

SECTION C: IMPACT ASSESSMENT

CHAPTER C11: CULTURAL HERITAGE

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11. CULTURAL HERITAGE

11.1 INTRODUCTION

The impact assessment set out below describes how the Project has sought to eliminate, minimise, mitigate, offset or compensate for impacts on both tangible and intangible cultural heritage. Each of these impacts is assessed in terms of the nature of the impact, the existing and planned mitigation measures, the potential significance of the impact and the residual significance after mitigation measures have been implemented.

Impacts are considered for both tangible and intangible cultural heritage as defined by Mongolia's Protection of Cultural Heritage Law 2001, IFC Performance Standard 8 'Cultural Heritage' and EBRD Performance Requirement 8 'Cultural Heritage'. The following definitions have been used in this assessment:

- *Tangible (physical) cultural heritage* - defined as unique and non-renewable movable or immovable resources, including objects, artefacts, sites, structures, natural features or landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural value; and
- *Intangible cultural heritage* - defined as cultural knowledge, practices, representations, expressions, knowledge, skills, innovations and cultural spaces embodying traditional lifestyles and immaterial cultural resources that communities, groups and, in some cases, individuals recognise as part of their cultural heritage and which are transmitted from generation to generation.¹

Management and monitoring measures are described in *Chapter D13: Cultural Heritage Management Plan*.

11.2 SCOPE

11.2.1 Spatial Scope

The assessment covers impacts on tangible cultural heritage within Khanbogd *soum* together with impacts on intangible heritage at the *soum* and the wider *aimag* level. Within Khanbogd *soum*, the focus of the impact assessment is on the physical footprint of the Project including the Mine Licence Area, the Gunii Hooloi borefield and water supply network, the temporary and permanent airports, together with the transport and infrastructure corridor from Oyu Tolgoi to Gashuun Sukhait (Oyu Tolgoi to Gashuun Sukhait road and power line).

As the Project infrastructure expands during operations, further evaluation of archaeological impacts will be required in accordance with Government of Mongolia (GoM) and Institute of Archaeology Mongolia Academy of Science (MASIA) requirements. Additional archaeological investigations are likely to be required for infrastructure developments associated with the expansion of the *soum* centre; furthermore, 'rescue excavations' will continue to be undertaken as construction progresses. Infrastructure developments proposed include the construction of a powerline between Khanbogd and the Oyu Tolgoi mine site, construction of water abstraction infrastructure (borefield abstraction wells and supply pipeline, upgrade of the road between Khanbogd and Oyu Tolgoi). As for all other sites, MASIA will determine the need for additional archaeological investigations as the need arises.

11.2.2 Temporal Scope

The temporal scope of the assessment covers the construction phase, the life of the mine (operations), and post-mine legacy.

¹ International Finance Corporation's (IFC) Guidance Notes: Performance Standards on Social & Environmental Sustainability. Guidance Note 8 'Cultural Heritage', July 2007. European Bank for Reconstruction & Development (EBRD) Environmental and Social Policy: Performance Requirement 8 'Cultural Heritage' May 2008.

11.3 IMPACT ASSESSMENT

11.3.1 Mitigation through design

From early on the EIA process for the various project elements, attempts have been made to ‘design out’ impacts to the archaeological heritage. Wherever possible, changes have been made to the location of fixed project elements and to the design of project linear features such as the roads and water pipeline. A summary of mitigation measures is given below:

- *Realignment of the Oyu Tolgoi to Gashuun Sukhait road:* archaeological investigations for the original (2004) Oyu Tolgoi to Gashuun Sukhait (Oyu Tolgoi to Gashuun Sukhait) transport corridor identified significant material archaeological findings and this was one of several factors leading to the realignment of the road. Further surveys were conducted for revised routing options in 2006 and again in 2010 and 2011. The 2010 investigations discovered five burial sites that were subject to rescue excavations in early 2011 by MASIA.² The most recent site survey found no additional sites along the proposed Oyu Tolgoi to Gashuun Sukhait corridor at risk of road construction impacts, as a result potential impacts are considered to have been avoided (see *Chapter B12: Cultural Heritage*); and
- *Alignment of the Gunii Hooloi Water Supply Pipeline:* a number of potential grave sites were identified close to the Gunii Hooloi borefield water gathering pipelines and production boreholes (OT S-1, OT S-2 and OT S-3).³ As a result, the main pipeline alignment and connection network were designed to avoid damage to the graves. Future protection measures at three sites close to the pipeline will include demarcation and fencing during construction (see *Chapter B12: Cultural Heritage*).

No significant finds were encountered either within the footprint of the temporary or permanent airports therefore no design changes were made on the basis of archaeological significance.

11.3.2 Summary of impacts

As the Project is at an advanced stage of construction, many of the impacts on cultural heritage have already occurred e.g. in relation to land disturbance, topsoil stripping and construction of new access roads and associated borrow pits. Impacts on cultural heritage, including those which have already occurred through the construction and exploration phase, are listed below:

The physical loss of tangible heritage (physical resources) physical land disturbance associated with the construction phase of the Oyu Tolgoi Project;

- The indirect disturbance of tangible heritage through the operation of construction vehicles and machinery, operational vehicles, dust deposition and vibration effects;
- Damage and/or deliberate disturbance of heritage by Project workers and/or incomers to the region; and
- Loss of intangible heritage over time as the patterns of work, kinship, worship and sources of income change; this discussion includes the loss of ‘traditional livelihoods’ as herders transition from subsistence to waged-based employment.

During the operations phase, the potential for permanent physical disturbance of archaeological and palaeontological sites is expected to be low, since the scale and intensity of additional earthworks and engineering activities will be limited in comparison to the construction phase. Similarly, further impacts during the decommissioning phase are expected to be limited, as there is unlikely to be major ground disturbance. However, some levelling, landscaping, contouring and other land-based activities have the potential to result in further minor archaeological impacts. Should these activities remain within the

² The Implementation Area of the “Oyu Tolgoi” Project in the Territory of Khanbogd *Soum*, South Gobi Province. Report on Rescue Excavation of the Monuments that could be Damaged by Building Construction Work. Prepared by the Institute of Archaeology, Mongolian Academy of Sciences (March 2011).

