

Unkept Promises: The Herders' Fight for Livelihood and Water Amid Oyu Tolgoi's Failures

Report on September 2024 Mongolia Field Trip
Developed by the Gobi Soil, Elected Herders Team, Oyu Tolgoi Watch, Accountability Counsel
and Southwest Research and Information Center

Summary

The Oyu Tolgoi (OT) mine, a vast copper-gold operation in Mongolia's South Gobi Desert, has faced long-standing criticism for its severe impacts on local herders and the environment since it began operations. For over a decade, herders have sought remedies for disrupted access to water and pasture caused by the mine and its sprawling infrastructure. Their efforts culminated in formal complaints to the Compliance Advisor Ombudsman (CAO) in 2012 and 2013, leading to two groundbreaking Herders' Resolution Agreements in 2017. These agreements aimed to address critical issues such as restoring water sources and supporting herders' livelihoods. However, despite initial optimism, many of these commitments remain unfulfilled, leaving herders to cope with ongoing hardships. Adding to these challenges, OT's tailings storage facility (TSF) has emerged as a significant environmental threat. Seepage from the TSF has exacerbated the degradation of grazing lands and posed substantial health and environmental risks, undermining the fragile ecosystem on which herders depend.

In November 2021, OT formally identified an environmental incident at the TSF related to seepage collection¹ and only later in October 2023, lenders classified the leakage of the first tailing cell (TC1) as an environmental incident.² This leakage has become a serious concern shared by herders whose livelihoods are tightly connected to the quality of pasture and fresh water in the extreme harsh condition of the South Gobi, both of which are negatively impacted by the leakage. There are three main reasons for the leakage and why tailings escaped outside OT's mining area. First, the inability of Oyu Tolgoi to comply with their own TSF design to reach 64% solid content, resulting in significant excess water volume in the tailings that led to higher risks of seepage escaping the facility. Second, TC1 had neither a cutoff trench installed underneath it nor adequate protective layers to prevent tailings to seep through the fractures and fissures in the natural clay lining the TSF. Third, OT did not develop a proper cutoff trench around the perimeter of the TC1 which could have collected the seepage water and prevented it from escaping downgradient of the mine and into the Khaliv-Dugat riverbed.

Three years later in 2024, OT continues to do an uneven job at both fixing the root causes of the seepage from TC1, and addressing the impacts of the seepage on local herders. OT is still far from the intended 64% solids content and continues to downplay the adverse impacts of the

¹ IESC Report May 2024, p. 50.

https://admin.ot.mn/wp-content/uploads/IESC_Audit_Report_Oyu_Tolgoi_May_2024.pdf

² Oyu Tolgoi, Progress Report on Remedial Action Plan Quarter 1, page 1.

<https://admin.ot.mn/wp-content/uploads/Progress-Report-Q1-EN.pdf>

seepage to the pasture, water and health of the people and biodiversity around the mining area. To date, OT has not disclosed an official record of what substances are found in the water downgradient of the mine where the seepage is flowing, and how it has impacted the soil. There is no communicated plan to conduct medical check ups for herders and their animals who are using the water sources downgradient of the mine. Herders have little to no knowledge of the extent and potential long term impacts of the seepage to herders and animals. Now, OT has begun operation of their newly constructed second tailings cell (TC2), while remediation is still incomplete for the harms caused by seepage from the first tailings cell (TC1).

Accountability Counsel conducted a field visit in September 2024, during which we visited herders' households living near the mine, discussed seepage and mining concerns with the EHT representatives, and participated in a site visit to OT's TSF. Additionally, Paul Robinson (Research Director of Southwest Research and Information Center) participated in the Water Efficiency Workshop arranged by OT. We found that:

- Herders raised concerns about the difficulties in continuing their livelihood as the pasture and water became scarcer, given the extreme winter in the past year and them not receiving enough support from OT in securing clean water for their animals.
- OT has not made sufficient progress to achieve full implementation of the Herders Complaints Resolution Agreements (HCRAs) as a result of the processes facilitated by the CAO since 2017. Many of the larger projects to promote sustainable herders' livelihoods remain unachieved, leaving major social problems created by the mine woefully unaddressed.
- Herders are losing tons of water everyday due to the ineffective management of the TSF. The TSF traps a significant amount of water, which could have been used to support herders who struggle to find fresh and clean water for their animals.
- All of the visited herders' households were not properly informed and were not meaningfully consulted by OT in addressing the seepage. They only heard rumors about the ongoing seepage, without understanding the mitigation measures taken and impacts to their health, animals, soil, water, surrounding environment and biodiversity.
- None of the herders knew about the Remedial Action Plan developed by OT in December 2023, nor were they involved in its development and implementation. This demonstrates that OT's community outreach efforts are ineffective and inadequate in ensuring meaningful engagement with the affected communities.
- OT's plan for future tailing cells will continue to take on more pastures through its mine expansion plan, although there are opportunities that can be taken to save pastures by maximizing the usage of the pastures within OT's mining lease area. This plan has not been discussed with the herders community and will significantly deprive herders of pasture and water.

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1. Delayed HCRAs implementation strangles herders' livelihoods

As a result of the past CAO complaints made by herders in 2012 and 2013, OT committed to implementing two Herders' Complaint Resolution Agreements (HCRAs) developed in 2017. The full completion of the HCRAs is long overdue with most of the commitments failing to be completed according to the original agreement timelines. Following the end of CAO's formal monitoring in 2019, the progress has continued to slow down.

