Independent Scientific Advisory Panel Report on the Oyu Tolgoi – Gashuun Sukhait Road Mitigation Strategy

FINAL

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Executive Summary

Oyu Tolgoi (OT) is a large-scale copper and gold mining operation located in the South Gobi Desert of Mongolia. One component of OT's infrastructure is an improved road from OT to Gashuun Sukhait at the Mongolia/China border (OT-GSk). There is potential for the road to have negative impacts on Asiatic wild ass (*Equus hemionus*), or khulan as they are called in Mongolia, and black-tailed (or goitered) gazelle (*Gazella subgutturosa*). OT formed an independent scientific advisory panel (the Panel) to evaluate the monitoring plan and mitigation strategy for such impacts. This report is the output from the Panel's assessment.

The OT-GSk road on its own does not likely pose a material risk to the viability of khulan and gazelle populations in the South Gobi Desert. Rather, the potential effect of the OT-GSk road would be to cause animals to avoid the road, reducing the mobility of these nomadic (wild ass) and migratory (gazelle) species in the area of influence of the ca. 100 km road. In extreme circumstances, the road could act as a complete barrier to movement. Mitigating for avoidance and barrier effects is an OT commitment under Rio Tinto's voluntary Biodiversity Strategy as well as its agreements with lenders per the International Finance Corporation's (IFC) Performance Standard 6 (PS6) and the European Bank for Reconstruction and Development's (EBRD) Performance Requirement 6 (PR6).

Based on the Panel's review of project documentation including monitoring reports, interviews (OT staff, technical consultants, and lenders), and a site visit, the Panel concludes:

1. Monitoring for avoidance and barrier effects of the road is not yielding conclusive information yet, and there is a risk it may not in the future given available methods. The nature of the wide-ranging species being studied makes it difficult to achieve sufficiently large sample sizes of individuals that will occupy the area near the road, as has been observed in the last few years of study. Furthermore, detecting effects from the small area affected by the road relative to the large range of these species will be challenging. These are difficult species for the type of studies needed to determine the avoidance and barrier effects of the road.

2. OT is performing road mitigation in the form of speed controls and driver awareness. OT has evaluated alternative mitigation options and few are feasible or likely to be effective; therefore, monitoring is not likely to trigger significant changes in management due to lack of alternative options.

3. OT's Net Positive Impact forecast estimates that *the offset plan already compensates for the likely future impacts of the road, by a very large margin*. This raises the question of whether to invest more in refining estimates of avoidance and barrier effects, which are already assumed to occur at some level, versus allocating resources to ensuring that the offsets perform well.

Based on these findings, the Panel recommends the following:

1. Acknowledge that additional or alternative feasible road mitigation options which have not already been put in place are few, and the potential for adaptive management through implementation of such additional/alternative options is limited.

   Incremental improvements that *are* possible might include:
   - Frequent driver updates/awareness-building concerning wildlife;
   - Revise speed limits on road sections where risks of collisions are greater;
   - Driver involvement in monitoring to increase their awareness of wildlife;
   - Full integration of contractors in road controls (e.g., GPS speed monitoring);
   - Self-braking or even self-driving trucks *if* this can improve performance in avoiding collisions with wildlife.

2. Evaluate the potential *utility* and *effectiveness* of monitoring indirect road impacts related to avoidance behavior. The purpose of monitoring should be to guide management. However, management alternatives are limited, and will be guided mainly by the monitoring of direct impacts like mortality from vehicle collisions. In addition, OT has already committed to implementing biodiversity offsets that more than compensate for the total loss of habitat around the OT-GSK road. Therefore, the practical utility of monitoring indirect impacts is limited by its inability to affect management responses. Furthermore, the effectiveness of indirect monitoring will continue to be constrained by the difficulties posed by studying the effects of habitat changes in a relatively small area of wide-ranging species.

   Therefore, there are two possible approaches. In one, OT performs increasing levels of monitoring and analyses to improve the understanding of indirect road impacts. This may yield a fine-scale understanding of the effects of the road on behavior, but regardless of results, the response will be to implement biodiversity offsets. The other approach is simply to shift the emphasis of monitoring to evaluating the effectiveness of the biodiversity offsets.

3. If effort currently expended on indirect impact monitoring is re-allocated to monitoring of biodiversity offsets, and collaborating specialists are given the liberty to revise the portfolio of monitoring activities, the Panel believes that improvements can be made. We observed several indications of such opportunities, especially with population-level monitoring. The Panel also observes that greater emphasis could be placed on the study of black-tailed gazelle, as they are more threatened and less is known about the species. The Panel defers to the monitoring specialists for their specific recommendations, as this was not the primary focus of our work. However, the Panel wishes to emphasize that *rigorous monitoring of the offset for both species will continue to be required.*

In the Panel's view, the real issue in the South Gobi is *cumulative* effects over time on khulan and gazelle from linear infrastructure and other human pressures such as grazing and poaching. In the view of the Panel, the greatest contribution by OT, and the best way to achieve a net gain/net positive impact for these species will be to successfully implement biodiversity offsets that reduce cumulative effects over the long term across the south Gobi by targeting the greatest sources of pressure, which currently is not the OT-GSk road, and supporting those efforts with the scientific knowledge that OT can generate from this program. This is especially important given OT's limited options for other forms of road impact mitigation.