



**REPORT OF THE:**

**INDEPENDENT  
ENVIRONMENTAL & SOCIAL  
CONSULTANT**

**OYU TOLGOI MINE  
PROJECT**



**MONGOLIA**

Site Visit: September 2015



*Prepared by:  
D'Appolonia S.p.A.*

*Prepared for:  
Senior Lenders Group*

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INDEPENDENT ENVIRONMENTAL & SOCIAL CONSULTANT**

**ENVIRONMENTAL & SOCIAL  
COMPLIANCE MONITORING**

**OYU TOLGOI MINE PROJECT**

Mongolia

Site Visit: September 2015

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## Acronyms

<b>AEMP</b>	Atmospheric Emissions Management Plan
<b>AQMP</b>	Air Quality Monitoring Plan
<b>BAP</b>	Biodiversity Action Plan
<b>BMEP</b>	Biodiversity Monitoring and Evaluation Programme
<b>BMP</b>	Biodiversity Management Plan
<b>BRMP</b>	Business Resilience Management Plan
<b>CAO</b>	Compliance Advisor Ombudsman
<b>CBMP</b>	Core Biodiversity Monitoring Plan
<b>CH</b>	Cultural Heritage
<b>CEO</b>	Chief Executive Officer
<b>CHMP</b>	Cultural Heritage Management Plan
<b>CHP</b>	Central Heating Plant
<b>CHSSMP</b>	Community Health, Safety & Security Management Plan
<b>COS</b>	Coarse Ore Stockpile
<b>COO</b>	Chief Operating Officer
<b>CSETS</b>	Community and Stakeholder Engagement Tracking System
<b>CSP</b>	Communities and Social Performance
<b>CSP MS</b>	Communities and Social Performance Management System
<b>CWG</b>	Compensation Working Group
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>EC</b>	Electrical Conductivity
<b>ECAs</b>	Export Credit Agencies
<b>EDC</b>	Export Development Canada
<b>EFIC</b>	Export Finance and Insurance Corporation
<b>EHT</b>	Elected Herder Team
<b>EPRP</b>	Emergency Preparedness and Response Plan
<b>ER</b>	Employee relation
<b>ERM</b>	Environmental Resources Management
<b>ERP</b>	Emergency Response Plan
<b>ERT</b>	Emergency Response Team
<b>ESAP</b>	Environment and Social Action Plan
<b>ESIA</b>	Environmental and Social Impact Assessment
<b>FFI</b>	Fauna & Flora International
<b>GHGs</b>	Greenhouse Gas Emissions
<b>GIIP</b>	Good International Industry Practice
<b>HR</b>	Human Resources
<b>HSE</b>	Health, Safety and Environment
<b>HSE MS</b>	Health, Safety and Environment Management System
<b>IA</b>	Investment Agreement
<b>IESC</b>	Independent Environmental and Social Consultant
<b>IEP</b>	Independent Expert Panel
<b>IFC</b>	International Finance Corporation
<b>IFIs</b>	International Financial Institutions
<b>IMP</b>	Influx Management Plan
<b>IOM</b>	International Organisation for Migration
<b>ITRB</b>	Independent Technical Review Board
<b>IWRC</b>	Interim Waste Recycling Center
<b>KCB</b>	KlohnCrippen Berger, Ltd.
<b>KPI</b>	Key Performance Indicator
<b>LBAP</b>	Lender Biodiversity Action Plan
<b>LDCRMP</b>	Land Disturbance Control and Rehabilitation Management Plan

<b>LDP</b>	Land Disturbance Permit
<b>LMP</b>	Labour Management Plan
<b>LTJ</b>	Lost Time Injury
<b>LTIFR</b>	LTI Frequency Rate
<b>LUIP</b>	Land Use Implementation Plan
<b>LUMP</b>	Land Use Management Plan
<b>MAPU</b>	Mobile Anti-Poaching Units
<b>MAT</b>	Multi-Agency Team
<b>MDT</b>	Multi-Disciplinary Team
<b>MEGD</b>	Ministry of Environment and Green Development
<b>MIGA</b>	Multi-lateral Guarantee Agency
<b>MLA</b>	Mine License Area
<b>MoC</b>	Management of Change
<b>MoH</b>	Ministry of Health
<b>MUST</b>	Mongolian University of Science and Technology
<b>MWMP</b>	Mineral Waste Management Plan
<b>NAF</b>	Non-acid forming
<b>NAMEM</b>	National Agency of Meteorological and Environmental Monitoring
<b>NPPC</b>	Native Plant Propagation Centre
<b>NPI</b>	Net Positive Impact
<b>OMP</b>	Offsets Management Plan
<b>OT</b>	Oyu Tolgoi
<b>OT-GS</b>	Oyu Tolgoi – Gashuun-Sukhait
<b>OT-KB</b>	Oyu Tolgoi – Khanbogd
<b>PAF</b>	Potentially acid forming
<b>PEM</b>	Participatory Environmental Monitoring
<b>PR</b>	Performance Requirement
<b>PS</b>	Performance Standard
<b>RAP</b>	Resettlement Action Plan
<b>RECB</b>	Research and Experiment Center for Boilers
<b>RFDS</b>	Royal Flying Doctor Service
<b>RT</b>	Rio Tinto
<b>RTBS</b>	Rio Tinto Business Solutions
<b>SC</b>	Standard Chartered Bank
<b>SEA</b>	Sustainability East Asia LLC
<b>SEP</b>	Stakeholder Engagement Plan
<b>SHCF</b>	Stakeholder Coordination Function
<b>SOW</b>	Scope of Work
<b>TBC</b>	The Biodiversity Consultancy
<b>TDS</b>	Total Dissolved Solid
<b>TMP</b>	Transport Management Plan
<b>TPD</b>	Tonnes per day
<b>TSF</b>	Tailings Storage Facility
<b>UG</b>	Underground
<b>US EXIM</b>	Export-Import Bank of the United States
<b>WCS</b>	Wildlife Conservation Society
<b>WMC</b>	Waste Management Centre
<b>WMP</b>	Water Monitoring Plan
<b>WRD</b>	Waste Rock Dump
<b>WRMP</b>	Water Resources Management Plan

## 1 EXECUTIVE SUMMARY

The Oyu Tolgoi Project (“the Project” or “OT Project”) is a world-scale copper/gold mine located in Khanbogd soum<sup>1</sup> of Ömnögovi aimag, in the South Gobi region of Mongolia, approximately 600 km south of the capital city, Ulaanbaatar, and 80 km north of the Mongolia-China border. The mineral resources consist of a series of deposits containing copper, gold, silver and minor amounts of molybdenum. The project is being developed by Oyu Tolgoi LLC (the “Project Company” or OT), a joint venture between Turquoise Hill Resources (66 per cent) and Erdenes Oyu Tolgoi (34 per cent), a company wholly owned by the Government of Mongolia. Rio Tinto (RT) is a major shareholder in Turquoise Hill Resources and since 2010 is formally managing the Project on behalf of all shareholders. The Project comprises the operation of an existing open pit copper/gold mine and associated ore processing operation as well as the development, construction, operation and financing of an underground copper/gold mine.

Since September 2013, D’Appolonia S.p.A. (D’Appolonia), located in Genoa, Italy, has been appointed to act as the Independent Environmental and Social Consultant (IESC) on behalf of the Senior Lenders<sup>2</sup> group planning to provide financing for the OT Project.

The key role of the IESC is to conduct periodic visits to the Project in order to:

- assess the level of conformance/non-conformance of the Project with the Operational Environmental and Social Management Plans and the underlying monitoring plans and procedures, as necessary, to verify that OT is implementing the actions/commitments embedded in the plans;
- verify that the activities are carried out consistent with the environmental permits as listed in the Environmental and Social Impact Assessment (ESIA);
- provide professional recommendations relative to Good International Industry Practice (GIIP)<sup>3</sup>, if any identified; and
- identify specific issues, and conduct follow-up and closure of findings and observations identified in the April 2015 IESC Interim Audit Report<sup>4</sup>.

This report details the findings of the IESC site visit conducted between the 15<sup>th</sup> and 19<sup>th</sup> of September, 2015. The main purpose of the visit was to provide an external monitoring evaluation of OT activities with a focus on health, safety, environment and social aspects and to monitor conformance with the environmental and social commitments made for the project operation phase that began in July 2013. The commitments made by the Project for environmental and social management are integrated in the OT HSE Management System and documented in the Operational Phase Management Plans which define OT’s environmental and social commitments during the project operational phase and have been signed off by the previous IESC<sup>5</sup> as “Fit for Purpose”. The Operational Management Plans are under review by OT to reflect the latest status of mine operation and are progressively submitted to the Lenders and the IESC for review to the extent finalized. An additional document of reference is the Environmental and Social Action

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<sup>1</sup> In Mongolia, a soum is a second-level administrative subdivision. There are currently c.300 soums in Mongolia

<sup>2</sup> The Senior Lenders group includes: the International Finance Corporation (IFC), the European Bank for Reconstruction and Development (EBRD), Export Development Canada (EDC), Export-Import Bank of the United States (US EXIM), Export Finance and Insurance Corporation (EFIC), the Multi-lateral Guarantee Agency (MIGA), Standard Chartered Bank (SC) and BNP-Paribas.

<sup>3</sup> Good International Industry Practice (GIIP) as defined in the April 2007 IFC EHS General Guidelines as “the exercise of professional skill, diligence, prudence and foresight that would be reasonably expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally...”.

<sup>4</sup> D’Appolonia, “Independent Environmental & Social Compliance Monitoring Report – April 2015 Interim Audit Report”, dated August 2015.

<sup>5</sup> Environmental Resources Management (ERM) was engaged to act as the Independent Environmental and Social Consultant (IESC) for the period August 2010 – April 2013 to support the Senior Lenders in assessing that the Project’s Environmental and Social Impact Assessment (the “ESIA”) and Construction Phase Environmental and Social Management Plans (the “ESMPs”) were in compliance with the various Senior Lender Environmental and Social Standards (“E&S Standards”).

Plan (ESAP) prepared to define gaps with Lender standards which require time-bound commitments. At the time of this audit some of these gaps were already completed and closed and the ESAP is being revised.