³ Pipeline Realignment Archaeological Report prepared by the Institute of Archaeology, Mongolian Academy of Sciences 2006

existing disturbance footprint, no significant impacts are expected. Nevertheless, predicted changes to traditions and the traditional way of life are considered long-term effects.

A tabular summary of positive and adverse impacts is included at the end of the Chapter. A description of the key impacts arising is given below.

11.3.3 Physical Loss of Archaeological Resources

Description of the Impact

Land clearance, mineral exploration and construction activities since 2002 have required the excavation and removal of a number of archaeological resources including old copper workings, petroglyphs, stone structures, dinosaur eggs and numerous gravesites.

The excavation of archaeological resources during the construction phase is a permanent impact of widespread extent as some of the affected items have national significance, e.g. the ancient copper mines. The diversion of the Undai will result in no surface flow during flood events in the 6.8 km section of the Undai between the diversion dam and the junction with the Khuren Tolgoi (a tributary of the Undai), no subsurface flow, and the loss of the Bor Ovoo Spring. The majority (over 90%) of this 6.8 km section will be lost as a consequence of the development of the WRD (which will cover the section with the Bor Ovoo spring), the haul roads and the development of the open pit. A short section of the Undai will remain downstream of the cut-off wall in the Undai below the WRD, and upstream of the point where Khuren Tolgoi, into which the diverted waters flow channel re-joins the Undai. This short section of the Undai will be the location of a replacement spring which will be sustained by the diverted alluvial groundwater flow (see *Mitigation Measures* below).

As described in *Chapter B12: Cultural Heritage*, Phase I of the Oyu Tolgoi Cultural Heritage Programme (CHP) included an assessment of the 'value' of the archaeological resources discovered during the Project pre-construction and construction phases. Evaluation was carried out by the Mongolian International Heritage Team (MIHT). As these sites are not officially listed under Mongolian law, there is a subjective aspect to the evaluation.

According to MIHT, impacted sites such as the graves, are considered 'common' and none have been found more recent than the 13th Century (i.e. there are no ties to the current resident populations). The dinosaur eggs, although commonplace in the Gobi, are considered of international paleontological interest, and have been preserved for further research in Ulaanbaatar. The ceremonial stone structures (animal sacrifice sites) were not found to contain any human remains and are considered to be of 'common' value.

Mitigation Measures

The Oyu Tolgoi Project has exercised its duty of care towards cultural heritage assets through a number of measures that are described below.

Rescue Excavations

To date, the principal mitigation measure has been through the recording and excavation of archaeological finds. A summary of historical and recent excavations is given below:

Within the Mine Licence Area, four ancient copper workings together with stone mining and digging tools, animal bones, and more recent artefacts from the 18th and 19th centuries were excavated and transferred to the Institute of Archaeology Mongolia Academy of Science (MASIA), Ulaanbaatar;

Also within the Mine Licence Area, two stone structures were demarcated and associated artefacts removed to Ulaanbaatar;

23 fossilised dinosaur eggs discovered during the excavation of Shaft 1 in 2005 were also excavated and transferred to the Mongolian State University;

In February-March 2011, the MASIA team (including team members from Ulaanbaatar State University, Mongolian National University, and Mongolian State University of Education) excavated 17 archaeological monuments that were closest to the Oyu Tolgoi - Khanbogd road, Oyu Tolgoi to Gashuun Sukhait road

and the electrical transmission line.⁴ The first stage excavation included burials and stone features dating back to the Bronze Age (XII-V century BC), an open settlement of the Xioungu empire (III BC- II AD century), and *Zel chuluu* site of the Turkic period (VI century BC). The monuments located in the transmission line area and along the road to Gashuun Sukhait were mainly burial sites, some of them containing human remains (*Figure 11.1*), and

The excavations on OT W-01 site returned a total of 120 ceramic fragments and further 28 ceramic fragments were recorded which were outside the excavation area. OT W-02 site comprised “*Zel Chuluu*” sites located in the southern mountains situated in the south of Khanbogd *soum* centre (4 km from Khanbogd *soum*). Overall, there were 30 *zel chuluu* sites within OT W-02. OT W-03 site included two small hills with small *ovoos* on top, situated to the north of the dirt road at 5 km distance from Khanbogd *soum*. All of these sites are considered ‘common’ heritage by MIHT as numerous sites of similar nature are found in Mongolia.

Figure 11.1: Monument-02 (Road to Gashuun Sukhait), Excavation Grave



Given the historical uniqueness of the copper workings, some further work is also proposed (by MASIA) to investigate the workings down to their base *or* to construct a representation of the mines at the Khanbogd museum. Oyu Tolgoi is committed to working with MASIA to identify the most appropriate form of reconstruction.

As a result of the excavations described above, the physical archaeological resources associated with the construction of the Oyu Tolgoi Project have not been permanently lost. Wherever possible, resources have been studied, photographed documented and transferred to the applicable institutes in Mongolia.

Cultural Heritage Programme (CHP)

Mitigation of the loss of sites containing cultural heritage resources has already occurred through the documentation, recording, excavation and preservation of archaeological finds as described above. The Oyu Tolgoi CHP Phase I has also been used to further document the heritage of the whole *aimag* including tangible and intangible heritage which is considered by Oyu Tolgoi to be of cultural benefit to the community. The initial draft Phase I report was issued by MIHT in February 2011, and when complete, will be made available to the residents of Khanbogd *soum*. Ultimately, the Phase I Report will represent

⁴ Six of these seventeen objects were excavated from the Heruga sites.

the most comprehensive record of heritage for the whole province. All CHP work is being coordinated by the MIHT.⁵

The Phase II work will include extensive mapping and a GIS record of archaeological resources in the *aimag*. Results of both phases will be made available to the public.

Land Disturbance Permits

MASIA will be informed in writing in advance of any planned excavation or mining of new areas, and *Land Disturbance Permits* will be obtained as required. The excavation of the open pit will represent the most significant potential direct physical impact, and Oyu Tolgoi is aware that the excavations through the Cretaceous clay layer could uncover further palaeontological finds.

