



Mackenzie Valley Environmental Impact Review Board

Box 938 , 5102-50th Avenue, Yellowknife, NT X1A 2N7
www.mveirb.nt.ca

From: Alistair MacDonald Fax: 1 867-766-7074

MVEIRB Phone: 1 867-766-7052

Date: July 13 2006 Pages: 32 including this page

To: Distribution List Fax:

CC:

Subject: EA0607-002 Tamerlane Pine
Point Project – Final Summary
of Preliminary Screening
Comments

NOTES:

Please see attached documents, which comprise all comments received by the Mackenzie Valley Land & Water Board during the course of the Preliminary Screening of Tamerlane Ventures Inc.'s Pine Point Pilot Project, which was referred to Environmental Assessment on June 28, 2006, by Environment Canada. Comments were sent by:

- June 05, 2006: Indian and Northern Affairs Canada: Malcolm Robb, Mineral Development
- June 19, 2006: Northwest Territory Metis Nation: Cec Heron, IMA Coordinator
- June 21, 2006: Indian and Northern Affairs Canada: Wayne Starling, Water Resources Officer, Fort Smith Sub-district
- June 22, 2006: Stanton Territorial Health Authority: Steven Shen, Environmental Health Officer
- June 27, 2006: Government of the Northwest Territories: Jason McNeill, Environment and Natural Resources
- June 27, 2006: Indian and Northern Affairs Canada: David Livingstone, Renewable Resources and Environment
- June 27, 2006: Environment Canada: Stephen Harbicht, Environmental Protection Operations

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All these documents, as well as the initial application for a Land Use Permit and Water License are also available on the Review Board's website Public Registry for EA0607-002, at http://www.mveirb.nt.ca/registry/project.php?project_id=38 . If you do not have a copy of the Development Description Report, contact me directly and I will provide you with a CD copy.

The Environmental Assessment of the development by the MVEIRB is now in the Start Up phase. The Review Board provides to all parties on the Distribution List copies of all documents submitted as evidence during the proceedings. This is essential to procedural fairness. At the same time, experience tells us that given the size of some of the documents that tend to come out during EA, many organizations would prefer wherever possible to save paper and/or not tie up fax machines. Attached here for your return, **if you have not already done so**, is a form to indicate to us your proper contact details and preferred method of us getting information distributed to you. Please be advised again also that our website has a function where you can sign up to be informed of any new document posted for this EA. To access this, go to <http://www.mveirb.nt.ca/subscriptions/index.php> .

If you have any questions, do not hesitate to contact me.

Regards,

Alistair MacDonald

Environmental Assessment Officer

(867) 766-7052



Mackenzie Valley Environmental Impact Review Board

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FIRST NATIONS

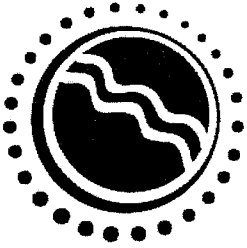
Chief Jerry Paulette	Smith Landing First Nation	867-872-5154 admin@smithlanding.com
Chief Robert Sayine and Rosie Bjornson, IMA Coordinator	Deninu K'ue First Nation	867-394-5122 dkfnsecretary@fortresolution.net
Chief Alec Sunrise	Katloodeeche First Nation	867-874-3229
Chief Karen Felker	West Point First Nation	867-874-2486 wfn@northwestel.net
Grand Chief Herb Norwegian	Dehcho First Nation	867-695-2038 dcfn@dehchofirstnations.com
Jim Schaefer	Salt River First Nation	867-872-3550 admin@srfn195.com

COMMUNITY

Mayor McKay	Deninoo Community Council	867-394-5415 pearl@fortresolution.net
Mayor Martselos	Town of Fort Smith	867-872-8401 royscott@northwestel.net
Mayor Ehman	Town of Hay River	867-874-3237 townhall@hayriver.com
Mayor Cadieux	Enterprise Settlement Corporation	867-984-3400 admin@enterprisesnw.com

ABORIGINAL ORGANIZATIONS

Chairperson	Akaiitcho Territory Government	867-394-3413 Treaty8@cancom.net
President Vern Jones	Hay River Metis Council	867-874-4472 hrrmc@northwestel.net
President Lloyd Cardinal	Fort Resolution Metis Council	867-394-3322 pvmmetis@ssimicro.com
Cec Heron	Northwest Territory Metis Nation	867-872-2772 nwtmn@gardtal.com
President Ken Hudson	Fort Smith Metis Council	867-872-5225 Metiscouncil2@gardtal.com
Dora Enzo	Treaty #8 Tribal Corporation/Akaiitcho Treaty #8 Corporation	867-370-3209
Ethel Liske	NWT Treaty 8 Tribal Corporation	873-8738 Nwt8tc@ykdene.com
President Bill Enge	North Slave Metis Alliance	669-7442 nsma@ssimicro.com
Lorne Napier, Manager, Lands & Environment	Dene Nation	920-2254 lnapier@denenation.com
Interim Measures Coordinator	Athabaska – Denesuline c/o Prince Albert Grand Council	306-763-2973



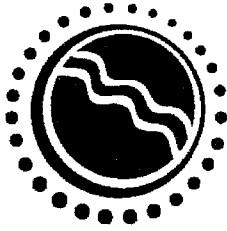
Mackenzie Valley Environmental Impact Review Board

GOVERNMENT

Ed Hornby	DIAND - South Mackenzie District Office	669-2720 hornbye@ainc-inac.gc.ca
Lionel Marcinkoski	DIAND – Environment and Conservation	669-2701 marcinkoskil@inac.gc.ca
Kathleen Racher	DIAND – Water Resources	669-2716 racherk@ainc-inac.gc.ca
Mineral Development Advisor	Mineral Development Division	669-2705
Gavin More/ Joel Holder	GNWT - ENR	873-4021 Gavin_more@gov.nt.ca
Ernest Watson	DFO	669-4940 watsone@dfo-mpo.gc.ca
Andrew McAllister	Natural Resources Canada	(613) 995-5719 andrew.mcallister@nrcan.gc.ca