The Operational Management Plans as originally disclosed were prepared considering the development of open pit and underground mines. As documented in previous IESC reports, suspension in the underground mine development has occurred. Over this period various Operational Management Plans have been updated to reflect changes to the original OT project scope and activities, and continue to address underground mine development. As presented in Section 4.2.4 of this report, material changes in the ESIA and Operational Management Plans have been subject to Management of Change procedures, and most proposed changes have been approved. Those proposed changes that remain under review do not relate to the underground mine development, and are anticipated to be resolved. In the IESC's view, the delay in underground mine development and approved changes to the OT project scope and plans as cited in Table 4.1 have not impacted the ability of OT to meet the project requirements and Lender standards as cited in the Operational Management Plans.

Based on the above and upon the review of the additional environmental, social, health and safety documentation provided by OT and the outcomes of the September site visit conducted by the IESC, D'Appolonia confirms that the Project is in substantive compliance with Lender requirements, apart from with respect to IFC PS6/ EBRD PR6. On the basis of evidence to date, the Project's implementation of its commitments and plans for biodiversity and the resources allocated are not commensurate with the level required for assurance of a net positive outcome for species with critical habitat affected by the Project. There are discussions ongoing between the IESC, Lenders and OT to address these aspects (see footnote<sup>6</sup>). Key findings identified as part of the IESC periodic audits are presented in the Issues Table (Section 3 of the IESC report). These are being addressed by the Project through on-going corrective actions whose status and progress is regularly monitored as part of IESC monitoring visits.

The information included in this report is based on the review of the most recent environmental, social, health and safety documentation/data associated with Project since the last IESC report (April 2015), on the observation made in the field and on the results of interviews with Project personnel conducted during the visit.

The main observations of this field visit are summarized as follows.

## **1.1 ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM**

The Environmental and Social Management System provides for administering the project and meeting the Project Standards, the laws and regulations of Mongolia, permit conditions, Investment Agreement of 6 October 2009, as well as the environmental, health & safety and social policies, standards and requirements

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<sup>6</sup> OT disagrees with the IESC opinion, specifically related to non-compliance to IFC PS6/EBRD PR6 and has provided the following statement in response:

*"Oyu Tolgoi (OT) welcomes the IESC's monitoring visit report conclusion that OT is in substantive compliance with Lender requirements. Whilst there are some non-conformances related to biodiversity noted in the IESC's monitoring visit report, OT maintains that these do not make the project substantively non-compliant to IFCPS6/EBRD PR6. OT considers that its activities, plans and resources are commensurate for implementing and achieving our biodiversity related commitments.*

*OT considers that biodiversity is a very important issue and, accordingly, since the date of the monitoring visit OT have further agreed a revised biodiversity action plan with lenders to support ongoing compliance and proactively address this issue. Key elements of the action plan include the following:*

- (i) the establishment of a scientific advisory panel to provide independent opinion on the road mitigation strategy (with public disclosure of findings);*
- (ii) recruitment of additional biodiversity expertise (to supplement the existing resourcing);*
- (iii) the establishment of a sustainable mechanism for long-term offsets financing prior to the date of Project completion (previously agreed and now with a specified timeframe); and*
- (iv) an Offsets Management Plan (OMP), with updated timeframe and required inclusions, reflecting these commitments which will be developed and implemented, including updated Net Positive Impact accounting to correspond with the OMP. OT has further agreed that the final draft OMP to be developed will be submitted for IESC and Lender review, and Lender approval, along with the updated NPI accounting corresponding with the Final draft OMP, as a condition of disbursement."*

of the IFC and EBRD. The management system includes planning, operations, reporting checks, and review elements with a focus on continual improvement. Specific operating plans define the project commitments, key performance indicators and monitoring parameters, and reference specific implementation documents. Also included in the system is a Management of Change (MoC) process, which has been implemented by the Project to address modifications of project plans and commitments, as discussed in associated sections of the report. Some of these have been accepted by the Lenders, while others that have not been accepted are the subject of workshops and ongoing review and monitoring to reach resolution.

## **1.2 WATER AND WASTEWATER MANAGEMENT**

OT has implemented the Undai River Partial Adjustment and Protection project as a result of being unable to implement the full Undai Diversion as described in the ESIA. A long-term delay in issuing a Land Use Permit prohibited OT from constructing aspects of the Undai River Diversion project that was to take place outside of the fenced Mine License Area (MLA). A detailed water review was undertaken in November 2014 to assess available hydrogeological data related to system performance of the Undai River Partial Adjustment and Protection project. The detailed water review did not identify a risk of significant impact to groundwater resources as a result of the current system. Notice of Change 2015-005 acknowledges that the Undai River Partial Adjustment and Protection Project maintains continuity of groundwater flow and is serving as a valid interim mitigation. Final configuration of the Undai River Diversion is pending outcome of discussion within a newly formed Tripartite Consultative Committee (TPC). This committee includes 15 representatives from the Elected herder Team (EHT), Khanbogd (KB) government and OT.

Evidence exists of exploration bores interconnecting hydrogeological units within the Gunii Hooloi borefield. Sealing of five known interconnecting bores outside of the MLA is currently under evaluation by a workgroup established with the Khanbogd soum. Best efforts are being made by the project to progress the sealing of these interconnecting bores. The Water Monitoring Plan (WMP) and the Water Resources Management Plan (WRMP) discuss additional studies and efforts that will be undertaken by OT to address commitments made in these plans. Erosion monitoring now takes place and a general hydrogeologic consulting assistance contract has been issued to assist in review of monitoring results, QA/QC assurance, and the oversight of supplementary monitoring bore installation. Although some additional monitoring bores have been installed during the 2015 field season the completion of all supplementary monitoring bores, as discussed in the WMP, has not yet taken place. OT anticipates completion of all supplementary monitoring bores in the 2016 field season.

## **1.3 MINERAL WASTE MANAGEMENT**

Mineral waste management associated with the Open Pit, Waste Rock Dump (WRD), and Tailings Storage Facility (TSF) is continuing under the Project strategy. Waste rock stockpiled or placed in dumps is subject to segregation of potentially acid forming (PAF) materials from non-acid forming materials, and monitoring under the geotechnical ExPit program and WMP. Combustion ash from the Central Heating Plant is treated as PAF material and disposed in an inert waste pit which will become part of the South Dump WRD.

Tailings from the Concentrator are pumped to the TSF for disposal and recovery of process water. Cell 1 of the TSF continues to be operated, with construction of embankments to provide for projected tailings deposition into 2016 with the required design freeboard to accommodate flood storage. Tailings slurry density and beach slope within the TSF remain improved as a result of improved thickener operation. Reclaim water management within the TSF has been effectively managed by the barge pump station, resulting in shallow water depths and limiting the extent beyond the reclaim pond. Seepage emanating from the toe areas in the northeast section of the TSF is within design estimates for the facility, and is being monitored. Water quality within the tailings reclaim pond and seepage contains generally high concentrations of TDS and salts, and low levels of metals (with the exception of selenium). Consistent with the TSF design, seepage water is collected and pumped back to the TSF for recovery to the Concentrator.

An update to the TSF feasibility study is being completed along with further engineering, design and technical reviews for crest raising of Cell 1, planning for Cell 2, and further TSF expansion for the mine life.



## 1.4 NON-MINERAL WASTE MANAGEMENT

The Project continues to implement the waste management strategy defined in the relevant Operational Management Plans and related operating procedures. The effort to identify off-site recyclable options continues and viable solutions have been identified for selected waste categories. The process to remove the residual waste accumulated during construction at the Interim Waste Recycling Center (IWRC) is progressing. OT has completed two water monitoring bores down-gradient of the facility and started monitoring of water quality to identify possible contamination. All wastes generated at site continue to be disposed at the new Waste Management Center (WMC) where they are either incinerated, buried in the disposal pits or temporarily stored before recycling. During the visit the IESC observed that some oily drums were improperly stored on a geomembrane liner with holes and evidence of leaks at the WMC. Although in the IESC view this is not a situation that represents a potential environmental concern given the remoteness of the site, these drums should not have been sent to the WMC as the facility is not designed to store used oil. Rather, these drums should have been sent to the designated collecting areas at the truck or the Gobi shops. If there are plans to send this type of waste to the WMC, even as a temporary solution, a properly designed storage area should be built.

## 1.5 AIR QUALITY

Historically there has been significant dust generation at the coarse ore stockpile (COS) facility. As mitigation a foam dust suppressant system (surfactant system) has been installed. This has resulted in reduction of ambient environment TSP concentrations by over 80% although particulate monitoring results continue to exceed the Project Standard. The OT Concentrator Operations department is contracting with the supplier of the dust foam suppressant to identify further mitigations that can be implemented. The supplier was on site on October 2015 to review the dust problem in the stockpile and will prepare a report that will be sent to OT by end of November 2015. Under consideration is the use of a polymer to create a “crust” on areas near the ore stockpile.

The ambient air monitoring network available on site requires improvement to meet commitments made in the AQMP and to monitor ambient air quality relative to Project Standards. An equipment specification list has been developed by a third-party contractor to ensure purchased materials are capable of meeting AQMP requirements. A capital expenditure request to purchase this equipment was denied in March 2015. It is now estimated that this equipment will be procured and installed in 2016.

The Central Heating Plant (CHP) currently lacks monitoring equipment to allow direct sampling of stack emissions in conformance with the monthly periodicity identified in the AEMP. To address this OT has executed a contract for a third party vendor to perform monthly stack testing at the CHP, incinerator, and coal-fired boilers at the Khanbumbat (OT) airport. Sampling at the CHP shows persistent exceedences of Project Standards for NO<sub>x</sub>, SO<sub>2</sub>, and particulate matter.

Emissions quality of the CHP has been a persistent issue and OT is planning an internal review of the whole system, including monitoring procedures, by the Asset Management Group. Options to improve emissions quality include boiler “tune out” during the light summer load and modifications to boiler air flows. Additional monitoring equipment may be procured. In summary it is expected that the OT internal review will provide solid information to address the quality of CHP stack emissions.

An October 2014 site visit by the manufacturer of the project incinerator noted inappropriate after-market modifications and operational practices. Recent monitoring results indicate emissions are not meeting Project Standards, which the incinerator has been designed to meet. It is likely the incinerator is not achieving the designed combustion temperature of 1000 degrees Celsius. The unit manufacturer has been scheduled to visit the OT site in December 2015. It is expected that this visit will lead to recommendations for modifications that would lead to improved incinerator performance.