Reinstatement of Spring

The loss of the Bor Ovoo spring will be mitigated through the construction of a replacement spring once a suitable location has been identified. The process for spring replacement is outlined below:

- Identify the most suitable new location with the help of qualified lamas and local elders;
- Perform a special ceremony to beg for a land permission to build an ovoo there. Lamas read special sutra for this. There are various rituals by the locals such as drawing a pig sign on the ground using their hands or a wooden stick or dig the ground with pig tusk, symbolising that it's not we but the pig disturbing the land;
- Perform a ceremony to purify the area and lamas read another sutra;
- Once new spring is ready, lamas read another sutra at the current place and soothe the area lord (lus) or spirit in order to relocate its ovoo;
- A person to touch the ovoo and the sample of the current place earth/dirt that will be moving with the ovoo, need to be identified; and
- Bring the ovoo to the new place and the lama reads the sutra to bring the soul into the ovoo's spirit.

Chance Finds Procedure

For all areas where ground disturbance activities will take place, including the open pit and other excavations, the principal mitigation measure will be the implementation of the *Chance Finds Procedure*. The *Chance Finds Procedure*⁶ has been developed by Oyu Tolgoi in consultation with Rio Tinto cultural heritage advisors. The Procedure is designed to ensure the safety, integrity and proper handling of any previously undocumented objects of cultural or historical significance, including archaeological assets and paleontological features. Observance of the Procedure is mandatory for all Oyu Tolgoi employees and contractors.⁷ The *Chance Finds Procedure* is described in detail in *Chapter D13: Cultural Heritage Management Plan*.

Impact Significance

Impacts arising from the excavation of sites containing archaeological resources, as necessitated by the progress of Project works, are permanent (**long-term**). These impacts are also **certain** as they have already occurred, and are of **widespread** extent as some of the archaeological and palaeontological assets found are of national and international importance. Excavation measures, as described above, have been used to mitigate the physical loss of archaeological assets and to protect and preserve the

⁵ This report is also referred to as the CHP Phase 1 Report in this Chapter. Oyu Tolgoi: Protecting the Past, Preserving the Present: Report on Phase 1 Activities of the Oyu Tolgoi Cultural Heritage Program (CHP) Design for Ömnögovi *Aimag*. Prepared by Sustainability East Asia LLC and the Institute of Archaeology, Mongolian Academy of Sciences (February 2011).

⁶ The Chance Find Procedure is presented in full as part of the Oyu Tolgoi Cultural Heritage Programme Phase I Report, Appendix 5, and is appended to the Cultural Heritage Management Plan which forms *Chapter D13* of this ESIA.

⁷ Chance find protocols will apply to anyone involved in the ground disturbing activities (employees, contractors and subcontractors carrying out grading, excavations, borings etc).

items including the implementation of extensive rescue excavations. Further mitigation is still ongoing through the CHP Phase II works, potential recreation of the Oyu Tolgoi copper workings and adherence to the land permits system. The residual impact after the implementation of mitigation measures is assessed as **minor adverse** due to the unique nature of some of the findings. Loss of the Bor Owoo spring will be a **permanent, local** impact; as a replacement spring will be constructed, and the owoo transferred, the residual significance is expected to be **minor adverse**.

11.3.4 Indirect Disturbance of Archaeological Resources

Description of the Impact

The deployment and use of construction equipment and machinery, establishment of road infrastructure and vehicle movements can act as a source of indirect disturbance on archaeological and palaeontological sites. Impacts could also arise through unauthorised driving outside the road routes specifically designated for the Project purposes and/or in the areas known to contain tangible cultural heritage resources.

Improvement of the existing roads and development of new transportation links within the Project's Area of Influence may also facilitate access to sites (*ovoo*s and *stupas*) which were not previously easily accessible. This, in turn, has the potential to trigger secondary impacts related to access by illegal collectors and traders in cultural heritage items.

Similar to the impacts described, the extent of the impact will be influenced by the 'value' of the resource both in terms of the expert definition and the concerns of the local people. As described in *Chapter B12: Cultural Heritage*, Omnogovi *aimag* is rich in both tangible and intangible heritage including multiple petroglyph, *ovoo* and grave sites, hence the nature of any future impacts will depend on the specific site in question.

Mitigation Measures

Transport Management Plan

Driving methods, dust control and the choice of transportation routes are managed through the implementation and enforcement of a stringent traffic management scheme which stipulates allowable speed limits, specifies the network of routes that can be used by Project vehicles and means of transport employed by contractors and subcontractors. The *Oyu Tolgoi Traffic Management Plan* stipulates how adherence to these rules will be monitored (e.g. through transport manifests, drivers' reporting before, during and upon completion of trips, speed controllers and remote tracking of vehicles).

Contractors are directed to avoid sites of archaeological interest and to observe protection measures (e.g. for gravesites near the pipeline). All Project personnel involved in transportation, together with relevant personnel of contractors and subcontractors⁸ undergo mandatory training in traffic management.

Camp Policy and Code of Behaviour

Oyu Tolgoi will also employ strict control measures of its own personnel through the *Camp Policy and Code of Behaviour* (see *Chapter D17: Labour Management Plan*) which will include sign-in/sign-out policies and guidance on visits to the *soum* centre. The observance of the Code of Behaviour will be ensured through regular refresher training, control by responsible supervisors and application of the prescribed disciplinary measures in case of breaches, as well as by investigating the information supplied through the Project's *Grievance Mechanism*. The *Grievance Mechanism* is included in *Chapter D14: Stakeholder Engagement Plan*.

Cultural Awareness Training and Visitor Induction

All personnel of Oyu Tolgoi and contractors receive compliance training in the Chance Finds Procedure and familiarisation with the laws protecting cultural heritage. Specific training on cultural heritage item identification and application of the Procedure will be provided to the personnel and supervisors of Oyu Tolgoi and contractors involved in or overseeing earth moving or ground intervention activities, as well as Oyu Tolgoi's Communities and Environmental officers.

⁸ This will be addressed for all incoming contractors and subcontractors during their briefing/training.

Impact Significance

The risks of indirect disturbance and increased access to archaeological sites will be **long-term** as they will most likely coincide with the implementation of construction works and could also occur during operations and activities related to mine decommissioning. It is not envisaged that the impacts identified will spread outside the known areas of cultural and historical significance in the *aimag*, therefore the extent of this adverse impact is expected to be **restricted**. The impact is of **likely** probability given the scale of the construction and transport infrastructure development. Provided the mitigation measures described above are implemented successfully, the residual significance of the indirect disturbance and increased access impact is assessed as **minor adverse**.

