plan is being vetted through the MCARWG process. There has been some discussion between the GNWT and Miramar Con Mine Ltd. regarding the tailings that are located off the leases; however no resolution on the clean-up has been reached at this point.

MITIGATION

The decommissioning and closure of the mine has resulted in various groups expressing interest in various buildings and historic artefacts on the property. Miramar Con Mine Ltd. has outlined in their Final Closure & Reclamation Plan that

PRELIMINARY SCREENER / REFERRING BODY INFORMATION
(CHECK ALL THAT APPLY)

	RA or DRA	ADVICE	PERMIT REQUIRED
Environment Canada	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fisheries and Oceans	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Indian and Northern Affairs Canada	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Canadian Heritage (Parks Canada)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National Energy Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Natural Resources Canada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Works and Gov't Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transport Canada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Northern Oil and Gas Directorate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Canadian Nuclear Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry Canada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Canadian Transportation Agency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National Defence	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GNWT - ENR	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GNWT - MACA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GNWT - Transportation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GNWT - Health	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prince of Wales Heritage Center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MVEIRB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deh Cho First Nations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liidlii Kue First Nation (Ft Simpson)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deh Gah Got'ie Dene Council (Ft Prov.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acho Dene Koe First Nation (Fort Liard)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nahanni Butte First Nation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pehdzeh Ki First Nation (Wrigley)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T'ihedzehK'edeli First Nation (JMR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ka'a'gee Tu First Nation (Kakisa)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sambaa K'e Dene Band (Trout Lake)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K'atlodeeche First Nation (Hay River)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
West Point First Nations (Hay River)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hamlet of Fort Providence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hamlet of Fort Liard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Village of Fort Simpson	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Town of Hay River	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enterprise Settlement Corporation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TliCho Lands Protection Department	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lutselk'e Dene First Nation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Akaiicho Prescreening Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yellowknives Dene First Nation (Ndilo)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Yellowknives Dene First Nation (Dettah)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rae-Edzo Metis Local #64	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
North Slave Metis Alliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
City of Yellowknife	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fort Smith Metis Council	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Salt River First Nations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smith Landing First Nation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Northwest Territory Metis Nation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hay River Metis Council	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deninu Ku'e First Nations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fort Resolution Metis Council	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deninu Ku'e Env. Working Committee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Akaiicho Territory Government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treaty 8 Tribal Corporation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deninoo Community Council	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Town of Fort Smith	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Preliminary Screening Report Form

Preliminary Screener	Greg Cook (for DIAND)
Reference / File Number	N1L2-0040
Preliminary Screening Date	February 22 2000
Development Title	Miramar Con Mine - Con Mine licence renewal
Developer / Organization	Miramar Con Mine, Ltd.
EIRB Reference Number	99-0106

1.

Type of Development (CHECK ALL THAT APPLY)	<input type="checkbox"/>	New Development	
	<input type="checkbox"/>	Amendment to Licence / Permit, EIRB Ref. #	
	<input checked="" type="checkbox"/>	Renewal of Licence / Permit, EIRB Ref. #	N1L2-0040
	<input checked="" type="checkbox"/>	Requires Permit, Licence or Authorization	
	<input type="checkbox"/>	Does not require Permit, Licence or Authorization	

2.

Principal Activities (related to scoping) - Existing activities (CHECK ALL THAT APPLY)							
Construction	<input checked="" type="checkbox"/>	Exploration	<input type="checkbox"/>	Decommissioning	<input type="checkbox"/>	Repair	<input type="checkbox"/>
Installation	<input type="checkbox"/>	Industrial	<input checked="" type="checkbox"/>	Abandonment	<input type="checkbox"/>	Linear / Corridor	<input type="checkbox"/>
Maintenance	<input checked="" type="checkbox"/>	Recreation	<input type="checkbox"/>	Aerial	<input type="checkbox"/>	Scientific / Research	<input type="checkbox"/>
Expansion	<input type="checkbox"/>	Municipal	<input type="checkbox"/>	Harvesting	<input type="checkbox"/>	Water Intake	<input checked="" type="checkbox"/>
Operation	<input checked="" type="checkbox"/>	Quarry	<input type="checkbox"/>	Camp	<input type="checkbox"/>	Sewage	<input checked="" type="checkbox"/>
Other (DESCRIBE)	<input checked="" type="checkbox"/>	underground mining				Solid Waste	<input checked="" type="checkbox"/>

3.

Principal Development Components (related to scoping) (CHECK ALL THAT APPLY)			
Access Road	<input checked="" type="checkbox"/>	Building	<input type="checkbox"/>
construction	<input type="checkbox"/>	Burning	<input type="checkbox"/>
abandonment / removal	<input type="checkbox"/>	Burying/ (covering)	<input checked="" type="checkbox"/>
modification e.g., widening, straightening	<input type="checkbox"/>	Channeling	<input type="checkbox"/>
Automobile, Aircraft or Vessel Movement (includes loading dock on Great Slave Lake)	<input checked="" type="checkbox"/>	Cut and Fill	<input type="checkbox"/>

Boring (underground)	x	Cutting of Trees or Removal of Vegetation	
Dams and Impoundments	x	▸ reforestation	
▸ construction		▸ scarify	
▸ abandonment / removal		▸ spraying	
▸ modification		▸ recontouring	x
Ditch Construction	x	Slashing and Removal of Vegetation	
Drainage Alteration	x	Soil Testing	x
Drilling Other Than Geoscientific	x	Stream Crossing / Bridge	
Ecological Surveys		Topsoil, Overburden, or Soil(bottom silts)	
Excavation	x	▸ fill	
Explosive Storage	x	▸ disposal	
Fuel Storage	x	▸ removal	
Geoscientific Sampling	X	▸ storage	
▸ trenching		Tunneling / Underground	x
▸ diamond drilling	x	Waste Management (includes tailings and sludges)	
▸ borehole core sampling		▸ disposal of hazardous waste	x
▸ bulk soil sampling		▸ waste generation	x
Gravel		▸ sewage	x
Hydrological Testing		▸ disposal of sewage	x
Site Restoration	X	Other (DESCRIBE)	
▸ fertilization		▸ underground mining	x
▸ grubbing		▸ water treatment	x
▸ planting / seeding	x	▸ autoclave	x

4.