OT records greenhouse gas emissions (GHGs) and reports a total of 1,353,805 tonnes CO<sub>2</sub> (eq) generation in 2014, of which over 80% of GHGs generated were related to the purchase of electricity. GHG reduction and energy efficiency improvement opportunities were identified and implemented by OT with other measures under consideration.

## **1.6 EMERGENCY PREPAREDNESS & RESPONSE**

The Emergency Response Team operating under the Emergency Preparedness and Response Plan (EPRP) has updated the Business Resilience Management Plan (BRMP), and updating or preparing emergency response procedures to address potential incidents specific to Project areas/departments where high and critical risks exist. A reformatted draft TSF Emergency Response Procedure has been prepared under the new BRMP and incorporating input from the Communities team. When completed, it should address downstream impacts and emergency response coverage area beyond the mine, including detection, notification, response steps, communication and community awareness, training and exercises, and plan administration.

The Underground Emergency Response Plan was updated in July 2015 and submitted to the Ministry of Mines, incorporating care and maintenance activities, including inspection, equipment maintenance, and ground control.

## **1.7 TRANSPORT MANAGEMENT**

Control over transport vehicles for concentrate to the border is effectively managed as shipments have been relatively steady over the period of May through August. Traffic monitoring and reporting has been implemented and is continuing in support of wildlife road crossing evaluations. Induction, Communities and Environment Awareness training programs are being maintained for contractors and OT personnel.

## **1.8 ECOLOGICAL MANAGEMENT AND BIODIVERSITY**

OT's revised Biodiversity Management Plan (BMP) has been through several reviews and updates and is now up to date and fully aligned with the OT Management System. Notices of Change 2014-006 and 2014-007 were re-submitted in June 2015. They included some revisions agreed by OT and the Lenders and others that were not agreed and are under review. The key topic under discussion is OT's mitigation strategy for potential barrier effects on ungulate species associated with the OT – GS road, as OT's proposed revisions to the BMP fail to provide sufficient assurance that ESIA commitments would be met. An adaptive approach is considered acceptable so long as it is underpinned by monitoring and allows for corrective action to be triggered both by traffic-thresholds and by evidence of reduced crossing frequencies or avoidance behaviour. As agreed following discussions with Lenders in November 2014, OT needs to develop a robust mitigation and monitoring strategy with a plan in place to resource mitigation measures should they be triggered.

Now that the BMP is established and fully operational, a review of the Lender Biodiversity Action Plan (BAP) is timely. This will provide an opportunity to identify any updates needed and incorporate clear commitments to mitigation of transport impacts. During the September IESC visit, Lenders and OT agreed that the Lender BAP would be reviewed, updated and removed from the BMP to become a stand-alone document, to be disclosed annually..

OT has developed a strong monitoring programme to provide the evidence base for its efforts towards a net positive impact on biodiversity in the South Gobi, however a comprehensive Biodiversity Monitoring and Evaluation Plan is overdue. This plan needs to allow outcomes for the full range of priority species and species with critical habitat affected by the Project to be accounted for as the monitoring programme evolves, with annual reporting. OT has removed some monitoring indicators for critical habitat qualifying values from its current monitoring programme, notably argali and short-toed snake eagle. It is accepted that short-toed snake eagle can be monitored as part of a wider raptor assemblage (and the same may be true for Saker falcon, which should be incorporated additionally into the monitoring framework). Outcomes for argali need to be explicitly addressed and appropriate indicators may need to be re-introduced into the 2016 programme.

OT's biodiversity consultants have used results of the pilot "Core Biodiversity Monitoring Programme" to update the net positive impact forecast for the South Gobi Region and develop options for a biodiversity Offset Management Plan (OMP). A menu of options for implementing biodiversity offsets and mitigating power line impacts is presented which OT is now assessing as the basis for its final OMP.. A costed programme is needed as a basis for proactive discussion with stakeholders so that tangible progress can be made towards biodiversity gain at a regional level.

The OT Project has a large infrastructure footprint on natural and critical habitat and is required to comply with national and local government requirements for rehabilitation as well as Lender requirements for No Net Loss outcomes in natural habitat. Accordingly, OT has developed a new Land Disturbance Control and Rehabilitation Management Plan (LDCRMP) and associated Biological Rehabilitation Procedure. When finalised on the basis of IESC and Lenders comments, these will form part of an integrated and improved package of procedures related to land disturbance control, technical and biological rehabilitation, meeting Lender requirements for a “Land Use Implementation Plan” or equivalent. However OT’s current approach to planning and management of land disturbance control and rehabilitation is considered to lack the strategic approach needed to ensure that impacts on natural and critical habitat are appropriately avoided. The approach is reactive and potentially places priority biodiversity features at risk (notably priority plant species). This shortcoming needs to be addressed in OT’s overall management system and a proposed approach presented in the finalised LDCRMP. To support an improved approach, current gaps in baseline data for priority plants need to be filled so that the locations where they occur can be better avoided. This is particularly important for species on the Mongolian Red List that have not yet been propagated successfully in the Native Plants Propagation Centre.

OT’s Native Plant Propagation Centre, its efforts to develop stocks of propagules for biological rehabilitation and its rehabilitation programme are examples of OT’s commitment to effective biological rehabilitation in sensitive desert environments. There was little experience or information to build on and OT has worked hard to address key gaps in knowledge of South Gobi vegetation and associated challenges for rehabilitation. It is important that these efforts continue and that best use is made of the results, by ensuring resources are available for the research and follow-up needed to ensure that rehabilitation efforts are channelled into the most effective methods. This is also needed to feed into engagement with local and national government regarding rehabilitation requirements and to manage expectations regarding reasonable timeframes for achieving final outcomes in challenging environments. There are some situations where delay in biological rehabilitation and/or the field trials needed to develop effective methods could compromise chances of a successful outcome. An example is delay in planned trials to inform reclamation of the WRD final slopes and surfaces.

OT has now developed a draft biodiversity-related stakeholder engagement plan through the Ecosystem Services Group. The Group completed a stakeholder mapping exercise and identified priorities for engagement as a basis for developing the initial plan. A more detailed programme of specific engagement activities and events is now required to take this forward. Stakeholder engagement has been identified as a key component of consultant recommendations regarding participatory monitoring, implementing biological rehabilitation and gaining support for OT’s biodiversity OMP and a proactive approach is needed. OT’s plans for managing and monitoring impacts on critical ecosystem services still need to be finalised, but considerable progress has been made since the last IESC visit.

OT committed to maintain a technical biodiversity advisory position under the Lender BAP (item 20) but has merged this role with that of “Manager, Environment and Biodiversity”, reducing available capacity. Given the complexity of biodiversity issues to manage and the challenge of developing a biodiversity offset policy that meets ESIA commitments and aligns with Government policy, a dedicated role is considered critical to ensure compliance with Lender requirements and the project’s overall Net Positive Impact (NPI) commitments.

## 1.9 LABOUR & WORKING CONDITIONS

As of the 31 August 2015 there were 6,044 workers at the OT operation including those employed by OT LLC and contractor companies. The total workforce comprises 95% Mongolian nationals. There has been a reduction in workforce due to the end of fixed term contracts and the reduced need for catering and cleaning services staff at OT site. Employment numbers from Umnogobi are 1,199<sup>7</sup> in total which is down slightly from 1,361 in March. Employees from Khanbogd have also reduced slightly from 703 in March down to 650<sup>8</sup> in August. Although the numbers have reduced, more than 20% of the workforce still comes

<sup>7</sup> OT LLC-382 and contractors-817 = 1,199 workers in total from Umnogobi.

<sup>8</sup> OT LLC-382 and contractors-268 = 650 workers in total from Khanbogd.

from the South Gobi. Good progress has been made recently on embedding local recruitment processes through the establishment of branch offices of several contractor companies in Khanbogd *soum*. OT recently disclosed detailed data on Umnugobi employment figures and have also started to answer frequently asked questions on recruitment, employment and training in the community newsletter. Planning for UG construction is still in the early stages and therefore was not assessed as part of this audit. In the period from March to August 2015 a total of 9 employee complaints were raised through Speak Out; three are closed and the others are under investigation. This is a similar level to previous periods and remains low overall for the workforce size. An issue of concern was raised by the Trade Union about the non-delivery of awards/gifts for the recognition of long-service as defined under the Collective Agreement. It is understood that OT is aware of this issue and at the time of the audit had reached internal approval to provide these gifts (of monetary value but not cash) retrospectively to all those eligible. It is important that this situation is expediently addressed. There are still some concerns about a small number of national workers who travel significant distances on their week off, some of whom are reportedly overnighing at UB airport. The IESC encourages further investigation by OT; to determine if additional assistance is warranted to ensure safe and affordable transfer of workers between home and site.

Significant progress was made by OT to implement enhanced HR/ER performance audits of contractors since the last IESC review. The audit protocol has been improved to include further HR/ER checks, a detailed audit schedule is being implemented and several audits have already occurred. Some minor areas for improvement were noted including ensuring that corrective actions can be tracked and closed out and identifying priority actions to be implemented before the next annual audit (e.g., those required to meet Mongolian Labour Law). OT should also review the audit schedule to ensure contractors with more significant potential HR/ER risks are subject to physical rather than desk-top audits.

A temporary camp has been established for OT-GSK road construction with capacity for around 350 beds. There were some issues with running water at the time of the audit and the camp was closed temporarily and the current residents moved to OT site. The road construction contractor has been instructed to remedy this issue by OT. The new contract has been signed with Jiayou and includes regular audits of the Huafang transport worker accommodation in China. Improved standards for worker accommodation were included in the contract but there were some key areas missing (e.g., regarding beds per room, quantity of ablutions etc). The first audit of this facility had not been completed at the time of the IESC review and now needs to be expedited.

#### **1.10 RESETTLEMENT, COMPENSATION AND LIVELIHOODS IMPROVEMENT**

Implementation of the corrective action plan from the Completion Audit is well advanced; there are only minor actions still to be implemented. With the exception of one family who is in the vulnerable people program, the resettled households are considered to have restored or improved their livelihoods and standards of living. All resettled herders will continue to be part of the Khanbogd-wide herder program being implemented by OT.