11.3.5 Deliberate Disturbance of Cultural Sites

Description of the Impact

Various sites of worship, places of spiritual importance (such as *stupas*, *ovoos* and features of the natural environment) together with associated sacred rites constitute a critical part of Mongolia's cultural heritage. Although there is no direct interface or interaction between the existing sites and Project activities, the Project may affect the future use of these sites. Newcomers may not be familiar with the special protection regime established on the heritage sites or may be attracted to visit the sites out of curiosity causing unintended damage, elevating community concerns, and causing conflicts between local residents and non-local people.

As reported in the *Chapter B12: Cultural Heritage*, the archaeological survey implemented by MASIA identified the presence of numerous petroglyphs in the hills surrounding the Oyu Tolgoi Project Area, with a very significant and important concentration at Javkhlant Mountain (17 km southwest of the Mine Licence Area).

During the consultation programme, specific concerns of the community included possible damage to the ancient rock inscriptions (petroglyphs) at Javkhlant Mountain, thereby potentially reducing its suitability as a sacred place of worship. Verbal and physical evidence exists that rock inscriptions at Javkhlant Khaikhan Mountain are damaged and excavated petrified wood and valuable stones are already being destroyed by people from outside the *soum* (although it is not known whether these are mine workers, foreigners or non-*soum* residents). Whilst no direct effects are envisaged from Oyu Tolgoi works, the local community was reported to feel that the increased presence of construction personnel could threaten the site and that the Project should recognise and manage the risk of damage potentially associated with the activities of Oyu Tolgoi workforce.⁹ Other sacred sites, landscape features, *ovoos*, etc could also be potentially threatened as a result of uninformed or inappropriate behaviour, both by the Project workforce and newcomers into the Area.

The Cultural Heritage Programme Phase I Report¹⁰ acknowledges that the country's heritage has been subjected to illicit excavation, some of which is large-scale, and organised illegal activities involving cross-border smuggling and trafficking in relics. In consequence, many invaluable objects are destroyed, fractured or half-excavated and abandoned by opportunistic searchers and traders in cultural assets.

Mitigation Measures

Camp Policy and Code of Behaviour

Oyu Tolgoi will employ strict control measures of its own personnel through the Project *Camp Policy and Code of Behaviour*. Control over illegal excavations in the heritage sites within the Project's Area of Influence, as well as the enforcement of regulatory and penal measures, however, are beyond Oyu Tolgoi's direct jurisdiction. The Project will cooperate with applicable governmental bodies and competent institutions to assist in identifying illegal activities through surveillance and reporting on any unlawful underground survey and excavation activities detected in the Project Area. The official practice of giving

⁹ Oyu Tolgoi Project: Social Impact Assessment (SIA), 2009.

¹⁰ Protecting the Past, Preserving the Present: Report on Phase 1 Activities of the Oyu Tolgoi Cultural Heritage Program (Cultural Heritage Programme) Design for Omnögovü *Aimag*. Prepared by Sustainability East Asia LLC and the Institute of Archaeology, Mongolian Academy of Sciences (February 2011). See *Section 3.4: The Status of and Threats to Mongolia's Fossil Heritage*.

mild penalties and fines for the unauthorised recovery and transfer of archaeological assets has been shown not to be a sufficient deterrent.

All Oyu Tolgoi staff and contractors will be prohibited from initiating or participating in any type of illegal exploration or excavation activities that involve searching for, transfer of and/or trade in archaeological and palaeontological resources. Depending on the severity of each individual violation case the penalty will be temporary removal from the workforce or dismissal. In aggravated cases, such as trafficking in archaeological or palaeontological antiquities, any Oyu Tolgoi worker or contractor found to be involved in such illegal activities will be subject to immediate dismissal and transfer to the applicable law enforcement bodies for possible criminal and civil legal action.

Cultural Awareness Training and Visitor Induction

All personnel of Oyu Tolgoi and contractors receive compliance training in the Chance Finds Procedure and familiarisation with the laws protecting cultural heritage. Specific training on cultural heritage item identification and application of the Procedure will be provided to the personnel and supervisors of Oyu Tolgoi and contractors involved in or overseeing earth moving or ground intervention activities, as well as Oyu Tolgoi's Communities and Environmental officers.

Impact Significance

Impacts related to deliberate disturbance may occur at any time during construction, operation and mine decommissioning, hence, may be considered **long-term** and of **widespread** extent. The impact is of **likely** probability given the intensity of the construction and transport infrastructure development, size of the construction workforce as well as the potential magnitude of influx into the Project Area. However, and with the implementation of the mitigation measures described above, the residual significance of this impact is anticipated to be **minor adverse**.

11.3.6 Impacts to Intangible Heritage

Description of the Impact

The Oyu Tolgoi Project may lead to the following impacts to intangible heritage:

- Disruption to historical rituals at the local worship sites (*ovoos* and *stupas*), as well as potential breach of norms, taboos and customs connected with these ceremonial rituals and locations;
- Changes to religious composition of the Project Area and related spiritual regimen;
- Cultural differentiation, i.e. spread of foreign/modern cultures, conventions and values that do not always take into consideration or may contravene the existing authentic indigenous frameworks, including those that have been maintained by the herder communities over centuries;
- Loss of traditional crafts, customs, folklore, songs etc;
- Emergence of language 'impurities', i.e. increasing introduction and assimilation of foreign words in the Mongolian language;
- The weakened sense of community identity and belonging due to the gradual dilution of underlying community benchmarks and paradigms; and
- The loss of traditional livelihoods associated with the transition to wage-based employment.

Attitudes towards cultural heritage were ascertained as part of the regional socio-economic baseline study undertaken by Oyu Tolgoi.¹¹ Community concerns in relation to intangible heritage are included in the 2009 Social, Economic and Environmental Subset and the 2009 Social Impact Assessment (SIA).¹² The SIA summarises public perceptions in relation to the losses and threats to cultural heritage and, in particular, traditional culture.

¹¹ Oyu Tolgoi Project Social, Economic and Environmental Subset, Centre for Policy Research, Population Training and Research Centre, 2009.

