



D'APPOLONIA
consulting, design, operation & maintenance engineering



REPORT OF THE:

**INDEPENDENT
ENVIRONMENTAL & SOCIAL
CONSULTANT**



**OYU TOLGOI MINE
PROJECT**

MONGOLIA



Interim Report: April 2016

*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

Interim Report: April 2016

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ACRONYMS

AEMP	Atmospheric Emissions Management Plan
AQMP	Air Quality Monitoring Plan
BAP	Biodiversity Action Plan
BMEP	Biodiversity Monitoring and Evaluation Programme
BMP	Biodiversity Management Plan
BRMP	Business Resilience Management Plan
CAO	Compliance Advisor Ombudsman
CBMP	Core Biodiversity Monitoring Plan
CCFV	Critical Control Field Verification
CCV	Critical Control Verifications
CH	Cultural Heritage
CEO	Chief Executive Officer
CHMP	Cultural Heritage Management Plan
CHP	Central Heating Plant
CHSSMP	Community Health, Safety & Security Management Plan
COS	Coarse Ore Stockpile
COO	Chief Operating Officer
CRM	Critical Risk Management
CSE	Community and Stakeholder Engagement
CSETS	Community and Stakeholder Engagement Tracking System
CSP	Communities and Social Performance
CSP MS	Communities and Social Performance Management System
CWG	Compensation Working Group
DSF	Development Support Fund
EBRD	European Bank for Reconstruction and Development
EC	Electrical Conductivity
ECAs	Export Credit Agencies
EDC	Export Development Canada
EFIC	Export Finance and Insurance Corporation
EHT	Elected Herder Team
EPRP	Emergency Preparedness and Response Plan
ER	Employee relation
ERM	Environmental Resources Management
ERP	Emergency Response Plan
ERT	Emergency Response Team
ESAP	Environment and Social Action Plan
ESIA	Environmental and Social Impact Assessment
FFI	Fauna & Flora International
GHGs	Greenhouse Gas Emissions
GIIP	Good International Industry Practice
HR	Human Resources
HSE	Health, Safety and Environment
HSE MS	Health, Safety and Environment Management System
HSESC	Health, Safety, Environment, Security and Communities
IA	Investment Agreement
IESC	Independent Environmental and Social Consultant
IEP	Independent Expert Panel
IFC	International Finance Corporation
IFIs	International Financial Institutions
IMP	Influx Management Plan
IOM	International Organisation for Migration

IWRC	Interim Waste Recycling Center
KCB	KlohnCrippen Berger, Ltd.
KPI	Key Performance Indicator
LBAP	Lender Biodiversity Action Plan
LDCRMP	Land Disturbance Control and Rehabilitation Management Plan
LDP	Land Disturbance Permit
LMP	Labour Management Plan
LTJ	Lost Time Injury
LTIFR	LTJ Frequency Rate
LUIP	Land Use Implementation Plan
LUMP	Land Use Management Plan
MAS	Mongolian Academy of Sciences
MDT	Multi-Disciplinary Team
MEGD	Ministry of Environment and Green Development
MIGA	Multi-lateral Guarantee Agency
MLA	Mine License Area
MoC	Management of Change
MUST	Mongolian University of Science and Technology
MWMP	Mineral Waste Management Plan
NAF	Non-acid forming
NAMEM	National Agency of Meteorological and Environmental Monitoring
NoC	Notice of Change
NPPC	Native Plant Propagation Centre
NPI	Net Positive Impact
OMP	Offsets Management Plan
OT	Oyu Tolgoi
OTEP	Oyu Tolgoi Expansion Project
OT-GS	Oyu Tolgoi – Gashuun-Sukhait
OT-KB	Oyu Tolgoi – Khanbogd
PAF	Potentially acid forming
PEM	Participatory Environmental Monitoring
PMP	Pastureland Management Plan
PR	Performance Requirement
PS	Performance Standard
RAP	Resettlement Action Plan
RECB	Research and Experiment Center for Boilers
RT	Rio Tinto
RTBS	Rio Tinto Business Solutions
SC	Standard Chartered Bank
SEA	Sustainability East Asia LLC
SEP	Stakeholder Engagement Plan
SOW	Scope of Work
SPA	Strictly Protected Area
TBC	The Biodiversity Consultancy
TDS	Total Dissolved Solid
TMP	Transport Management Plan
TPC	Tripartite Committee
TPD	Tonnes per day
TSF	Tailings Storage Facility
UG	Underground
US EXIM	Export-Import Bank of the United States
VWP	Vibrating Wire Piezometer

WCS	Wildlife Conservation Society
WMC	Waste Management Centre
WMP	Water Monitoring Plan
WRD	Waste Rock Dump
WRMP	Water Resources Management Plan

EXECUTIVE SUMMARY

The Oyu Tolgoi Project (“the Project” or “OT Project”) is a world-scale copper/gold mine located in Khanbogd soum¹ 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 Lenders² group financing the OT Project.

The key role of the IESC is to monitor the compliance of the Project against commitments with applicable Lenders’ standards through desk-top reviews and periodic visits to the Project and, specifically 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)³, if any identified; and
- identify specific issues, and conduct follow-up and closure of findings and observations identified in the September 2015 IESC Interim Audit Report⁴.

This report details the findings of the IESC during the April 2016 audit conducted as a desk-top review of the documentation provided and teleconferences with OT site personnel held between the 11th and 25th April, 2016. The scope was to review the most recent environmental, social, health and safety documentation/data associated with Project operation, to highlight any impacts/incidents reported by the Project since the last IESC site visit and to identify whether the Project mitigation measures are being implemented as required.

The audit has not covered topics for which it would be necessary to observe performance through a “standard” site visit. However, the report provides follow-up on the status of non-conformances (see Issues Table in Section 3) with respect to the Project commitments as included in the Operational Phase Management Plans (OMPs), the Environmental and Social Impact Assessment (ESIA), the Environmental and Social Action Plan (ESAP), and other reference documents.

