Alistair MacDonald

From: David Swisher [dswisher@tamerlaneventures.com]
Sent: August 30, 2007 3:38 PM
To: Alistair MacDonald
Cc: Rick Hoos; David Swisher
Subject: Remaining 2nd Round IR Responses

Hello Al,

Please see the attached final second round IR responses along with the modified DAR summary report. Any changes in the summary report are in green font. I'm also working on some points of clarification surrounding the following:

- Calculated flood levels
- Basal inflow analysis (currently being reviewed and recalculated by EBA hydrogeologist)
- Injection well picture
- Injection well usage locations
- MSDS sheets for reagents

If you have any questions, please don't hesitate to call me.

Thanks,

David Swisher
Vice President / Senior Project Manager
Tamerlane Ventures Inc.
441 Peace Portal Drive
Blaine, WA 98247
Wk: 360.332.4653
Cell: 867.875.7449
Fax: 360.332.4652
Email: dswisher@tamerlaneventures.com

Tamerlane
VENTURES INC.

TAMERLANE VENTURES INCORPORATED

EA0607-002 Tamerlane Ventures Inc. Pine Point Pilot Project (PPPP)

Second Round Information Responses to IR0607-002-35 & IR0607-002-38 from Tamerlane Ventures Inc. to MVEIRB

Submitted August 30, 2007

List of Acronyms

DAR – Developer's Assessment Report

DMS – Dense Media Separation

EA – Environmental Assessment

IR – Information Request

GHG – Greenhouse gases

GNWT – Government of the Northwest Territories

INAC – Indian and Northern Affairs Canada

KFN – Katlodeeche First Nation

MVEIRB – Mackenzie Valley Environmental Impact Review Board

MVLWB – Mackenzie Valley Land & Water Board

NWT – Northwest Territories

PPPP – Pine Point Pilot Project

RBC - Rotating Biological Contactor

ToR – Terms of Reference

IR Number:	**IR0607-002-35**
Source:	**MVEIRB**
To:	**Tamerlane Ventures Inc.**
DAR Section:	**4.0 – Development Description**
Terms of Reference Section:	**D - Development Description**

Preamble

Since the issuance of the Developer's Assessment Report (DAR) on May 2, 2007, a variety of components of the proposed development have been altered. This makes certain sections of the DAR outdated. Clarification on what exactly is being proposed is required so that all parties can make an educated examination of potential impacts.

The response to this IR should include both a written discussion and a summary table for reviewers to examine changes to the proposed development. In addition, the developer should make all efforts to update the parties and the potentially affected communities with this new development description.

Requests

1. *In a table:*
   - *Please identify all the major development components originally discussed in the DAR and the sections where they were discussed.*
   - *For each major development component, identify which sections in the DAR initially described the component and its potential impacts on the environment.*
   - *For any development component that has been altered since the DAR was released, identify the alteration proposed.*
2. *For any development component that has been altered since the DAR was released, describe in detail the proposed alteration and its potential impacts, why the decision was made to alter the development component, and identify which supplemental documentation has been issued by the developer describing the alterations. This discussion must include at minimum the following:*
   - *Power generation/distribution system*
   - *Ore beneficiation system*
   - *Ore offloading/transfer facility location*
   - *Water treatment and disposal system*

- *Sewage disposal methods*

3. *Provide for the public record a revised Summary (pages i through x in the DAR) that reflects the currently proposed development description.*

Response:

1. Please see the below table:

Original Component	DAR Section	Alternative Component	Potential Environmental Impact
Railhead Location East of Hwy #2, near Hay River	4.3, 4.4, 4.7, 5.5.1, 7.1.1, 8.2.1.8	Railhead Location West of Hwy #2, near Hay River	• Reduced highway exposure • Build new facility to meet rail loading requirements vs. use or modification of prior proposed facility. No significant impacts.
Diesel Generation	4.3.6, 5.3.1, 5.4, 7.7.2	Line Power w/ Diesel Generation	• Further reduced emissions due to decreased diesel generation usage. • The addition of power poles along side the access to minimize exposure to fen area and risk of collisions.
DMS	2.3.3, 2.4, 4.1, 4.2, 4.3, 4.6, 5.3, 5.9, 7.1.1, 7.2, 7.3, 7.5.1, 7.7.1, 7.8, 8.1.1.2, 10.3.1.2	DMS plus Flotation	• No cyanide compounds used. • Handling of additional reagents added for flotation process. • Implementation of written contingency plan for handling reagent spills.
Infiltration Basin	4.1.2, 4.3, 4.6, 5.3, 7.1.1, 7.2, 7.4, 7.5, 9.5, 10.3.1, 10.3.2, 11.2, 11.3	Injection Well	• 11% reduction in project footprint. • No exposure to near surface waters. • Injected water returned to its origin in the Presquile formation where it becomes rapidly diluted. • Negligible mounding of surface water.
Sewage Effluent Disposal, Infiltration Basin	4.3.7, 4.3.15, 4.6.1, 7.2, 7.5.1	Sewage Effluent Disposal, Injection Well	• The high quality of the effluent doesn't change. • Effluent becomes instantly diluted. • No near surface settling or drain field.

