

Oyu Tolgoi ESIA: Supplementary Memorandum

Oyu Tolgoi to Gashuun Sukhait Road

Contents

1	OYU TOLGOI TO GASHUUN SUKHAIT ROAD.....	2
1.1	INTRODUCTION.....	2
1.2	PROJECT CONTEXT.....	2
1.3	CHANGES TO THE ORIGINAL ALIGNMENT – DIVERSION AND REALIGNMENT.....	3
1.3.1	<i>Diversion Road</i>	3
1.3.2	<i>Realignment Road</i>	4
1.4	CURRENT STATUS OF THE DIVERSION ROAD.....	6
1.5	ENVIRONMENTAL AND SOCIAL CONSIDERATIONS.....	6
1.6	SCOPE OF ENVIRONMENTAL AND SOCIAL STUDIES.....	7
1.7	ASSESSMENT METHOD.....	8
1.8	ASSESSMENT REPORT.....	9
1.9	TIMING OF ASSESSMENT.....	9

Figures

Figure 1:	Road Diversion and Realignment Road.....	5
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1 OYU TOLGOI TO GASHUUN SUKHAIT ROAD

1.1 INTRODUCTION

The dynamic nature of the Oyu Tolgoi Project is resulting in the need for additional assessments not anticipated by the Environmental and Social Impact Assessment (ESIA). The process for undertaking these assessments is covered by the Project's Management of Change procedures. One such assessment is required for parts of the road to be used by the Project from the Oyu Tolgoi mine site to Gashuun Sukhait on the Mongolian-Chinese border.

As set out in *Chapter A4 – Project Description*, of the ESIA (and shown as Original Alignment Road in *Figure 1*) the Project's preferred road alignment is the designated national road within Mongolia to the Gashuun Sukhait border point, which utilises a previously-existing desert road through the Small Gobi Strictly Protected Area (SGSPA) within the lowest level protection area and in a zone where road use is permitted. The Project had planned to construct the operational road along the Original Alignment as a fully-sealed all-weather road with a gravel sub-bed, with an 8m wide sealed running surface and 1m wide shoulders. The design was for a maximum axle weight of 10 tonnes for six-axle 40 tonne payload truck-trailers or trucks (total maximum weight of 55 tonnes) to transport ore concentrate to China.

However, as set out in more detail in *Section 1.2*, the Project has been forced to deal with circumstances which prevent it from constructing the planned road on the Original Alignment, and which have resulted in the following two changes to the Project as it was described in the ESIA:

- The reinstatement and use of a temporary diversion road as an alternative to constructing and using parts of the Original Alignment road (Diversion Road) while Government of Mongolia support and assistance for dealing with traffic congestion on the Original Alignment road can be secured; and
- A modification to the Original Alignment to accommodate a Government of Mongolia direction to avoid the military base (Realignment Road).

This supplementary memorandum to the Oyu Tolgoi Mine ESIA serves to explain these alterations to the originally intended infrastructure development, and the options considered. It shows how, in both instances, the options for alternative alignments for road routes were severely constrained due to their location near or in the SGSPA.

This document goes on to describe the current status of the Diversion Road and Realignment Road. A scope of work for environmental and social studies to be undertaken to inform the assessment of the Diversion Road and Realignment Road is provided together with the method of assessment and the proposed timing.

The assessment of the potential impacts and risks will be reported in a Supplemental Appraisal that will be publicly disclosed in December 2012.

1.2 PROJECT CONTEXT

Oyu Tolgoi and the Government of Mongolia signed a Memorandum of Understanding in 2007 relating to an upgrade and long-term management of the Oyu Tolgoi mine site to Gashuun Sukhait Road (Original Alignment Road in *Figure 1*), being used at that time for local transportation and trade and to access the Mongolian-Chinese border crossing at Gashuun Sukhait. Oyu Tolgoi has used the road during the construction phase to transport materials imported from China. Oyu Tolgoi has maintained and improved the road since its initial construction by grading. In November 2011, Oyu Tolgoi commenced the planned upgrade to a national specification sealed bitumen road to be used by Oyu Tolgoi and general traffic. Once construction of the road is completed, the Government of Mongolia will assume responsibility for its maintenance and operations.

The General Authority for Border Protection has since objected to the proximity of a section of the Oyu Tolgoi to Gashuun Sukhait Road to a military installation necessitating the realignment of this section to increase the distance of the road from the military post.