¹² Oyu Tolgoi Project Socio-Economic Impact Assessment, Centre for Policy Research and the Population Training and Research Centre, September 2009.

The study cites that many elderly persons are no longer sharing their knowledge with younger generations and oral traditions (telling stories, passing on songs, etc.) are not being practised as often. As a result of these changes in behaviour, younger people are not learning Mongolian traditions from the elderly. About 27% of the people surveyed perceived that family bonds between younger and older generations were being lost and this was believed to be due to the substantial changes in traditional family structures. Changes affecting a loss in traditional knowledge include fewer children following traditional lifestyles and customs, increased urbanisation and a shift in employment away from herding.

The following issues related to loss of traditional culture were raised during the SIA group discussions:

- Customary greetings and showing respect for elders are being lost and are not exercised properly, particularly by younger people;
- At present, the cultures and traditions of nomadic pastoralism are under pressure due to fewer families maintaining a nomadic lifestyle. This change in lifestyle has resulted in fewer young people practising historical aspects of nomadic culture, such as handling the special camel bridle, or interacting with other nomadic families;
- Many foreign words and terms have become prevalent in current discourse, thereby negatively affecting the Mongolian language;
- Many people no longer know the names of sacred mountains and sites;
- Family trees are rarely documented, resulting in people being unfamiliar with their ancestry and the lineage of relatives;
- Traditional felt-making skills are being lost; younger people no longer craft clothing items such as saddlecloths, traditional boots, or practise stitching or embroidery;
- Wearing traditional costumes is no longer popular among younger people and the styles and designs of the traditional Mongol *deel*¹³ have been changed; and
- Herders are increasingly moving to the periphery of soum and aimag centres and the capital; with the onset of waged employment, livestock herding is often delegated to other family members or third parties.

The socio-economic baseline studies conducted for Oyu Tolgoi in 2007 showed that around 46% of the households surveyed in Omnogovi *aimag* believed that traditional cultures were being lost.¹⁴

As the largest regional employer, Oyu Tolgoi has the potential to shift the balance of the labour force away from predominantly agriculture towards mining and other support sectors. The established way of life (i.e. rural herding) is one of the foundations of the intangible cultural heritage of Mongolia.

Intermingling and interface between local and non-resident populations, and the rural to town/site migration can lead to a loss of interest in and reduced appreciation of spiritual traditions, ceremonies and use of sacred places, community based/focused practices, norms, ethics and taboos due to the shifting preferences towards modern standards that may be perceived as more 'progressive' or 'fashionable'. These impacts will be particularly significant during construction when a workforce of some 14,800 people is expected to be in the Project Area. Workforce numbers are expected to reduce and stabilise during operations, with the proportion of expatriate/foreign personnel reduced to the required minimum. However, inter- and intra-regional movements of job seekers and other economic migrants will likely continue to take place and include a percentage of people migrating to Khanbogd for long-term or permanent settlement.

Demobilisation of the Project's operational personnel and departure of workforce will lead to a decreasing pressure on traditional livelihoods. It is possible that after the decommissioning has been completed, a portion of non-local former workforce and service staff will remain in the Oyu Tolgoi Project Area either

¹³ *Deel* is a piece of the traditional Mongol attire which is well suited for the nomadic lifestyle and consists of a gown similarly worn by men and women. The *deel* is complemented with a sash of a contrasting colour, sometimes up to 6-7 m in length. The sash provides warmth protection for the lower back area which is crucial for horse riding in a cold climate.

¹⁴ Oyu Tolgoi Project Social, Economic and Environmental Subset, Centre for Policy Research, Population Training and Research Centre, 2009.

due to their transfer to some neighbouring projects or because they will have become settled in the Area. It is expected, however, that the influence of such external presence on intangible resources will be insubstantial as those settlers will likely have integrated into the local communities.

Mitigation Measures

Cultural Heritage Programme (CHP) Phase I

Oyu Tolgoi fully recognises the irreplaceable wealth of intangible cultural heritage and associated practices that abound in its Area of Influence. The Oyu Tolgoi Cultural Heritage Programme (CHP) and related research are being implemented to ensure that the rich intangible resources in the Area are not forgotten and are known to the general public. A Fact Sheet on the CHP has been prepared for public purposes, explaining the importance of cultural heritage and activities carried out within its framework by the Mongolian International Heritage Team (MIHT) (see *Annex A*).

Traditional sacred places located in Omnogovi *aimag* were recorded during CHP Phase 1, and a detailed list of traditional cultural sites specifically in the Oyu Tolgoi Project Area has been compiled as part of the ethnographic study conducted by the Institute of History. The list includes sections on the landscape, natural features such as mountains, springs, etc. that have spiritual or sacred value to local residents, as well as cairns, *ovoos*, and cemeteries. Myths, taboos, and rituals associated with these sacred places have also been recorded. Knowledge of the site locations and related practices will contribute to the reduction of adverse impacts on these areas through better awareness and prevention of impertinent behaviour. The compilation and update of the list of traditional sacred places is a live process and will continue as the mine development progresses.

The perceived impacts of weakened local cultural identity and resulting discomfort or undermined emotional well-being are mitigated through informing the local communities about the population influx management measures applied by the Project, as well as through the consultations with local residents and other stakeholders¹⁵ on the importance of cultural heritage, impacts and the best means to protect cultural resources both locally (i.e. within the Project's Area of Influence) and regionally (i.e. at the level of Omnogovi *aimag*).

Cultural Heritage Advisory Board

Consultations and stakeholder meetings have been the integral elements of the Cultural Heritage Programme. A series of stakeholder meetings held in 2010 enabled the establishment of an *Advisory Board* to support the CHP in Omnogovi *aimag*¹⁶. The Advisory Board has been devised to counsel the Project on the interests and concerns of key stakeholders with respect to cultural heritage and its preservation. The Board comprises 15 members of the local community, interested parties, archaeological organisations and representative of Oyu Tolgoi.

Construction of Stupa at Demchig Monastery

Through the Cultural Heritage Programme, Oyu Tolgoi has also sponsored the construction of a *stupa* at the Demchig monastery (including the 'Avid Realm of Heaven' stupa) and supported the restoration of Demchig Monastery which has since become a point of attraction for visitors as well as locals.