2. Please see below:

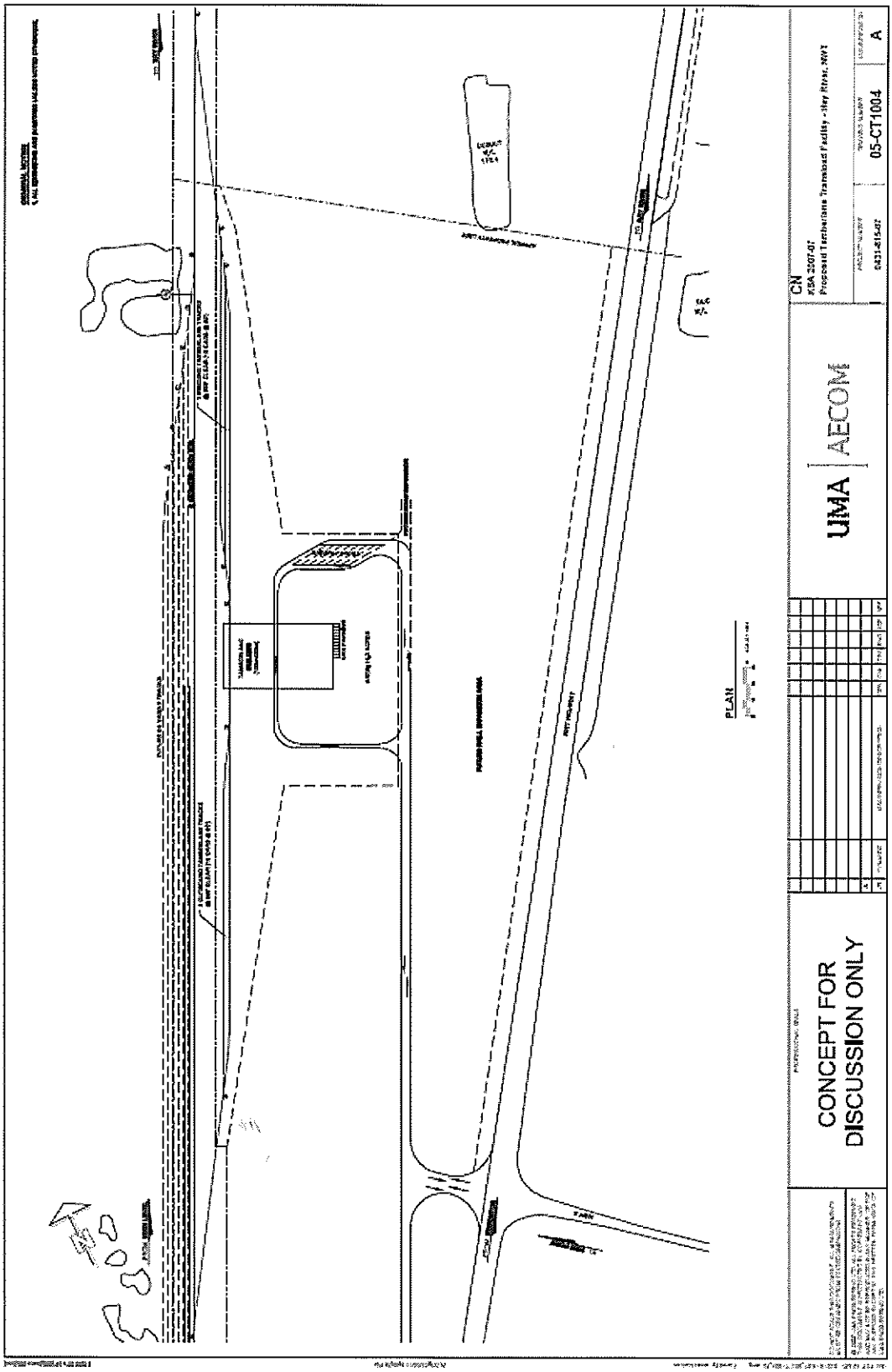
Railhead Location

In early May, discussions and meetings with CN and the Katlodeeche ensued regarding the initially proposed rail loading site. Upon closer examination, CN determined that the earlier proposed site was not operationally conducive due to the highway crossing, increased labor and railcar adjustment because there would be only one way in and out, and the land was currently under sub-lease. The newly proposed site eliminates the need for railcars to cross Highway 2, as well as trucks traveling the short distance along highway 2 from the intersection with Highway 5. The trucks will instead cross directly across Highway 2 where visibility is very good and exposure to Highway 2 traffic is minimal. The new site will also allow for easy operation by CN as it is located next to an existing rail siding that can be modified for easy railcar traffic flow in and out of the offloading facility. Lastly, the new location is available for purchase. CN is interested in the location not only for the Pine Point Pilot Project but also for the potential additional business opportunities in the area.

The newly proposed rail loadout area for the PPPP has no current uses or tenants and is bordered on all four sides by rail and road infrastructure. The South and West side of the property is bordered by Canadian National Railway Corporation's right-of-way and the East side of the property is bordered by Territorial Highway 2. The North side of the property is bordered by a small vehicle access road. Although CN and Tamerlane are still working through the details, the infrastructure will require the construction of approximately 600-800 meters of access road starting directly across the intersection of Highway 5 and 2. Approximately one meter of ballast will need to be added alongside the existing rail spur for additional rail spurs. Tamerlane and CNR envision the loadout facility to contain the following.

- Concentrate will be handled in a fully enclosed shelter;
- The facility size will be large enough to ensure rail loaders and haul truck traffic in and out;
- The facility will be constructed with a concrete floor;
- The facility will contain, treat and recycle all wash water on site;
- The facility will be supported by CN's environmental policy and standards

Please see the map below of the proposed railhead location.


CONCEPT FOR DISCUSSION ONLY
UMA | AECOM
CN
KSA 2307-07
Proposed Hardstand Transload Facility - Hay River, NWT
05-CT1004
PLAN

As indicated on the map above, the red rectangle in the center of the map is the concentrate storage facility that will be fully concreted with concrete barriers to separate the zinc from the lead. The activities of unloading trucks will occur inside this structure so that all material is contained inside the building. A loader will position the material into separate bins inside the building. Before the truck departs the building, an automated wash will clean the undercarriage of the trucks. The wash water will be collected in a sump and routed through a small water treatment plant. The resulting clean water will be reused. Any solids buildup resulting over time will be added to the concentrate bins for loading into railcars.