Topics not covered in this report will be addressed during the next site visit expected to take place in August 2016 when the entire IESC team will be mobilized in the field.

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

² 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.

³ 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...”.

⁴ D’Appolonia, “Independent Environmental & Social Compliance Monitoring Report – September 2015 Site Visit Audit Report”, dated December 2015.

The main observations of this desk-top exercise are summarized as follows.

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 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. Most of these have been accepted by the Lenders, while others that have yet to be accepted are the subject of ongoing review and monitoring to reach resolution.

Water and Wastewater Management

OT 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 were 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 mitigation in accordance with the original goals of the Undai River Diversion as described in the ESIA.

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). The final configuration of the Undai River Diversion, reflecting the existing system, was approved by the TPC in September 2015. As part of this agreement OT has agreed to implement follow-up recommendations (for example biological rehabilitation). The system will continue to be monitored over time to ensure efficacy.

Evidence exists of exploration bores interconnecting hydrogeological units within the Gunnii Hooloi borefield. The hand over of rehabilitated and known interconnecting (cascading) bores is planned for the 2016 field season. Hand over of additional bores with similar construction characteristics as the cascading bores will occur in the 2017 field season. Some additional monitoring bores were installed during the 2015 field season although completion of all supplementary monitoring bores, as discussed in the WMP, has not yet taken place. OT anticipates completion of supplementary monitoring bores in and near the MLA during the 2016 field season; additional monitoring bores will be installed in the Gunnii Hooloi region during the 2017 field season. OT consumption of raw water from the Gunnii Hooloi aquifer, which is brackish, averaged 421 L/ton of ore produced. This is significantly below the global average rate of 1,220 L/ton-ore. In 2015 an overall water recycling efficiency rate of 85.6% was achieved. There are seepages present in the north and east toes of the TSF. These were anticipated and a pump-back system is place to capture and return these flows. Unanticipated seepage behavior is present to the south of Cell #1 and this behavior is being tracked to determine if actions are warranted; this seepage does not produce surface flow nor does it represent an immediate risk to down gradient environmental receptors.

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. A WRD Re-Vegetation Trial Project is being

developed to initiate regrading of a segment of the South Dump and establish trial cover systems to evaluate performance.

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. Reclaim water management within the TSF has been effectively managed by the barge pump station. With construction of the TSF and rising tailings and water levels, surveillance is critical to identifying and addressing geotechnical conditions and instrumentation monitoring, and the TSF Operation, Maintenance and Surveillance Manual drafted in 2013 needs to be updated to reflect current design and operation requirements. 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. 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 was completed in October 2015 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.

Non-Mineral Waste Management

The Project continues to implement the waste management strategy defined in the relevant Operational Management Plans and related operating procedures. All wastes generated at site are disposed at the new Waste Management Center (WMC) where they are either incinerated, buried in the disposal cell or temporarily stored before recycling. During the interviews the IESC understood that the existing cell is progressively filling up and, dependent upon the waste prediction and estimate of remaining cell life, the additional cells will be constructed accordingly. In terms of waste management a significant achievement was the disposal of about 3,4 tons of ammonia that were temporarily stored at the CHP through neutralization by mean of hydrochloric acid and final disposal as process water to the TSS plant.

During the September 2015 visit at the WMC the IESC observed some oily drums improperly stored on a geomembrane liner with holes and leaks. During this audit pictures with evidence of actions taken have been provided and the issue is considered resolved.

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 visual reduction of TSP concentrations from within the COS facility; however ambient air particulate monitoring data continue to exceed the Project Standard. There is an accumulation of very fine material surrounding the COS facility and this material may require removal or other management to improve ambient air quality. Further dust mitigations are planned for the 2016 field season.

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 approved in Q1 2016 and it is expected that this equipment will be installed during the 2016 field season.

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 boiler at the Khanbumbat (OT) airport. Sampling at the CHP shows exceedances of Project Standards for NO_x, SO₂, and particulate matter. The measured exceedances from the CHP not considered to be significant as these are generally occurring when the boilers are under low load, especially during the summer period when the heating outputs from the CHP fall below the levels needed for the waste gas treatment systems to be efficient. During these periods, the CHP is operating below the minimum loads stated in the EU Directives that are the basis of the project standards. Under these low load conditions the volume of emission is very low and measurements of waste gasses at ground level has not shown any exceedance of ambient air quality standards resulting from CHP emissions. Further to this Oyu Tolgoi is in

the process of establishing an ambient air quality network that will measure the key gasses of concern that are emitted from the CHP. The ambient air quality network will allow a more representative measure of the potential health and environmental impact of emissions from the CHP through continuous monitoring of air quality at ground level within the Project area.

Emissions quality of the CHP has been a persistent issue and the project Asset Management Group continues to perform an internal review of the whole system, including monitoring procedures. Pending action items include resolution of issues surrounding incomplete combustion of coal and low operating temperatures, definition of optimal coal and limestone specifications, and refinement of emission monitoring procedures. Already routine bag filter change-out procedures have been established and in January 2016 a “winter mode test” was performed on the 29 MW boilers. The report from this testing will be available in Q3 of 2016. During the summer 2016 shut down period a “boiler refractory job” will be executed with the boiler manufacturer. It is expected that full implementation of these action items will result in improvement in stack emission quality.

A December 2015 site visit by the manufacturer of the project incinerator noted key improvements that are necessary to improve performance of the unit. These include installation of a new chimney damper section, repairs to the primary chamber and maintenance of the system in accordance with manufacturer guidelines. The report concluded that it is likely the incinerator is currently not achieving the designed combustion temperature of 1000 degrees Celsius. However OT has recently represented that repairs have been made to the incinerator and that combustion temperatures are now meeting design criteria; this will be verified in the next audit.