OTHERS

Mike Vaydik	NWT and Nunavut Chamber of Mines	mvaydik@ssimicro.com
David Gladders	Canadian Arctic Resources Committee	613-759-4581
	World Wildlife Fund	416-489-8055
Audrey Zoe	Native Women's Association	873-3152
	Soaring Eagle Friendship Centre	874-3362
Deborah Johnson	BQCMB	867-872-4250
Bob Wooley	MVLWB	873-6610 bwooley@mvlwb.com
Andrew Tofflemire	Crosscurrent Associates Ltd.	874-4405 crosscurrent@northwestel.net
David Swisher	Tamerlane Ventures, Inc.	330-332-4652 dswisher@centurymining.com



Mackenzie Valley Environmental Impact Review Board

Box 938 , 5102-50th Avenue, Yellowknife, NT X1A 2N7

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Please reply by fax or e-mail to Alistair MacDonald at the MVEIRB if you wish to be on the distribution list for EA0607-002: Tamerlane Pine Point Project. DO NOT REPLY IF YOU HAVE ALREADY FILLED OUT THIS FORM.

amacdonald@mveirb.nt.ca

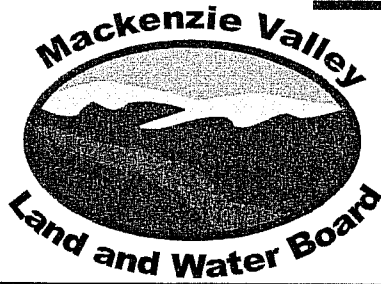
Fax: (867) 766-7074

Tel.: (867) 766-7052

Organization	
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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

EM0607-0
DM 8609

TELEPHONE LOG

File Number: _____ **Application #** MV2006C0014 & MV2006L2-0003
Person Called Malcolm Robb **Organization/ Company:** INAC
Telephone # _____ **Fax #** _____

Subject: RE: DMS Circuit & WL Type

Discussion: Mr. Robb's recommendations for determining whether or not a the DMS circuit proposed by Tamerlane Ventures Inc. is "milling":

DMS is basically a gravity plant. It is sometimes put in at the front end of the process plant. The DMS can be semi-mobile (similar to what is at a quarry site).

When deciding if Type A or B in this case consider the nature of the DMS facility itself. Is it temporary? Is the intent to take it off site once project is finished? Will it be brought in by trucks?

Also, are there surface leases present in the area? If so, this may indicate a more permanent project/long term facility.

The intent of the Act and Regs was to have two types of licenses – one for temporary/exploration projects and one for long term use of Crown Land, which a surface lease implies.

He pointed out that they will not be producing a refined metal for shipping.

Recommendation to contact Larry Connell for further information.

Follow-up Required: _____

Regulatory Officer/Staff: SB/LC **Date:** June 5, 2006



Northwest Territory Métis Nation

206 McDougal Road
P.O. Box 720, Fort Smith, NT, X0E 0P0
Phone (867) 872-2770
Fax: (867) 872-2772

Fax

To: Lynn Carter, Regulatory Officer	From: Cec Heron, IMA Coordinator
Fax: 867-873-6610	Pages: 5 including cover page
Phone:	Date: June 20, 2006
Re: MV2006C0014 and MV2006L2-0003	CC:

Urgent **For Review** **Please Comment** **Please Reply**
 Please Recycle

● **Comments:**

EA 0607-002
04:8604

Mackenzie Valley Land
& Water Board

File _____

JUN 20 2006
MV2006L2-0003

Application # MV2006C0014

Copied To LE/Reg



NORTHWEST TERRITORY MÉTIS NATION

June 19, 2006

BY FAX: (867) 873-6610
BY FAX: (360) 332-4652

Lynn Carter
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Avenue
P.O. Box 2130
Yellowknife, NT X1A 2P6

Dear Lynn:

**RE: APPLICATION FOR LAND AND WATER MINERAL EXPLORATION
TAMERLANE VENTURES INC. – PINE POINT AREA
MV2006C0014 and MV2006L2-0003**

The Northwest Territory Metis Nation has concerns on the above noted files. They are as follows:

1. This application was dated by the MVLWB on June 01, 2006 and the NWTMN received the application on June 8, 2006 requesting a response date to the MVLWB for June 23, 2006. As per the IMA Agreement the beginning of the response time period referred to in Schedules 4.1 (a) (b) sub sections 2 and 7 allows the NWTMN 30 days after receipt of information. Therefore, the response date for the NWTMN would be July 7th, 2006. We are however requesting an additional 90 days beyond July 7th for full review both of these applications. I have received requests from the Councils in the communities of Hay River and Fort Resolution for this extension.
2. We would like to receive a map showing where R-190 is located in the geological formation (page 19, Figure 2.3-3).
3. A map showing where the waste storage location is and the amount of waste storage there will be.
4. Larger view map (page 5, 4.1.4-1) of the site design as the map in the application is barely visible due to color and smallness in size.

BOX 720 • FORT SMITH, NT CANADA • X0E 0T0
PHONE: (867) 872-2770 • FAX: (867) 872-2772

9

5. Why is the DMS design only preliminary? (page 22)
6. What will be the amounts of solid non-combustible and non-hazardous waste? Where is the proposed local area landfill? How will this material be transported?
7. Where is the location for the infiltration basin?
8. Would like to see the approved method of disposal of hazardous materials waste that Tamerlane is proposing to use. Would also like to know which on-site or off-site facility that is planned for this and will the site be able to handle it? Would like to be provided with more information if it is on-site as currently there are no facilities at Pine Point which will have the ability for hazardous waste disposal. (Page 25, 2.8.4)
9. Would like to see a map location of the area well for the DMS circuit (Page 26, 2.9.2) and request to see more information as to whether or not the well can provide the amount of water required.
10. There were problems with power for other communities in the South Slave when the Pine Point Mine was in existence. There could potentially be the same problem with this project. Would like to see more information and back up on the requirements for the power supply to this project. We are also requesting to see a map location of a possible diesel power plant and can the diesel power plant provide the extra 4 to 6 MW that will be required for the average power consumption and peak period? (Page 27, 2.10.1)
11. What types of explosives will be stored? What sort of temporary structure are they proposing to store the explosives in? Would like to see more information on the upgrade to the existing road into this site. We also have safety concerns as they are proposing to have site temporary structure only 800 meters north of Territorial Highway 5. We would also like to see any plans for an underground explosive facility (Page 28, 2.10.4)
12. Is only a gate going to be enough for security? We are requesting a detailed map of what the road system throughout the project and where the gate will be located (Page 28, 2.10.5)
13. What is the after affect of the area that is to be frozen? What are the effects after the freezing is no longer required? Would like to see more information on this, as this is an area of karst topography and discontinuous permafrost. What is the reclamation plans for the freezing area? (Page 29, 2.10.7)
14. What are the reclamation/closure plans for the whole project site? The NWTMN would like to see restoration of the project site back to its natural state, not the current disturbed site.
15. What total area will be cleared for the project?
16. How many trees will be removed if necessary and what are the plans for any tree removal?