Railcar loading activities will also take place inside the building to eliminate outside exposure. Individual railcars will be pulled into the building and a loader will pick up the concentrate from the bins and load the railcars. Any spillage of concentrate will be picked up and the remaining residue on the concrete floors will be washed into the wash sump and treated.

Tamerlane's proposed rail loadout facility is located alongside CNR's existing rail infrastructure which has operated for many years without incident.

Additional information can be found in the First Round Information Responses #IR0607-002-06 located on the public registry.

Diesel Generation

During the initial stages of the project description, it was thought that diesel generation would be the only economic option to supply power to the site. Tamerlane had been in correspondence with the NWT Power Corporation with regard to utilizing excess power from the Talston Dam. The NWT Power Corporation pointed out that their substation was over 40 kilometers away and would not be a practical choice for the Pine Point Pilot Project due to the high infrastructure costs. The NWT Power Corp. then recommended we speak with Northland Utilities. Tamerlane has corresponded extensively with Northland Utilities during the past year and recently developed a commitment with them to design and utilize line power for a majority of the PPPP's needs.

Tamerlane's previously proposed generation plant will still be used for some ancillary operations and primary safety and environmental back-up in the event of power failures or schedule maintenance on the Talston Dam. The prior designed diesel generation accounted for 6 MW and is now reduced to 4 MW. For a more detailed description, please see IR0607-002-36, response #2 & 3.

Potential impacts for the proposed change include a reduction in diesel emissions due to significantly decreased usage and addition of power poles. The power pole locations are being designed alongside the existing access road to minimize exposure to nearby fen areas. Additionally, since the power poles will be 35 feet tall, marking material will be added to enhance visibility of the power lines between the poles.

Additional information can be found pertaining to the changes from all diesel generation to line power at the following:

- MVEIRB Public Registry, July 12, 2007, "Correspondence on PPPP power plans, power lines and birds"
- MVEIRB Public Registry, Aug. 20, 2007, "Tamerlane partial second round IR responses", IR0607-002-36

Ore Beneficiation System

During the initial planning stages of the Pine Point Pilot Project, Dense Media Separation (DMS) was going to be used to create a direct shippable product to smelters. After several metallurgical tests were conducted, it was determined that the product could not be upgraded enough to not incur major penalties from smelters. This resulted in Tamerlane investigating the option of further processing downstream from the PPPP location. Tamerlane had located an intermediate mill near Revelstoke, BC in which Tamerlane anticipated shipping DMS product via rail to Revelstoke. The product would then be offloaded and trucked to an intermediate process facility for upgrading. The upgraded material would then be loaded into a truck and shipped to a smelter. Tamerlane visited the intermediate process facility in mid-February, 2007, and determined that too much capital investment would be required to get the process facility into proper working order. As a result, Tamerlane made the decision to investigate other alternatives.

In March, 2007, Tamerlane consulted with Mr. Godfrey McDonald, Confidential Metallurgical Services, about potential flotation without the use of cyanide to ensure a bengin and clean process. Agreements were solidified with an independent laboratory, SGS Lakefield, to conduct additional test work for the applicability of this process. After numerous tests over a period of several months, results were positive to upgrade the DMS ore further utilizing conventional flotation without any cyanide additives.

A detailed description along with potential impacts of the ore beneficiation system conducted by Mr. Godfrey McDonald, is included in IR0607-002-49 and IR0607-002-53.

All supplemental material is included in the MVEIRB Public Registry, August 20, 2007, "Tamerlane partial second round IR responses"

Infiltration Basin

Tamerlane initially investigated alternatives to building a tailings pond for the PPPP. In doing so, Tamerlane's initial test work indicated a clean discharge water that was amenable for exfiltration into the sub-surface aquifer. Knowing that infiltration basins are utilized throughout North America for the disposal of run-off and sewage effluent, Tamerlane determined this to be the best and least intrusive method for reintroduction into the sub-surface aquifer. Numerous

designs and testing efforts took place during the past year to ensure the validity of the infiltration basin.

Tamerlane first considered the use of injection wells to reintroduce clean discharge and effluent water back into the sub-surface aquifer during the technical sessions held July 17 & 18, 2007. At the urging of INAC's and MVEIRB's technical experts, Tamerlane considered the economic impact and potential for utilizing an injection well. Tamerlane conducted a preliminary analysis of its applicability and realized that an injection well would add overwhelming benefits without adding additional costs to the operation. Although Tamerlane still considers the infiltration basin a viable option, a decision was made to pursue the use of injection wells for the PPPP.

A detailed description along with potential impacts of the injection well system can be found in the following Information Requests:

- IR 0607-002-45
- IR 0607-002-46
- IR 0607-002-47
- IR 0607-002-49
- IR 0607-002-51, response #4

Supplemental support materials can be found at the following:

- MVEIRB Public Registry, July 19, 2007, "Appendix 3 from Brown Erdman Report on R 190 groundwater"
- MVEIRB Public Registry, July 20, 2007, "Tamerlane Letter to MVEIRB Re-injection Wells"
- MVEIRB Public Registry, July 25, 2007, "Data on Water discharge Levels"
- MVEIRB Public Registry, July 25, 2007, "Drill logs from the area around R 190 and the Infiltration Basin"
- MVEIRB Public Registry, July 27, 2007, "Evaluation of Potential Ammonia & Nitrate Contamination"
- MVEIRB Public Registry, July 30, 2007, "Evaluation of Deep Well Disposal"

In addition, please find in the following paragraph information describing the various types of injection wells used throughout North America. The online source for the information is http://www.epa.gov/safewater/uic/classes.html. Tamerlane will utilize a well similar to the Class V well described in the following information. The primary difference between the well Tamerlane will utilize and the Class V well, is that Tamerlane's well will not discharge into a drinking water source.