A shortlist for the multi-disciplinary team (MDT) study of herders in Khanbogd has been identified and the new Tripartite Council expects to award the work before end 2015. The outcome evaluation for affected herders is still being planned as part of this study. It is positive that this process will be managed by the council, but the IESC notes that it will need to be very carefully managed to ensure it stays focused on the main objectives; which are to assess the outcomes for affected herders to date and identify tangible corrective actions to resolve any identified shortcomings. The scope is open to interpretation in some places and has the potential to present significant risks to OT if not well understood.

All one-off entitlements have been delivered to directly affected herders under the economic displacement program. Education support and scholarships for children are ongoing. There continues to be good participation by directly affected herders in OT community programs. Employment support training was recently provided to 12 members of directly affected herder families.

Significant further progress has been made by OT since the last site visit in terms of supporting herder economic development. Some of the notable achievements include supporting cooperatives to implement camel and sheep shearing services, animal health disinfection services, environmental rehabilitation works and a baby wool combing project. A women's cooperative was also established to produce felt products and handicrafts. A total of 9 new herder cooperatives have been recently established with OT support. The

previous non-conformance regarding herder livelihoods has been closed. Nevertheless, as many of these cooperatives/businesses are still in their infancy, ongoing support will be required from OT and their cooperative training partners.

The first rangeland management plan workshop was facilitated by Nutaag Partners between OT and the Khanbogd government. The aim is to have a series of discussions with the *soum* to define how to implement recommendations from the participatory rangeland monitoring program and how OT can support the Khanbogd government to prepare their rangeland management plan.

Demonstrable advances have been made on the vulnerable herder program since the last site visit. A time bound and costed plan is now in place and delivery of support measures is well underway. The vulnerable households met had demonstrably benefited from the recent support provided by OT (e.g., restocking, participation in felt handicraft production, access to credit etc) and although some measures are still being implemented the previous non-conformance can be closed.

The RAP update has been finalised. OT has addressed the comments received by the IESC/Lenders and the revised RAP is well prepared and fit-for-purpose for this phase of operations and post-displacement activities. This satisfies the ESAP commitment to Lenders to revise the RAP.

### 1.11 STAKEHOLDER ENGAGEMENT

The IESC visited a range of stakeholders in Khanbogd as part of this visit including local authorities, Tripartite Council representatives, vulnerable families, herder households, herder and other cooperative members, local contractors and local/national workers. The CSP team has now finalised the Community and Stakeholder Engagement (CSE) guideline designed to complement the SEP operational management plan. This guideline has been used to assist OT teams to develop detailed engagement plans on specific topics of importance and/or interest to local stakeholders. The SEP operational management plan is also scheduled for revision and it will be important for this update to include recent advances and changes in local engagement, e.g., Tripartite Council, Community Interaction Centre.

The Undai River engagement plan has now been finalised and is a comprehensive action plan to engage herders and others on the diversion project and Bor Owoo spring location. This non-conformance is now closed. Upcoming priorities for Undai engagement include reaching agreement on the new Bor Owoo Spring location and rehabilitation of wells/springs in to offset changes to the Undai River system. Other issue specific plans in draft include one for ecosystem services/biodiversity and UG construction.

Engagement with the Elected Herder Team (EHT) has formally transitioned to the Tripartite Council. The Tripartite Council has been officially sanctioned and the governance arrangements are robust. It will meet every 2 months or more if required; three meetings have been held to date. The council has the potential to be an effective engagement forum for joint herder/*soum*/OT activities if operated as intended. There have already been a number of successes for the council in agreeing and implementing joint activities. The council does not replace direct herder household engagement which continues on a daily basis.

The Tripartite Council is overseeing the MDT study which aims to deal with past herder complaints to the CAO.

Community consultations with Javkhlangt bagh residents were conducted prior to the start of OT-GSK road construction in Zone 3.

Cooperation Agreement consultations are ongoing and a range of events will be held locally to share information about the operation of the agreement and collect proposals from communities for the initial allocation of the “Gobi Oyu” Development Support Fund (DSF). A total of 340 community members have participated in OT site tours year to date.

The Open Day (also known as the “town hall meeting”) was held in July together with a Contractor’s Fair. There were more than 250 in attendance at the open day and more than 500 at the contractor’s fair. Feedback from participants was favourable and a total of 15 persons from Khanbogd secured employment with contractors from 34 open positions advertised.

The Community Interaction Centre (CIC) in Khanbogd was opened in May 2015. This has given a boost to way in which OT can disclose information in Khanbogd and provides residents a more passive way to

obtain information in their own time. There is a model of the OT site and samples of different ore on display amongst other things. There is an opportunity to improve further the range of materials presented in the CIC, e.g., posters, procurement opportunities, cultural events etc. There are several rooms available in the CIC and these have already been used to host around 15 local events with approximately 800 visitors.

A total of 11 community grievances were received between April and August 2015 and all of these are resolved. The most common types of complaints continue to be environmental (dust, water, pollution) and those related to road construction (road litter, animal injury). Analysis of complaints overtime showed that human resources complaints were most repeated and in response OT organised several actions including having the HR manager work in Khanbogd for several days to meet local workers/prospective workers. Two complaints about herder livelihoods or compensation were received in this period and they were also resolved. The overall number of complaints is low for the size of the operation.

### **1.12 REGIONAL AND COMMUNITY DEVELOPMENT**

The water source, water supply main, the distribution network across the *soum* centre and its supporting facilities construction bulk water supply project with ADB has been started in Khanbogd. OT has commenced construction of the distribution network. The construction of flood and drainage facilities in the *soum* centre is complete and will be handed over in September 2015. The Manlai sports hall construction is almost 50% completed. OT also recently financed the construction of 5.1 km of transmission line from OT to the central grid. Road construction of the Zone 3 of the OT-GSK road commenced in the summer and will restart again next year after winter.

Good progress has been made to enable the Cooperation Agreement to begin implementation. The Development Support Fund (DSF) of the Cooperation Agreement has been registered as an NGO under the name “Gobi Oyu”. The DSF and Relationship Committee (RC) governance arrangements have been finalised. Detailed protocols and funding guidelines are currently being developed. The 1<sup>st</sup> DSF board meeting and RC meeting are scheduled for September 2015. The first funding transfer is scheduled for 30 September 2015. The Tripartite Council is the working group involved in all screening and implementation of projects under the Cooperation Agreement related to herder livelihoods and rangeland management.

It is still early in the planning for the micro-credit scheme under the Cooperation Agreement. The “Future Next Generation Fund” has been allocated 5% of the DSF to be used as a revolving fund for micro-loans. OT is investigating potential banking partners to administer this scheme and is aware that the criteria to access these micro-loans need to be readily accessible to herders and other families/individuals to make a range of livelihood investments (not only small business start-ups).

A total of 12 suppliers currently operate at OT site from Umnogobi and 11 of these businesses are from Khanbogd. More significantly, 93% of the spend in the South Gobi is with Khanbogd suppliers. Local supplier development recently focused on local vegetable growers in Khanbogd who now supply cucumbers and tomatoes to the OT site.

### **1.13 WORKER HEALTH AND SAFETY**

The Health Team is a centralized entity under the HSESC Department, and includes occupational health services and the main SOS clinic. Periodical health assessments and screenings are performed under the continuing occupational health program.

Training and implementation of the Critical Risk Management program, focusing on 17 critical risks and conducting critical risk control verification, was completed in July. CRM has been integrated into pre-start meetings, task assignments and maintenance planning. Workplace health and safety incidents are tracked within the RTBS system, reviewed and evaluated by management, and reported in monthly or quarterly reports. Vehicle safety has received considerable attention in response to incidents, including training, roadway segregation for heavy and light vehicles in the Open Pit and TSF areas, and fatigue management and the use of SmartCap technology providing operator alerts in real time.

#### **1.14 COMMUNITY HEALTH AND SAFETY**

The most notable recent community health and safety program contributions by OT include the fit-out of a disabled children's fitness and therapy room at the Khanbogd *soum* hospital and establishment of a Youth Development Centre (YDC) in the OT Trade Training building. The disabled children's room is being used by hospital staff to provide twice weekly sessions of play, massage and therapy to disabled children and their parents. The YDC includes a drop in centre for youth, counselling and various other services that have never been present in Khanbogd before. This was implemented in collaboration with the UNFPA. Other recent contributions include in-kind donations for the Khanbogd *soum* hospital including used furniture, gers, computers and an air-conditioning unit and installation.

No community safety incidents or concerns were reported to the IESC at this visit. It was noted that registered crime statistics have risen considerably in Khanbogd in the past 6 months. This is at least in part likely to be due to increased activities in the *soum* during summer. Nevertheless, it is suggested that OT engages with the authorities to investigate this issue and determine if any support actions are needed.

Oyu Tolgoi continued to support the International Organisation for Migration (IOM) on human security and human trafficking issues. The most recent activities include a survey of 127 migrant women to evaluate their living conditions and two-day training for 100 women on safe migration, family development etc). A total of 30 women have been provided with a settlement support grant for 8 small businesses. Forty-four civil servants from four *soums* were also trained to work with migrant women.

#### **1.15 CULTURAL HERITAGE MANAGEMENT**

No cultural heritage incidents have been recorded so far in 2015 and 32 land disturbance permits have been approved (22 inside the fence and 10 outside). The chance finds procedure and cultural heritage monitors are being implemented during all ground works for the construction of the OT-GSK Zone 3 road. Monthly monitoring of cultural sites is continuing at 19 locations by 8 CH assistants (including a number of herders).

Cultural heritage and community relations inductions have been given to 1,191 workers, and 717 workers have been trained in the Chance Finds Procedure year to date (including 210 copper concentrate drivers). A total of 1,367 OT site workers (and visitors) have visited the Culture *Ger* this year.

Three leading archaeologists and palaeontologists from Japan and the United States travelled to Mongolia in April to May 2015 to conduct work on preparation of the CHMP for the *Shar Tsav* paleontological site and *Khurdet* cave (regional sites). A Draft CHMP was subsequently developed with the input from these international experts. Engagement on the Draft CHMP is still being implemented.