17. How many soil layers will be disturbed and how deep will any soil removal be?
18. What types of job opportunities will be available to individuals trained after the project closes? What type of training is involved with the other job specific training?
19. How many people on the PPPP Manpower could realistically be hired in the Northwest Territories or from the communities of the South Slave? (Page 31, 2.11-1)
20. Would like to see a copy of the Emergency Response Plan. What type of vehicle will be dedicated for ground evacuation? In the application it states that this vehicle **may** include medic-evacuation options. Would like more detailed information on any evacuations. (Page 31, 2.11.5)
21. Would like to see copies of the Project Schedules. (Page 32, 2.12)
22. How is Tamerlane proposing to transport any of the materials being transported out of the project site location? How many vehicles will be used? Is the railroad system is going to be utilized in any way, how so?
23. How will the seepage be captured for reuse in the DMS circuit? Or how will the discharged seepage be transported into the infiltration basin? (Page 25, 2.8.2)
24. What is the total number of freezing pipes required?
25. How much calcium chloride will be required for the freezing pipes to obtain the required ground temperatures for this project? What are the storage capabilities for the amount of calcium chloride required on the project?
26. In the additional information submitted to the MVLWB on June 6, 2006 by Tamerlane Ventures Inc. we would like an explanation on the disposal considerations for the Ferrosilicon as well as storage conditions and location.
27. Map showing the location for waste rock and proposed amount to be placed in each deposit pile.
28. In the application there is a copy of the Feasibility Assessment (Phase 1), under the recommendations of this report it is recommended that there be further studies done in the next phase on the conceptual design of the ground freezing system. When will this be completed? The information enclosed on ground freezing is insufficient, we would like to see information specific to the project site.
29. As information leading up to this application (noted in the application under Table 3.2-1) a letter was sent to the Northwest Territory Metis Nation dated April 19, 2006, Tamerlane Ventures Inc. states that a DMS system has never

June 20, 2006

been used in the Pine Point area. The NWTMN membership will be making formal requests for full presentations on all aspects of the proposed project be presented in simple non-technical terms to representatives from Hay River and Fort Resolution Metis Councils as well as Environmental staff from the Northwest Territory Metis Nation. In this letter the NWTMN was also advised that airborne topographic surveys are being planned for this summer. To date, the NWTMN have not received any information on when this will be conducted.

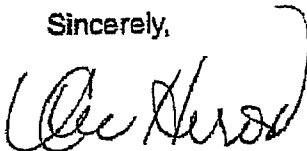
30. The Northwest Territory Metis Nation also would like to have project site visits with representatives from the NWTMN and Tamerlane Ventures Inc. in order to visibly see the project site and proposed locations of all operations.
31. How deep will the chutes be for the underground mining?
32. How long will it take the ground to unfreeze after the freezing pipes are moved upon completion of the work to be carried out under this proposed project?
33. Will the quarries be drained? If so, how will it be done? Will there be any contaminated sedimentation a result of any water used in the proposed project?
34. There is still ongoing research being done by EBA Consulting for this proposed project, when is a time frame for when the final report on this research be available? What are the effects for waterfowl in this area?

The Northwest Territory Metis Nation would like to see full disclosure of all information from the proponent on this proposed project.

The Northwest Territory Metis Nation will also not consider approving this application for Land Use and Water Permits until the above noted concerns and any future concerns which may arise are fully addressed.

Should you have any questions concerning this, please do not hesitate to contact me.

Sincerely,



Cec Heron
IMA Coordinator

CC: NWTMN IMA Steering Committee
Tamerlane Ventures Inc.

EA0607-002
DM-8601

Lynn Carter
Regulatory Officer
MVLWB Yellowknife

MV2006L2-0003

Wayne Starling
Water Resources Officer
Fort Smith Sub-District

June 21, 2006

Tamerlane Ventures Inc. - Water Licence MV2006L2-0003 Comments

I have reviewed, with some haste, the application and supporting material submitted by Tamerlane Ventures Inc. relating to their proposed Bulk Sample pilot project in the R-190 area East of the town of Hay River. My particular focus was directed to the impacts and handling of water, as I believe these to be the most sensitive and unpredictable aspects of this project.

2.8 Waste Management

.1 Waste Rock Storage

- Waste Rock is to be stockpiled on surface where it will be covered and placed on a concrete pad or bermed to contain potential drainage. The drainage will then be introduced to the DMS circuit.

* The waste rock should be dry when it reaches the surface, so if it is covered there should be no reason to line the facility as there will not be any drainage.

.2 DMS Discharge

- This waste is to be directed to the temporary waste rock storage area, and will be covered and protected from the elements. The area will be monitored for seepage which will be captured and reused in the DMS or discharged to the Infiltration Basin.

* The report does not describe the form in which the DMS Discharge will exist - Solid, Liquid, Slurry, etc. Water usage in this circuit is projected to be 293 million litres, or about 800 cubic metres per day, so the numbers would suggest a slurry - or at least significant moisture content. What volume are we looking at here, and if this "Seepage" is going to be discharged to the Infiltration Basin there is really no difference than just having it soak into the ground right there? Additional details are required to assess the handling and potential treatment of this waste.