OT records greenhouse gas emissions (GHGs) and reports a total of 1,463,057 tonnes of CO₂ (eq) generation in 2015. This is an increase over the 1,353,805 tonnes CO₂ (eq) generation in 2014. Of the 2015 total over 80% of GHGs generated were related to the purchase of electricity with Scope 2 emissions of 1,230,661 CO₂ (eq). Scope 1 direct emissions were 235,523 CO₂ (eq) and indirect Scope 3 emissions are negligible.

A third party *Review of Oyu Tolgoi's Greenhouse Gas Emissions* report was prepared in 2015. This report describes current GHG tracking efforts undertaken to comply with RT's Greenhouse and Energy Usage workbook requirements; however recommendations are made to improve and coordinate accounting practices with Lender guidelines.

Emergency Preparedness & Response

The Emergency Response Team operating under the Emergency Preparedness and Response Plan (EPRP) has updated Emergency Response Procedures (ERPr) to address potential incidents specific to Project areas/departments where high and critical risks exist. Fifteen ERPr have been prepared to address the general site area or specific areas/departments. A reformatted ERPr - TSF has been prepared under the new BRMP, has been approved for implementation, and a ERPr – TSF Communities and Stakeholder engagement plan is being drafted to support the communities relations officers with notification to communities and herders within the emergency response coverage area.

The Underground Emergency Response Plan was updated in January 2016 and submitted to the Ministry of Mines, which identifies key activities in preparation for resumption of underground mine development.

Transport Management

Transport Service Providers have maintained their induction, communities and environmental awareness training programs, and are preparing to implement a fatigue management program, including the use of SmartCap technology providing operator alerts in real time.

Ecological Management and Biodiversity

OT's biodiversity-related plans and procedures have been reviewed and refined in a joint activity between Lenders, OT and supporting biodiversity consultants to reflect the updated Net Positive Impact Forecast and OT's planned biodiversity offset projects. The following plans have been finalised in discussion with Lenders, together with an updated Net Positive Impact forecast:

- 1) Biodiversity Action Plan;
- 2) Biodiversity Monitoring and Evaluation Plan;

- 3) Land Disturbance Control and Rehabilitation Management Plan (LDCRMP) and associated procedures; and
- 4) Offsets Management Plan.

These have been approved by Lenders and are disclosed on OT's website in English, with versions in Mongolian to follow. Disclosure of this package of updated plans by OT addresses several issues identified in the IESC review of September 2015, including the need to update the Lenders' Biodiversity Action Plan (BAP) and finalize a comprehensive Biodiversity Monitoring and Evaluation Plan (BMEP). The latter now addresses the full range of priority species, (as well as those with critical habitat affected by the Project) and provides a robust framework for adaptive management, with the exception of the draft monitoring framework for critical ecosystem services affected by the Project, due before the end of June 2016.

OT's biodiversity Offset Management Plan sets out the specific Projects that OT plans to take forward to achieve Net Positive Impact in line with its forecast. In line with BAP requirements, OT has established a finance mechanism for these projects and has also put measures in place for corrective action if required outcomes are not achieved as scheduled. The Stakeholder Engagement Plan remains an essential cornerstone of offset implementation, still under development. When in place, it will play a key part in directing stakeholder engagement on key issues such as illegal hunting and harvesting, among other issues. A draft is due for Lender Review by the end of June, 2016.

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. OT has developed a new Land Disturbance Control and Rehabilitation Management Plan and associated Biological Rehabilitation Procedure as the key implementation mechanism for meeting these requirements. All related procedures have also been updated, notably the Topsoil Handling Procedure, Technical Rehabilitation Procedure and Land Disturbance Permit Procedure (together with its Annexes). Completion criteria for evaluating success of biological rehabilitation have been developed and form part of an integrated and improved package of procedures that is considered to meet Lender requirements. OT's progress in biological rehabilitation and the effectiveness of the LDCRMP and associated procedures will be reviewed in the next site visit, when there has been an opportunity for the new plan and procedures to be implemented in practice. OT has indicated that mechanisms for relevant departments to meet and discuss programmes of work in advance are being developed, so that a more strategic approach is taken to planning and management of land disturbance. This will also be reviewed during the next site visit to ensure that appropriate avoidance of priority biodiversity features is built into OT's approach to planning and environmental assessment of land disturbance.

The IESC audit in September 2015 emphasized the ongoing need for OT to finalize a "Road Mitigation Strategy" to address potential barrier and disturbance effects of roads and traffic on ungulate species with critical habitat affected by the Project. This is a requirement of the BAP, with a draft strategy now due to be submitted to Lenders for review in this quarter (Q2 2016). As indicated in the NPI forecast, further work is needed to finalise thresholds for crossing frequency and confirm the indicators that will be used to monitor "state" or populations and progress will be reviewed in the next audit when there has been an opportunity to meet with specialist consultants and discuss the scientific basis for these indicators and thresholds in more depth. On the assumption that the strategy will address barrier and disturbance effects and other relevant influences of OT infrastructure and activities in combination with other cumulative impacts in the landscape, the non-conformance related to road barriers and off-road driving (M4.3) has been closed. Related to this issue is planned engagement of an independent scientific panel to provide opinions on technical questions related to the Road Mitigation Strategy and other matters (subject to agreement of subsequent mandates between OT and Lenders). Terms of Reference for this panel and an initial mandate are also due to be finalised and agreed by OT and Lenders before the end of June 2016, with a view to engaging panel members before the end of 2016.

OT has undertaken to maintain dedicated technical biodiversity roles so that it has sufficient specialist capacity to manage biodiversity risks and issues. In accordance with the BAP, OT has hired a "Superintendent Biodiversity" to manage the biodiversity team and the various Consultants and Contractors who research and implement biodiversity-related projects on behalf of OT. This role also involves liaising

with government regulators and departments to ensure that the biodiversity research work undertaken by OT aligns with government requirements and plans. Another key role is to engage with other stakeholders regarding biodiversity issues and initiatives. With this role in place, and with ongoing input from its specialist consultants, the Project is well positioned to take a role in development of offset policy and biodiversity conservation in the region, whilst also managing and monitoring its ongoing biodiversity risks and impacts, the effectiveness of mitigation and the success of offset activities.