Underground Injection Control Program

Classes of Injection Wells

Regulatory Definitions of Injection Wells (§144.6)

The UIC Program provides standards, technical assistance and grants to State governments to regulate injection wells in order to prevent them from contaminating drinking water resources. EPA defines the five classes of wells according to the type of fluid they inject and where the fluid is injected. EPA has published regulations related to the siting, drilling, construction and operation of many types of injection wells.

Class I wells are technologically sophisticated and inject hazardous and non-hazardous wastes below the lowermost underground source of drinking water (USDW). Injection occurs into deep, isolated rock formations that are separated from the lowermost USDW by layers of impermeable clay and rock.

Class II wells are oil and gas production brine disposal and other related wells. Operators of these wells inject fluids associated with oil and natural gas production. Most of the injected fluid is brine that is produced when oil and gas are extracted from the earth (about 10 barrels of brine for every barrel of oil).

Class III wells are wells that inject super-heated steam, water, or

In general, owners and operators of most new Class I, II and III injection wells are required to:

- Site the wells in a location that is free of faults and other adverse geological features;
- Drill to a depth that allows the injection into formations that do not contain water that can potentially be used as a source of drinking water. These injection zones are confined from any formation that may contain water that may potentially be used as a source of drinking water;
- Build to inject through an internal pipe (tubing) that is located inside another pipe (casing). This outer pipe has cement on the outside to fill any voids occurring between the outside pipe and the hole that was bored for the well (borehole). This allows for multiple layers of containment of the potentially

other fluids into formations in order to extract minerals. The injected fluids are then pumped to the surface and the minerals in solution are extracted. Generally, the fluid is treated and re-injected into the same formation. More than 50 percent of the salt and 80 percent of the uranium extraction in the U.S. is produced this way.

Class IV wells inject hazardous or radioactive wastes into or above underground sources of drinking water. These wells are banned under the UIC program because they directly threaten public health.

Class V wells are injection wells that are not included in the other classes. Some Class V wells are technologically advanced wastewater disposal systems used by industry, but most are "low-tech" wells, such as septic systems and cesspools. Generally, they are shallow and depend upon gravity to drain or "inject" liquid waste into the ground above or into underground sources of drinking water. Their simple construction provides little or no protection against possible ground water contamination, so it is important to control what goes into them.

contaminating injection fluids;
- Test for integrity at the time of completion and every five years thereafter (more frequently for hazardous waste wells, §146.68(d));
- Monitor continuously to assure the integrity of the well.

Operators of Class I wells injecting hazardous waste are required to demonstrate that the waste will never return to the surface or impact an underground source of drinking water (for 10,000 years). These wells inject at 4,000 feet below the surface or more. Over 9 billion gallons of hazardous waste is injected into wells each year in the US.

The largest number of injection wells are shallow wells that inject non-hazardous fluids into very shallow aquifers that are or can be used as sources of drinking water. Some of the wells in this category are:

- Drainage wells in industrial setting that can receive surface runoff contaminated with a variety of pollutants;
- Septic tank systems and dry-wells used in automotive shops that receive fluids from repair and maintenance bays;
- Cesspools that receive sewage from a community;
- Agricultural drainage wells that may receive water contaminated with pesticides and fertilizers

Sewage Disposal

Tamerlane first considered an on-site drain field which the Company soon discovered was not an acceptable practice due to ground permeabilities in the area.

Tamerlane then considered not utilizing the RBC system and storing the sewage on-site for daily pickup into Hay River. Although sewage shipping was available from local Hay River businesses, Tamerlane decided to not ship the sewage for the following reasons: The economics were very prohibitive per month for sewage disposal 48 kilometers to the town of Hay River's sewage ponds. More importantly, the surface dry facilities for all employees during the operation phase of the PPPP is estimated to utilize 12 cubic meters per day. At this rate, sewage/gray water disposal trucks would be required on and off the site daily which would create increased site congestion and increased safety hazard exposure.

A detailed description along with potential impacts of the sewage treatment effluent disposal information can be found in IR0607-002-48.

Please see the additional support information provided by the Environmental Protection Agency with regard to a Class V well.

Class V wells are injection wells that are not included in the other classes. Some Class V wells are technologically advanced wastewater disposal systems used by industry, but most are "low-tech" wells, such as septic systems and cesspools. Generally, they are shallow and depend upon gravity to drain or "inject" liquid waste into the ground above or into underground sources of drinking water. Their simple construction provides little or no protection against possible ground water contamination, so it is important to control what goes into them.

The largest number of injection wells are shallow wells that inject non-hazardous fluids into very shallow aquifers that are or can be used as sources of drinking water. Some of the wells in this category are:

- Drainage wells in industrial setting that can receive surface runoff contaminated with a variety of pollutants;
- Septic tank systems and dry-wells used in automotive shops that receive fluids from repair and maintenance bays;
- Cesspools that receive sewage from a community;
- Agricultural drainage wells that may receive water contaminated with pesticides and fertilizers

3. Please see attached revised DAR summary.

Developers Assessment Report
Pine Point Pilot Project
Summary

Submitted to:

Mackenzie Valley Environmental Impact Review Board

Prepared by:

Tamerlane
VENTURES INC.

August 2007

SUMMARY

Tamerlane Ventures Inc. is a publicly traded mining company engaged in the exploration and development of mineral properties in North America and internationally. Tamerlane Ventures Inc. proposes to construct and operate a Zn/Pb pilot plant at the R190 site, located approximately 42 km east of Hay River, Northwest Territories. The proposed project is referred to as the Pine Point Pilot Project (PPPP). The PPPP will confirm the potential to conduct full-scale underground mining of the remaining 34 known deposits. The proposed project will produce a bulk sample of approximately 1,000,000 metric tonnes of lead-zinc ore over the course of 12-15 months. No camp facilities will be required during the life of the PPPP.