2.9 Water Management

.2 Water Balance

* Well water through most of that area is high in sulphides and not suitable for potable use unless distilled or treated with reverse osmosis etc. - and even then is poor.

Surface sketches did not show the infiltration basin. Depending on the volume this process may be compromised during the winter months with glaciation, especially if dewatering volumes are higher than forecast and DMS discharges are in the 800 cubic metres per day range.

Will waste discharged from the DMS circuit be filtered / clarified, or contain high volumes of suspended solids. Discharge of fine solids would compromise infiltration in a soak away system.

.3 Water Releases

- Water released from the Infiltration Basin will meet MVLWB criteria.

* What assurance do we have to support this statement, as once it reaches the basin there is no longer any control. I haven't seen any plan within the process for intermediate containment, analyses, and treatment (if required), prior to discharge.

2.10.4 Explosive Storage

* The section does not suggest what type of explosives will be utilized. If it is a "fertilizer" mixture we have seen elevated levels of nitrates downstream in the process. This may or may not be a concern depending on where the waste water eventually end up.

4.0 Environmental Overview

.2 Climate

- Just a typo here in that the Hay River weather station is due **West** of the site, not East.

5.2 Ground Water Effects

- The project description notes that blast impacted water will be pumped to the surface and fed through the recovery process, and that Nitrates introduced to the groundwater from blasting will be minimal. It also states that the company will monitor the aquifer surrounding the Bulk Sample Area, and corrective action will be taken if and when necessary.

* Blast impacted water fed through the recovery process is ultimately destined for the Infiltration Basin ie. soaking into the ground. As noted above, elevated levels of nitrates (particularly ammonia), have been observed in waste water at other projects when certain types and mixtures of explosive are used. Monitoring of the aquifer is not an acceptable technique for determining whether or not corrective action is required - but will be necessary to measure whether or not impacts have occurred. In considering the realities of this project, if the

underlying aquifer becomes polluted there is no way it will be treated or remediated. Therefore it is essential that the proper checks and balances be applied initially to prevent such an occurrence.

General Comments

The approach presented by Tamerlane Ventures for the Pine Point Pilot Project is new to this geographical area, but contains some very interesting concepts. I am particularly nervous about the Freeze Wall, as the package mentions that the results are based on limited available information and a number of assumptions. Other statements which make me uncomfortable are as follows: ground water seepage at the base may cause thermal erosion thus make it difficult to seal off, voids or cavities may act as a conduit for ground water flow during dewatering, and because of these uncertainties there is a risk that the frozen wall may not fully develop and / or may not act as an impermeable barrier.

While working underground Pine Point Mines Ltd. experienced instability and solution cavities within the host rock. This condition appears to be consistent throughout the area with the observation of many surface collapse features. With the porous nature of the rock structure, I am concerned that a failure of the freeze wall during production could become catastrophic. Perhaps additional detailed information will enable engineers to provide a higher degree of certainty in this regard, but at present I have reservations about the process under these conditions.

Thank you for allowing me an opportunity to comment on this application, and I remain most willing to provide further input if required.

Sincerely,

Wayne B. Starling CET
DIAND
Fort Smith Sub-District

c: E. Hornby
E. Allen
N. McCowan

Dear Ms. Lynn Carter

Re: MV2006C0014 & MV2006L2-0003

Thank you for your information. It appears to us that the final report does not contain enough information on the camp water and food preparation for us to comment. please advise us the current solutions regarding the drinking water, food preparation and waste disposal on the PPPP camp sites.

Thanks

Steven Shen
Environmental Health Officer
Stanton Territorial Health Authority
Diamond Plaza, Main Floor
P.O. Box 10, Yellowknife
Northwest Territories X1A 2N1
Office: (867)669-8979
Direct: (867)766-7924
Fax: (867)669-7517
E-mail: steven_shen@gov.nt.ca

EA0607-002

DM: 8603

Pearl Liske

From: Lynn Carter [lcarter@mvlwb.com]
Sent: Friday, June 23, 2006 7:55 AM
To: 'Steven Shen'
Cc: permits@mvlwb.com
Subject: RE: Applications for PPPP from Tamerlane Ventures

Hello Steven -

Thanks for your comments on this application. Regarding your questions:

- There will be no camp set up on site "For the duration of the Pine Point Pilot Project, no Camp will be set up and all personnel will commute on a daily basis from the nearby communities (Fort Resolution and Hay River)" Refer to Question 5b on Land Use Permit Application.

- For wastewater/sewage disposal/drinking water plans see page 25-26 of the Project Description.

If, upon reviewing this information, you wish to submit further comments please do so.

Sincerely,
Lynn

Lynn Carter
Regulatory Officer

Mackenzie Valley Land & Water Board
7th Floor 4910 50th Avenue
P.O. Box 2130 Yellowknife, NT
X1A 2P6
Ph: 867-766-7471 (direct line)
Fax: 867-873-6610

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

From: Steven Shen [mailto:Steven_Shen@gov.nt.ca]
Sent: Thursday, June 22, 2006 11:26 AM
To: lcarter@mvlwb.com
Cc: Duane Fleming (E-mail)
Subject: Applications for PPPP from Tamerlane Ventures



June 27, 2006

Sarah Baines
Regulatory Officer
Mackenzie Valley Land and Water Board
PO BOX 2130
Yellowknife, NT X1A 2P6

VIA FACSIMILE

Dear Ms. Baines

TAMERLANE VENTURES INC., MV2006C014 / MV2006L2-0003
Pine Point Pilot Project.

The Department of Environment and Natural Resources (ENR) has reviewed the above program and would like to provide the following comments based on the mandated responsibilities under the *Wildlife Act*, the *Forest Management Act (FMA)* and The *Environmental Protection Act (EPA)*.

Comments

Insufficiencies in the Project Description

ENR staff note several areas where the Project Description does not provide sufficient information:

- The Project Description presented by Tamerlane Ventures Inc (TVI) did not provide clear information on the footprint of the project. On map 1.4-1, it appears that some clearing of vegetation will have to be undertaken for site development but this is not discussed in section 5.4, Impacts on Vegetation.
- TVI states that impacts will be minimal as the area consists of several active quarries, highway #5 and that wildlife are accustomed to loaders, dozers, haul trucks and pickups. Despite this context of existing development, combined with past mineral, and oil and gas exploration occurring in the area, the proponent states that the project will not significantly add to any cumulative effects. As the proponent provides no analysis or justification for their conclusion, ENR staff suggest that a more

thorough investigation into cumulative impacts be undertaken by the proponent.