Labour and Working Conditions

As of 29 February 2016, there were 3,209 workers and contractors (including UG) employed by OT LLC and contractor companies. The total workforce comprises 96% Mongolian nationals. There has been a decrease in the total workforce by approximately 700 people since the previous audit due to non-extension of contract roles and a freeze on new recruitment, however, there has also been a 2% increase in the number of South Gobi resident employees, to 22.5% of the total workforce (total 1,231 people). Total workforce numbers are expected to increase in the coming period due to the ramp up for UG construction. Readiness activities are continuing, with 78 of the anticipated 110 Oyu Tolgoi Expansion Projects (OTEP) staff and approximately 200 contractors related to UG also mobilized.

Employee grievances are consistent in this period with previous audit results, with nine complaints registered through SpeakOut, the internal grievance mechanism, in Q1/2016. Inclusion of identifying information of the complainants in SpeakOut suggests a trust in the system, for which OT is to be commended.

Information sharing and disclosure on recruitment, training and employment data has been strengthened since the previous audit, with updates provided in recent community newsletters on HR statistics and a range of other relevant employment and training topics.

An internal South Gobi Steering Committee has been established with the CSP team, HR, Procurement, Environment and other executive representatives, to formulate and oversee implementation of at 10 year OT South Gobi Strategy. From an HR perspective this process is intended to strengthen management of areas such as workforce accommodation, rosters, and fatigue management, as well as recruitment practices to minimize influx risks in the South Gobi area. This will also be used to inform the roster review that is currently underway and favours Khanbogd-based residency. This will hopefully contribute to more South Gobi-based employees; OT is encouraged to consider options to support an increase in national employment.

Progress has been made on the 4th collective agreement for OT LLC employees and the OT Trade Union. 'Reasonable and mutually beneficial' outcomes are being sought between parties; finalization of the new agreement is anticipated by end of Q2/2016. Long service has been recognized by OT LLC with 177 employees receiving recognition and rewards in the first round of ceremonies for service to the company for 5, 10, 15 and 20 years. Following discussion with the Trade Union/other relevant employees, this non-conformance will be closed.

The IESC anticipates the UG organization will be finalized prior to ramp-up and will be available for Lender/IESC review at the next audit. Currently OT is assessing worker accommodation requirements in anticipation of UG ramp up, with a view to accommodating all workers within the existing OT camp footprint, rather than by opening any temporary camps external to the OT site.

Resettlement, Compensation and Livelihoods Improvement

The latest version of the Resettlement Action Plan (RAP) was updated and disclosed to the public in September 2015. A range of specific meetings and discussions including with the Tripartite Council were also held to inform and discuss the current RAP with key stakeholders. This RAP is focused on the post-construction and early operations phase and incorporates the outcomes to date as well as actions required to fulfil remaining commitments to the displaced herder population.

All commitments related to pastureland management, herder livelihood improvements and vulnerable people are under the one umbrella, overseen by the Tripartite Council and under the guise of the Cooperation Agreement. The focus of future livelihood improvement activities is on household level

support for families identified as requiring additional assistance; rather than on more general projects broadly targeting herder households.

It is understood that all outstanding actions from the resettlement completion audit have now been implemented and as such, once verified by the IESC at the next visit, the resettlement component of the OT Project should be considered complete.

All 'one-off' entitlements have all been provided as per the compensation agreements for economically displaced herders from 2011. OT is aiming to close out compensation agreements once the education support requirements are finalized for all families.⁵

Importantly, the Multi-Disciplinary Team (MDT) study commenced in early 2016. The TPC is to be commended for reaching consensus to allow this study to start. The MDT team is engaged and agreement has been reached on the scope and methodology of the study. The fieldwork is scheduled for May and the work is expected to be completed in Q4/2016. It is essential that this process reaches a timely conclusion. Close guidance on implementation of the study will need to be maintained by OT to ensure the outcomes are constructive and tangible and can be used to make decisions on further contributions to herders in Khanbogd. The findings from the MDT study should also include criteria/targets that once met, will allow the livelihood restoration process and past complaints, to be eventually considered closed.

It has been recognized by OT that it is necessary to transition economically displaced herders in Khanbogd from entitlements through compensation agreements to targeted livelihood improvement assistance; in cases where livelihoods are not yet improved. A transition strategy for herder income generation has been developed to achieve this and a total of 21 households have so far been involved in identifying income generation projects for support from the Development Support Fund (DSF) or other funding sources. The IESC is pleased to see a focus on household level income generation activities in addition to herder cooperative development activities.

Pastureland Management Plan (PMP) implementation has advanced since the previous audit. A participatory rangeland monitoring (PRM) team, with capacity building support, has now been established in Khanbogd *soum*, and most notably, a Pasture Use Plan has been developed and communicated within the *soum*. This plan includes pasture use maps and a division of responsibilities for pasture use and management within the *soum*. In support of animal health, an 'Animal Husbandry Development' program was unanimously approved by the *soum* Citizen's Representative Khural, and this is the program for delivery of a range of animal health and other projects (e.g., fodder distribution is under this program, as are animal disinfection services and other herder cooperative development activities on animal husbandry).

Support to vulnerable displaced households is ongoing; OT has agreed a joint plan with the *soum* for 2016. Three new families were identified as eligible for the vulnerable people program. Extensive engagement has been conducted with vulnerable families on the DSF. As a result, this group identified a Repair Centre as a proposal to put forward to the DSF, which will be led by the Life-long Education Centre, based at the CIC in Khanbogd. A further 3 out of 6 proposals for income generation by vulnerable people have been approved for funding from the *aimag*'s Regional Fund. Additional support for vulnerable households in recent months included livestock restocking for 3 families, provision of equipment and training for women's sewing groups (40 women), purchase of MNT 1.4M of souvenirs from these sewing groups by OT, and support for a vulnerable family to establish a coffee shop in the CIC.