Tamerlane commenced exploration activities in the fourth quarter of 2004 and completed a two-phase exploration program in the fall of 2005. In June 2006, Tamerlane Ventures acquired the remaining 40% interest in the Pine Point property. Tamerlane now has 100% interest in the Pine Point property. Tamerlane has finalized its feasibility study and NI 43-101 report. The two documents were undertaken in 2006 and completed in 2007. Subject to receiving regulatory approvals, construction of the Pilot Project would proceed in 2007 with the objective of advancing the project to a commercial production decision in as soon as possible.

Tamerlane Ventures Inc. has produced this Developers Assessment Report (DAR) in general conformance with the Terms of Reference produced by the Mackenzie Valley Environmental Impact Review Board (MVEIRB 2006).

This DAR provides the information required for the technical review of the project. Tamerlane Ventures Inc. was assisted in the preparation of the DAR by EBA Engineering Consultants Ltd. (lead consultant) and Mr. Godfrey McDonald (Confidential Metallurgical Services). Traditional Knowledge was considered and incorporated into the DAR to the extent possible. The DAR identifies the technical aspects of the PPPP, including alternatives that were considered. The DAR also reviews existing environmental and socio-economic conditions and the anticipated environmental and socio-economic interactions (following mitigation) that the PPPP may have during the design, construction, operation and reclamation phases of the project. The appendices provide additional, more detailed supporting information on various key technical subjects covered in the main report.

Development Description

The Tamerlane Pine Point Pilot Project (PPPP) proposes to demonstrate the economic extraction of a one million tonne bulk ore sample from the R190 deposit zinc/lead deposit using a combination of basic and technical mining methods. The mining of the bulk sample will confirm the use of:

- freezing for groundwater control
- shaft sinking for orebody access
- Dense Media Separation (DMS) for upgrading low grade deposits.
- Conventional Flotation without cyanide to create a direct shipped product
- vertical conveyance for consistent hoisting of ore
- underground bulk mining methods for use in future mining of lower grade deposits

Infrastructure construction is estimated to take an additional 12-15 months prior to the commencement of operations. The proposed PPPP will operate 365 days per year. Of the one (1) million tonnes extracted from underground, 40-50 % of the material mined will be returned underground for backfilling purposes. Provided the Pilot Project does not advance into future full scale mining, decommissioning and reclamation of the PPPP site is estimated to take about 3 months following shutdown of the PPPP.

The R190 mineral deposit will be mined with underground open stope and drift and fill methods using a conveyor and rubber tire mobile equipment. The ore will be transported to the surface via vertical conveyor and pre-concentrated in a Dense Media Separation (DMS) circuit and a conventional flotation circuit at a rate of approximately 2800 metric tonnes per day. Surface access will include a concrete lined shaft. Level drifts will be driven from the shaft to the ore zones.

The PPPP will be dewatered using proven ground freezing technologies to maintain a frozen ring of ice around the project perimeter. The freeze curtain, or frozen ring of ground, will extend from the surface to a depth of approximately 185 m, surrounding and encompassing the entire R190 mineral deposit. The primary purpose of the freeze curtain is to prevent or minimize the intrusion of groundwater from the surrounding area into the underground mine workings. Any excess water underground will be collected in a sump, pumped to the surface and then either reused for the DMS process or discharged to the infiltration basin.

The PPPP R190 ore will produce direct ship ore through crushing and Dense Media Separation and conventional flotation. Very few and only small amounts of reagents will be used in the DMS circuit. The primary addition will be ferro-silicon which is an inert product. It will be used to make a heavy liquid (dense media) containing 2.95 specific gravity that is similar to but lower than the sulphide minerals that will be separated. The ferrosilicon will be recoverable using magnetic separation and reused in the process. If necessary, lime may be added to stabilize the PH. The DMS circuit will remove a large portion of waste (float) to be reused for backfilling while the remaining ore (sink) product is forwarded to the flotation circuit.

The conventional flotation circuit is designed to take the DMS sink product and grind the material for better separation of the lead from the zinc. The ore product moves through a series

of lead and zinc flotation cells where reagents are added to promote further separation of the waste from the lead and zinc. The laboratory test work has exemplified the fact that cyanide or any cyanide complex, will not be required to produce a lead-zinc separation in the flotation circuits. Most of the reagents leave the flotation plant on the surface of the concentrates produced or the discharge solids reject which will be returned underground as cemented backfill. The only reagent that is used in the flotation circuit that is not adsorbed on the solids surfaces will be the frother. Frother is similar to soap in water and will be used at an extremely low concentration which is easily dispersed and oxidized naturally. The reagents employed in the flotation circuits have to be transported, stored and distributed in the flotation circuits. No special handling is required and instructions will be clearly written and a thorough personnel training program initiated to ensure safety to personnel and equipment.

The process plant will include facilities to beneficiate the ore. It will also house the processing equipment, maintenance facilities, plant warehouse, laboratory and administration offices for facility supervisors and staff. The floor of the facility will be concrete-lined and sloped to a central drainage sump. All process circuit materials and chemicals will be stored in the process facility complex or in a separate building.

Concentrate will be stored in a dry, contained enclosure with some heat to prevent freezing. The product will be transported via Territorial Highway 5 to the CNR railhead at Hay River in covered trucks for loading on to rail cars.

No on-site camp will be constructed for the PPPP. The Pilot Project is estimated to require approximately 2.92 MW of electric power during the construction phase and 5.85 MW of power during the operations phase of the PPPP. Power for the Pilot Project will be provided by a combination of hydro-power and diesel generation. Diesel generation will be required through half of the construction phase. During the operations phase, hydro-power will account for 4.45 MW while it is estimated that 1.4 MW will be required from diesel generation. Sewage and greywater waste from the operation will be processed through a packaged sewage treatment plant. Treated sewage effluent will be combined with the process discharge and deposited into the injection well.