Support to Traditional Crafts, Museums and Cultural Festivals

The practices of silver-smithing and blacksmithing, felt carpet making¹⁷, crafting of nomadic accessories (saddle blankets, bridles and traps) and ancestral animal brands¹⁸, as well as the practice of building of and living in the *ger* – Mongolia's symbolic dwelling – have been studied as part of CHP Phase I. The current religious practices, including Buddhism, Shamanism, and worshipping of traditional deities have also been described. Also studied are the recently revived custom of using lineage names and recovering

¹⁵ Including governors, cultural inspectors, historical and cultural researchers, and museum officers in Khanbogd, Dalanzadgad, Bayan-Ovoo and Manlai *soums*.

¹⁶ The Oyu Tolgoi Cultural Heritage Programme Advisory Board is composed of 15 members, representing local and provincial governments, scientific community, as well as regional and national NGOs.

¹⁷ Traditional Mongolian felt carpets called *dugluur* and *toirog* are handmade for local consumption rather than for a market system; just a few are produced on special order.

¹⁸ The brands of herding families that are typically inherited through generations.

kinship relations, as well as the traditional *urtiin (urtyn) duu* ballads and games.¹⁹ Oyu Tolgoi will continue to support the 'nadaam' festival of Khanbogd *soum*.²⁰

The previous stakeholder consultations resulted in a recommendation from the public that the Oyu Tolgoi Project should contribute to the upgrading and repair of local museums including the museum at Khanbogd *soum* centre²¹. These actions are under consideration through the CHP and a schedule to implement these measures will also be developed.

Employment with Oyu Tolgoi

The transition from nomadic herding to waged employment will be accelerated through the arrival of major mining projects to the South Gobi. It is inevitable that significant numbers of herders will take up employment with these companies and some employment has already occurred. The loss of traditional livelihoods is an unavoidable adverse impact on intangible heritage. This can be partly mitigated by the Project through equal employment opportunities and observance of cultural traditions at work.

Facilitation of Identification and Preservation of Traditional Heritage

Establishing ways of the identification and safeguarding the traditional heritage resources is one of the primary aims of the Oyu Tolgoi Cultural Heritage Programme, together with creating conditions allowing Mongolian traditional culture to be maintained in the face of rapid transformations witnessed by the country in recent times. This task needs to be approached by the Project with a structured plan of action, specifically a Cultural Heritage Plan that will focus on devising measures to effectively preserve places and values of local, regional, and national importance.

The development of such a plan is among the principal objectives of the Mongolian International Heritage Team (MIHT) that has been engaged by Oyu Tolgoi to implement the Project's Cultural Heritage Programme and that combines national expertise in Mongolian culture with international specialist knowledge in heritage management. The process of developing the Cultural Heritage Plan comprises three elements: tangible cultural assets, intangible resources, and accompanying public programmes. The first two categories refer to the constituent parts of heritage: concrete places and objects as well as rituals and customs. The third element involves the transmission of heritage along with the awareness and knowledge about it through schools and museums as well as opportunities to use heritage as a means of providing economic benefits through, for example, ethnographic-based tourism.

Impact Significance

The impacts on intangible cultural heritage are expected to be of **long-term** duration as some of them – e.g. the sense of discomfort felt by the local communities and desecration of some worship sites by unidentified persons – already took place in the stages preceding the commencement of construction works. Additionally, a possibility cannot be discounted of non-local workers and migrants staying in the Project Area after the completion of construction activities and on to the operations phase, thereby being a source of continued influence on the cultural and spiritual traditions. As transitional impacts have already occurred the impact probability is **certain**.

The extent of intangible heritage impacts as a result of the Oyu Tolgoi Project is expected to be **widespread** as they have the potential to contribute to and overlap with the similar trends that have already been occurring in other regions of the country. Whilst mitigation measures implemented by Oyu Tolgoi will help to reduce the overall impact, the net effect (i.e. the attenuation and potential loss of customs and traditions) is a **moderate adverse** impact. The extent of this loss will be experienced both within and outside Mongolia (i.e. by third party interest groups). Loss of traditional livelihoods is also considered to be a **moderate adverse** impact although conditions and livelihoods of those under waged

¹⁹ Further details on the intangible heritage studies in Omnogovi *aimag* and Oyu Tolgoi Project Area of Influence can be found in "Protecting the Past, Preserving the Present: Report on Phase 1 Activities of the Oyu Tolgoi Cultural Heritage Program (Cultural Heritage Programme) Design for Ömnögovi *Aimag*". Prepared by Sustainability East Asia LLC and the Institute of Archaeology, Mongolian Academy of Sciences (February 2011).

²⁰ Naadam is a national celebration observed annually from 11 to 13 July across the country and is focused on three traditional competitive games: horseracing, wrestling and archery.

²¹ Oyu Tolgoi Project Socio-Economic Impact Assessment (SIA). Final Report. Prepared by Centre for Policy Research and Population Training & Research Centre. Ulaanbaatar: September 2009.

employment are likely to be better than those under pastoralism in terms of: access to healthcare and education opportunities, access to raised incomes and finance, access to food and heating etc.

Restoration and research activities undertaken within the CHP promote better conditions for preservation and protection of intangible cultural heritage resources and lead to the improved knowledge and understanding of various local customs and crafts in the Project Area and in Omnogovi *aimag*. This is a **positive** impact that is beneficial on the regional level. Oyu Tolgoi will continue implementation of the CHP through which the Project realises its commitment to responsible mining practices and protection of cultural heritage within the Project's Area of Influence.

Results of CHP Phase I and Phase II will be made available to the other natural resources companies within the South Gobi.

11.4 SUMMARY OF RESIDUAL IMPACTS

The following conclusions have been drawn from the cultural heritage impact assessment for the Oyu Tolgoi Project:

The Oyu Tolgoi Project has resulted in the loss of some archaeological resources located within the Licence Area, namely the original copper workings and stone structures etc; Full investigation of these resources has been conducted and Oyu Tolgoi has been provided with an archaeological clearance letter by MASIA to indicate that no further works are required;

The water pipeline route does not cause any direct loss or disturbance to archaeological sites, hence only a watching brief is required during construction; several of the boreholes are located close to grave sites for which some additional protection measures will be required; these are practical measures to demarcate the finds;

The majority of impacts associated with the road to the border have been eliminated due to the changes in road alignment;

Further disturbance and removal of resources may result from construction activities such as soil stripping, earthworks, construction of plant, construction of access roads and vehicle movements;

Whilst detailed surveys and investigations have been carried out, it is possible that additional archaeological resources are present;

For on-site resources, the *Chance Finds Procedure* will be employed; and

The implementation of the Oyu Tolgoi *Cultural Heritage Management Plan* will ensure that Oyo Tolgoi continues to record and protect cultural resources into the future and that the local community remains engaged in the process.