Recent cultural events supported by OT include the Khanbogd mountain worship ceremony and Nadaam festivals in Dalanzadgad, Khanbogd, Bayan Ovoo and Manlai.

## 2 INTRODUCTION

The Oyu Tolgoi copper/gold mining Project (“the Project” or “OT Project”) is located in the aimag of Umnogovi, in the South Gobi region of Mongolia, approximately 600 km south of the capital city, Ulaanbaatar, and 80 km north of the Mongolia-China border. The mineral resources were discovered in 2001 and consist of a series of deposits containing copper, gold, silver and minor amounts of molybdenum. The project involves a combination of open pit and underground operations, with ore processed through a 100,000 tons per day concentrator and with an expected concentrate production in excess of 500,000 tons per year. Shipment of product to customers commenced in July 2013.

In September 2013, D’Appolonia S.p.A. (D’Appolonia), located in Genoa, Italy, was retained by Oyu Tolgoi LLC to act as the Independent Environmental and Social Consultant (IESC)<sup>9</sup> for the OT Project being developed by Oyu Tolgoi LLC (the “Project Company” or OT), a strategic partnership between the Government of Mongolia, Rio Tinto (RT) and Turquoise Hill Resources. Since 2012 RT has also been appointed as the manager of the project on behalf of the shareholders.

D’Appolonia’s role as the IESC is to support the Senior Lenders by providing an external/independent monitoring evaluation of OT mine project activities with focus on (Health, Safety and Environment) HSE and social aspects during project operation that began on 1 September 2013. Within this role, the IESC reports periodically to the Lenders group on conformance with the environmental and social provisions contained within the Operational Management Plans which define how OT will implement the mitigation strategies set out in the ESIA and in the other relevant project documents. These include the Project’s Environmental and Social Impact Assessment ESIA, an Environment and Social Action Plan (ESAP) which included a list of time-bound future commitments and the Operations Phase ESMPs that represent the reference documents used by the IESC to monitor the Project Environment, Social, Health and Safety (ESHS) performances throughout operation.

This report details the findings of the IESC site visit conducted in September 2015. All findings identified in this report are primarily based on field observation, written information made available by the Project through existing reports, disclosed studies and ad-hoc presentations, as well as from interviews with OT employees. The report provides an update on the Project status limited to some key topics as well as a follow-up of the status of the non-conformances with respect to the Project commitments as included in the Operational Management Plans, the ESIA, the ESAP and other reference documents.

Specific activities conducted before, during, and after this site visit included the following:

- desk review of the HSE and social documentation and other project-related reports provided by OT in advance to the visit;
- visits to the project sites and “spot” onsite observations of the implementation of EHS and social requirements;
- meeting with the project teams responsible for HSE and social compliance monitoring and review relevant plans and procedures;
- evaluation of implementation of the commitments contained within the Operational Management Plans and the ESAP;
- identification of deviations and/or gaps with respect to the Operational Management Plans and ESAP commitments, including recommendation for possible HSE improvements based on Good International Industry Practice (GIIP);
- follow-up and closure of findings and observations identified in the April 2015 IESC Audit Report<sup>10</sup>, and

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<sup>9</sup> IESC Team members: Giovanni Battista De Franchi (Project Manager and Team Leader – EHS Specialist), Robert Snow (Senior Reviewer - HS and Mining Specialist), Dana Strength (Environmental / Hydrologist Specialist) – not in the field, Angela Reeman (Social / Community Specialist), Jo Treweek (Biodiversity Specialist).

<sup>10</sup> D’Appolonia, “Independent Environmental & Social Compliance Monitoring Report – April 2015 Interim Audit Report”, dated August 2015.



- drafting of an IESC report (this report) to be publicly disclosed.

A close out meeting was held at the OT site offices on September 18<sup>th</sup> to share preliminary findings and to present the result of observations made during the visit that form the basis for this report.

This report presents the IESC's understanding and assessment of conformance of Project commitments from an EHS and social perspective, based on the review of the Operational Management Plans, ESIA, Action Plans, and related plans and procedures, along with site observations and interviews with project personnel. The document provides a snapshot of the Project's state at the time of the visit. Although focus has been given to the assessment of how the commitments included in the Operational Management Plans are implemented by the Project, the audit is also a review of those issues identified in previous IESC visits that might still have implications during the current operational phase of the project.

The information, observations, and opinions presented in this report are those of D'Appolonia and are independent of those of the Project and/or the Senior Lenders. Where topics are not referred to, no risks to the project have been identified.

### 3 PROJECT OVERVIEW

#### 3.1 CONSTRUCTION AND OPERATIONS STATUS

The project consists of a series of mineral deposits containing copper, gold, silver, and molybdenum to be mined by a combination of open pit and underground mining techniques. The Project has a mine life based on Proven and Probable Reserves of about 40 years (from 2016). Ore deposits are referred to as the Southern Oyu deposit and the Hugo Dummett deposit which together contain a currently identified resource of almost 25.4 million tons of copper, 81,600 tons of Molybdenum, about 5,150 tons of Silver, and 1,000 tons of gold. The development of the mine involves the construction of an open pit copper-gold mining operation at the Southern Oyu deposit, supplemented by production from the underground (Hugo Dummett deposit). The initial concentrator design is based on processing raw ore at a rate of 35 million tons per year (nominal capacity of 100,000 tons per day) with an expected concentrate production ultimately in excess of 500,000 tons per year.

The open pit mine started during Q2 2012 as a conventional truck and shovel operation operating 24 hours per day. The pit includes a series of ‘benches’ cut and blasted into the rock that act to stabilize the slopes within the open pit and also serve as the haul roads to enable ore and waste rock to be removed by trucks.

The underground mine is being planned as a block cave operation which involves the excavation of material that provides natural support from beneath the ore, causing it to fracture and collapse into the excavated void under the force of gravity. In addition to being a cost-effective underground mining technique, this process allows for the greatest proportion of ore body to be extracted relative to waste rock.

The process design to convert the ore into concentrate is based on conventional milling and flotation technology and proven equipment. The process includes primary crushing with coarse ore stockpiling. Crushed ore from the primary crusher is transferred via a 2.7 km overland conveyor to a stockpile near the concentrator and from here into the grinding circuit where a series of large diameter mills reduce the ore to small particles before either flotation and further processing or recycling to the grinding circuit. The flotation system separates valuable ore from less desirable minerals in large floatation cells where the Copper-containing materials are skimmed off for the next stage of the process while the sludge (tailings) are thickened to 60% solids in two thickeners and pumped to the Tailings Storage Facility (TSF) for disposal. Water from the tailings thickeners and TSF are recycled back to the concentrator. The final concentrate containing copper and gold is then thickened and filtered before storage in sealed bags for transport via trucks to the Gashuun Sukhait/Ganqimaodao border crossing with China.

Ancillary facilities that allow operation of the mine include a regional airport, main power supply currently via a dedicated 220 kilovolt (kV) overhead power line from the Inner Mongolian electricity grid in northern China, coal-fired central heating plant (CHP), water supply and treatment systems, maintenance facilities and warehouses, administration buildings, waste disposal facilities, fuel storage depots, administration facilities and accommodations camps, roads and transport facilities.

The project achieved the operation phase in 2013 with open pit mining ongoing, the concentrator production rates progressively increasing, and the concentrate exported to China. By 30 June 2015 over 312 million tonnes of material had been moved in the open pit and 64.7 million tonnes of ore processed to produce 1,195kt of concentrate that contained 313kt of copper and 1,064koz of gold. OT expects the 2015 annual production to be between 175 and 195 kt of copper and 600 to 700koz of gold.

Development of the underground mine was suspended in August 2013 while the Project shareholders and the Government of Mongolia worked to resolve certain differences that had emerged between them. At the time underground development was suspended, Shaft #1 was complete, 1,167 meters of Shaft #2 (out of a planned 1,284 meters) had been sunk, Shaft #5 had reached a depth of 208 meters out of a planned 1,174 meters and 16km of underground lateral development had been completed. Underground mining will resume in 2016, following shareholder board approvals and closing of the project financing. With completion of underground development and cave establishment, the mine plans substitution of open pit ore with higher grade underground ore resulting in significantly increased copper production. Average annual production of payable metals over the first five years following Project Completion (2026-2030 inclusive) is estimated at about 555kt of copper and 409koz of gold.

During the IESC September 2015 site visit, the underground mine remains under care & maintenance by OT with underground work limited to ongoing inspection and maintenance of equipment and structures. No further decisions have been made regarding the potential development of a coal-fired project Power Plant and the expansion of the concentrator's capacity above 100 ktpd, both items subject to further environmental and social impact assessment as established in the ESAP.

### **3.2 REPORT ORGANIZATION**

Subsequent sections of this report are organized as follows:

- Section 3.0– Issues Table;
- Section 4.0 – Environmental and Social Management;
- Section 5.0 – Environment;
- Section 6.0 – Social;
- Section 7.0 – Health and Safety; and
- Section 8.0 – Cultural Heritage.

The basic findings of the IESC review are presented in the form of observations, comments and recommendations that are generally described within this report. Two types of findings are included:

- non-conformances, included in the Issues Table (Section 3), which refer to issues related to Project commitments included in the Operational Management Plans and/or GIIP; and
- recommendations, included at the end of each section (4 – 8) which are suggestions for the proper implementation of required actions and closure of open issues and which are based on the collective experience and expertise of the IESC team members.

IESC's "recommendations" are not considered mandatory and therefore their implementation is not critical. However, the IESC encourages the Project to consider the usefulness of all these recommendations and incorporate them, as appropriate and if technically/economically feasible, into new management activities.

## 4 ISSUES TABLE

This chapter tabulates a summary of key non-conformances raised in this report based on observations made during the site visit, interviews with OT staff, as well as review of documentation provided during and after the site visit and consistent with our scope of work.

The table has been structured to provide a color-coding for strict non-conformances referenced with respect to Project commitments as included in the Operational Management Plans, in the ESAP and in the underlying OT monitoring documents and procedures which all together define how the OT operations comply with applicable Lenders' Environmental and Social Standards. The nomenclature of the color-coded categorizations is assigned based on the same non-conformance levels defined in the OT ESMP<sup>11</sup> which reflects the RT HSEQ Management System classification.