NTS Topographic Map Sheet Numbers	85 J/8
LIST ALL THAT APPLY	
Latitude / Longitude and UTM System	62 26' 00" N - 114 23' 00" W
(DEGREES-MINUTES-SECONDS MAP SHEET)	
Nearest Community and Water Body	Yellowknife; Great Slave Lake

5. **Land Status (consultation information)** (CHECK ALL THAT APPLY)

Free Hold / Private	Commissioner's Land	<input checked="" type="checkbox"/>	Federal Crown Land	Municipal Land	<input checked="" type="checkbox"/>
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6. **Trans-boundary Implications** (CHECK ALL THAT APPLY IF KNOWN AND APPLICABLE)

British Columbia	Saskatchewan	Manitoba	Wood Buffalo National Park
Nunavut	Alberta	Yukon	Inuvialuit Settlement Region

7. **Type of Trans-boundary Implications**

Public Concern	Development	Impact / Effect
(DESCRIBE)		

PHYSICAL - CHEMICAL IMPACTS

IMPACT

MITIGATION

8. **Groundwater** This Section does not apply

water table alteration		
water quality changes	<input checked="" type="checkbox"/>	see below
infiltration changes	<input checked="" type="checkbox"/>	(-some movement of groundwater through fractures under the site, would convey groundwater flows, re company report, with limited inferred, groundwater flow from the tailings disposal area to Yellowknife Bay; no impact noted) -ensure that water sampling sites have been/are established in the licence to monitor surface and sub surface drainage from the Lower Pud and Negus Tailings areas to ensure no off transportation of contaminants -DIAND recommends water sampling of ground water (and tailings water) to determine arsenic levels -DOE recommends more effort be placed on understanding groundwater movement (and to some extent surface flow) both from the mine and within tailings mass to better formulate a final A & R Plan.
other (DESCRIBE)		

9. **Surface Water** This Section does not apply

flow or level changes		
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water quality changes	x	<p>-surface runoff can be contaminated by air blown tailings and sludges, seepage from dam toes etc, but catchment areas are in place to trap seepage and return it by pipe to the active tailings pond for eventual treatment along with excess tailings pond water through the water treatment plant; seepage at Taylor Road is pumped to Kam Lake in summer</p> <p>-recycle as much water as possible through the system, which will also reduce the quantity of treated water returned to Great Slave Lake</p> <p>-existing water quality sampling and analysis requirements of the licence will monitor effluent quality at different points around the property, including final discharge to Great Slave Lake through the Meg-Keg-Peg lake system, which has been impacted by contaminants picked up from the surrounding areas of the mine.</p> <p>-spill and hazardous materials contingency plans in place</p> <p>-new 10 year Tailings management Plan has been submitted for operation of the tailings management facility, to include raising certain dykes, construction of new internal dykes etc to optimize use of present facilities and improve existing facilities</p> <p>-RWED: recommend geotechnical inspections around old Con and Negus tailings ponds to verify/check on possible concrete dam failures, to ensure continuing total containment of arsenic sludge in both ponds;</p> <p>-DFO recommends Acid Base accounting of waste rock and tailings, mine muck, used for road construction prior to use (and not use if exceed licence limits for parameters) to avoid additional contamination of water etc. Sediment testing and restoration of the Meg-Keg-Peg drainage system should be included in the final A & R Plan.</p> <p>-DOE recommends development with implementation schedule in first renewal year, of an acid rock drainage study to evaluate old and new tailings and waste rock.</p>
water quantity changes		
drainage pattern changes	x	-past construction of site facilities, including roads, tailings ponds etc have disrupted the original surface drainage patterns; minor impact, but limited mitigation until mine is closed and site reclaimed.
temperature		
wetland changes / loss	x	-loss due to use of such areas for tailings and sludge disposal
other (DESCRIBE)		

10.

Noise	This Section does not apply	
noise increase		
noise in / near water	x	the mine property abuts the shoreline of Great Slave Lake, and some noise is evident from ongoing operations, blasting underground etc but impacts are likely insignificant, and operations are subject to city bylaws

0 (DESCRIBE)

11.