Since May 2004 mine operators have transported coal from the Tavan Tolgoi coal mine, and many other smaller coal mines, to the Gashuun Sukhait border point using high volume trucks on the dirt road identified in *Figure 1* as Existing Coal Road – so named due to its heavy use by coal trucks. The informal settlement of Tsagaan Khad has become established as a coal stockpiling depot at the point where

Chinese trucks arrive from Gashuun Sukhait to transfer the coal back to the Chinese border (as only Chinese trucks are allowed to access the border). Tsagaan Khad is also the point at which the Original Alignment Road and the Existing Coal Road converge. The two roads share the same alignment between Tsagaan Khad and the border. The upgraded Original Alignment Road was planned to converge with the Existing Coal Road route.

A consortium of coal companies, led by Energy Resources (ER), has constructed a new paved road between Tsagaan Khad and Gashuun Sukhait to provide a good quality road for export of their coal with dedicated access to the border (Energy Resources Paved Road in *Figure 1*). However, a toll is payable on this paved road which means a significant proportion of the Chinese coal trucks prefer to use the Original Alignment road from Tsagaan Khad which is not tolled. In addition, the ER Paved Road also imposes weight restrictions, which further limits its use by coal trucks, many of which exceed its weight limits.

The Project has continued to face severe congestion on the section of the Original Alignment Road from Tsagaan Khad to the border, which has made access to the border increasingly difficult and dangerous for Oyu Tolgoi traffic, and has prevented construction of the operational road along this section of the Original Alignment Road. While coal trucks continue to use the Original Alignment road from Tsagaan Khad to the border, construction work on this section (including the realignment) is prevented from proceeding.

A solution was needed urgently to ensure the safe conduct of Project vehicles, so as a temporary measure Oyu Tolgoi has commenced using the Diversion Road.

A transport census undertaken by Oyu Tolgoi (see *Chapter B11 – Transport and Infrastructure* of the ESIA) indicates that coal truck traffic volumes are approximately 800 vehicle movements per day. In contrast, traffic volumes related to Oyu Tolgoi are currently very low as construction-related traffic has declined and operational traffic related to the export of copper concentrate has not yet started. During operations, Oyu Tolgoi heavy vehicle traffic is predicted to build up by Year 4 of operations (2017) to approximately 160 vehicle movements per day, depending on the vehicle configuration used. As a result, current traffic related to coal truck movements are significantly greater than Oyu Tolgoi traffic, which limits Oyu Tolgoi's ability to control non-Oyu Tolgoi traffic or the layout of roads used by non-Oyu Tolgoi traffic.

1.3 CHANGES TO THE ORIGINAL ALIGNMENT – DIVERSION AND REALIGNMENT

1.3.1 Diversion Road

Oyu Tolgoi has commenced using a temporary Diversion Road (shown as Diversion Road in *Figure 1*) as an alternative route to the section of the Original Alignment Road from Tsagaan Khad to the border, to allow for the safe conduct of Project vehicles to and from the border apart from the congested and dangerous situation created by coal trucks, and while the planned upgrade works are in progress.

This Diversion Road has been constructed between Tsagaan Khad and Gashuun Sukhait, on a single-track road adjacent to the ER Paved Road that was developed by ER for use during construction of the Paved Road. This single-track road encroaches on the Buffer Zone and the Limited Use Zone of the SGSPA.

In August 2011 the Oyu Tolgoi road construction contractor (Altain Zam JSC) submitted a request to the Mongolian Environment (MNET) SGSPA Administration and Governor of Khanbogd *soum* requesting approval to reinstate and use the Diversion Road as a means of detouring traffic during the construction of the Oyu Tolgoi to Gashuun Sukhait road. In August 2011, a response from MNET SGSPA administration 'acknowledges' reinstatement of the Diversion Road and, in the same month, MNET SGSPA Administration permitted the reinstatement and use of the Diversion Road on the specific condition that it was built on the pre-existing track and that the road will be rehabilitated once the upgrade of the Oyu Tolgoi to Gashuun Sukhait Road is completed.¹

¹ Ministry of Environment and Tourism. Administration of Protection Agency of Small Special Protection Area of Gobi. Letter signed by Director, 15 August 2011 and letter signed by Governor of Khanbogd *soum*, Omnogovi *aimag*, dated 3 November 2011.