The following descriptions are provided:

- **Class IV** - A critical non-conformance, materially inconsistent with the Project Standards or Management Plans, resulting in or reasonably likely to result in irreversible impacts to sensitive receptors or important resources or significant damage or irreversible harm or damage to an ecologically or socially sensitive resource or has the potential for an extreme health and safety incident.
- **Class III** - A material non-conformance, materially inconsistent with the Project Standards or Management Plans, that has not resulted in clearly identified impacts to sensitive receptors or important resources or material damage or irreversible harm or damage to an ecologically or socially sensitive resource or have the potential for an extreme health and safety incident, but it is reasonably likely to have such effects.
- **Class II** - A material non-conformance with the Project Standards or Management Plans, but not reasonably likely to result in impacts to sensitive receptors or important resources or material damage or irreversible harm or damage to an ecologically or socially sensitive resource or have the potential for an extreme health and safety incident.
- **Class I** - An incident not materially consistent with the Project Standards or Management Plans and not reasonably likely to present a threat to the environment, community or worker health and safety.

Action items are identified by the number of the mission (MX.Y), where X is the mission number and Y is the related action item number. It should be noted that the text description of the recommendations could be revised from one visit to the next to better reflect current field conditions; however the original item numbers are retained until closed as they refer to the same main issue.

Each non-conformance identified in the table will require actions from OT and will be followed-up by the IESC in subsequent site visits. The table includes a description of the finding, the level of non-conformance assigned, the reference to the Project commitments and/or relevant project document as well as recommendations for improvement based on the collective experience and expertise of the IESC. Please also note that non-conformances not sufficiently addressed, according to IESC opinion, could result in a level increase, independent from the actual material consequences due to the conditions, unless an explanation is provided to justify the decision to avoid any corrective action.

Overall, results of the audit are as follows:

- No Class IV non-conformances have been identified;
- Three Class III non-conformances identified;
- Nine Class II non-conformances identified; and
- Eight Class I non conformances identified including one against ESAP commitment.

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<sup>11</sup> *Environmental and Social Management Plan (ESMP) - Doc. No. OT-10-PLN-0003 dated 01.09.2013.*

Starting from the October 2013 IESC site visit, eight non-conformances were closed during the March/April 2014 site visit, two during the August 2014 Desktop audit, ten during the November 2014 site visit, three during the April 15 desktop audit, and six during this audit.

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
<b>Environment – Water and Wastewater Management</b>							
M1.1	Oct. 13 April 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15	Sept. 15	<p>The Undai River Diversion has not been completed in accordance with the ESIA due to a delay in issuance of a Land Use Permit. A temporary approach (the Undai River Partial Adjustment and Protection Project) has been completed to divert surface flow and to capture and re-route groundwater flow from the Undai River and around the zone of influence of the open pit.</p> <p>The current Undai River Partial Adjustment and Protection Project does not fully meet the design requirements as specified in the ESIA.</p>	II	<p>IESC - April 2013 Audit</p> <p>Water Resources Management Plan (WR12)</p>	Closed	<p>See Sections 5.1.2 and Issue M1.18. The ESIA MoC procedure, as identified in the ESMP, was implemented by the Project on May 20, 2014. The submitted Notice of Change (2014-001) was not accepted by the Lenders as a detailed technical review of available hydrogeological information was pending. This reflected a precautionary approach in assessment of potential impacts to the Undai River groundwater system.</p> <p>In November 2014 a detailed hydrogeology review was undertaken to assess potential impacts of the current Undai River Partial Adjustment and Protection Project to the groundwater flow regime. The detailed water review did not identify a risk of significant impact to groundwater resources as a result of the current system.</p> <p>In December 2014 OT and the Elected Herder Team (EHT) agreed to transition the IFC's Compliance Advisory Ombudsman (CAO) facilitated meetings into a permanent dialogue, inclusive of local stakeholders, to further the topic of final Undai River Diversion configuration. Stakeholders include OT, the EHT, and the Khangbogd government. Collectively these entities constitute the Tripartite Committee (TPC).</p> <p>In September 2015 OT submitted Notice of Change 2015-005 recognizing the role of the TPC to develop the finalized Undai River Diversion project. Based on ongoing consultation this finalized project may reflect the current configuration or a different design. The Notice of Change 2015-005 acknowledges that the current Undai River Partial Adjustment and Protection Project maintains continuity of groundwater flow and is serving as a valid interim mitigation. Once the TPC has developed the final Undai River Diversion Project a subsequent Notice of Change will be filed by OT seeking approval of the decision. It is acknowledged that any accepted final design will meet the requirements of the ESIA and the WRMP.</p>

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M1.5	Oct.13 April 14 Desktop Audit Aug. 14 Nov.14 Desktop Audit April 15 Sept.15		Mitigations are required in the event of interconnection of hydrogeological units. These mitigations have not yet been implemented in all instances. OT is progressing efforts to abandon or convert to productive use these interconnecting bores.	II	IESC - April 2013 Audit  Water Resources Management Plan (WR04, 14)	Open	See Section 5.1.2.7. Evidence exists of exploration bores interconnecting hydrogeological units within the Gunii Hooloi borefield. Future disposition of these wells is under evaluation by a workgroup established with the Khanbogd soum. There are some requests for conversion of the wells for community use.  Best efforts are being made by OT to progress the sealing of interconnecting bores within and outside of the MLA, however the issue is outstanding. OT is now working with the regional Basin Administration to further abandonment or conversion of the bores.
M2.3	April 14 Desktop Audit Aug. 14 Nov.14 Sept.15		The drilling and installation of supplementary monitoring bores, as discussed in the WMP, has not yet been implemented.	II	Water Monitoring Plan, Section 3.2.6, 3.3.5  Water Resources Management Plan (WR14, WRm06)	Open	See Section 5.1.2.8. The drilling and installation of supplementary monitoring bores, as discussed in the WMP, has not fully been completed. 14 supplementary bores were installed in 2015 prior to halting of the work over drilling safety concerns. The remaining bores will be completed in the 2016 field season.
M4.1	Nov. 14 Desktop Audit April 15	Sept.15	Not all rain gauges have been installed at the locations described in the WMP.	I	Water Monitoring Plan, Section 3.8 Figure 11	Closed	Section 5.1.2.6. A total of nine points are used to monitor precipitation instead of the originally specified 10 regional rain gauges. There have been security issues with rain gauge installation due to their remote locations. A total of five rain gauges are currently installed and monitored. In addition information is received from four state-owned weather stations. This modification was approved via Notice of Change 2015 – 013 (August 2015).

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
<b>Environment –Non-Mineral Waste Management</b>							
M5.1	Sept. 15		<p>At the WMC some oily drums were improperly stored on a geomembrane liner with holes and evidence of leaks.</p> <p>This is not in line with the intent of the Operational Non-Mineral Waste Management Plan to ensure an effective management of non-mineral waste at OT through safe handling, treatment and disposal of generated wastes.</p>	I	Non-Mineral Waste Management Plan (WM03, 10, WMM3)	Open	See Section 5.3.2. At the WMC some waste oily drums were improperly stored on a geomembrane liner with holes and evidence of leaks. Although this is not a situation that represents a potential environmental concern given the remoteness of the site, it is more a management issue (WMM3) as these drums should not have been sent to the WMC, as it is not designed to receive used oil. Rather, the drums should have been sent to the designated collecting areas at the truck or the Gobi shops. If there are plans to send this type of waste to the WMC, even as a temporary solution, a properly designed storage area should be built.
<b>Environment – Air Quality</b>							
M1.11	Oct. 13 April 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15 Sept. 15		<p>Significant dust (particulate) emissions are generated intermittently at the coarse ore stockpile. A foam dust suppressant system has been installed with overall good efficacy when operational; additional mitigations are needed.</p>	II	Atmospheric Emissions Management Plan (AQ05)	Open	See Section 5.5.2.1. There has historically been significant dust generation at the coarse ore stockpile (COS) facility. As mitigation in March 2015 a foam dust suppressant system was put into use. This has resulted in reduction of ambient environment TSP concentrations by over 80%, although particulate monitoring results continue to exceed the Project Standard. The OT Concentrator Operations department is contracting with the supplier of the dust foam suppressant to identify further mitigations that can be implemented. It is anticipated that the supplier will visit the site in Q3 or Q4 of 2015. Under consideration is the use of a polymer to create a “crust” on areas near the ore stockpile. This could be applied before the winter freezing season and may help reduce dust generation. Optimizations already undertaken include appropriate metering of foam dust suppressant as a function of conveyor loading rate from the crusher.



Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M1.12	Oct. 13 April 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15 Sept. 15		There are limitations to the existing ambient air monitoring network. The revised AQMP describes additional necessary equipment to monitor ambient air conditions relative to Project Standards.	III	Atmospheric Emissions Management Plan (Section 1.5; Air Quality Monitoring Plan – Appendix A; AQ-KPI02)	Open	See Section 5.5.2.1. As noted in prior audits the ambient air monitoring network available requires improvement to meet commitments made in the revised AQMP, and to monitor ambient air quality relative to Project Standards. Information from the August 2014 Audit suggested that this equipment would be available on site and ready for installation by November 2014. November 2014 estimates for installation were 6 – 12 months into the future (i.e. by the end of 2015). However a March 2015 capital expenditure authorization for the equipment has been denied. It is now anticipated that the equipment will be procured in 2016.  This has been maintained as a Level III non-conformance due to the lack of timely corrective action. It is noted that the project is currently capital constrained; however lack of an ambient monitoring network that complies with Project Standards has been a consistent non-conformance since the first operations phase audit. It is noted that there are plans to include the necessary capital expenditure will be considered during the January 2016 meeting of the OT Investment Committee.
M1.13	Oct. 13 April 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15 Sept. 15		Stack emission sampling results from boilers at the Central Heating Plant (CHP) and KB airport do not meet Project Standards.	II	Atmospheric Emissions Management Plan (AM03)  Air Quality Monitoring Plan – Appendix B)	Open	See Section 5.5.2.2. Emissions quality of the CHP has been a persistent issue and OT is planning an internal review by the Asset Management Group of the whole system, including monitoring procedures. Options for improvement to emissions quality include boiler “tune out” for the light summer load and modifications to boiler air flows. Additional monitoring equipment may be procured. In summary it is expected that the OT internal review will provide solid information to address CHP stack emission quality.

