

## **Tamerlane Video Conference 3:00 pm July 5, 2007**

### **Attendees:**

Dave Fox, Myra Robertson, Ivy Stone, Anne Wilson - EC  
Joel Holder, Graham Veale – GNWT, ENR  
Catherine Mallet, Nathen Richea, Lionel Marcinkoski – INAC  
David Swisher – Tamerlane; Rick Hoos – EBA Engineering

### **Air quality:**

Discussions started with air quality issues, led by Dave and Graham. They stated that dispersion modeling is missing; the DAR and subsequent information provided by Tamerlane does not provide the information to assess air quality impacts. The Terms of Reference, Item I-6, points 1-3 are not met.

Tamerlane does not concur with this statement. They feel that the assessment was conducted based on relevant and applicable information, including the results of modeling, from another similar project (Snap Lake). Although not entirely comparable, it is their position that the air quality impact predictions that are presented in the DAR are reasonable and appropriate for the relatively small and short-term nature of the PPPP.

Tamerlane noted that other assessments consistently concluded localized, limited effects only. This is a wet environment, and dust would be limited. ENR noted that we need to differentiate ambient air conditions from workplace (underground) air conditions. Tamerlane's opinion is that further work on air is not warranted given the scale of operations.

EC noted there are many differences between the Snap Lake site and the PPPP site which need to be accounted for if their analysis is to be used. These include terrain, climate, sources, emission characteristics, and many other factors.

There was no agreement on this subject between ENR and EC, and the developer, so it was noted that the Board would be provided with our rationale and would make their decision on air effects.

Tamerlane noted that the project is now looking at using power lines, which would reduce site emissions.

Follow-up note: EC and ENR/GNWT feel there are requirements under the ToR which should be met during the EA, and will pursue these through the second round of Information Requests. If these requirements cannot be met in the EA, EC will be seeking commitments from the proponent to monitoring and mitigation measures which will address uncertainties raised by the lack of site specific air quality information. Tamerlane concurs that this is a reasonable approach to take in addressing any remaining uncertainties that EC and ENR/GNWT believe may exist relating to air quality issues.

### **Migratory birds and Species at Risk:**

This discussion was led by Myra Robertson, and started with some background on the Species at Risk Act (SARA). 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. However, as a matter of best practice, Environment Canada suggests that species on other Schedules of SARA and under consideration for listing on SARA, including those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), be considered during an environmental assessment in a similar manner. Further comments and recommendations for Species at Risk that are primarily managed by the Territorial Government will be provided by the Territorial Government at a later date. It was noted that the Rusty Blackbird was recently listed in April 2006 as a species of Special Concern by COSEWIC, but have not yet been legally listed under SARA.

Whooping Cranes are of concern, as there are less than 400 in existence in the wild. Whooping cranes nest south of the project area and young, non-breeding "sub-adults" may be seen in the project area.

One potential adverse effect to Whooping Cranes from the project is the risk of the birds colliding with power lines on site. Whooping Cranes have been killed from collisions with power lines. Tamerlane is meeting with Northland Utilities next week to site power lines, and expect either a 500 m line which follows the road, or a more direct line of about 200 m as the raven flies. There could be the option to use ground lines, rather than overhead. Myra provided advice on mitigation, including careful siting which would not cross a flypath nor border a wetland area which may be used by cranes, keeping the height of the lines just below the tree canopy rather than above, and using special markers on the lines to increase the visibility of the lines.

Preventing attraction of predators of birds to the site (ravens, foxes, bears etc.) is important. Increases of these predators in an area can have negative effects on local bird populations, including whooping cranes. Preventing attraction includes not only good waste management practices, but also consideration of building design to discourage roosting, nesting, and denning sites on the infrastructure.

The following summary was provided to Tamerlane by email following these discussions:

Recommendations - Infrastructure Design:

- Reduce horizontal surfaces for nesting
  - Wedges >45 degrees can deter ravens from nesting
  - All areas (large and small) with horizontal surface that can be enclosed, should be enclosed
  - Horizontal supports should be of minimum possible width
- Reduce surfaces subject to heat and focus deterrence on heated areas
  - Heat exhaust from incineration or industry activity can be recycled to heat other buildings using glycol in insulated pipes
  - Place anti-nest spikes or angle surfaces near heat sources at >45 degrees
- Reduce surface complexity of all infrastructure so that small nooks and crannies are reduced
- Skirt buildings and stairs in order to keep foxes and wolverines from denning/sheltering underneath
  - Skirting should be strong and down to the ground
- Consolidate waste management to one secure, well-monitored location

- Connect all domestic buildings to incinerator room so domestic waste is not exposed to the environment
- Identify and continuously monitor infrastructure for points of compromise (digging under skirting, likely nesting sites)
- Continue to monitor wildlife use of decommissioned sites once project is completed
- Contract a knowledgeable wildlife specialist or wildlife officer to evaluate building plans and operations in order to identify points of likely exploitation

Note that these recommendations were taken from a draft guidance document on preventing wildlife attraction to northern sites, and Tamerlane will need to review these to determine what mitigation measures might be best used for their particular situation.