An injection well will be utilized to re-introduce all ground, process and treated effluent water into the sub-surface aquifer. Likely dilution would be extremely large due to the vast amounts of water in the aquifer. Injection wells are shallow wells that inject non-hazardous fluids into very shallow aquifers that are or can be used as sources of drinking water. Examples of injected non-hazardous fluids are surface runoff water, septic tank systems and dry wells used in automotive shops that receive fluids from repair and maintenance bays, cesspools that receive sewage from a community and agricultural drainage wells that may receive water contaminated with pesticides and fertilizers. Tamerlane will be utilizing similar wells in an area of known non-potable water.

All solid non-combustible and non-hazardous waste will be collected and consolidated weekly and disposed of in the Hay River landfill. Waste oil will be used in oil heaters throughout the facility.

Tamerlane is committed to employing northern and Aboriginal residents to the extent possible during the relatively short-term period of the initial PPPP. Tamerlane anticipates that a considerable proportion of the workforce required for the one-year PPPP construction phase and the 12 to 15 month mining operations phase can be filled by residents of the South Slave area.

Approximately 65 jobs/positions are estimated to be available for the one-year construction phase of the PPPP. For the anticipated 10-15 months of PPPP operation, approximately 131 jobs/positions are projected to be available. These numbers include employment generated through the third-party business contract opportunities needed to service the project. Assuming reclamation of the PPPP site commences immediately following completion of the operations phase, approximately 14 jobs/positions will be available during the reclamation phase.

Critical to increasing local participation in the PPPP will be Tamerlane's training initiatives. Tamerlane is committed to training during the short duration of the PPPP. In developing its training programs, a priority of Tamerlane's Human Resources Management Plan will be to focus on providing pre-employment training opportunities. The application of this strategy is expected to contribute to increased opportunities for stakeholders to gain access to jobs and to facilitate employment. The Tamerlane program will initially be designed to fill apprenticeship and technological occupations. In addition, all PPPP contractors will also be required to adhere to Tamerlane's goal of maximizing Northern and Aboriginal employment.

Community Engagement

Tamerlane Ventures Inc. believes and supports the concept that effective and meaningful communication contributes to the development of sound corporate and community relationships. Throughout the baseline data collection, continuous efforts have been made to keep the public, affected First Nations and regulators informed of the project and development activities. Tamerlane's efforts have been communicated through telephone conversations, emails, presentations, site visits, personal visits and meetings.

Since about mid-August 2004, Tamerlane has been making continuous and concerted efforts to engage and consult with potentially affected First Nations and the nearby communities to discuss all aspects of the proposed project, including potential benefits and opportunities associated with the PPPP. To date, all issues have been dealt with in an open, honest, transparent and mutually agreeable manner. Tamerlane believes that all stakeholders including the company have benefited greatly from these ongoing community engagement activities.

In addition to these consultations, Tamerlane, together with the tremendous assistance and cooperation from key community members, participated in several weeks of Traditional Knowledge interviews with a number of Aboriginal community participants in Fort Resolution and Metis participants from the Hay River area during October 2006. The K'atlodeeche Dene opted to conduct a separate Traditional Knowledge study with support from Tamerlane. The results of the K'atlodeeche Dene study will be provided when their study report becomes available.

Tamerlane also participated in numerous meetings and generated correspondence with members of the Legislative Assembly of the Northwest Territories (MLA), Department of Indian Affairs and Northern Development (DIAND), Government of the Northwest Territories (GNWT), Natural Resources Canada (NRC), Environment Canada (EC), Northwest Territory Chamber of Mines, Mackenzie Valley Land and Water board (MVLWB), and the Mackenzie Environmental Impact Review Board (MVEIRB). These activities provided Tamerlane and the regulatory stakeholders with the opportunity to share information, coordinate activities and develop relationships in the proposed PPPP area. Communications with regulatory agencies are planned to continue throughout the permitting process and project's life.

Environmental Overview

The environment in the area of the Tamerlane PPPP is located on the edge of the Boreal Plains and the Taiga Plains Ecozones. It encompasses the Slave River and Hay River Lowland Ecoregions. The area is characterized by short, cool summers and long, cold winters. The mean annual temperature is -17.5 °C, and annual precipitation ranges from 300 to 400 mm.

The vegetation of these ecoregions and the regional study area (RSA) is characterized by medium to tall, closed stands of jack pine and trembling aspen. White spruce and black spruce dominate later successional stands. Poorly drained fens and bogs in this region are covered with low, open stands of larch, black spruce and ericaceous shrubs. Seasonal fires have been a common occurrence in the South Slave Region. The most frequently mentioned fires during the Traditional Knowledge interviews included the Pine Point fire (early 1970's) and the Hay River/Pine Point fire (1981) that burned from Alberta to Great Slave Lake and from Hay River to Pine Point, including the proposed PPPP area.

The two nearest drainages to the PPPP site are the Buffalo River, located approximately 10 km to the east and Twin Creek located about 7 km to the west. Fish species frequenting the Buffalo River include inconnu, whitefish, northern pike, pickerel and burbot.

The surface water quality for all sites sampled along Twin Creek, Buffalo River and in Great Slave Lake in 2005 and 2006 was generally typical of natural background values for this area of the NWT. The concentrations of most tested parameters were below existing federal guideline criteria and laboratory detection limits.

The results indicated that Great Slave Lake water has naturally elevated background aluminum levels. Aluminum is typically associated with limestone, dolomite, sandstones and shales which occur in the Pine Point area. Aluminum is also the most abundant metallic element present in the earth's crust.

The groundwater quality in the PPPP area (R190) is strongly influenced by the geological characteristics of the underground formations. The groundwater is typically hard, with naturally elevated levels of aluminum, iron and some nutrients. Some of the groundwater layers in the area are salty and/or contain sulphur. The natural groundwater table in the Pine Point area varies in depth below surface from approximately 1 m to 18 m depth.