Land		This Section does not apply
geomorphic structure changes		
soil contamination	x	<p>area soils, although thin, have been contaminated to varying degrees over the years from spills, waste deposition, blowing tailings and sludges</p> <p>-removal and treatment of spill contaminated soils; reclamation and revegetation of affected areas</p> <p>-further studies to identify extent and prioritize areas needing attention or remediation, as well as soils treatability/washing to determine if soluble arsenic can be "washed" from area soils in a cost effective manner to reduce size of an on site disposal cell or landfill-further sampling of soils on the lease, to include mill and trailer (housing) complexes</p> <p>-contingency and spill plans are in place; DOE also recommends a post closure monitoring program and that final disposal of contaminated soils and sludges should be completely contained, and not subject to leaching or erosion. Other parameters besides arsenic should be evaluated during site contamination investigations</p>
buffer zone loss	x	with the mine's location right in Yellowknife, and growth of the city around it, buffer zones are fairly narrow in some spots; unavoidable until mine closure
soil compaction and settling	x	soils around working areas of the mine property have been compacted over the many years of mine operation; restrict operations to defined or needed area; inevitable, but restricted to working areas
destabilization / erosion		
permafrost regime alteration	x	permafrost regime altered by underground mining and other operations; restore to some degree with progressive backfilling (tailings material), eventual abandonment etc
other (DESCRIBE)		

12.

Non-renewable Natural Resources		This Section does not apply
resource depletion	x	continued long term mining of this deposit has exhausted much of the ore body; not mitigable
other (DESCRIBE)		

13.

Air / Climate / Atmosphere		This Section does not apply
aerial transmission of pollutants	x	<p>- Some air pollutants (primarily arsenic) released due to past roaster stack emissions and dried tailings etc being blown; cap or remove, revegetate, stack emissions have ceased; minor concern</p> <p>- company may assist the city with further studies to define general background arsenic levels across the city, and then to monitor air borne dust at various locations to assist with the risk assessment model for the site and city in general, for the final A & R Plan.</p> <p>- further investigation of suitable covers for tailings areas to prevent seepage and potential acid generation, or blowing around of dry tails.</p> <p>- RWED: if dam heights are to be raised, consider how/if such lifts could expose tailings to wind erosion</p>

BIOLOGICAL ENVIRONMENT IMPACTS

IMPACT

MITIGATION

14.

Vegetation		This Section does not apply
species composition		
species introduction (potential)	x	<p>- revegetation studies and planting of native and non-native species on disturbed areas</p> <p>- revegetation using non native species could cause impacts of its own, and introduction of non native invasive species should be avoided.</p>
toxin / heavy accumulation	x	<p>land based vegetation growing around the property or in vicinity of tailings ponds, old and current, may/will take up contaminants through root systems, eg.) metals in tailings water...minor amounts affected, low impact ; revegetation and eventual closure may substantially decrease contaminant levels in vegetation</p> <p>- ongoing and planned vegetation studies, as well as planned revegetation of Lower Pud and Negus tailings basins ; however RWED noted they do not support closure of the TCA, Negus and Lower Pud Tailings with a vegetation cover (since are highly saline, nutrient deficient, and do not retain moisture). The company should investigate covers to promote vegetation growth, eliminate wind and water erosion, and minimize water infiltration.</p>
other (DESCRIBE)		

15.

Wildlife and Fish		This Section does not apply
effects on rare, threatened or endangered species		
fish population changes		
waterfowl population changes		
breeding disturbance		
population reduction		
species diversity change		
health changes (IDENTIFY)		
behavioural changes (IDENTIFY)		
habitat changes / impacts	x	over the years, mining operations have reduced viable habitat in the lease area, and fencing has reduced access to the property -some concern for fish in Meg Peg Keg discharge system and adjoining area of great Slave Lake due to elevated contaminants in the drainage pathway sediments etc, but no actual impacts to fish seen in reviews.; continue water quality monitoring as per licence -fish tissue sampling and water quality study by DIAND et al in Yellowknife -Back Bay areas in 1996
game species impacts		
toxins / heavy metals	x	presence of contaminants like metals have been found in surface soils and surrounding water bodies, which may get into the tissues of local fish and resident wildlife, eg small mammals and fish; see above . -further acid base accounting tests of waste rock and tailings areas
forestry changes		
agricultural changes		
other (DESCRIBE)		

INTERACTING ENVIRONMENT IMPACTS

IMPACT

MITIGATION

16.

Habitat and Communities		This Section does not apply
predator-prey		

wildlife habitat / ecosystem composition changes	x	some minor changes over the years due to mining operations, but minor given location within city, and long time to adjust to changes; negligible impact; some habitat will be restored gradually as old affected areas are reclaimed, and eventually, when the property is reclaimed possibly fencing removed etc
reduction / removal of keystone or endangered species		
removal of wildlife corridor or buffer zone		
other (DESCRIBE)		

17.

Social and Economic		This Section does not apply
planning / zone changes or conflicts	x	local concern for environmental, health issues in/around Rat Lake, i.e. on Con property but open adjacent to city subdivision; mine fencing restricts local access to undisturbed areas on lease, and to waterfront -RWED: include Rat Lake and adjoining Tin Can Hill areas in progressive reclamation plans, and include city and residents in determining best options -Water Board: progressive reclamation as per the A & R plan, and identification of tailings disposal areas located off the GNWT land lease and resolution of current and future land use and zoning requirements of the Con Mine site.
increase in urban facilities or service use	x	with the mine within city limits, extensive use is made of city facilities, housing, other services etc...considerable positive contribution to the local economy
rental housing		
airport operations / capacity changes		