The last issue discussed was the monitoring of Whooping Cranes on nearby wetland areas. All staff will be trained to report sightings of any wildlife. Wetland areas near the project site will be visually checked every two weeks from May to September to see if any cranes are present. If a Whooping Crane is observed, the wetland area will be visually checked on a weekly basis to monitor, measures will be undertaken to avoid disturbance to the bird, and Environment Canada will be contacted to determine whether any further mitigation measures might be required. Staff will be told to avoid birds if seen, and to provide details of behaviour of all wildlife observed in the wildlife log.

Another question was raised regarding footprint of new disturbed area and how much of this new disturbed was wetland habitat; see DAR 7.4-2 for estimates. Several Species at Risk potentially in the area (Whooping Crane, Yellow Rail, and Rusty Blackbird) use wetlands. Myra also requested weather and time-of-day information from the June 2006 bird surveys, as this will help provide information on the likelihood that Yellow Rail might have been detected during these surveys. Rick Hoos agreed to supply this.

Follow-up note from ENR:

Consistent with the monitoring obligations of SARA (s. 79(2)) we also request a record of any wildlife sightings of SARA listed species identified during the program. Ideally this would include information on location (GPS, if possible), number and reaction of the wildlife to project activities (if applicable). This information would provide distribution information and be used to help plan future mitigation. These data should be provided to ENR's South Slave Regional Biologist, Deborah Johnson.

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 under the Act (i.e. those species listed on Schedule 2 and 3 of the Act) be treated in a similar fashion consistent with recommendations in "The Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada."

The project occurs within the range of Boreal Caribou. COSEWIC has designated the boreal population of woodland caribou as *Threatened* in May 2000. Boreal caribou are now protected on federal lands and a national *Recovery Strategy* is being developed to conserve and recover boreal caribou populations and their habitat across Canada. Mitigative measures are necessary to reduce impacts to caribou in the project area.

### **Closure and Reclamation:**

Catherine Mallet (INAC) started the discussion noting that their questions are in Topic #4 of the Technical Session final agenda and are mainly water related. Mine site reclamation guidelines have been updated to Jan 2007 and this version should be used. INAC noted a lack of detail on proposed closure activities in the DAR; Tamerlane will provide specific details as requested.

Ivy Stone then led the questions for EC on closure.

1. In terms of progressive reclamation, how will the cemented backfilling process be affected if groundwater seepage is problematic in the underground workings? Is there a contingency plan in the event that cemented backfilling becomes problematic?

Tamerlane responded that each stope will be drained and blocked off, then backfilled independently.

2. If other sites will be targeted for bulk sampling before exhausting the R190 deposit, will reclamation continue as planned at this site or does Tamerlane plan to mine and 'reclaim' each site individually?

Tamerlane responded that the infrastructure at R190 would be used for future sites, but that would all be covered under a full-scale mining application.

3. What is the nature of the dry and heated enclosure at the site that will hold the lead/zinc at the site to prevent freezing? Is there a possibility of chemical migration from these stockpiles prior to shipment?

Tamerlane responded that the moisture content in the concentrate is 5-8% and there is minimal likelihood of drainage out from the piles. There will be separate Pb and Zn areas in the storage building, each made with concrete floors and contained. If any seepage is collected, it would be sent to the processing circuit or to the water treatment system. Note, this is new information – David is to circulate details on the new water treatment system they are looking at.

4. Will Tamerlane ensure that all ore and other stockpiles will be removed post mining operation?

Response was yes.

5. Will Tamerlane develop an environmental monitoring plan that documents the rate and changes associated with the melting of the freeze curtain? This would provide scientifically valid information that could better inform the continued use of this technology in similar future scenarios.

Tamerlane replied that this was planned, as the sensors which will be installed to track the freeze-in can also be used to monitor the thaw rate. They expect this will take about 3 months.

6. Will Tamerlane ensure that Closure and Reclamation Plans are updated as required through the life of this project? Please note some conditions whereby an updated Closure and Reclamation Plan may need to be submitted:

If the PPPP leads to expansion that hasn't been contemplated in the existing Plan

There is a change (or proposed change) in reclamation procedures

If there are unforeseen or significant hazards as well as operational changes identified.

Tamerlane agreed that this would be updated as appropriate.

The meeting was adjourned at 4:45 pm.