Stakeholder Engagement

The CSP team have continued with a range of engagement activities with Khanbogd and other target communities including information disclosure and community engagement on the Gobi Oyu DSF through a series of town hall meetings and targeted engagement activities including meetings with herders, vulnerable households and cooperatives. Topic specific engagements have included those on the Bor Ovoo/Undai new spring location, and the OT-Gashain-Sukhait (GSK) Road Zones 3-5 construction, and engagement through the Tripartite Council has resulted in agreement between herders and the *soum* on a Bor Ovoo replacement option. A total of 278 visitors have been on site tours since the last audit.

⁵ Education support entitlements are recurring during the period of study for school children and those in tertiary education.

The Community Interaction Centre (CIC) in Khanbogd has now been handed over to the community through the soum authorities. The CIC is one of the main mechanisms for information disclosure together with the monthly community newsletter and various other brochures and materials prepared by OT as required. The OT UG Supplier Development Forum was held in November 2015 in Ulaanbaatar to promote business opportunities in Khanbogd and involved over 1,000 businesses. At this event, a Khanbogd transport provider won the best supplier award; highlighting the successes to date on local content by the operation.

A total of 6 grievances were received from the community for the period September 2015 – April 2016, all of which received a response within required timeframes, while regular reporting to communities on grievances continues through the monthly community newsletter. The specific process for Khanbogd herder complaint resolution has been formally shifted to the Tripartite Council. The Tripartite Council is now fully operational and overseeing the MDT study and IEP which aim to deal with past herder complaints to the CAO. Six meetings were held by the Tripartite Council held from September 2015 to February 2016. Training support in conflict resolution was provided to the TPC, MDT and IEP member organized by the IFC/CAO. These groups also conducted a joint fact finding mission to OT site and surrounds.

Regional and Community Development

Regional and community development is one of the main functions of the CSP team, and the Cooperation Agreement (CA), established on 22 April 2015, is now operational. Funding for the agreement includes \$USD 5 million per annum to the Gobi Oyu DSF; the DSF was approved and launched in September 2015. The two bodies responsible for DSF disbursement are the Relationship Committee, who review and prioritize proposals against established funding criteria and make recommendations to the DSF, and the Board, the final decision maker. In February 2016, the Board considered 48 DSF proposals received from the community. At the time of the audit, the Board had not yet met to determine which proposals would be approved. The IESC looks forward to seeing progress of the DSF projects and programs implementation at the next site audit. It will be important for the signatories to the Cooperation Agreement to define and implement a process for feedback to the public on the DSF projects and programs implementation (e.g., why certain proposals are approved versus others).

Two kindergartens construction in DZ were the first projects that the DSF has invested as part of the Cooperation Agreement. The DSF Donation and Sponsorship fund allocation is 2% of the overall DSF, which is approximately USD \$100,000 annually, while the Next Generation fund is 5% of the overall DSF, or USD \$250,000 annually. Guidelines on these sub-funds have recently been developed and approved.

The Khanbogd bulk water supply project, being jointly implemented by ADB and OT, reached 55% completion of construction at the time of the audit.

Project induced in-migration issues have been raised in the current audit in response to UG ramp up and the potential risks this raises. Recent experience in recruitment of open pit operators resulted in 500 applicants arriving in Khanbogd to apply for KB-based roles, which indicates that ramping up recruitment for UG roles will require a review of the specific in-migration risks and management measures appropriate to the current environment, by OT and the soum. OT is currently developing a South Gobi Strategy through its internal South Gobi Steering Committee, which will include issues of worker accommodation, rosters and fatigue management to support local employment, all of which intersect with the potential for unmanaged Project-induced in-migration. IESC recommends the Influx MP should be updated to reflect more recent experience, context and the Project's approach to management of in-migration, consistent with the emerging South Gobi Strategy.

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.

The Critical Risk Management program, focusing on 17 critical risks to site personnel and conducting critical risk control verification, has been implemented throughout the site, and introduced into underground activities and for implementation by contractors. Process Safety Management, to address

potential hazards from the plant operating systems, considering chemical release, fire, explosion and other hazards, has been introduced in the Concentrator, Central Heating Plant, and Maxam explosives facility. Vehicle safety and fatigue management has received considerable attention, and SmartCap technology is being implemented for heavy vehicles in the Open Pit and TSF. Workplace health and safety incidents are tracked within the RTBS system, reviewed and evaluated by management, and reported in monthly reports. Injury rates have been reducing, with the All Injury Frequency Rate for 2015 below industry benchmarks and target level.

Community Health and Safety

Community health program initiatives continue, including ongoing strengthening of local health systems initiatives such as attendance by 20 healthcare workers from the Khanbogd inter-*soum* hospital at English language training, and participation in a forum on strengthening of mid-term strategy health systems for Umnugobi *aimag*. A number of contractors were facilitated, by OT, to finance essential health equipment in Khanbogd and a 'Healthy Herder' project proposal was put forward by the Khanbogd hospital with support from the CSP team for consideration for DSF funding; in response to IESC recommendations to development herder health contributions in the *soum*.

An adolescent and youth-friendly clinic was launched at the Khanbogd hospital and a project support team has been established for the Youth Development Centre. The 'Y-peer' club, which reached 1,050 young people in 2015, now has 25 trainers and 75 peer educators. Youth support groups (e.g., for young mothers) and youth special interest groups have recently been established in Khanbogd. These youth projects are highly regarded locally and are also gaining interest in other Umnugobi *soums*. The IESC commends the efforts by OT and partners to reach this important, but often difficult to engage, cohort in the host community.

No community safety incidents or concerns were reported by OT for this audit. Crime statistics continue to be monitored by OT and the previous increase in registered crime noticed in the first half of 2015 appears not to have continued into the later part of the year. Overall there does not appear to be an increasing trend in registered crime in Khanbogd. It remains important for OT to engage with Police and other *soum* authorities in Khanbogd on potential safety and crime issues in advance of the UG workforce ramp up; and to determine if any particular mitigations may be needed.