human health hazard	x	<p>periodic health concerns are raised, relating to mine related arsenic emissions, contaminants in water, soils etc in the publically accessible areas around the property, eg. Rat Lake, however, area water and soils have been tested, (ongoing) and no health hazard has been established; mitigate through continued monitoring and remedial action where necessary; progressive reclamation practices; involvement of residents, city and health officials, arsenic remediation committee etc</p> <p>-PCB removal/disposal planned for 1999-2000, as per A & R plan, with material presently stored in a secure and controlled building; planned reclamation of Lower Pud and old Negus tailings areas, with Upper Pud once it reaches capacity, processing of existing arsenic and calcine sludges from past roaster operations, through summer startup and operation of the company's autoclave during summer months</p> <p>-sewage from company housing and mill are placed in Middle Pud tailings pond and mixed with tailings water, and then treated in the water treatment plant prior to release to the environment (Meg-Peg-Keg system)</p> <p>-RWED: also develop a hazardous waste management plan for the mine site</p>
impair the recreational use of water or aesthetic quality	X	<p>some concern eg, for local residents around Rat Lake re use of lake and shore area for walking, play area for children; awareness of potential contamination and sensible precautions like no drinking, swimming etc should suffice; post area if necessary (Rat Lake is within the Con lease)</p>
affect water use for other purposes	x	<p>as the mine property occupies a large section of the Great Slave Lake shoreline, this area is effectively off limits to city residents. The mine recently closed the road access for boats to prevent use of the company boat launching and parking area by non employees.</p>
affect other land use operations		
quality of life changes		
public concern	x	<p>as noted above; keep residents informed if/when there are any real concerns regarding area pollution; continue monitoring</p>
other (DESCRIBE)		

18.

Cultural and Heritage	This Section does not apply	x
impacts to historic property		
increased economic pressure on historic properties		
change to or loss of historic resources		

change to or loss of archaeological resources		
increased pressure on archaeological sites		
change to or loss of aesthetically important site		
impacts to aboriginal lifestyle		
other (DESCRIBE)		

NOTE: comments and mitigation suggestions are taken from the company's submission for the most part, and where additional comments are made, agencies are identified. There is a lot of overlap.

Many of the concerns and mitigation measures will be more appropriate to consider in the final A & R Plan, and implementation thereof. The NWT Water Board (Sept. 22 1999) has asked for a number of items to be addressed by the company before approval, which should be undertaken in consultation with several other local groups.

Copies of the previous screening reports are attached for reference.

PRELIMINARY SCREENER / REFERRING BODY INFORMATION

19.

Federal (CHECK ALL THAT APPLY)	Contacted	RA or DRA	Advice	Permit Required
Atomic Energy Control Board				
Canadian Heritage				
Canadian Transportation Agency				
Environment Canada	X		X	
Fisheries and Oceans/Coast Guard	X		X	
Indian Affairs and Northern Development	X	X	X	X
Industry Canada				
National Defence				
National Energy Board				
Natural Resources				
Public Works and Government Services				
Transport Canada				
other (IDENTIFY) NWT Water Board	X			X

20.

Territorial (CHECK ALL THAT APPLY)	Contacted	RA or DRA	Advice	Permit Required
Municipal and Community affairs	X		X	
Public Works and Government Services				
Resources, Wildlife and Economic Development	X		X	
Transportation				
Health Board/GNWT Health	X		X	
other (IDENTIFY) Prince of Wales N. Heritage Centre	X		X	

21.

Boards (CHECK ALL THAT APPLY)	Contacted	RA or DRA	Advice	Permit Required
Mackenzie Valley Environmental Impact Review Board	X			
Mackenzie Valley Land and Water Board (Wkg Gp)	X		X	
Renewable Resources Boards (IDENTIFY)				
Local Health Board				
Transport Canada				
other (IDENTIFY)				

22.

(IDENTIFY)	Advice
Aboriginal / First Nations	X
Dene Nation, Yellowknife	X
Metis Association of the NWT, Yellowknife	X
Metis Local #66, Yellowknife	X
Metis Local #77	X
Yellowknives Dene First Nation	X
N. Slave Metis Alliance, Yellowknife	

23.

(IDENTIFY)	Advice
Local Government	X
City of Yellowknife	
Communities/local groups (IDENTIFY)	Advice
Ecology North, Yellowknife	X
Canadian Arctic Resources Committee	X
NWT Chamber of Mines, Yellowknife	X
Yellowknife Hunters & Trappers Association	

REASONS FOR DECISION**LIST ALL REASONS AND SUPPORTING RATIONALE FOR PRELIMINARY SCREENING DECISION****WATER LICENCE NUMBER: NIL2-0040**

This is the decision of the Department of Indian Affairs and Northern Development, acting as a federal regulatory authority with respect to: a renewal application for a "Type A" industrial water licence for water use and waste disposal, associated with the existing Miramar Con Gold Mine in Yellowknife. The application was received by the NWT Water Board on June 22 1999.

NOTES:

1. as this renewal does not entail any new activities that could affect the environment or the public, no formal screening under the MVRMA was required, as confirmed by the MVEIRB in writing. However, "Type A" licences are routinely re-screened to ensure that ample opportunity for different groups to respond is provided, and to identify any concerns that may have arisen since the last screenings.
2. This licence renewal, and screening does not consider the potential changes and impacts of planned transportation and processing of Giant Mine ore, as this has not been included in the current application.

THE PROJECT:

This is an existing underground gold mine operating within the city limits of Yellowknife. It was purchased by Miramar from Nerco in 1993. The property is located on Commissioners, or territorial land. The property extends along the shoreline of Great Slave Lake, and abuts onto residential areas on much of the other side. The mine has been operational since 1938, closing only temporarily for strikes. All phases of mining activity occur here, from continued exploration to refining and shipping of the gold to southern markets. The mine obtains its water from the city through the existing piped water system, and likewise disposes of sewage wastes through the city's facilities. Tailings are produced, and deposited in the existing and approved tailings facilities, which eventually discharge through the Meg-Keg-Peg Lake/creek system into Great Slave Lake. The present renewal is for continued operation of the mine and facilities, with no new activities or construction planned that would require more in depth review and approval. Potential changes due to its takeover of the nearby Giant Mine has not been included, (eg transportation across town, increased ore processing etc) as this was not included in the application, and final plans have not been revealed with respect to combining certain operations. The mine is expected to have fewer than 10 years worth of mineable reserves at present estimates.