Following an inspection of the route by specialists of Oyu Tolgoi's Environment Department to check that no significant environmental impact would result, and no undue impact on surrounding communities would occur, a Land Disturbance Permit (LDP) was issued by the Oyu Tolgoi Environment Department on 17th November 2011.²

Reinstatement of the Diversion Road started on 24 November 2011 and stopped for the winter on 15 December 2011; recommencing in March 2012. At each end of the Diversion Road there are 24-hour Oyu Tolgoi security posts with boom gates and signage that restricts access to coal trucks wishing to avoid the ER toll road. After the guard houses and boom gates were installed, the Diversion Road opened on 13 April 2012. The following vehicles are permitted to use the Diversion Road:

- Oyu Tolgoi Project freight trucks;
- Oyu Tolgoi (road) construction vehicles;
- Public and community light vehicles;
- Police authorised vehicles.

The Diversion Road will be utilised until the Original Alignment Road upgrade can be completed. However, before the upgrade of the Original Alignment Road can be progressed, an agreement between the Government and coal companies is required to ensure (and enforce) that coal trucks will exclusively use the dedicated ER Paved Road. Such an arrangement needs to resolve issues arising from the weight restrictions and toll payments. Oyu Tolgoi will then be in a position to complete the upgrade of the Original Alignment Road and rehabilitate the land taken by the Diversion Road.

1.3.2 Realignment Road

The General Authority for Border Protection objected to the proximity of a section of the Original Alignment Road to a military installation necessitating the realignment of this section to increase the distance of the road from the military post. The proposed realignment is referred to as the Realignment Road in *Figure 1*.

Options for avoiding environmental and social impacts were severely limited as a route through the mountainous area to the west of the military installation would have required blasting in an undisturbed environment to cut the elevated areas down to a grade passable for vehicles and freight. Therefore, a route to the east of the military installation was selected although it traverses the SGSPA 'B'. The selected route also runs over a previously existing diversion road/set of tracks and the additional road length through the SGSPA is approximately 3.1km.

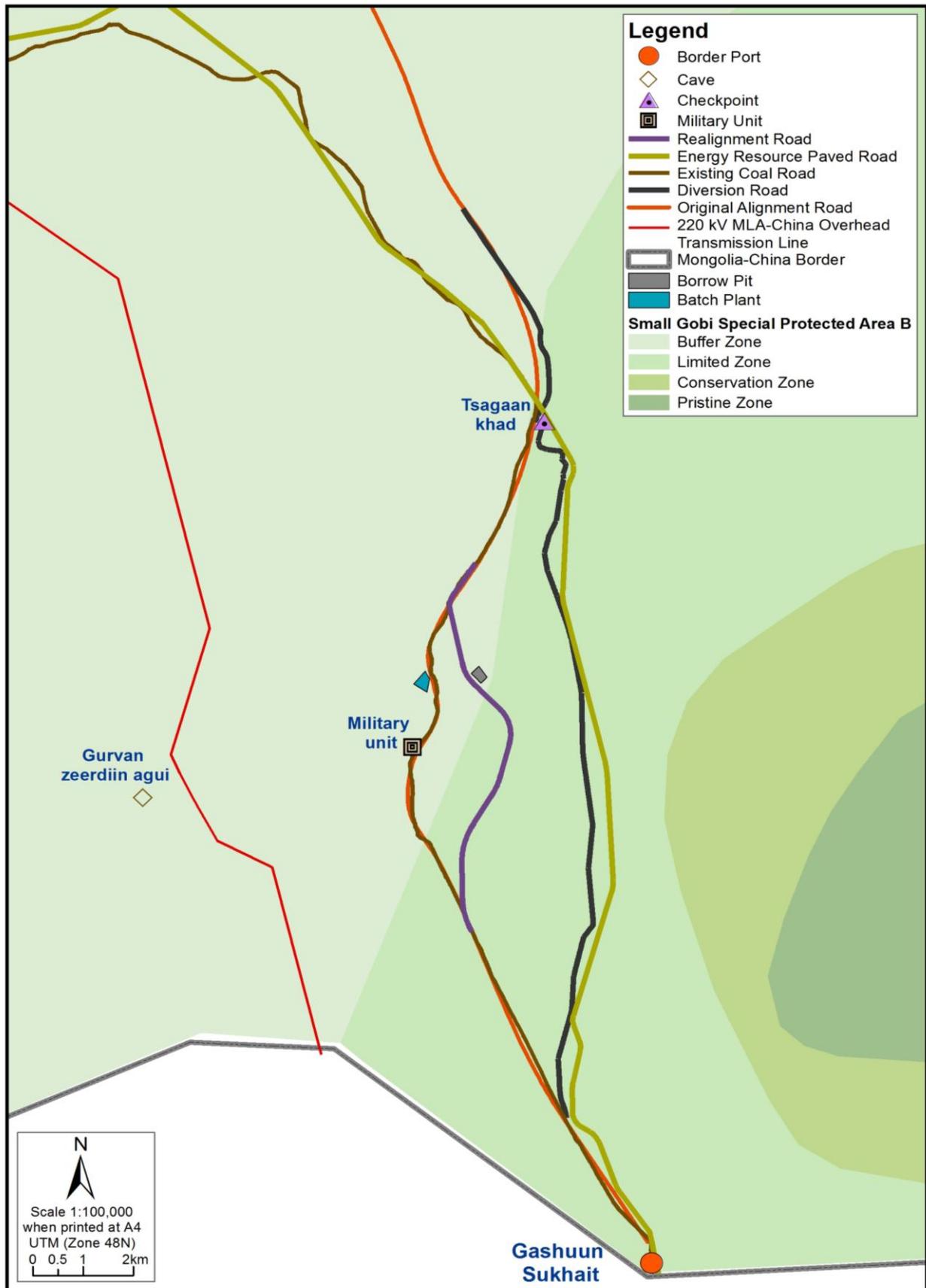
The route of the realignment was surveyed in February 2012 for cultural heritage sites and the location of herder shelters. The survey identified three heritage sites (two ethnographic sites and a tomb), a herder's winter shelter and a herder's well. An Oyu Tolgoi field worker contacted the herder in February 2012 to explain the realignment of the road; and the herder acknowledged notification of the realignment. Oyu Tolgoi issued a LDP in May 2012.³