Moose, woodland caribou and occasionally wood bison are the main ungulates found in the area although none are considered common. Based on the Traditional Knowledge interviews, wildlife identified as living in and being harvested in the vicinity of the PPPP include moose, woodland caribou, lynx, wolf, otter, black bear, rabbit, porcupine, prairie chicken, spruce chicken, ruffed grouse, waterfowl and upland game birds. Migrating wildlife observed from time-to-time include ducks, geese, swans, songbirds, whooping crane, prairie chickens and ptarmigan. The bird life present in the area is typical of the boreal forest. The south shore of Great Slave Lake is considered to be an important concentration site for birds during their annual migrations.

Some of the participants in the MVEIRB scoping sessions indicated that the land and environment of the Pine Point area was perceived to be in the process of "healing", presumably from impacts associated with the former large-scale mining operations and related mineral exploration activities in the region.

Environmental Effects and Mitigation Measures

Tamerlane is committed to minimizing the potential environmental effects associated with the construction and operation of the PPPP. Initially, as part of project planning and design, Tamerlane is proposing to employ underground mining, the least intrusive method for mining the R190 mineral deposit. The proposed PPPP development will be of a limited, small-scale and relatively short-term nature.

The construction of the PPPP buildings and mining support infrastructure (e.g. access roads, stockpile area, freeze line) will involve the clearing of vegetation in limited areas and the levelling of the existing terrain to accommodate the required temporary buildings (structures) and infrastructure. In addition, application of the proposed freeze curtain technique represents the least intrusive method for stabilizing wet, unconsolidated ground, compared with other alternatives such as grouting and dewatering.

Tamerlane is proposing to further minimize the PPPP development footprint by locating PPPP buildings and associated infrastructure on existing disturbed areas to the maximum extent possible. More than 52 % of the PPPP buildings and associated infrastructure footprint will be located on previously disturbed terrain. New disturbance to terrain and associated vegetation in the project footprint area will be limited to approximately 4.3 ha, representing an increase of only 0.37 % of the disturbed terrain present in the Pine Point Regional Study area.

The main ways that the development of the PPPP can affect wildlife is through physical or behavioural disturbance, including displacement and habituation (e.g. attraction). Potential effects on wildlife may also result from the loss or degradation of habitat.

Potential effects related to the PPPP development on all wildlife species will be mainly limited to the timeframes and activities associated with the approximate 3-year duration of the development. The nature of the types of activity and possible effects on wildlife are generally well understood and predictable. This is a very small underground development with a limited footprint and limited surface activities.

To minimize any potential for direct PPPP development-related wildlife mortality, Tamerlane will implement a no hunting policy for all project employees and contractors while working on or off-site for Tamerlane. In addition, the company will require all project-related transportation activities to give the right-of-way to any wildlife that such activities may encounter.

Some wildlife may show minor displacement behaviour and avoid the immediate PPPP development area and/or the Highway during periods of particularly loud and irregular noises. The duration of such exposures are expected to be brief, perhaps lasting a few minutes to a few hours, and are reversible upon cessation of the activity or by moving away from the activity. The number and frequency of such exposures to noise disturbance by wildlife would be expected to be limited and sporadic.

Potential effects on fish and/or fish habitat in the Tamerlane PPPP area could only occur if activities associated with the PPPP were to either directly or indirectly impact on these components of the receiving environment. However, as indicated in the DAR, there will be no direct discharge of any DMS circuit or mine-related water discharges to any surface waters or waterbodies frequented by fish.

The only lakes that support fish populations near the PPPP site are Great Slave Lake and Polar Lake. Both of these lakes are well removed from the site and cannot be affected in any way by the infiltration process and associated mine water.

To minimize possible effects on surface water and groundwater quality, volumes and flows in the PPPP development area, Tamerlane has committed to employ a number of mitigation

measures. The limited process water and mine water associated with the PPPP will be directed to the proposed injection well that will be located a few hundred meters North of the project infrastructure. High quality treated sewage effluent will be co-mingled with the process water and mine water for discharge to the injection well.

Tamerlane utilized SGS Lakefield as their independent laboratory whose testwork confirmed that the quality of the process/mine water to be directed to the injection well will comply with Water License criteria without the need for further treatment. However, existing and demonstrated water treatment methods (lime addition) are readily available and will be employed if determined to be necessary to ensure compliance with the Water License.

During the period of time that the freeze curtain is in place and functional, it is anticipated that localized groundwater in the vicinity will be temporarily deflected (detoured) around the perimeter of the freeze curtain (like water moving around a bridge pier in a river) as it continues to flow towards the north/northeast. The presence of the freeze curtain is not expected to block or alter the flow of water around the PPPP area.

The limited air emissions, odours and noise associated with the operation of a few standard internal combustion engines operating on the site and the small amounts of dust generated mainly by moving vehicles and trucks are not anticipated to have a measurable effect on the vegetation or wildlife in the PPPP development area.

With the application of the mitigation measures outlined in this summary, and others identified in the DAR, no significant residual impacts on the biophysical environment are anticipated to occur during the construction, operation, closure and reclamation of the PPPP site.

Socio-Economic Effects and Mitigation Measures

Potential contributions of the Tamerlane PPPP to local, regional and territorial sustainable development will be dictated primarily by the relatively small size and short-term (~3 year) duration of the initial project. As indicated in earlier sections of the DAR, the main purpose of the PPPP is to demonstrate project economics and the success of the proposed underground mining techniques including the application of ground freezing, and the selected ore treatment methodology.

The project will provide preliminary but relatively short-term direct and indirect employment, training, apprenticeship and business opportunities for a number of people. This will include the neighbouring First Nations, specifically Deninu Kue First Nation, K' atlodeeche First Nations and Metis interests, and the communities of Fort Resolution, Hay River, Fort Smith and possibly Enterprise.