As such, screening has focussed on the potential changes, and any concerns expressed with the ongoing operations. The project has been screened before under both the EARP Guidelines Order and under CEAA, and these screening reports will form part of this submission.

Gold roasting used to allow for discharge of contaminated emissions to the environment, but this practice was stopped in 1970. Concern and studies have been conducted over the years to determine the levels and potential environmental and health concerns resulting from this past practice, as well as the impacts from existing and historical tailings deposition in and around the mine property, on and off lease. A number of buildings including company housing are found on the property, while the usual range of heavy equipment and underground mining methods are employed. The mine has its own environmental lab on site,

water quality analyses and other tests are carried out. The mine is an economic mainstay of the city, employing several hundred people directly or indirectly through purchasing of goods and services locally. The importance of the mine to the local economy is expected to grow with Miramar's recent acquisition of the nearby Giant Mine.

IMPACTS: The scope of this screening focusses on the potential impacts and public concerns associated with the current and proposed mining operations at the Con Mine, as noted during this review. The primary focus has been on the water use and waste disposal practices associated with the mine; however, where other comments or concerns were raised, these have been noted. There have been a number of impacts due to the long history of mining here, in particular from the early days of mining when there were few regulations or guidelines in place regarding water use and waste disposal practices, and a lack of scientific knowledge existed regarding contaminant pathways and effects of many parameters on health and the environment.

Overall, continued operation of this mining operation is not likely to create/have significant new adverse environmental impacts; however, the incorporation of standard mitigative measures in the licence, and where possible, those referenced in this report, are recommended, and will ensure that any further environmental damage is prevented or minimized. The long term presence of the mine here within the city limits has created a number of environmental and socio-economic changes over the years, which will not be able to be properly addressed until final decommissioning. However, progressive, ongoing reclamation of disturbed areas that are no longer required, is recommended, as is an inventory and prioritization of disturbed or contaminated sites both on the mine site and on surrounding land.

In spite of recurring opinions, press articles, recent RMC study and other concerns regarding air, water and soil quality etc around the city, there have been no studies done nor any licence monitoring results that have indicated that the ongoing operations at the mine pose a significant risk to human health or significant impacts to the environment. Concerns raised from time to time have usually focussed on past activities, which may be best dealt with during final abandonment and restoration, or by other specific actions taken at the time of concern.

The project is expected to continue to have positive impacts for the local economy, and no detrimental effects on human health, well-being, or quality of life have been proven or established, although local concerns continue with respect to the use of area lakes and recreational land areas on or near the mine property, given that it is located adjacent to existing housing subdivisions, and the much used Great Slave Lake. Future planned processing of ore from the Giant Mine nearby, will further increase the life and importance of the Con mine.

OTHER USES OF THE AREA:

This work is being conducted inside local government boundaries, on Commissioners land, under the management of the City of Yellowknife for certain aspects and services, and otherwise, is covered by the territorial government. The land around the mine is used extensively for housing, and several open spaces around the mine, including the waterfront areas, are used for recreational purposes, ie walking, cycling, boating etc. Natural areas on the mine lease are used by wildlife for habitat, eg foxes, summer bird and waterfowl nesting etc.

CONSULTATION:

With respect to this application, public notice was given in accordance with sections 63 and 64 of the Mackenzie Valley Resource Management Act (MVRMA) and section 23 of the Northwest Territories Waters Act. There will also be a public hearing scheduled by the NWT Water Board prior to licence expiry, at which time government and public alike will have the opportunity to further express their views regarding licencing issues for this application. Preliminary screening of the project proposal was conducted by the Department in accordance with part 5 of the MVRMA. (As noted, this project was previously screened under CEAA in December 1994, and earlier under the EARP Guidelines Order, 1984).

Consultation with respect to screening and technical review was undertaken by Water Resources Division, and the South Mackenzie District, Yellowknife, DIAND. Local (ie. non government) groups consulted included the Dene Nation; Canadian Arctic Resources Committee (CARC); Metis Local #77; Metis Local #66; Metis Nation of the NWT; Yellowknife Hunters and Trappers Association; North Slave Metis Alliance. Consultation overall (see p.8 of this PS report) resulted in responses being received from Environment Canada; Fisheries and Oceans; DIAND: Water Resources Division, Land Administration, and South Mackenzie District office; GNWT: Resources, Wildlife and Economic Development, jointly with Municipal and Community Affairs (MACA); and the City of Yellowknife. DIAND's South Mackenzie District office confirmed that no comments were received from their local consultation process, which included several aboriginal and non government organizations as noted above.

Several sets of comments were received, largely focussing on licensing issues, specifically re tailings management and abandonment and restoration requirements. Comments were received from RWED/GNWT; EP/DOE; DFO; DIAND Water Resources, Lands, and district offices; City of Yellowknife. Their concerns are highlighted under impacts and summary below, and detailed in the screening report.