Following the issue of the LDP, initial work commenced in preparation for road construction activities, including the marking-out of the road alignment on the ground (using small wooden stakes) and some limited topsoil movement. Outside the SGSPA, a borrow pit area has been demarcated and a temporary batch plant has been put in place but both of these facilities are currently unused awaiting resolution of the transportation issues.

² Land Disturbance Permit 111102. Oyu Tolgoi to Gashuun Sukhait Diversion Road in Zone 3. 17 November 2011.

³ Land Disturbance Permit 120508. Oyu Tolgoi to Gashuun Sukhait Road Construction Zone 3 Realignment. 25 May 2012.

Figure 1: Road Diversion and Realignment Road



1.4 CURRENT STATUS OF THE DIVERSION ROAD

When resolution is reached on the segregation of the coal trucks on to the intended dedicated road, construction of the Original Alignment Road, as modified by the Realignment Road, can be progressed to completion. Oyu Tolgoi is currently negotiating with other parties regarding the segregation of the coal trucks and other traffic so as to allow completion of the construction of the Original Alignment Road; which is necessary to provide a safe and efficient route for Oyu Tolgoi concentrate to be conveyed to the border and for the conveyance of goods imported from China. Oyu Tolgoi will provide the lenders with regular updates on progress.

The comprehensive biodiversity assessment to be undertaken between Tsagaan Khad and the border has been postponed until the issue of coal truck segregation is resolved. In the interim, a limited biodiversity assessment will be undertaken to ensure that current mitigation measures are effective and identify further mitigation measure or actions that will be required in order to reduce any potential negative biodiversity impacts.

The environmental performance of the contractor during the construction process is managed in accordance with the conditions of the LDP issued by Oyu Tolgoi to the contractor by the Oyu Tolgoi Environmental Department. Contractor compliance with the dust suppression plan for roads and borrow pits is currently being monitored, as effective dust control is a specific requirement of the LDP.⁴

The Original Alignment Road, as modified by the Realignment Road, was scheduled for completion by end 2012 (although parts of this are now scheduled to be completed in 2013). If Oyu Tolgoi closes the Original Alignment Road between Tsagaan Khad and Gashuun Sukhait to allow for safe construction in this section, it anticipates the following consequences:

- The coal trucks will attempt to use the Diversion Road, a situation which in Oyu Tolgoi's view creates an unacceptable risk to safety and would cause rapid deterioration of the condition of the Diversion Road; or
- The coal trucks will create their own paths to the border as they will not use the ER Paved Road, a situation which in Oyu Tolgoi's view creates an unacceptable risk to the environment (particularly regional biodiversity) and the community.

Given the significant risks associated with either outcome, Oyu Tolgoi has chosen not to try and close this section of the Original Alignment Road and resolution of this impasse is subject to the on-going negotiation process between Oyu Tolgoi, the coal companies and the relevant Government departments.