The Emergency Response Procedure (ERPr) – Tailings Storage Facility (TSF) exercise was organized in December 2015 to acquaint the Communities Department and community relations officer with the emergency notification process, and verify/update contact information; a Communities and Stakeholder engagement plan is being drafted for external engagement on the Procedure, and a desktop exercise is planned for internal engagement for the second quarter of 2016.

Cultural Heritage Management

The OT Cultural Heritage Management Plan (CHMP) remains in place and the zero CH incident status has been maintained. Under the Cultural Heritage Management System (CHMS) procedures, induction for OT LLC and contractors in the Chance Find procedure has been delivered to 227 people and 16 Land Disturbance Permits issued in Q4/2015 and Q1/2016.

Cultural heritage and paleontological monitoring has been undertaken during construction of the Khanbogd bulk water supply project, with the first and second stages complete, and the third stage due for completion on 30 June 2016. It is positive for OT to promote good practice in cultural heritage management and implementation of a chance finds procedure on projects outside of their own operations.

The *Shar Tsav* and *Khurdet* Cave CHMPs were disclosed, presented to, and unanimously approved by the Umnugobi *aimag* Citizens Representative Khural.

Establishment of the Centre for Gobi Regional Cultural Heritage and Development Studies, in partnership with the Mongolian Academy of Sciences (MAS) and the Umnugobi *aimag* is progressing, with its implementation included in the CHMP and now subject to discussion by the Presidium of the MAS. It appears probable that the centre will now progress to implementation.

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)⁶ 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 1st 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 during the April 2016 audit conducted as a desk-top review of the documentation provided and teleconferences with OT site personnel. 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 identified in the previous IESC reports. Findings identified in this report are primarily based on written information made available by the Project through existing reports, disclosed studies and ad-hoc presentations, as well as from interviews via conference calls with OT employees. Topics not covered in this report will be addressed during the next site visit expected to take place in August 2016 when the entire IESC team will be mobilized.

Specific activities conducted included the following:

- desk review of the EHS and social documentation and other project-related reports provided by OT in advance or during the desk-top exercise;
- conference calls with the project teams responsible for HSE and social compliance monitoring and review of relevant plans and procedures;
- evaluation of implementation of the commitments contained within the OMPs and the ESAP;
- identification of deviations and/or gaps with respect to the OMPs and ESAP commitments, including recommendation for possible EHS improvements based on Good International Industry Practice (GIIP);
- follow-up and closure of findings and observations identified in the September 2015 IESC Audit Report⁷, and
- drafting of an IESC report (this report) to be publicly disclosed.

⁶ 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), Angela Reeman (Social / Community Specialist), Jo Treweek (Biodiversity Specialist).

⁷ D’Appolonia, “Independent Environmental & Social Compliance Monitoring Report – site Visit November 2014”, dated February 2015.

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.

PROJECT OVERVIEW

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. For 2015, OT's second full year of production, the mine operated at record levels. Productivity improvements in the concentrator implemented throughout the year led to throughput exceeding nameplate capacity by year end. Copper production for 2015 was 202,200 tons, and gold production was 653,000 ounces. OT expects the 2016 annual production to be between 175 and 195 kt of copper and 210 to 260 koz of gold; the reduction in gold compared to 2015 is expected to result from mining in lower-grade gold areas and processing of lower-grade stockpiled ore.

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, and pre-start activities are underway in parallel with an update to the feasibility study capital estimate. 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 April 2015 desk-top audit, pre-start activities for the underground mine were reported to include the tie-in of Shaft 2 to mine working to serve as a second egress, installation of ground support elements, and improvements or upgrades to other mine infrastructure. 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.

Report Organization

Subsequent sections of this report are organized as follows:

- Section 3.0– Issues Table;
- Section 4.0 – Health, Safety, Environment and Social Performance Management Systems;
- 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.

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 ESMP⁸ 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;
- No Class III non-conformances identified;
- Seven Class II non-conformances identified; and
- Five Class I non conformances identified.

⁸ *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, six during the September 2015 and nine during this audit.

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
Environment – Water and Wastewater Management							
M1.5	Oct.13 April 14 Desktop Audit Aug. 14 Nov.14 Desktop Audit April 15 Sept.15 Desktop Audit April 2016		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 5.1.2.8. Evidence exists of exploration bores interconnecting hydrogeological units within the Gunii Hooloi borefield. OT has coordinated with the TPC to action abandonment of cascading bores during the 2016 field season. Additional abandonment of bores with similar construction specifications as those with recognized cascading behaviour will be completed during the 2017 field season.
M2.3	April 14 Desktop Audit Aug. 14 Nov.14 Sept.15 Desktop Audit April 2016		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 5.1.2.9. 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. Remaining bores in and near the MLA will be completed in the 2016 field season, with supplementary monitoring bores in the Gunni Hooloi installed during the 2017 field season.

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
Environment –Non-Mineral Waste Management							
M5.1	Sept. 15	May 16	<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)	Closed	<p>See Section 5.3.2. Evidence through pictures was provided that the geomembrane liner has been replaced and the overall condition of the storage area have been improved.</p> <p>In addition, waste oil is reportedly to be recycled through local vendors and not stored at site.</p>
Environment – Air Quality							
M1.11	<p>Oct.13 April 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15 Sept. 15 Desktop Audit April 16</p>		<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	<p>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 continuous use. This has resulted in visual reduction in TSP presence within the COS facility vicinities. However ambient monitoring results still significantly exceed the Project Standard. There is an accumulation of very fine material surrounding the COS facility and this material may require removal or other management to improve ambient air quality monitoring results. Further dust mitigations are planned for the 2016 field season.</p>

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 Desktop Audit April 16		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.	II	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 existing ambient air monitoring network requires improvement to meet commitments made in the revised AQMP, and to monitor ambient air quality relative to Project Standards. In Q1 2016 the Project approved a Capital Expenditure Request allowing for the purchase and installation of additional monitoring equipment as well as training on its use. It is anticipated that this work stream will be completed in Q3 2016
M1.13	Oct.13 April 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15 Sept. 15 Desktop Audit April 16		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 the project Asset Management Group plan to conduct an internal review of the whole system, including monitoring procedures. Pending action items include resolution of issues surrounding incomplete combustion of coal and low operating temperatures, definition of optimal coal and limestone specifications, and refinement of emission monitoring procedures. It is hoped that full implementation of action items will result in improvement in stack emission quality; however to date monitoring data at the CHP reflect continued poor performance relative to Project Standards. This has been maintained as a Level II non-conformance due to near-term plans to improve performance of the CHP. However, it is noted that there are long-standing issues with CHP 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.