- Could TVI provide more details on the infiltration basin proposed as a site for sewage effluent treatment and other liquid waste. How will this facility be constructed? If the proposed design does not include a liner, the proponent should consider local geology (karst) and justify the use of an unlined facility given the potential for contaminant infiltration and transport by way of groundwater.
- We understand sewage effluent will report to the infiltration basin. Is there a solid stream to the sewage treatment plant discharge that will require disposal? If so, where will it be placed?
- Could the TVI characterize discharge associated with the Dense Media Separation process? Will all of the DMS discharge be recycled/stored temporarily/backfilled underground?
- Has the proponent considered a contingency plan in the event that the freeze curtain fails due to hydraulic head/blasting impacts?

Proposed Mitigations

The following list of proposed mitigations are presented by TVI. in their project description:

- Effective waste management to minimize encounters with wildlife;
- Machinery to be equipped with standard noise suppression equipment; and,
- Berms to be constructed as needed for noise attenuation.

Although there is no camp associated with this project, effective waste management will none-the-less be necessary to reduce the risk of attracting carnivores such as bears, wolverines and foxes. ENR's Food and Waste Management Guidelines should be adhered to for appropriate waste management strategies. These are attached for your reference.

Species at Risk

The federal Species at Risk Act (SARA) states that adverse effects on listed species must be identified, and regardless of significance, mitigated and monitored (s. 79). It is ENR's view that those species listed on Schedule 1, as well as those being considered for status under the Act (i.e. those species listed on Schedule 2 and 3 of the Act) be treated in a similar fashion consistent with the recommendations in "The Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada".¹

¹ <http://www.cws-scf.ec.gc.ca/publications/AbstractTemplate.cfm?lang=e&id=1059>

The following species are listed on or pending addition to Schedule 1 of SARA and have the potential to occur in the project area during the timing of operations:

- Wood bison
- Woodland caribou
- Wolverine
- Grizzly bear (spring/summer).
- Peregrine falcons (spring/summer)
- Short-eared owl

In field research conducted in September 2005 by EBA Engineering Consultants Ltd. for TVI observations of peregrine falcon, short-eared owl, wolverine, wood bison, woodland caribou confirmed these species in the project area. Mitigations necessary for reducing impacts to these species are presented below.

Specific Recommendations

ENR makes the following species specific recommendations that are necessary to reduce potential impacts in the project area:

Wildlife

- Disturbance of peregrine falcons and short-eared owls while nesting can affect incubation success, survival and/or fitness of the young. Therefore, if a nest site for either of these species is identified in the project area, a buffer of 1.5 km should be maintained between development activities and the nest site.
- As there is no camp associated with this project, impacts to wolverine and grizzly bear will be minimal. In the event that a grizzly bear is disturbed and/or encountered during project operations, information on the sighting should be forwarded to the local Wildlife officer at the earliest opportunity. This will allow ENR a greater ability to relocate bears that frequent areas of development before they become habituated and must be destroyed as nuisance wildlife.
- Mineral/salt licks are a key habitat area for ungulates and as such tend to attract them. If a mineral lick is present in the project area, the proponent should maintain a 300m buffer zone between any development activities and the lick ensuring minimal disturbance to the animals as they access these sites.
- If woodland caribou are encountered during development the proponent should shut down operations if they approach within 500m. When caribou are further than 500m away operations may resume. Caribou are

particularly vulnerable to disturbance during calving (May 1st to June 15th) and rutting (September 1st to Oct 15th).

- The presence of development activities in close proximity to an active wolf or fox den (presence of pups/kits) can stress the animals by causing them to increase their monitoring of development activities, in lieu of hunting, feeding their young and resting. It may also lead to conflicts that result in the destruction of the animal. Therefore, if an active wolf or fox den is observed in the project area a buffer of 800m for wolf, and 150m for fox, should be maintained between the den and any development activity, between May 1st and July 15th. Further, these sites should not be approached on foot by project personnel

Waste Disposal

ENR notes permission from the Hay River landfill to dispose of camp wastes under TVI's LUP MV2001C0084. Has TVI been given permission to dispose of waste at the Hay River landfill over the course of the proposed bulk sampling project?

- In reference to disposal of hazardous waste, ENR recommends TVI consult the Government of the Northwest Territories (GNWT) Environmental Guideline for the General Management of Hazardous Waste available on our website and consult ENR staff regarding any questions or concerns.

ENR website: <http://www.enr.gov.nt.ca/eps/leg.htm>

- TVI commits to water quality sampling for six months after the program completion. In the event that the sampling program does not proceed to full-scale mining, TVI should commit to water quality sampling until such time that demonstration of compliance with the licence criteria has been proven.

Spill Contingency Planning

In 2002, the GNWT published a plain language guide to the spill contingency planning and reporting regulations of the Environmental Protection Act, available on line: <http://www.enr.gov.nt.ca/eps/pdf/spillreg90.pdf>

Based on the recommendations contained in this document:

- Could TVI supply a site map indicating where fuel and other hazardous materials will be stored?
- TVI has provided the expected volumes of hydrocarbons to be brought on site. Please provide an inventory of any other hazardous materials that will

be used including volumetric estimates and Material Safety Data Sheets for each product.

Security

ENR staff note the issuance of LUP MV2001C0084 to the Kent Burns Group L.L.C. on December 24, 2001 now held by TVI following a permit reassignment and company ownership/name changes. The initial required security deposit of \$500 000 was reduced to \$60 000 following an amendment to the LUP on July 24, 2002.

- ENR recommends use of RECLAIM software to determine an adequate level of security for the proposed project to be provided in an irrevocable form of credit.