1.5 ENVIRONMENTAL AND SOCIAL CONSIDERATIONS

The Diversion Road and Realignment Road are within the defined Area of Influence for the Oyu Tolgoi Project; namely the area within which both direct and indirect impacts are expected to occur.⁵ A critical habitat assessment was conducted as part of the baseline studies for the Mine ESIA in order to determine the extent of, and qualifying criteria for, critical habitat relevant to the Oyu Tolgoi Project.⁶ Two units of analysis for the Oyu Tolgoi Project were assessed:

- A larger (51,415km²) unit of analysis comprising Khanbogd, Manlai and Bayan-Ovoo *soums*, and Sectors A and B of SGSPA (identified as ecologically appropriate for wide-ranging/large mammals);
- A smaller (27,375km²) unit of analysis comprising Khanbogd and Manlai *soums* (identified as ecologically appropriate for all other species, species assemblages, evolutionary processes and ecosystem services owing to potential impacts from the mine and associated infrastructure, notably potential hydrological impacts across both *soums*).

⁴ Oyu Tolgoi Land Disturbance Permit – 120508. Issued 25 May 2012.

⁵ Oyu Tolgoi Project ESIA. Section A, Chapter A1 Introduction. 2012.

⁶ TBC & FFI (2011) Oyu Tolgoi Project Critical Habitat Assessment: IFC Performance Standard 6/EBRD Performance Requirement 6. Unpublished draft report of The Biodiversity Consultancy and Fauna & Flora International, December 2011.

Based on the criteria set out in International Finance Corporation (IFC) Performance Standard 6 Paragraph 9, the Oyu Tolgoi Project Guidance Note on Critical Habitat and European Bank for Reconstruction and Development (EBRD) PR6 Paragraph 13, the entirety of both units of analysis qualify as critical habitat:

- The majority of the larger unit of analysis is Tier 1 critical habitat for Asiatic Wild Ass;
- The whole of the larger unit of analysis is Tier 2 critical habitat for Argali and Goitered Gazelle. The whole of the smaller unit of analysis is Tier 2 critical habitat for Mongolian Chesney, Short-toed Snake-eagle, granite outcrop floral communities, and four ecosystem services, namely water regulation, livestock (including pasture), biomass fuel and freshwater.

An archaeological survey of the Original Alignment transport corridor was conducted by the Institute of Archaeology Mongolia Academy of Science (MASIA) in July 2006. Artefacts found included Neolithic chips and stone tools, though the tools were found at some distance from each other indicating the absence of settlement. A fragment of the brim of an enamel surfaced porcelain vase was found, dating back to the Middle Ages (13th-14th century). In summary, there were no major archaeological resources found in the corridor and no further works were recommended.

1.6 SCOPE OF ENVIRONMENTAL AND SOCIAL STUDIES

The assessment of the Diversion Road and Realignment Road will be based on the existing baseline data contained within the Mine ESIA, supplemented where considered necessary due to limited data or previously unanticipated potential impacts.

The spatial scope for studies will be related to the potential area of influence for each aspect considered.

Environmental studies of the infrastructure corridor that comprises the Original Alignment and the 220kV power line were undertaken in 2004 and 2006 for the purpose of the Mine ESIA and are documented in the main body of the ESIA.⁷ In addition, Oyu Tolgoi specialists undertook a pre-disturbance inspection of the Diversion Road prior to the issue of the LDP in September and November 2011; and they undertook a pre-disturbance inspection of the Realignment Road in April 2012 prior to the issue of the relevant LDP.

The following additional studies are proposed to cover the Diversion Road and Realignment Road:

- **Biodiversity and Ecosystem Services** – specifically the direct and indirect loss of habitat adjacent to the roadway, the collision risk to large animals crossing the road and encroachment into the SGSPA given the use of the Diversion Road as a temporary solution to diverting traffic off the Oyu Tolgoi to Gashuun Sukhait Road during the upgrading works; soils and geology of the area; the loss of access to, or degradation of, services provided by the natural environment, particularly to herders in the area;
- **Labour and Working Conditions** – compliance with Oyu Tolgoi working conditions and health, safety and environmental (HSE) requirements by contractors, workers' accommodation standards and adherence to relevant permit conditions;
- **Cultural Heritage** – potential disturbance to cultural heritage sites in proximity to the road alignment;
- **Pollution Prevention and Resource Efficiency** – the management of waste and any spillages generated by the contractor during construction, dust control, water sources and consumption;
- **Community Health and Safety and Security** – the implementation of safety measures for the road; management of influx into Tsagaan Khad; provision of off-road facilities for emergency stoppage and rest areas;
- **Land Acquisition** – potential issues regarding the reservation of land for service roads or maintenance areas, especially within the SGSPA, will be discussed with the SGSPA