SUMMARY:

In summary, the potential for negative environmental impacts relate primarily to local impacts on water and land, due to the mine's proximity to residential areas, and adjacent water bodies. The major impacts of concern have long been here, and can really only be reduced through proper abandonment and restoration over the long term, involving both progressive restoration, and post closure activities. These requirements will continue to be developed through the water licence and other instruments, eg territorial leases, over the remaining life of the mine. The company has been undertaking several environmental studies, including revegetation work, and identification of problem areas, such as the old Negus and Con tailings areas.

Note: It should be noted that the screening (and technical) review process to date has focussed on the application as submitted, and does not consider the possible environmental and socio-economic ramifications on this project due to the acquisition of the Giant Mine property by Miramar Con Mine Ltd. This would be the subject of a future environmental screening if/when an application is made to amend the licence or other approval.

DECISION/RECOMMENDATIONS:

In our opinion, continued operation of this mine as proposed will not have (or add to) a significant adverse impact on the environment, nor will it be a cause of public concern, and the regulatory process should proceed. Where possible, recommended or existing mitigation measures should be incorporated into the

licence terms and conditions. The company should focus on maintaining an up to date Abandonment and Restoration Plan, and seek continued input from affected groups to deal with local health and environmental concerns associated with past activities, and brought to light by various studies and enquiries. Identification of all potential "trouble spots" like old waste deposition areas should be inventoried and assessed, and cost estimates kept current, and progressive reclamation undertaken as conditions warrant to further reduce water quality concerns etc.

Any additional concerns raised in the scheduled public hearing (if held) should be considered during drafting of the licence renewal.

For these reasons and those noted above, this Preliminary Screening report recommends that the project proceed through the regulatory process, and that a water licence be issued by the NWT Water Board through the Minister of DIAND.

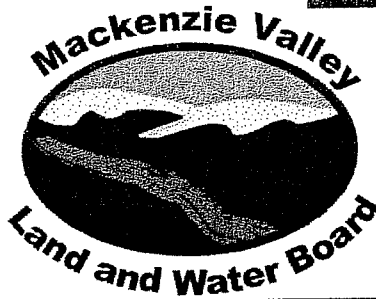
PRELIMINARY SCREENER DECISION

25.

	Outside Local Government Boundaries
	The development proposal might have a significant adverse impact on the environment, <i>refer it to the EIRB</i>
	<u>or</u>
	<i>Proceed with the regulatory process and / or implementation.</i>
	The development proposal might have public concern, <i>refer it to the EIRB</i>
	<u>or</u>
	<i>Proceed with the regulatory process and / or implementation.</i>
X	Wholly Within Local Government Boundaries
	The development is likely to have a significant adverse impact on air, water or renewable resources, <i>refer it to the EIRB</i>
	<u>or</u>
X	<i>Proceed with the regulatory process and / or implementation.</i>
	The development proposal might have public concern, <i>refer it to the EIRB</i>
	<u>or</u>
X	<i>Proceed with the regulatory process and / or implementation.</i>

26.

Preliminary Screening Persons	Signatures
Greg Cook (for NWT Water Board)	<i>Greg Cook</i>
approved by: Manager, Water Resources Division	<i>Greg Cook Feb 29/00</i>
approved by: Director, Renewable Resources & Environment	<i>Whittington 01/03/00</i>



Mackenzie Valley Land and Water Board
7th Floor - 4910 50th Avenue
P.O. Box 2130
YELLOWKNIFE NT X1A 2P6
Phone (867) 669-0506
FAX (867) 873-6610

STAFF REPORT

Company: Miramar Con Mine Ltd.	
Location: Con Mine - Yellowknife, NT	Application: N1L2-0040
Date Prepared: December 8, 2005	Meeting Date: December 20, 2005
Subject: Applicability of the Exemption List Regulations	

1. Purpose/Report Summary

The purpose of this report is to review the applicability of the Exemption List Regulations to Miramar Con Mine Ltd.'s (Miramar) request for an extension the term of Water License N1L2-0040.

2. Background

- Water Licence N1L2-0040 was renewed and issued by the NWT Water Board on July 30, 2000 with an expiry date of July 29, 2006 for Miramar's Con Mine operation in Yellowknife, NT.
- A request for an extension (or Amendment to the Term) was received July 26, 2005. This request was to extend the term to September 30, 2008.
- On November 1, 2005 reviewers were requested to provide feedback on the applicability of the Exemption List Regulations to Miramar's application for an extension to their Water License (comments were due November 7, 2005).
- Comments were received from Environment Canada, the Department of Fisheries and Oceans, the Government of Northwest Territories – Department of Environment & Natural Resources, the City of Yellowknife and Miramar.
- In response to the City of Yellowknife's comment regarding the short timeline for comments, an announcement was made at the Public Hearing on November 9, 2005 that comments regarding the

applicability of the Exemption Regulations would be accepted until November 17, 2005.

- No additional comments were received by November 17, 2005.

3. Discussion

In their letter dated July 20, 2005 (attached) Miramar outlines the rationale for their extension request. Primary among the reasons is that their Water Licence covers all the facilities currently being operated on site, many of which will be closed off prior to the requested expiry date of September 30, 2008. Miramar has indicated that they would then apply for a Water Licence to cover Final Closure and Monitoring activities, which will be subject to Preliminary Screening.

In order for the extension request that Miramar has applied for at this time to be exempt from Preliminary Screening, the application must meet the requirements as outlined in Paragraph 2 of Part 1, Schedule 1 of the Exemption List Regulations annexed to Section 143(1) of the *MVRMA*:

- a) the development, or part thereof, has not been modified; and
- b) the development or part thereof has fulfilled the requirements of the environmental assessment process established by the *Mackenzie Valley Resources Management Act*, the *Canadian Environmental Assessment Act* or the Environmental Assessment Review Process Guidelines Order.