Tamerlane is committed to providing training, employment and business opportunities associated with the development of the PPPP consistent with the scale and duration of the relatively short-term initial project. Tamerlane's commitment to training will include site-based on-the-job training and the support of a number of apprenticeships. Assuming project success and longer-term, larger-scale development in the future, these programs will be expanded as appropriate. They will be guided by sustainable development principals to generate further economic and social benefits while ensuring continued responsible environmental stewardship for the benefit of future generations.

Tamerlane is committed to employing northern and Aboriginal residents to the extent possible during the relatively short-term period of the initial PPPP. Tamerlane anticipates that a considerable proportion of the workforce required for the one-year PPPP construction phase and the 12 to 15 month mining operations phase can be filled by residents of the South Slave Region.

Tamerlane is also committed to maintaining a safe, healthy and productive work environment for all employees, contractors, visitors and guests. It is the responsibility of all employees and contractors to report for work in fit condition and to work safely throughout their work period. Tamerlane will provide support consistent with company policy to employees and their immediate families in dealing with personal health and well-being issues.

Tamerlane believes that with the effective implementation of the company's Human Resources Management Plan and the support of the federal and territorial human resources management agencies, the socio-economic issues of concern to the potentially affected communities and residents of the Pine Point area can be effectively managed.

Cumulative Effects

Cumulative effects are changes to the environment that are likely to result from the project in combination with other projects or activities that have been or will be carried out.

For the Tamerlane PPPP, the assessment of cumulative effects involved four basic considerations

- There must be an environmental, social or cultural impact related to the project.
- The effect must be demonstrated to operate cumulatively, additively or synergistically with impacts from other projects or activities.
- The other projects or activities exist or are likely to be carried out and are not hypothetical.
- The cumulative effect is likely to result.

The short-term nature of the PPPP will mean that most of the very limited biophysical environmental effects associated with the development are expected to occur during this relatively short period of time.

Anticipated negative construction and operations-related effects, such as impacts on air quality, the noise environment and wildlife will generally be of an intermittent, very short-term (minutes to hours), highly localized, and rapidly reversible nature.

Longer-term effects of the Tamerlane PPPP on the biophysical environment will be limited to the small physical footprint of the development area, which will be reclaimed in accordance with the reclamation objectives of Tamerlane and the regulatory agencies with responsibility regarding such matters.

Based on the assessment provided in the DAR, none of the intermittent, short-term, highly localized and rapidly reversible PPPP-related environmental and socio-economic effects are anticipated to cause impacts that may contribute to negative cumulative effects.

However, assuming initial project success and longer-term, larger-scale development in the future, Tamerlane's employment, training and human resources support programs will be expanded as appropriate. They will be guided by sustainable development principals to generate further economic and social benefits while ensuring continued responsible environmental stewardship for the benefit of future generations.

Closure and Reclamation

Reclamation planning is an integral component of a sound environmental management system for any development. Tamerlane is committed to achieving a number of goals for the progressive reclamation of the PPPP development area following closure of the project. Tamerlane's goals for reclamation will be consistent with INAC's guidelines for abandonment and restoration planning for mines as well as the requirements of the anticipated Land Use Permit.

Following removal of the PPPP surface facilities, the remaining fill embankments, borrow pits, access roads and development footprint will be re-contoured and scarified as required to ensure surface stability and to facilitate the re-establishment of native vegetation. With the application of the broad suite of available reclamation measures, Tamerlane is confident that the reclamation goals for the PPPP can be effectively achieved.

IR Number:	**IR0607-002-38**
Source:	**MVEIRB**
To:	**Tamerlane Ventures Inc.**
DAR Section:	**5.6 – Site Logistics**
Terms of Reference Section:	**D-24 (Worker Housing Situations and Transportation to Work)**

Preamble

Page 368 of the DAR states: "The communities in the Pine Point region are all located within relatively easy driving distance from the PPPP site". More specific information and analysis of this assertion is required, given that long-distance commuting of shift workers may have implications for road safety.

The developer has committed to providing bus transport from Hay River and Fort Resolution to all interested employees. Transportation and/or housing options for workers from the more distant community of Fort Smith are not discussed in the DAR, despite the fact that the Ellis Consulting report (page 370 of the DAR) predicts potential for both local and in-migrant workers to reside in Fort Smith during the PPPP.

The developer has identified a work schedule in its response to IR#11 that may be more attractive to Fort Smith workers commuting only once or twice a week from Fort Smith, and finding housing in Hay River. What is not addressed is the potential risks for "end of shift" long distance commuters driving straight home after a shift to Fort Smith. While this obviously includes an element of "personal choice", the developer should show that it has considered ways of minimizing long-distance driving after shift work.

Requests

Provide the following:

1. *The developer's strategy for temporarily housing (or transporting) workers from Fort Smith during their work week (including a rationale for why no company transportation is currently envisioned from Fort Smith, given its identified likelihood as a labour pool).*

2. *The developer's policies, plans, or strategy for minimizing the number of employees driving home to Fort Smith immediately after their shifts are complete.*

Response

1. As noted above, Tamerlane has committed to provide employee bus transportation from Hay River and Fort Resolution to the project site. Tamerlane does not plan to provide bus transportation from Fort Smith. Providing employee bus transportation from Fort Smith is not an economically viable option due to the distance from the community to the project site. Additionally, Tamerlane does not want to incur liability for the bus driver responsible for transporting employees over such long distances.

   As an alternative, Tamerlane is considering subsidizing temporary housing for prospective employees from Fort Smith. The shift schedule anticipated for the project would allow prospective employees from Fort Smith to live in temporary housing in Hay River during their work periods and to return to Fort Smith during their time off.

2. The previous response is Tamerlane's strategy for minimizing the number of employees driving home to Fort Smith immediately after their shift. Tamerlane ultimately cannot control or limit an individual's decision to commute from Fort Smith. Like any job, the individual has the right to weigh his/her options and decide how far he/she is willing to commute for work.