General Recommendations

ENR provides the following general recommendations with respect to sufficiently minimizing potential impacts to wildlife, including species at risk:

- Harassing wildlife can lead to greater expenditures of energy on the part of the animal and a loss of fitness. This is especially important for mammals in the winter and when female animals are still feeding their young through lactation. No wildlife should be disturbed, chased, or harassed by human beings on foot, in a motorized vehicle, or by aircraft.
- Although the concept of feeding small mammals and birds seems trivial it is in fact a large problem. The increase in local food supply will cause migration into the area of other wildlife and may bring in larger predators and scavengers as well. This may lead to nuisance wildlife that may be destroyed. The grouping together of large concentrations of animals also increases the potential for the spread of diseases. No wildlife should be purposefully encouraged to habituate to human presence (i.e. wildlife should not be fed).

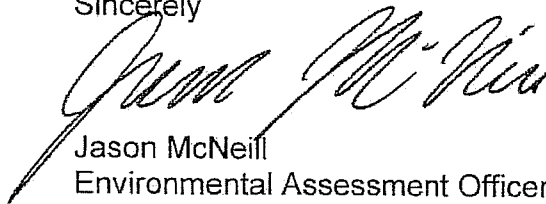
Requests of the Proponent

ENR makes the following request of TVI:

- To aid in the Department's tracking of development and management of impacts to wildlife we request that TVI . provide ENR with a record of any wildlife sightings made during the program (including, if possible, GPS locations). These data should be provided to ENR's South Slave Biologist Deborah Johnson, (867) 872-6408.

Should you have any questions regarding the above, please contact Jason McNeill, Environmental Assessment Officer at 920-8071.

Sincerely

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

Jason McNeill
Environmental Assessment Officer
Policy, Legislation and Communications
Environment and Natural Resources

C. Karin Clark
Environmental Assessment Specialist, Wildlife
ENR

Colleen Roche
Industrial Specialist (Mining),
Environmental Protection



Food and Waste Management

Minimizing the Attraction of Carnivores to a Camp

1. ENR strongly encourages the use of a properly installed electric fence designed for deterring bears and other carnivores.
2. Burning garbage in pits or barrels and storing garbage for fly-out are the most common causes of wildlife conflicts, regardless of the size of the camp. ENR requires the use of an approved incinerator² for the incineration of combustible camp garbage and kitchen wastes and encourages daily incineration of wastes. The incinerator should be housed within the electric fence.
3. Burning of waste products releases numerous contaminants, many being persistent and toxic, that can result in serious impacts to human and wildlife health through direct inhalation and bioaccumulation through food chains. The proponent should ensure that the amount of waste burned is reduced as much as possible through implementation of pollution prevention strategies.³ The objective should be to ensure that only food waste and food-contaminated waste is burned (the use of paper, cardboard and clean wood as supplementary fuel is acceptable).
4. The residual ash from incineration may also contain toxic contaminants and should be assessed in accordance with the *NWT Environmental Guideline for Industrial Waste Discharges* to determine the appropriate disposal method.
5. Storing refuse in a manner likely to attract wildlife is a violation of the Wildlife Act. Garbage stored in plywood boxes or in sheds develops a strong odour, which lingers for days. This odour will attract wildlife to the site. If garbage is going to be stored on site, it must be in a sealed container, to prevent wildlife from being attracted to the odours. If the camp proposes to fly or drive their garbage out, an animal proof, sealed container must be used for storing garbage on site.

² For large, permanent camps and/or operational facilities (e.g. mines), installation of an incineration device capable of meeting the emission limits established under the Canada-wide Standards (CWS) for Dioxins and Furans and the CWS for Mercury Emissions is required (both the Government of Canada and the Government of the Northwest Territories are signatories to these Standards). For small, temporary camps the use of a modified burn barrel (with grate, bottom draft, lid and chimney) may be acceptable. The proponent should review the incineration options available and provide justification for the selected device to the regulatory authority.

³ For example, purchasing policies that focus on reduced packaging. Other options include on-site diversion and segregation programs (i.e. the separation of non-food waste items suitable for storage and subsequent transport and disposal or recycling).

6. Unless within an electrified bear fence, the kitchen should be at least 50 meters from all other structures and the doors to the other structures should face the kitchen. Wherever possible, the kitchen should be down-wind of the other structures, to prevent a bear from walking through the camp to approach the kitchen.
7. All food in the camp should be stored in the kitchen or in a building attached to the kitchen, to ensure that there is only one area where food odours occur
8. All grey water pits should be a minimum of 50 meters from the nearest water body and should have lime added to them every second day.
9. Food should not be left in camp kitchens when the camp will be vacant for more than two weeks. This includes canned-goods and dry-goods. Any food that is to be left in the camp should be stored in a sealed container resistant to wildlife, such as a sealable 45-gallon drum.
10. No wildlife should be purposefully encouraged to habituate to human presence (i.e. it should be a camp policy to not feed wildlife).
11. All field personnel should complete a bear-safety training course.
12. Any defence of life and property kills must be reported, without delay, to ENR. All reasonable efforts must be made to ensure the hide and other valuable parts do not spoil and that these are turned over to a Renewable Resource Officer.



Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

**FACSIMILE TRANSMITTAL
TRANSMISSION PAR TÉLÉCOPIEUR**

Number of pages including this page Nombre de pages incluant cette page	4
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Date 2006-06-27

FROM - DE

Name - Nom Michael Palmer		Position title - Titre du poste Pollution Control Specialist	
Directorate - Direction Renewable Resources and Environment		Branch - Direction générale Water Resources Division	
Room - Pièce	Facsimile no. - N° de télécopieur (867) 669-2716	Telephone no. - N° de téléphone (867) 669-2698	

TO - À

Name - Nom Lynn Carter Regulatory Officer MVLWB		
Facsimile no. - No de télécopieur (867) 873-6610		Telephone no. - N° de téléphone (873) 669-0506

Hi Lynn - Attached are INACs comments regarding the application by Tamerlane Ventures for a LUP and WL. The original will follow shortly.

Let me know if you have any questions.