Oyu Tolgoi recognises the importance of off-site cultural resources, such as at the Javkhant Mountain, as well as the importance of intangible cultural heritage in terms of traditional customs. These aspects will be managed and monitored, through the implementation of the long-term *Cultural Heritage Programme*, cultural awareness training, control of traffic and ongoing vigilance.

Table 11.1 below summarises potential impacts to cultural heritage.

Table 11.1: Summary of Impacts on Cultural Heritage

Impact	(1) Receptor	(2) Phase	(3) Impact Categorisation	(4) Potential Significance	Design, Enhancement or Mitigation Measures	Management Plans, Policies and Procedures	Residual Significance
Loss of Archaeological Resources: Mine Licence Area	International and national community, regional (Omnogovi <i>aimag</i>) and <i>soum</i> residents	Construction	Duration: Long-Term Extent: Widespread Likelihood: Certain	Major Adverse	<ul style="list-style-type: none"> ▪ Excavation of copper workings – Turquoise Hill ancient copper mines (complete). ▪ Excavation of animal sacrifice sites (complete). ▪ Excavation and removal of dinosaur eggs and transfer to Ulaanbaatar (complete). ▪ Protection of petroglyphs under Cultural Heritage Programme Phase II. ▪ Further investigation of the copper workings and potential reconstruction at Khanbogd (this is under evaluation with MASIA). ▪ Instatement of a replacement spring for the Bor Ovoo. 	D13: Cultural Heritage Management Plan Chance Finds Procedure	Minor Adverse
Loss of Archaeological Resource: Gunii Hooloi Borefield and Pipeline	<i>Soum</i> residents & herders	Construction	Duration: Medium-Term Extent: Localised Likelihood: Unlikely	Minor Adverse	<ul style="list-style-type: none"> ▪ Selection of route alignment for pipeline to avoid impact. ▪ Demarcation and fencing of 3 grave sites during pipeline construction. 	D13: Cultural Heritage Management Plan Chance Finds Procedure	Minor Adverse
Loss of Archaeological Resource: Temporary Airport	<i>Soum</i> residents & herders	Construction	Duration: Short-Term Extent: Highly Localised Likelihood: Very Unlikely	Negligible	<ul style="list-style-type: none"> ▪ Historical surveys did not reveal any finds of importance. 	D13: Cultural Heritage Management Plan Chance Finds Procedure	Negligible
Loss of Archaeological Resource: Permanent Airport	<i>Soum</i> residents	Construction	Duration: Short-Term Extent: Highly Localised Likelihood: Very Unlikely	Negligible	<ul style="list-style-type: none"> ▪ Historical surveys did not reveal any finds of importance. ▪ Implementation of a ground-breaking ceremony (involving lamas and community members in a 'blessing' of the new site). 	D13: Cultural Heritage Management Plan Chance Finds Procedure	Negligible

Impact	(1) Receptor	(2) Phase	(3) Impact Categorisation	(4) Potential Significance	Design, Enhancement or Mitigation Measures	Management Plans, Policies and Procedures	Residual Significance
Loss of Archaeological Resource: Power Transmission Line	Regional (<i>aimag</i>) and <i>soum</i> residents	Construction	Duration: Long-Term Extent: Restricted Likelihood: Certain	Moderate Adverse	<ul style="list-style-type: none"> Archaeological survey conducted. Rescue excavations conducted in 2011 and human fragments from the burials transferred to Ulaanbaatar for further study. Few artifacts found were of ordinary value. 	D13: Cultural Heritage Management Plan Chance Finds Procedure	Minor Adverse
Loss of Archaeological Resource: Oyu Tolgoi to Gashuun Sukhait Road and Borrow Pits	Regional (<i>aimag</i>) and <i>soum</i> residents	Construction	Duration: Long-Term Extent: Restricted Likelihood: Certain	Moderate Adverse	<ul style="list-style-type: none"> Archaeological survey conducted. Rescue excavations conducted in 2011 and human fragments from the burials transferred to Ulaanbaatar for palaeoanthropological studies. No artifacts of major value were found. No other sites are expected to be affected by construction and may be subject to rescue excavation. 	D13: Cultural Heritage Management Plan Chance Finds Procedure	Minor Adverse
Indirect Disturbance to Archaeological Sites through Project related Activities	Omnogovi <i>aimag</i> and <i>Soum</i> residents	Construction Operations Decommissioning	Duration: Long-Term Extent: Restricted Likelihood: Likely	Moderate Adverse	<ul style="list-style-type: none"> Physical protection of identified sites of cultural heritage (demarcation, fencing, signage). Compilation of a GIS database to map archaeological sites as part of Oyu Tolgoi Cultural Heritage Programme. Preparation and distribution of awareness-raising materials about the importance of cultural and historical heritage. Application of dust management techniques. Restriction of transport to designated routes. Employment of excavations if identified by MASIA. 	D13: Cultural Heritage Management Plan Oyu Tolgoi Cultural Heritage Programme Oyu Tolgoi LLC Camp Policy and Code of Behaviour Oyu Tolgoi Traffic Management Plan	Minor Adverse
Deliberate Disturbance/desecration of Cultural Sites	Mongolian government and interest groups, Regional (Omnogovi <i>aimag</i>) and <i>soum</i> residents	Construction Operations Decommissioning	Duration: Long-Term Extent: Widespread Likelihood: Likely	Moderate Adverse	<ul style="list-style-type: none"> Provision of cultural orientation and training to the workforce of Oyu Tolgoi Project and contractors. Identification and protection of traditional sacred places and associated cultural traditions/norms of behavior as part of <i>Oyu Tolgoi Cultural Heritage Programme</i>. Continued consultation with local communities and other stakeholders. 	Oyu Tolgoi Cultural Heritage Programme Oyu Tolgoi LLC Camp Policy and Code of Behaviour	Minor Adverse