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
M2.4	<p>April 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15 Sept. 15 Desktop Audit April 16</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. A December 2015 site visit by the manufacturer of the project incinerator noted key improvements that are necessary to improve performance of the unit. These include installation of a new chimney damper section, repairs to the primary chamber and maintenance of the system in accordance with manufacturer guidelines. It is likely the incinerator is not achieving the designed combustion temperature of 1000 degrees Celsius.</p> <p>This has been maintained as a Level II non-conformance due to near-term plans to achieve successful operation of the incinerator via implementation of action items from the December 2015 site visit by the unit manufacturer. 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
M7.1	Desktop Audit April 16		Greenhouse gas emissions inventorying requires review to ensure consistency with international best practice reporting requirements (e.g., World Business Council for Sustainable Development).	I	Atmospheric Emissions Management Plan (AQ02 and AQ07)	Open	<p>See Section 5.5.2.4. A third party <i>Review of Oyu Tolgoi's Greenhouse Gas Emissions</i> report was finalized in February 2016. This report describes current GHG tracking efforts undertaken to comply with RT's Greenhouse and Energy Usage workbook requirements; however recommendations are made to improve and coordinate accounting practices with Lender guidelines. Recommendations of the review include, among others:</p> <ul style="list-style-type: none"> • Checking the consistency of emission estimation methods used by the Rio Tinto workbook approach; • Establishment of "baseline" GHG emission values for the operation. • Development of a GHG Management Plan and an Energy Efficiency Opportunity Plan in consideration of established baseline and future expansion of the mine or production schedules. <p>The recommendations of the February 2016 <i>Oyu Tolgoi's Greenhouse Gas Emissions</i> report should be implemented to ensure accurate accounting of GHG emissions. This in turn will allow successful tracking of on-going GHG reduction initiatives. Project GHG inventorying should conform to international best practice requirements.</p>

Mission / Issue No.	Site Visit	Closing Date	Description	Non-Conformance	Reference	Status	Comments / Report Reference
Environment – Emergency Preparedness & Response							
M4.2	Nov. 14 Desktop Audit April 15 Sept. 15	Desktop Audit April 16	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)	Closed	See Section 5.7.2. The draft TSF Emergency Response Procedure has been reformatted as Emergency Response Procedure – TSF, reviewed by ERT and Communities teams, and finalized. The non-conformance is therefore considered closed.
Environment – Biodiversity and Ecological Management							
M1.16	Oct.13 April 14 Desktop Audit Aug. 14 Nov.14 Desktop Audit April 15 Sept.15	Desk Audit April 16	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)	Closed	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. This non-conformance has been closed because OT has provided a clear plan of action within the OMP, including a costed implementation plan.

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	Desk Audit April 16	Ecological equivalence of Replacement BorOvoo Spring.	I	ESIA Ch B7a Table 7.1	Closed	<p>Section 5.9.2.6. 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.</p> <p>Through the auspices of the Ecosystem Services Group, OT has engaged with herders to discuss the possibility of temporary fencing (for a couple of years) to protect rehabilitated vegetation and plant communities so that they have a chance to establish without damage from grazing. OT has also worked with herders to confirm target vegetation types and plant species to be reinstated. The proposed location of the fencing is agreed and field trials can therefore be initiated. This non-conformance can therefore 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	Desk Audit April 16	Measures to maintain habitat connectivity for wide-ranging wildlife species with critical habitat affected by the Project. Mitigation of barrier and disturbance effects associated with transport and traffic..	III	BMP ID B16 and Annex C, ID 5	Closed	<p>Section 5.9.2.2. 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. Traffic, including vehicles driven off-road can also cause disturbance and add to barrier effects caused by roads and other linear infrastructure.</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. It was agreed that under or overpasses may not be the best or most cost-effective solution at a meeting held in November 2014 in Ulaanbaatar and other potential solutions were discussed, including carefully timed road closures.</p> <p>OT committed to develop and implement an OT-GSK Road Mitigation Strategy that explores the various management options available, including road closures, restrictions on vehicle movements, engagement with regional bodies and institutions involved in regional-scale sustainable development and traffic monitoring (of the OT-GSK road as well as non-OT roads and effects on animal behavior). A revised timeline for this was agreed with Lenders, whereby OT needs to submit its draft strategy for Lender review and comment by the end of June 2016. This revised timeline means the current non-conformance has been closed.</p>
M2.6	Apr. 14 Desktop Audit Aug. 14 Nov. 14		Stakeholder Engagement Plan for biodiversity and ecosystem services.	I	Biodiversity Management Plan (B05) LBAP ID 24, (BMP Annex C)	Open	<p>Section 5.9.2.5. 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” (SEP) covering implementation of on-site mitigation, OMP</p>