In order to satisfy Paragraph 2 of Part 1, Schedule 1 a) outlined above, it must be shown that the development, or part thereof has not been modified. In addressing this, a letter dated February 24, 2000 to the NWT Water Board from DIAND Water Resources Division (attached) was considered.

This letter states that 'Based upon the results of the screening and consultation process, it is Water Resources determination that the project as proposed can proceed as it is not likely to cause significant adverse environmental effects or public concern, subject to continued imposition of adequate mitigation measures, and finalization of the Abandonment and Restoration Plan as required. It is recommended that the company implement planned progressive reclamation activities and continue to identify and deal with problem areas around the property resulting from past and present operations. These areas of concern include mitigation measures suggested by reviewers, including public concerns relating to possible arsenic contamination effects and proper remediation of the various waste tailings and sludge deposits. These and other issues

identified will be considered in the drafting of appropriate licence terms and conditions for the licence renewal.'

The main activities onsite (as per Miramar's letter requesting an extension - attached) are the use of facilities to carry out the progressive reclamation and the final cleanup of the site in preparation for closure. Primary among these is the use of the mill, autoclave and blend plant which will be used to process the final accumulation of calcines and arsenic sludges in 2006.

The scope of Miramar's current Water License reads

This License entitles Miramar Con Mine Ltd. to use Water and dispose of Waste for a mining and milling operation and associated activities at the Con Mine, located in Yellowknife, Northwest Territories (approximate Latitude 62°26'N and Longitude 114°23' W)

Also provided in the License is a definition for the term **Progressive Reclamation**.

Progressive Reclamation means those activities conducted during the operating period of the mine to modify and reclaim the land and Water to the satisfaction of the Board.

This definition clearly states 'during the operating period of the mine.' It has been concluded that the definition for the term 'Progressive Reclamation' as used in the letter from DIAND Water Resources Division (above) is the same as defined in the Water License. Therefore, Miramar is not undertaking progressive reclamation as was intended in their Water License.

One of the other main activities Miramar highlights as ongoing onsite is the final clean up of the site in preparation for closure, which can be categorized as 'decommissioning.' There is no evidence before the Board that indicates that this activity was considered as part of the Water License renewal process in 2000. This is supported by the Preliminary Screening Form completed by DIAND, February 22, 2000.

In consideration of the above, the conclusion can be drawn that Paragraph 2 of Part 1, Schedule 1 a) has not been satisfied.

In order to satisfy Paragraph 2 of Part 1, Schedule 1 b) outlined above, it must be shown that the development or part thereof has fulfilled the requirements of the environmental assessment process established by the *Mackenzie Valley Resources Management Act*, the *Canadian Environmental Assessment Act* or the *Environmental Assessment Review Process Guidelines Order*.

To address this, a letter to the Mackenzie Valley Environmental Impact Review Board from DIAND Renewable Resources and Environment states that the project had been previously screened under the Federal Environmental Assessment Review Process Guidelines Order (EARPGO), and subsequently for an amendment under the Canadian Environmental Assessment Act. This letter clearly shows that Paragraph 2 of Part 1, Schedule 1 b) has been satisfied.

4. Comments

N/A

5. Review comments

Environment Canada, the Department of Fisheries and Oceans and the Government of Northwest Territories – Department of Environment & Natural Resources submitted comments (letters attached) stating that it is their opinion that the question as to whether Miramar's application to amend the term of Water License N1L2-0040 is exempt from a Preliminary Screening is one that should be addressed by the MVLWB.

The City of Yellowknife noted in their letter (attached) that 'Ultimately the interpretation of the legislation governing this matter lies with your Board.' They also stated that they object to the manner in which the request was posed and the deadline for the submission of this information being less than one (1) week from the date it was requested and only two (2) days prior to the Public Hearing. They feel that this appears to be in contravention of the rules of natural justice as they apply to administrative bodies such as the MVLWB.

After reviewing the request, the City noted that 'a preliminary screening of Miramar's request for an amendment to its Water License **does** appear to be required as it does not meet the criteria for exemption set out in Paragraph 2 of Part 1, Schedule 1 of the *Exception List Regulations* annexed to s. 143(1) of the *Mackenzie Valley Resource Management Act* ("MVRMA").'

They also stated that it is their position that 'a preliminary screening of the amendment request for the Water License is required pursuant to s. 18(1) of the *Northwest Territories Waters Act*, as such an amendment is a "trigger" and on the list of government approvals that require a preliminary screening as per the *Preliminary Screening Requirement Regulations*, Schedule 1, Item 12(c). It is in these regulations that it is stated that any matter listed under s. 18(1) (b) of the *Northwest Territories Waters Act* requires a preliminary screening.

This in turn would be the basis for a referral for an environmental assessment, which the City believes is warranted as the activities to be carried out during the term captured by the amendment request may have an adverse impact on the environment within the City's municipal boundaries and therefore be contrary to the public interest.'

Miramar stated in their letter (attached) that 'The development for which the renewal of this License is requested is the taking of water for the purpose of water use and disposal of waste for a mining and milling undertaking at the Con Mine within the City of Yellowknife, Northwest Territories (as stated in the Northwest Territories Water Board Reasons for Decisions in connection with License N1L2-0040 – copy attached). The development has not been modified.