⁷ Oyu Tolgoi Project Environmental Impact Assessment, Volume I Report of Oyu Tolgoi to Gashuun Sukhait Road and Infrastructure Corridor, Environmental Protection Plan and Environmental Monitoring Plan, Eco-Trade LLC, 2004; and Oyu Tolgoi Supplementary Environmental Impact Assessment Oyu Tolgoi to Gashuun Sukhait Road and Infrastructure Corridor, 2006.

administration. The impact of the Diversion Road and Realignment Road on herders within the area will also be considered, although the resulting economics displacement is anticipated to have minimal effect.

In addition, a consultation process will be undertaken with relevant stakeholders to understand their views and issues, particularly given the location of the road within the SGSPA.

1.7 ASSESSMENT METHOD

The assessment of the Realignment Road and Diversion Road will be undertaken in accordance with the relevant International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability,⁸ and the relevant Performance Requirements of the European Bank for Reconstruction and Development (EBRD) Environmental and Social Policy.⁹ In particular, the following IFC Performance Standards will be considered:

- Performance Standard 1 - Assessment and Management of Environmental and Social Risks and Impacts;
- Performance Standard 2 - Labour and Working Conditions (including IFC/EBRD Worker Accommodation Guidelines);
- Performance Standard 3 – Resource Efficiency and Pollution Prevention;
- Performance Standard 4 – Community Health, Safety and Security;
- Performance Standard 5 - Land Acquisition & Involuntary Resettlement;
- Performance Standard 6 – Biodiversity Conservation and Sustainable Management of Living Resources;
- Performance Standard 8 – Cultural Heritage.

The following EBRD are of particular relevance to the assessment:

- Performance Requirement 1 – Environmental and Social Appraisal and Management;
- Performance Requirement 2 – Labour and Working Conditions (including IFC/EBRD Worker Accommodation Guidelines);
- Performance Requirement 3 – Pollution Prevention and Abatement;
- Performance Requirement 4 – Community Health, Safety and Security;
- Performance Requirement 5 – Land Acquisition, Involuntary Resettlement and Economic Displacement;
- Performance Requirement 6 – Biodiversity Conservation and Sustainable Natural Resource Management;
- Performance Requirement 8 – Cultural Heritage;
- Performance Requirement 10 – Information Disclosure and Stakeholder Engagement.

The assessment will also refer to the IFC General EHS Guidelines (2007).

Given the location of the Realignment Road and the Diversion Road, the relevant Mongolian legislative requirements will be followed, specifically the Law on Buffer Zones (1997) and the requirements of the Law on Special Protected Areas (1995).

⁸ International Finance Corporation. Performance Standards on Environmental and Social Sustainability. Effective January 1, 2012. International Finance Corporation, World Bank Group.

⁹ European Bank for Reconstruction and Development. Environmental and Social Policy. May 2008.

1.8 ASSESSMENT REPORT

The assessment will focus on the Diversion Road and Realignment Road, and will consolidate existing baseline information and additional studies into a single, integrated, Supplemental Appraisal to the Mine ESIA. This will include any additional management or mitigation measures necessary to manage potential impacts in accordance with Mongolian requirements and the environmental and social standards of IFC and EBRD.

The assessment will not consider any long-term solution to the issue of road traffic within the SGSPA, which is the subject of ongoing dialogue between the Government of Mongolia, Oyu Tolgoi and Energy Resources. As and when a potential long-term solution does emerge, this will be subject to an appropriate level of environmental and social assessment by Oyu Tolgoi who will seek to influence the final design to take account of environmental and social considerations.

The findings of the assessment will be fed into the Operations Phase Biodiversity Management Plan for the Project and the biodiversity impact assessment will be used to update the Project's NPI accounting, offsets management strategy and plan if required and will inform the Project's adaptive management approach for biodiversity risks and impacts.

1.9 TIMING OF ASSESSMENT

The studies are currently underway in order to meet the timeframe for the assessment to be incorporated into a Supplemental Appraisal that will be publicly disclosed by Oyu Tolgoi in December 2012.