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	Desktop Audit April 15 Sept.15 Desk Audit April 16						implementation and engagement related to regional/landscape level planning. The Ecosystem Services Group has now initiated development of an SEP and 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 conformance will be closed when a targeted Stakeholder Engagement Plan has been reviewed by Lenders and can be seen to underpin effective engagement (BAP ID 16).
M2.7	Apr. 14 Desktop Audit Aug. 14 Nov.14 Desktop Audit April 15 Sept.15	Desktop Audit April 2016	Land Use Implementation Plan or equivalent.	I	LBAP ID 18c (BMP Annex C)	Closed	<p>Section 5.9.2.6. 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 and lenders approved OT's request to remove this requirement from the BMP. In September 2015, OT submitted a draft Land Disturbance Control and Rehabilitation Management Plan for lender review, together with a new Biological Rehabilitation Procedure and revised Technical Rehabilitation Procedure, Topsoil Handling Procedure and Land Disturbance Permit Procedure. This plan is now in place following substantive revision, development of completion indicators to evaluate outcomes and finalization of associated procedures, including the Rare Plant Protection Procedure.</p> <p>The Plan and procedures were reviewed and approved by Lenders in April 2016 subject to approval of the completion criteria by the IESC. Observations on the</p>

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							Completion Criteria are provided in this report. The non-conformance is closed.
M4.3	Nov.14 Desktop Audit April 15 Sept.15	Desktop Audit April 2016	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).	Closed	<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), but the need for alternative recommendations to manage this issue has not been resolved and needs to be articulated in the Road Mitigation Strategy.</p> <p>In line with BAP (ID14) OT has engaged in awareness-raising on this issue at local, regional and national levels and is making strong efforts to control illegal hunting through its anti-poaching activities. The issue has been profiled in awareness-raising initiatives both within OT and in KB and training materials have been updated.</p> <p>Based on the assumption that cumulative increases in disturbance to ungulates from vehicles throughout the landscape due to OT's activities and those of others operating in the area will be addressed in the Road Mitigation Strategy (refer to M2.5) and that disturbance footprint is monitored as a basis for quantifying disturbance effects, this non-conformance can be considered closed.</p>
M4.4	Nov.14 Desktop Audit April 15 Sept.15	Desktop Audit April 2016	OT undertook to develop a biodiversity Offset Management Plan and submit it for lender review, identifying proposed offsets and implementation mechanisms.	II	LBAP 13	Closed	OT undertook to develop and implement a Biodiversity Offset Management Plan (OMP) that manages the significant adverse impacts of the Project on critical habitat and provides the basis for working towards a net positive impact over the life of the mine. A revised timeline for submission of Q1 2015 was agreed with Lenders in November 2014. OT's consultants developed an Interim Offset Management Plan with options to consider and the Final OMP was reviewed and approved by Lenders in April 2016, together with a sustainable finance mechanism for implementation that was discussed and agreed with Lenders. As an approved

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							OMP is in place, this non-conformance is considered closed.
M4.5	Nov.14 Desktop Audit April 15 Sept.15 Desktop Audit April 2016		Monitoring of critical Ecosystem Services	I	LBAP 17 ESAP Item 7; Pastureland and Livelihood Improvement Strategy; RAP Entitlements Matrix BAP ID6	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 progress in developing a framework for monitoring OT's impacts on ecosystem services and is already engaged in relevant monitoring activities. BAP (ID6) requires the draft monitoring framework for critical ecosystem services affected by the Project to be submitted for lender review by the end of June 2016, however the non-conformance is held open due to the need for improved coverage of ecosystem service use and benefit, as needed to meet PS6 requirements..
M5.2	Sept.15	Desktop Audit April 2016	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	Closed	As a commitment in the BAP (BAP ID3), 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 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, but later merged this role with that of Manager - Environment and Biodiversity, so there is no longer a full time specialist in place. Lenders see fulfilment of this commitment as critical and expect OT to seek support from a suitably qualified senior level specialist to manage its offsets programme on the operational and technical side, advance the full monitoring programme, manage contractor performance

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							and lead on engagement with the Government of Mongolia and other stakeholders regarding implementation of offsets commensurate with residual impacts. Furthermore, to meet Lender 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. In line with BAP (ID 3) OT has hired a new biodiversity superintendent with responsibility for management of OT's biodiversity program and implementation of offset projects. This non-conformance is therefore closed.
M5.3	Sept.15		Planning of Land Disturbance to support appropriate application of the mitigation hierarchy.	II	LBAP ID 18c (BMP Annex C)	Open	<p>Section 5.9.2.6. 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.</p> <p>OT's approach to strategic management and environmental 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.</p> <p>OT plans to implement mechanisms for relevant departments to meet and discuss land disturbance requirements and schedules so that impacts on priority features can be avoided. It was not possible to review the effectiveness of these mechanisms in this audit and they will be addressed in the next site visit.</p>

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Social - Labor & Working Conditions							
M5.4	Sept 15 Desktop Audit April 2016		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 6.2.2.1. Corrective action has been taken to recognize long service of employees, in accordance with the Collective Agreement between OT LLC and the Trade Union. In the first round of awards, 227 employees were recognized for service of 5 years (143 people), 10 years (29 people), 15 years (4 people) and 20 years of service (1 person). OT reports that approximately 170 employees will be recognized in the next round in July 2016, in what will be the second round of service awards for employees meeting these significant milestones with the Company. Following discussion with the Trade Union/other relevant employees, this will close out the previous non-conformance.
Social –Resettlement, Compensation and Livelihoods Improvement							
M1.23	Oct.13 April 14 Desktop Audit Aug. 14 Nov. 14 Desktop Audit April 15 Sept 15 Desktop Audit April 2016		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 6.3.2.2. The Multi-disciplinary Team (MDT) study commenced in early 2016. The MDT team has been selected and methodology and timeframe discussions have occurred, including engagement on the research approach of 100 participant herder households in Khanbogd and a control group in Sevrei <i>soum</i> . A joint fact finding mission and conflict resolution training have also been conducted with the TPC, MDT and IEP, organized by the IFC/CAO. Fieldwork is to be undertaken in May 2016, with a draft report to be provided to the Tripartite Council in mid-September. The work is expected to be complete by Q4/2016. The Tripartite Council is to be commended for reaching consensus to enable the MDT study to start. The process of evaluating outcomes for herders in Khanbogd has been significantly delayed and it is important that this study reaches a timely conclusion.