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M2.4	<p>April 14 Desktop Audit Aug. 14</p> <p>Nov.14 Desktop Audit April 15 Sept. 15</p>		Stack emission sampling results from the incinerator do not meet Project Standards.	II	<p>Atmospheric Emissions Management Plan (AM06)</p> <p>Air Quality Monitoring Plan – Appendix C</p>	Open	<p>See Section 5.5.2.2. An October 2014 site visit by the manufacturer of the project incinerator noted inappropriate after-market modifications and operational practices at the unit. Recent monitoring results indicate emissions are not meeting the Project Standards, which the incinerator has been designed to meet. It is likely the incinerator is not achieving the designed combustion temperature of 1000 degrees Celsius. The unit manufacturer has been scheduled to visit the OT site in October 2015. It is expected that this visit will lead to recommendations for modifications to the unit which would lead to higher combustion temperatures.</p> <p>This has been maintained as a Level II non-conformance due to near-term plans to achieve successful operation of the incinerator. However, it is noted that there are long-standing issues with incinerator operations and resultant non-compliance with emission Project Standards. This item has the potential to be escalated to a Level III non-conformance if current operational practices continue.</p>

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
<b>Environment – Emergency Preparedness &amp; Response</b>							
M4.2	Nov. 14 Desktop Audit April 15 Sept. 15		The tailings dam breach analysis has not been performed to establish the potential extent and impact of failure on mine facilities, infrastructure, communities, and the environment. An Emergency Action Plan for the potential of a tailings dam failure has not been prepared.	I	Emergency Preparedness and Response Plan (ERP02, 02b, 02c)	Open	See Section 5.7.2. A draft TSF Emergency Response Procedure with an emergency response coverage area has been prepared, reviewed by the ERT and Communities teams, and is pending further review, approval and finalization. The procedure should incorporate or provide reference for: participant responsibilities with designation of position responsible for administration and maintenance of the plan; exercises/training activities and plan maintenance, establishing review and update requirements including public notices and interactions; and resource requirements and maintenance to ensure serviceability of communication and other equipment necessary to respond to an emergency. EBRD Performance Requirements and IFC Guidelines (that cite UNEP APELL Guidance on raising awareness and preparedness for emergencies, including Tailings Dam Failure) emphasize emergency preparedness and response for potential hazards that could affect works, the community and environment. Finalizing the TSF Emergency Response Plan is warranted, including documenting the rationale for inundation mapping and establishing the emergency response coverage area, and other administration, training/exercise, and resource requirements (ERP02, 02b, 02c).

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
<b>Environment – Biodiversity and Ecological Management</b>							
M1.16	Oct.13 April 14  Desktop Audit Aug. 14 Nov.14  Desktop Audit April 15 Sept.15		Bird Flight Diverters must be “maintained as necessary to minimize wildlife mortality throughout operations”.	III	Biodiversity Management Plan (B08, B09) Lender Biodiversity Action Plan (ID1) Core Biodiversity Monitoring Plan (CBMP)	Open	<p>Section 5.9.2.1. A proportion of flapper-type bird flight diverters installed to manage risks of birds colliding with power lines have failed. There are incidences of mortality of species of conservation concern within critical habitat, notably Houbara and Great Bustard, and the scale of undetected collisions remains unknown. Interpreting the significance of collisions is further compounded by lack of reliable information on the size and distribution of affected populations. More intensive monitoring is challenging due to the low density of these species and it is not considered feasible to take corrective action (to re-fit functioning diverters) during operation. OT has worked with specialist consultants to develop a “Powerline Options Paper” that sets out potential solutions, including a captive breeding and release programme and Engagement with the Government of Mongolia to develop and implement national powerline standards through measures such as insulation, bird flight diverters and horizontal powerline arrays.</p> <p>OT needs to review the financial and political feasibility of these options, decide which it will pursue as part of its efforts towards NPI and develop a costed implementation plan. Because impacts are continuing on critical habitat values, without any current ability to evaluate the significance of these impacts and without a clear plan of action in place, the Level III non-conformance remains open.</p>

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M1.18	Oct.13 Apr. 14 Nov.14 Desktop Audit April 15 Sept.15		Ecological equivalence of Replacement BorOvoo Spring.	I	ESIA Ch B7a Table 7.1	Open	<p>Section 5.9.2.5. The replacement BorOvoo spring should “mimic” the characteristics of the BorOvoo spring as closely as practicable - taking into consideration the extent of inundation and catchment size, establishing vegetation and rocky outcrop habitats” (ESIA Ch B7a Table 7.1).</p> <p>Data from camera traps installed at the Spring show regular use by wildlife, including Khulan and the current spring location is considered acceptable for wildlife drinking. Stocks of propagules of appropriate plant species are being developed and will be available to support field trials. Through the Ecosystem Services Group, OT has undertaken to discuss the possibility of temporary fencing to protect rehabilitated vegetation and plant communities so that they have a chance to establish without damage from grazing and this will make field trials more effective. Progressing field trials remains a priority and needs to include specific attention to rocky outcrop habitats. As soon as it is clear that target vegetation types can be developed at a confirmed spring location, this non-conformance can be closed.</p>

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M2.5	Apr. 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15 Sept. 15		Installation of underpasses. Measures to maintain habitat connectivity for wide-ranging wildlife species with critical habitat affected by the Project.	III	BMP ID B16 and Annex C, ID 5	Open	<p>Section 5.9.2.2. OT undertook to develop a workplan for installation of underpasses to include activities and timelines for stakeholder consultation, design, locations, engineering and environmental assessment consistent with expert advice. This was due to be agreed with the Lenders by Q4 2013 (BMP Annex C, ID 5) and the proposed approach remains uncertain.</p> <p>Increased traffic volumes in future could make the OT-GS and other roads a functional barrier to movement of species such as Khulan and Goitered Gazelle. Current levels of traffic do not create a complete barrier, but monitoring results also indicate a possible degree of avoidance behaviour even at these levels.</p> <p>OT has committed to demonstrate best practice to manage its residual impacts on critical habitat for ungulates and other species vulnerable to barrier and disturbance effects. A meeting in November 2014 in Ulaanbaatar discussed practical measures OT could take to maintain habitat connectivity throughout its operations. It was agreed that under or overpasses may not be the best or most cost-effective solution in the near term and other potential solutions were discussed, including carefully timed road closures.</p> <p>As agreed with Lenders, OT needs to detail the actions that will be taken in a Road Mitigation and Monitoring Strategy. OT plans to follow an adaptive management process in which implementation of mitigation measures is triggered by monitoring and threshold-exceedance. These thresholds therefore need to be clearly defined for both traffic levels and for animal crossing frequency. The monitoring that will be undertaken to ensure that changes will be detected and the responses that would be triggered need to be specified. Meanwhile OT has undertaken to appraise lenders of any changes in its transport strategy, particularly where there are implications for sensitive species.</p>

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M2.6	Apr. 14 Desktop Audit Aug. 14 Nov.14 Desktop Audit April 15 Sept.15		Stakeholder Engagement Plan for biodiversity and ecosystem services.	I	Biodiversity Management Plan (B05) LBAP ID 24, (BMP Annex C)	Open	Section 5.9.2.4. Stakeholder engagement underpins many biodiversity commitments and OT has committed to “substantial stakeholder engagement and consultation to ensure that its biodiversity offset programme is consistent with national conservation priorities and stakeholders’ interests”. OT committed to develop a “targeted Stakeholder Engagement Plan” to ensure effective integration of biodiversity-related stakeholder engagement requirements with OT’s systems. The Ecosystem Services Group has now produced a biodiversity-related Stakeholder Engagement Plan and has carried out an initial stakeholder mapping process. OT’s internal stakeholder engagement planning system is currently being updated and biodiversity-related aspects will be taken forward as part of this process. Issue-specific, targeted engagement is needed to progress offset and road mitigation strategies. This non-conformance will be closed when this is in place and can be seen to underpin effective engagement (BMP B05; LBAP ID 24, BMP Annex C).

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M2.7	Apr. 14 Desktop Audit Aug. 14 Nov.14 Desktop Audit April 15 Sept.15		Land Use Implementation Plan or equivalent.	I	LBAP ID 18c (BMP Annex C)	Open	<p>Section 5.9.2.5. OT committed to submit a LUIP or equivalent plan to the Lenders by Q1 of 2014, with a view to presenting a clear indication of OT's proposed commitment in terms of vegetation or habitat rehabilitation. This is required to provide a framework to monitor OT's success in meeting PS 6 requirements with respect to "no net loss" of natural habitat and also OT's Biodiversity Strategy regarding net positive outcomes for priority species, including plant species.</p> <p>Production of the LUIP is no longer a Rio Tinto requirement. Lenders agreed it could be replaced with an alternative "Land Disturbance Control and Rehabilitation Management Plan" and this was submitted for lender review in September 2015, together with a new Biological Rehabilitation Procedure and revised Technical Rehabilitation Procedure, Topsoil Handling Procedure and Land Disturbance Permit Procedure. The Plan needs to be revised and resubmitted based on technical review by Lenders and the IESC and finalization of the completion indicators needed to evaluate outcomes. The Rare Plant Protection Procedure should also be updated. The LDCRMP needs to prescribe an approach that places greater emphasis on avoidance of priority features rather than jumping straight to later steps such as translocation (see also M5.3). The non-conformance will be closed when the Plan and procedures are approved by Lenders.</p>



Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M4.3	Nov.14 Desktop Audit April 15 Sept.15		Measures to control disturbance of animals caused by off-road driving and any associated increases in mortality from hunting and collecting.	II	LBAP ID6 (BMP) Transport Management Plan (OT-10-C3-PLN-0001) OT Site Wide Traffic Management Plan (OT-10-C3-PRC-0005-E).	Open	<p>Section 5.9.2.2. The ESIA identified risks to wildlife from induced increases in levels of hunting and disturbance caused away from roads by vehicles driven off-road. Lenders approved the removal of road barriers as a solution to prevent vehicles from leaving the road because specialist advisers raised concerns about barriers to free movement of ungulates and because communities raised objections. Alternative solutions have not yet been recommended.</p> <p>OT has engaged in awareness-raising on this issue at local, regional and national levels and is pursuing efforts to control illegal hunting through community outreach. However the issue of cumulative levels of disturbance to ungulates from vehicles throughout the landscape due to OT's activities and those of others operating in the area remains. This is an important part of the baseline situation, relevant to management of barrier effects from OT's roads and necessary for OT to be able to demonstrate that it is managing its disturbance impacts.</p> <p>Monitoring of the disturbance footprint caused by vehicles driven off road over time is necessary, (for example as indicated by density and extent of off-road tracks detected from aerial photographs or satellite imagery) so that impacts can be appropriately attributed to the Project or other causes. The fact that off-road driving is considered to be a "cultural" practice lends further weight to the need for solutions to be found, as it increases the risk that background levels of off-road driving might escalate further in the region. OT's proposed approach needs to be articulated in the comprehensive Biodiversity Monitoring and Evaluation Plan and Road Mitigation Strategy.</p>
M4.4	Nov.14 Desktop Audit April 15		OT undertook to develop a biodiversity Offset Management Plan and submit it for lender review, identifying proposed offsets and implementation mechanisms.	II	LBAP 13	Open	Section 5.9.2.7. OT undertook to develop and implement an Offset Management Plan (OMP), identifying options for sustainable financing, that mitigates the significant adverse impacts of the Project on critical and is sufficient to have a net positive impact over the life of the mine. A

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
	Sept.15						revised timeline for submission of the OMP of Q1 2015 was agreed with Lenders in November 2014. OT's consultants have submitted an Interim OMP that presents potential options but does not specify the actions OT proposes to take and is not considered to meet the requirement for a "costed management plan". The OMP must specify the actions that will be taken in the near, medium and longer term to deliver outcomes compatible with ESIA commitments and lender requirements. The OMP must also include OT's intended approach to sustainable financing over the life of the mine. This is a level II non-conformance due to lack of assurance about tangible outcomes until OT's intentions and commitments are clear.
M4.5	Nov.14 Desktop Audit April 15 Sept.15		Monitoring of critical Ecosystem Services	I	LBAP 17  ESAP Item 7; Pastureland and Livelihood Improvement Strategy; RAP Entitlements Matrix	Open	Section 5.9.2.8. Through the Ecosystem Services Group, OT undertook to implement a multi-disciplinary Monitoring and Evaluation Program for critical ecosystem services, to be designed in a collaborative manner with environmental and social specialists and integrated with social monitoring. This was to include relevant metrics and threshold values, provide a basis for adaptive management and be statistically relevant.  The Ecosystem Services Group has made efforts to develop a robust framework for monitoring OT's impacts on ecosystem services. While this is incomplete, good progress has been made in identifying suitable indicators, further developing participatory rangeland monitoring and understanding OT's impacts on surface water. Stakeholder engagement activities taking place through the Cooperation Agreement mean that OT is now well placed to complete a robust monitoring plan. Finalizing this remains a priority, but many of the essential building blocks are now in place and OT is already engaged in relevant monitoring activities.

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M5.2	Sept.15		Dedicated resources for OT's biodiversity management programme, including on-site mitigation, offset management and biodiversity monitoring to meet the requirements of lender performance standards and ESIA commitments and demonstrate a net positive impact.	II	LBAP 19 and 20	Open	Section 5.9.2.10. As a commitment in the Lender BAP (LBAP 19), OT committed to allocate the resources needed to meet the requirements of lender performance standards and ESIA commitments related to biodiversity and to achieve a Net Positive Impact on biodiversity in the South Gobi. OT further committed (LBAP 20) to engage a full time senior level specialist with demonstrated experience in international best practices to provide support, capability and leadership to OT's biodiversity team in their implementation of biodiversity commitments. OT appointed a full time Biodiversity Offset advisor to meet this requirement but later merged the role with that of Manager - Environment and Biodiversity so it is no longer full-time. Lenders see fulfillment of this commitment as critical and expect OT to seek support from a suitably qualified senior level specialist. Furthermore, to meet Lenders requirements and ESIA commitments, ongoing allocation of resources to essential field trials and research on biological rehabilitation will be necessary, in addition to the support given to OT's comprehensive monitoring programme. The IESC understood that there are ongoing discussions on this issue between the Lenders and OT that could be handled through the MoC process in place.
M5.3	Sept.15		Planning of Land Disturbance to support appropriate application of the mitigation hierarchy.	II	LBAP ID 18c (BMP Annex C)	Open	Section 5.9.2.5. The OT Project has a large infrastructure footprint on natural and critical habitat and is required to comply with national and local government requirements for rehabilitation as well as Lender requirements for No Net Loss outcomes in natural habitat. IFC PS6/ EBRD PR6 require avoidance of impacts on critical habitat before moving to subsequent steps in the mitigation hierarchy. The current approach to land disturbance planning and permitting does not allow risks to natural habitat and RT priority plant species to be assessed sufficiently far in advance, and provides insufficient scope to avoid priority features. This means that rare plant species, for example, are sometimes translocated at an inappropriate time of year and don't survive.  OT's approach to strategic management and environmental

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
							assessment of land disturbance needs to be reviewed to ensure that design alternatives can be considered as a means of avoiding impacts on priority features.
<b>Social - Labor &amp; Working Conditions</b>							
M4.6	Nov. 14	Sept. 15	Monitoring and auditing of contractor HR and Employee Relations (ER) performance is the responsibility of the Procurement department. A robust prequalification and audit process is in place with contractors, however, the audit process does not include sufficient HR/ER scope to assess compliance against all relevant OT requirements.	I	Labour Management Plan Sections 5.1.8 and 9.2	Closed	Section 6.2.2. A revised audit protocol for assessing contractor performance to include additional checks on HR/ER performance has been developed. An audit schedule to implement these enhanced audits with key contractors has been prepared and a number of audits have already been implemented. The IESC were able to verify this at the site visit and review the findings from a number of audits with contractors. These audits will be ongoing but the non-conformance to have a protocol and schedule in place is closed.
M5.4	Sept 15		In the Collective Agreement between OT LLC and the Trade Union there is a commitment to provide gifts (of monetary value) for recognition of long-service.	I	Labour Management Plan, OT LLC Collective Agreement	Open	Section 6.2.2.2. The clause of the Collective Agreement about gifts for long-service recognition has not been implemented by OT LLC. Upon discussion with OT during the site visit it was evident that management was aware of this issue and had been working to rectify the situation. Apparently an internal decision was made that week to approve gifts for long service. Nevertheless, this is a non-conformance until the situation has been remedied including retrospective provision of the agreed gifts to all those reaching long service milestones during the term of the agreement.

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
<b>Social –Resettlement, Compensation and Livelihoods Improvement</b>							
M1.23	Oct.13 April 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15 Sept 15		An Outcome Evaluation of affected herders is a specific commitment in the Resettlement Action Plan and is due to be conducted for economically displaced and other affected herders in Khanbogd <i>soum</i> .	I	Resettlement Action Plan (Sections 10.1, 10.2 and 10.4)	Open	Section 6.3.2. The shortlist for a Multi-Disciplinary Team (MDT) to conduct a study on the 2011 compensation program has now been agreed by OT with the Tripartite Council. The preferred bidder is expected to be awarded by end 2015 (the Outcome Evaluation of the 2011 compensation program is part of this study). It will be important for the study to incorporate all categories of affected herder households and evaluate the outcomes for different groups in terms of livelihood and standard of living improvements. It should be focused on identifying areas for improvement and agreeing resolutions with tangible corrective actions.
M3.1	Desktop Audit Aug. 14 Nov.14 Desktop Audit April 15	Sept. 15	Assistance to vulnerable people affected by economic displacement as a result of the mining operation is a key component of the RAP. Some support measures have been provided by OT to vulnerable herder households, however, a more comprehensive vulnerable people program is yet to be implemented.	II	Resettlement Action Plan (Section 6, Table 25 -R05, R11) Stakeholder Engagement Plan (SEP14)	Closed	Section 6.3.2.4. A vulnerable people assistance action plan based on suggestions made by the IESC has now been finalised. OT is also well advanced with implementation of key support measures from the plan for vulnerable herder families. Some actions are still being implemented and regular monitoring of vulnerable herder households will be required. However, this can be conducted in the normal course of implementing the vulnerable people assistance plan and the non-conformance can therefore be closed.

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M3.2	Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15	Sept. 15	The well rehabilitation program, supplemental fodder distribution, grazing access inside OT fence and others have contributed towards OT's commitment to implement a sustainable pastureland management program. <sup>12</sup> However, a review of these projects and participation by herders has identified the need for additional small scale enterprise development and income diversification opportunities for Khanbogd <i>soum</i> herders.	I	Resettlement Action Plan (Section 5)	Closed	Section 6.3.2.3. Significant progress was made by OT to support herder income diversification and generation opportunities since the last site visit. A number of new herder cooperatives/business including for vulnerable women, animal health services, wool shearing and combing and sausage production were initiated. Other existing herder cooperatives or businesses were also provided with additional training and other assistance. There has also been explicit agreement to incorporate all Khanbogd <i>soum</i> herders into a holistic "herder program" as part of the re-framing of support for herder families under the Cooperation Agreement and guidance of the Tripartite Council. Although there are still some challenges to ensure these small-scale enterprises are viable and sustainable, as long as ongoing support is provided for a reasonable period this should be achievable.
<b>Social – Stakeholder Engagement</b>							
M2.11	April 14 Nov. 14 Desktop Audit April 15	Sept. 15	A general Undai River community consultation plan was developed for the ESIA and included in the Stakeholder Engagement Plan (Annex E). Given the highly sensitive nature of the Undai River diversion project and the complex range of stakeholders, studies and issues, it is essential the community and other engagement on this topic is well coordinated.	II	Stakeholder Engagement Plan Annex E, SEP05	Closed	Section 6.4.2. An Undai River specific engagement plan has now been finalised by OT incorporating comments from the IESC. It was apparent during the site visit that much work has been done by OT to ensure that the various teams are aligned on Undai River engagement. A total of 48 herder households identified by the IEP Phase 1 study are the key stakeholders of the Undai engagement plan. Direct engagement with all key Undai River stakeholders has already commenced and the plan sets out clear actions for upcoming engagement. This non-conformance can be closed.

<sup>12</sup> As described in Section 5.4 of the Resettlement Action Plan.