Impact	(1) Receptor	(2) Phase	(3) Impact Categorisation	(4) Potential Significance	Design, Enhancement or Mitigation Measures	Management Plans, Policies and Procedures	Residual Significance
Impacts on Intangible Heritage (traditions, traditional livelihoods, folklore, festivals, music, traditional sports, and other immaterial cultural assets)	Mongolian government and interest groups, regional (Omnogovi <i>aimag</i>) and <i>soum</i> residents	Construction Operations	Duration: Long-Term Extent: Widespread Likelihood: Likely	Major Adverse	<ul style="list-style-type: none"> ▪ Study of Javkhant Mountain under Phase I of the <i>Cultural Heritage Program</i>. ▪ Direct financing of monastery restoration including construction of the Avid Realm of Heaven <i>ovoo</i>. ▪ Support for the Nadaam Festival (to continue annually). ▪ Provision of cultural orientation and training to the workforce of Oyu Tolgoi Project and contractors. ▪ Continued consultation with local communities. ▪ Involvement of MASIA and Institute of History in historical and ethnographic surveys. ▪ Preparation of a list of the traditional sacred places located in Omnogovi <i>aimag</i> and specifically in the Oyu Tolgoi Area of Influence. The list includes sections of the landscape, natural features such as mountains, springs, etc. that have spiritual or sacred value to local residents, as well as cairns, <i>ovoos</i>, and cemeteries. Myths, taboos, and rituals associated with these sacred places have also been recorded. ▪ Phase II of Oyu Tolgoi Cultural Heritage Programme has been designed and will commence in July 2011. Implementation of public educational programmes on cultural heritage (including in relation to local traditions and customs) is intended as part of CHP Phase II. ▪ Construction of OR financial support to heritage museum extension in Khanbogd. ▪ Instatement of a replacement spring for the Bor <i>Ovoo</i>. 	Oyu Tolgoi LLC Camp Policy and Code of Behaviour Oyu Tolgoi Cultural Heritage Programme and ethnographic study by Institute of History D16: Influx Management Plan	Moderate Adverse

Notes:

(1) Receptors: Defines the Affected or Other Interested Parties

(2) Project Phase: Construction, Operations, Decommissioning and Mine Closure

(3) Impact Categorisation:

Duration: Short-term, Medium-term, Long-term

Extent: Highly Localised; Localised; Restricted; Widespread

Likelihood: Highly Unlikely; Unlikely; Likely; Certain

(4) Potential Significance: Major Adverse; Moderate Adverse; Minor Adverse; Negligible; Positive

ANNEX A: CULTURAL HERITAGE PLAN: FACT SHEET



Oyu Tolgoi Cultural Heritage Plan

Preserving Umnugovi's Past To Guide Umnugovi's Future

For millions of years the Gobi Desert has teemed with life. Although it may be hard to believe, the desert was once a great inland sea surrounded by swamps. Dinosaurs ruled the region from about 200 to 60 million years ago. The Gobi is famous for their fossils ranging from tiny eggs to massive bones.

For most of human history, men and women lived in small family groups, hunting animals and gathering plants for food. Dramatic changes occurred when humans domesticated wild animals around 10,000 years ago, allowing the development of a nomadic way of life. Groups were now able to cover vast areas in a single year, coming together and splitting apart with relative ease. This flexible social structure was an essential element in the establishment of the Mongol empire, the largest empire ever controlled by one man, Chinggis Khan.

In more recent times, the nomadic way of life has been challenged by the modern state. For much of the 20th century, Mongolians were restricted from practicing many of their customs, rituals, religion, and economic practices. Now we are free to do so, but face other challenges. Economic development will provide the residents of the Gobi with new opportunities. Unless development is balanced with preservation, we stand to lose our most precious possession: our heritage.

What is Heritage?

Heritage can be places that link us with the past

- Archaeological Sites
- Historic Buildings
- Paleontological Fossil Remains

Heritage include both concrete objects and structures as well as intangible connections we hold in common and define us as a people

- Language
- Customs
- Festivals
- Spiritual Places
- Nomadic way of life





Why is Heritage Important?

We use heritage to define ourselves as a people. Heritage links us to our past, provides us a means of making sense of the present, and guides decisions about the future. Losing one's heritage leaves a group groundless. The young drift away; the elderly have no role. Traditional ethics and norms that govern behavior are put aside; crime, alcoholism, and social decay become pervasive.

Guarding our heritage does not mean that society and the economy become fossilized. Our modern world continues to develop. The rich mineral wealth of the Gobi Desert will be the catalyst that brings economic growth and social change to Mongolia. New people will come to the region with their own customs, languages, and religions. Maintaining Mongolian culture in the face of fast moving changes becomes, arguably, the greatest challenge of our time.

What can we do?

We need a structured plan of action. Specifically, we need a Cultural Heritage Plan (CHP) that balances foreseeable development with preserving places and values of local, regional, and national importance. The Mongolian International Heritage Team (MIHT) have been engaged by OT to develop just such a plan. We have divided the task into three elements: tangible resources, intangible resources, and public programs. The first two categories refer to the constituent parts of heritage; concrete places and objects as well as rituals and customs which leave no lasting physical presence. The third element involves the transmission of heritage through schools and museums as well as opportunities to use heritage as a means of providing economic benefits through increased tourism.

Who are we?

The MIHT is a combination of Mongolian and international cultural heritage specialists specifically brought together to develop the CHP. We are lead by Dr. B. Gunchinsuren, the Deputy Director of the Mongolian Academy of Sciences, Institute of Archaeology (MASIA). Each of the three elements is headed by a Mongolian scholar: Dr. Ch. Amartuvshin (Tangible Resources), Dr. S. Chuluun (Intangible Resources), and Dr. J. Gerelbadrakh (Public Programs).

What can you do?

We need your help. After all, it is your heritage. Only *you* can tell us what parts of the past you value enough to save, what rituals and traditions are important to preserve, and how best to teach your children. The CHP is designed to be completed in July 2011. Before then, we will be holding various meetings throughout Umnogovi aimag. Attend a meeting; make your voice heard; become involved!

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