The development has fulfilled the requirements of the environmental assessment process established by the Environmental Assessment Review Process Guidelines Order (as stated in the Northwest Territories Water Board Reasons for Decisions in connection with License N1L2-0040 – copy attached).

Miramar Con is of the view that the request for extension of the term of the License to September 30, 2008 is exempted from preliminary screening under the MVRMA.'

6. Conclusion

It is my conclusion that pursuant to Paragraph 2 of Part 1, Schedule 1 of the Exemption List Regulations annexed to Section 143(1) of the *MVRMA*:

- a) the development has been modified, and
- b) the development has fulfilled the requirements of both the *EARPGO* in the 1998 EIS and the *MVRMA* in 2000 for cumulative effects.

Therefore, the Amendment Request is not exempt from a Preliminary Screening.

7. Recommendation

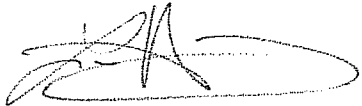
It is recommended that that Miramar Con Mine Ltd's request to amend the term of Water License N1L2-0040 be subject to a Preliminary Screening as per Part 5, of the *Mackenzie Valley Resource Management Act*.

8. Attachments

- Letter from Miramar to MVLWB (*July 20, 2005*)
- Letter from DIAND Water Resources Division to the NWT Water Board (*Feb 24, 2000*)

- Letter from DIAND Renewable Resources and Environment to the Mackenzie Valley Environmental Impact Review Board
- Preliminary Screening Form (Feb 22, 2000)
- Letter from Environment Canada (Nov 2, 2005)
- Letter from the Department of Fisheries and Oceans (Nov 7, 2005)
- Letter from the Government of Northwest Territories – Department of Environment & Natural Resources (Nov 8, 2005)
- Letter from the City of Yellowknife (Nov 7, 2005)
- Letter from Miramar Con Mine Ltd. (Nov 3, 2005)

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'Lisa Hurley', written over a horizontal line.

Lisa Hurley
Regulatory Officer

Appendix E

Loretta Bouwmeester

From: Lisa Hurley [lhurley@mvlwb.com]
Sent: Thursday, March 23, 2006 9:53 AM
To: Loretta Bouwmeester
Cc: Max Hall; 'Bob Wooley'; 'Peter Lennie-Misgeld'
Subject: RE: Application N1L2-0040

Hi Loretta,

Because the Staff Report is prepared for the Board to summarize the evidence on which they are to base their decision there would be no benefit to amending the Staff Report after the fact. I will, with your approval, put this series of emails on the web with the letter dated November 17 attached, this will provide a note to the file that this letter was missed when the Board made their decision. I will have the IT person link it directly below the Staff Report so that people reading the Staff Report will see this letter as well and understand what happened.

Please let me know if you have any further questions.

Thanks,
Lisa

-----Original Message-----

From: Loretta Bouwmeester [mailto:lbouwmeester@yellowknife.ca]
Sent: Wednesday, March 22, 2006 8:51 PM
To: Lisa Hurley
Cc: Max Hall; Bob Wooley; Peter Lennie-Misgeld
Subject: RE: Application N1L2-0040

Thank-you Lisa. Are you going to amend the staff report to reflect that submission?

Loretta

Loretta M. Bouwmeester
Manager, Legal Services & Corporate Policy
City of Yellowknife

tel: (867) 920-5623
fax: (867) 920-5649

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-----Original Message-----

From: Lisa Hurley [mailto:lhurley@mvlwb.com]
Sent: Wednesday, March 22, 2006 2:39 PM
To: Loretta Bouwmeester
Cc: Max Hall; 'Bob Wooley'; 'Peter Lennie-Misgeld'
Subject: RE: Application N1L2-0040

Hi Loretta,

I must apologize but this is the first time I've seen this letter. I looked through our public registry files and it is in there, however I never received a copy.

I will forward it to our registry clerk and ensure that it is placed on the website directly below the staff report on this topic.

I take it from your email that you have had the opportunity to review the Reasons for Decision on the Preliminary Screening and are aware that it was conducted. If you have any questions on this, please do not hesitate to contact me.

I should also let you know that the Board's Decision on the extension request was forwarded to the Minister for his review in January and we are still awaiting a reply. Once that is received, it will be circulated to all the interested parties.

Lisa

-----Original Message-----

From: Loretta Bouwmeester [mailto:lbouwmeester@yellowknife.ca]
Sent: Wednesday, March 22, 2006 12:05 PM
To: lhurley@mvlwb.com
Cc: Max Hall
Subject: Application N1L2-0040

Lisa, attached is a letter that was prepared and sent to your office for November 17, 2005. I note upon review of Staff Report of the Meeting of December 20, 2005 - that it is stated at page 2 (of 6) that no further submissions were received. This surprised me given our submission. Have you had a chance to review it? Looking forward to hearing from you.

Loretta

Loretta M. Bouwmeester
Manager, Legal Services & Corporate Policy
City of Yellowknife

tel: (867) 920-5623
fax: (867) 920-5649

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<<Letter dated November 17, 2005.pdf>>

Exhibit 1

Connell, Ron

From: Friesen, George
To: Connell, Ron
Cc: Stringer, Scott; Keating, Douglas
Subject: Calcines Volume
Attachments:

Sent: Tue 11/8/2005 2:36 PM

Ron,

Volume of calcines as surveyed on Nov 7th, 2005 is 459,444 ft³ (13,010 m³). Using density of 2.1 g/cm³ we get
30,117 tons (27,321 tonnes).

George