Mike

Mackenzie Valley Land
& Water BoardFile MV2006L2-0003

JUN 27 2006

Application # MV2006C0014Copied To LC / RegFile: MV2006C0014
MV2006L20003Indian and Northern
Affairs CanadaAffaires indiennes
et du Nord Canada3rd Floor Bellanca Building
PO Box 1500
Yellowknife, NT
X1A 2R3

Tamerlane Ventures Inc.

June 27, 2006

To: Lynn Carter
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor - 4910-50th Ave.
PO Box 2130
Yellowknife, NT X1A 2P6**Re: Tamerlane Ventures Inc. application for land use permit
(MV2006C0014) and Type B water license (MV2006L2-0003)**

Dear Ms. Carter,

Indian and Northern Affairs Canada (INAC) has reviewed the land use permit application (MV2006C0014) and the class B water license application (MV2006L2-0003) submitted by Tamerlane Ventures Inc. (Tamerlane) for an advanced exploration project in the Pine Point area. INAC has several comments regarding the proposed development.

Tamerlane is applying for a Type B water license for the Pine Point Pilot Project (PPPP) to remove a bulk sample of 1 million tonnes over a 15 month period. Over the course of this 15 month period 2800 tonnes of mineralized material will be extracted per day and processed through a dense media separator (DMS) to produce a Pb-Zn concentrate. The use of water for milling and the depositing of waste from milling in an operation exceeding 100 tonnes of ore per day requires a Type A license. INAC considers processing ore in a DMS circuit to be milling, and therefore this application should be considered an application for a Type A water licence.

The Project Description Report submitted by Tamerlane Venture Inc. lacks sufficient detail to assess what impacts the proposed project may have. In particular:

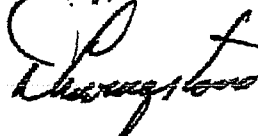
- Tamerlane describes a Ground Infiltration System (GIS), which will be the receiving environment for approximately 300 000 m³ of waste water and effluent at the site (DMS effluent, mine dewatering, treated sewage effluent), however there is no discussion regarding how the Ground Infiltration System will function, how waste will be restricted from leaving the system, how waste will be treated within the system, and contingency planning if the system does not function properly. In addition, it would be valuable to know the physical quality of the waste being deposited to the GIS prior to disposal and to have a mechanism to limit disposal if the effluent quality is of concern.
- No geochemistry information is provided regarding the ore or the waste rock to be extracted at the site. This information is required to assess the potential for ARD and metal leaching on site. While there is a wealth of knowledge from the old Pine Point site it is the proponents responsibility to demonstrate that the geochemistry of the ore and waste rock is not of concern or to describe methods that will be undertaken to appropriately mitigate effects. INAC mineral development would be pleased to assist Tamerlane in sourcing some of the historic data from the mine.
- It is stated that waste rock will temporarily be stockpiled at the surface on a concrete pad and covered. A plan for the collection and treatment of seepage should be included in the application. This plan should include monitoring adjacent to the storage pile to ensure that seepage does not migrate away from the storage area.
- The perimeter of the R190 ore body will be ice bonded using a ground freezing technique to reduce the flow of groundwater into the mined out areas. There is no information regarding the reclamation of the mined out shaft other than that the portal will be sealed with cement. What will become of the frozen perimeter?
- Tamerlane will be using explosives to blast large hole stopes in the underground workings. What is the size and frequency of the blasts that will be used? Will the integrity of the frozen perimeter be compromised by the blasting?
- It is likely that ammonia will be present in the underground workings as explosives will be used. There is no mention of the potential for ammonia to enter the waste stream, nor any mention of how the effects of ammonia will be mitigated. Once the frozen perimeter has been removed what is the potential for ammonia and other contaminants to migrate away from the site?
- It should be recognized that the modelling used in the feasibility study for the frozen perimeter is largely based on assumptions. While it is

recognized that modelling can be an effective economical method in determining the viability of a technology, modelling is most accurate when actual field data from the site is used. The integrity of the frozen perimeter depends on three primary parameters: ground temperature, groundwater quality/flow regime, and soil data. No field data was supplied for any of these parameters. It should be recognized that due to the large amount of assumptions used in the GEOTHERM model, there is a high degree of uncertainty in the results.

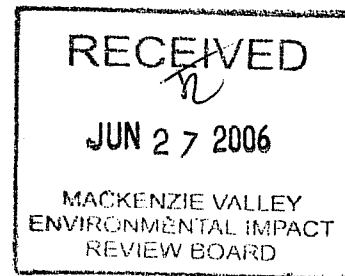
- A monitoring program should be developed for the site and should include water quality sampling and groundwater sampling in the areas around the frozen perimeter, the Ground Infiltration System, the waste rock storage pile and the mine adit.
- Tamerlane indicates that water quality sampling on site will continue for 6 months after operations have ended. Water quality sampling should be developed in conjunction with the environmental monitoring program mentioned in the point above, and should continue until INAC is satisfied.
- Tamerlane is proposing to run this project as a pilot project for a larger scale development of the remaining 34 Pb-Zn deposits on site. INAC would suggest consulting the *Mine Site Reclamation Guidelines for the Northwest Territories* for pre-mining planning options.
- As most of the information provided in the Project Description Report lacks sufficient detail, the project has a high degree of uncertainty associated with it. Consequently a high contingency value would be required within the security.

Thank you for the opportunity to review the aforementioned land use permit and water license applications. If you have any questions regarding these comments please contact Mike Palmer at (867) 669-2698 or PalmerM@inac-ainc.gc.ca.

Sincerely,



David Livingstone
Director
Renewable Resources and Environment

EA0607-002
DM: 8578Environment Canada
Environnement CanadaEnvironment Canada
Prairie and Northern Region
#301 - 5204 - 50th Ave
Yellowknife, NT X1A 1E2
Ph. (867) 669-4700

June 27, 2006

Our File: 4708 001 008

Gabrielle Mackenzie Scott,
Chairperson
Mackenzie Valley Environmental Impact Review Board
P.O. Box 938,
Yellowknife, NT X1A 2N7

By Email & Facsimile: 766-7074

Mackenzie Valley Land and Water Board
P.O. Box 2130
7th Floor - 4910 - 50 Ave.
Yellowknife, NT X1A 2P6

By Email

Attention: Lynn Carter

**Re: Tamerlane Ventures Inc. – Applications for Land Use Permit MV2006C0014
and Water Licence MV2006L2-0003 – Pine Point Pilot Project**

Environment Canada has reviewed the above applications, and provides the following advice pursuant to Section 22 of the *Mackenzie Valley Resource Management Act*. Environment Canada's contribution to the request for specialist advice is based primarily on the mandated responsibilities for the enforcement of Section 36(3) of the *Fisheries Act*, the *Canadian Environmental Protection Act*, the *Species at Risk Act*, and the *Migratory Birds Convention Act*.

Tamerlane Ventures Inc. is proposing to mine a 1,000,000 tonne bulk sample from the Pine Point area, using freezing of the perimeter soils to prevent groundwater inflow. Temporary facilities will be constructed on surface to accommodate secondary crushing and dense media separation processes, as well as provide ancillary infrastructure.

As an RM contributing to the preliminary screening of the applications, Environment Canada is of the opinion that the above noted project "might have significant adverse impacts on the environment" and, therefore, requests that an environmental assessment of the Pine Point Pilot Project proposal be conducted. Environment Canada has identified a number of technical, environmental, and process concerns with the proposed Pine Point Pilot Project (PPPP).

Canada

Technical and environmental concerns include the use of new technology with the freezing wall, lack of a contingency plan if water inflows occur, the potential for groundwater contamination, details on hazardous wastes and disposal, uncertainty around the ability to backfill all waste rock and tailings, and disposal of the wastes from the workforce, noting that there will be close to 150 people employed. Also, SARA-listed species in the area include whooping cranes and peregrine falcons, woodland caribou, and the potential for effects on these species and their habitat needs to be assessed.

Water management:

Use of a frozen perimeter zone is a new approach in the NWT, and the feasibility has been modeled using very limited information on site soil properties, and making a number of assumptions. The lack of field data as model inputs introduces a high degree of uncertainty. For example, there were no measured ground temperatures used, nor groundwater field data. One of the assumptions is that groundwater seepage rates are small, and temperature modeling relies on this, but no groundwater measurements have been done.

There was no discussion of the potential for blasting to disrupt the frozen perimeter wall, or of any other potential failure mechanisms. If there is considerable seepage through or up from below the frozen wall, how will inflows be disposed of?

Use of the infiltration pit for disposal has not been well detailed, and there are questions about the quality of wastewater to be disposed. Tamerlane is calling this "ground to ground" disposal, but this overlooks the addition of blasting residues, waste rock seepage (potentially containing metals), sewage constituents, and mill additives, as well as potentially hydrocarbons from spills. Any underground water which is in contact with the cement backfill may have elevated pH. Testing of wastewater quality would need to be done, and alternative disposal means or treatment identified in the event quality was unacceptable for release to the groundwater aquifer.

No information has been provided on the quality of groundwater in the vicinity of the proposed development, and the flow regime is not understood. These are information gaps which need to be addressed before this disposal method is considered.

Waste Management:

The application does not provide any details on the types and volumes of hazardous wastes which may be on site (section 2.8.4 of the Project Description Report), nor disposal methods.

Waste from the DMS plant will be stored in the temporary waste rock storage facility, than used as batched cement backfill in the underground primary stopes. What volumes are expected to be generated?

Disposal of waste rock is also not well detailed. What volumes are expected to be generated? Will the size fraction be small enough to go through a cement batching facility? Can all volumes reasonably be expected to be returned underground? Has testing been done to identify the potential for acid generation, or for metals leaching from the rock which is proposed to be used for construction?

With respect to the sewage treatment plant, will disinfection be used? How will solids be disposed of?

Closure:

It is noted that there is the potential for further work at this site, if the perimeter freezing is successful and the economics prove favorable to full scale mining. We note that this uncertainty should not affect the early development of complete site closure and reclamation plans, and that there would need to be an appropriate security deposit for the bulk sample stage of the project. Much more detail is needed on closure plans; for example, how will the frozen perimeter wall be decommissioned? What effect will that have on the groundwater flow in the area?

The proposal to monitor groundwater for 6 months following completion of mining is inadequate; once the proponent can show some understanding of the area's groundwater regime a defensible time period could be identified, and it would be expected to be on the order of years rather than months.

Species at Risk:

The following comments are pursuant to the Species at Risk Act (SARA), which came into full effect on June 1, 2004. Section 79 (2) of SARA, states that during an assessment of effects of a project, the adverse effects of the project on listed wildlife species and its critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This section applies to all species listed on Schedule 1 of SARA.

Species at Risk	Category of Concern	Schedule of SARA
Whooping Crane	Endangered	Schedule 1
Peregrine Falcon (subspecies anatum)	Threatened	Schedule 1
Woodland Caribou (Boreal population)	Threatened	Schedule 1
Wood Bison	Threatened	Schedule 1

Although the proponent has noted the above species are found in the study area, no specific analysis was done to identify any adverse effects of the project on these Species at Risk, nor were mitigation and monitoring measures provided. Thus, compliance with the *Species at Risk Act* (SARA) in connection with this project is one of the issues that has not been properly addressed.

Process Concerns:

With respect to process, we feel that this should be a Type A water licence based on the milling rate of 2800 metric tonnes per day. The definition of milling found in the Canadian Oxford Dictionary is to "extract (a mineral) from rock by crushing the rock in a mill". Tamberlane's letter of June 6th seeks to differentiate their proposed mineral extraction processes from conventional mine milling based on chemical use and sizing, but this is not a valid distinction in our eyes. The key threshold is the volume of ore to be milled, which is considerably in excess of the 100 tonnes per day specified in the *Northwest Territories Waters Regulations*.

Canada

Please do not hesitate to contact Anne Wilson with any questions or comments with regards to the foregoing at (867) 669-4735 or by email at anne.wilson@ec.gc.ca.

Yours truly,



Stephen Harbicht
Head, Environmental Assessment North
Environmental Protection Operations

cc: Anne Wilson (Water Pollution Specialist, EA, EPO)
Mike Fournier (Coordinator, EA, EPO)
Myra Robertson (CWS)

Canada