Herders are raising concerns about the difficulties and hardships they face in continuing their livelihoods. Many of these difficulties stem from OT mine impacts— impacts which the HCRAs were intended to address. In the HCRAs, OT committed to providing water sources for impacted herders, repairing and recovering old wells, and continuing to monitor the needs of water for the herder community.³ The TPC Annual Report 2023 reported that 80 hand wells were restored and 20 deep engineered wells were developed from 2019-2023.⁴ However, most of the herder households we visited raised concerns about the difficulties in getting clean water for their animals. One of the herder households we visited who owns around 400 animals shared that OT created a well for them in 2011 and that was the only time they received OT's support for herding their animals. They said the well does not have any water now, and OT has not provided further support, thus, making them dig their own wells to prevent their animals from dying. While we appreciate TPC's achievement in restoring and building wells for herders, there are still grievances from herder households whose wells are not functioning. There is a need for TPC to continuously monitor the functioning of the developed wells and conduct a thorough identification of herder households in need of water support through well building or restoration.

Herders are also raising a challenge to find enough pasture for their animals to graze due to the mine expansion over the years. Many herders now need to share the lands with other families, which often causes conflicts. Less pasture and water means that herders have fewer livelihood opportunities compared to what they had in the past. One household also shared that they had once proposed a project under OT's Livelihood Program, but it was rejected as the proposed project was deemed too expensive. OT is also behind in developing the promised herders' market and livestock slaughter lines which were intended to support herders' livelihoods.⁵ These big sustainable livelihood projects were meant to help address issues like reduced pasture and water availability by making herding more profitable, allowing herders to get by with sustainable income from fewer animals. This strategy can help to reduce pasture crowding, however, these projects are not implemented.⁶ OT needs to invest resources directly to get them done. The issues of pasture and water availability will impact herders living farther away from the mining

³ Accountability Counsel, From Paper to Progress, Commitment 3, 12, 13 and 17, available at <https://tpcprogress.com/commitments/>.

⁴ TPC Annual Report 2023 p. 14, available at <https://www.facebook.com/TripartiteCouncil> posted on 24 April 2024].

⁵ Accountability Counsel, From Paper to Progress, Commitment 38 and 42, available at <https://tpcprogress.com/commitments/>.

⁶ TPC Annual Report 2023 report doesn't provide progress around development of slaughterline and market place for herders. See TPC Annual Report 2023, available at <https://www.facebook.com/TripartiteCouncil> posted on 24 April 2024.

area of OT, which creates a domino effect as herders who live nearby the mine are pushed out as they try to sustain themselves.

While TPC has been continuing the work to reach full implementation of the HCRAs,⁷ stronger efforts are required to update these commitments and achieve full implementation in a timely manner. **TPC should develop a strong tracking tool of the implementation of the HCRAs and a clear updated timeline for implementation to prevent it from being further delayed. Additionally, OT must prioritize and expedite the implementation of these commitments to ensure their timely and effective realization.**

2. OT's failure to bring their TSF into compliance with international standards

The TSF is not currently operating according to best practice for tailings management, due to a variety of design, construction, and operations issues. While the TSF management team is aware of these failures and understands what must be done to fix those issues, it is up to OT's leadership team to invest in effective solutions and implement them in a timely manner. While we appreciate OT's leadership team for their openness in discussing ways to strengthen the tailings management system, we ask that they commit to addressing the herders' main concerns: preventing the root cause of the seepage; and respecting international standards to protect the environment and health of local communities. Below are some of the key priorities of the herders and advisors in more detail.

Since the mine began operating, OT has failed to dry the tailings sufficiently, leading to wetter tailings which seep through the faulty liner too easily. In the designs for their TSF from 2011, OT's plans showed a capability to achieve 64% solid content in their tailings, and the 2012 ESIA states that "Final concentrate will be thickened to 65% solids."⁸ This was the design that was approved. Not only should this be achievable, it is the performance criteria upon which approval was premised. While OT has improved from 56% solid content in the beginning, it has never achieved 64%. When we have raised this concern with their team, we have been told that OT has improved, and that the current average (59.8% solids content in 2024) is adequate. While we agree that improvement in this area is welcome, we disagree that the current performance is acceptable. The difference between even 60% and 64% solids content is significant—each percentage point of excess water is about one million liters—enough to change the characteristics of the tailings slurry and to have a noticeable impact on seepage incidence.

Not only do wetter tailings directly impact seepage rates, they also represent a missed opportunity for OT to recycle water in a desert ecosystem where water is scarce. Over several years, this failure to reduce water in the tailings translates into millions of liters—and millions of

⁷ TPC Annual Report 2023 p.13 states that 26 out of 64 commitments from the HCRAs have been completed. See TPC Annual Report 2023, available at <https://www.facebook.com/TripartiteCouncil> posted on 24 April 2024.

⁸ 2012 OT ESIA A4, p.31/77.

dollars—wasted that could have been recycled. From 2013-2017, OT achieved 56% solids (8% below design standard),⁹ wasting \$1.46 million worth of water annually. From 2018-2024, OT achieved nearly 60% solids (4% below design standard) on average, meaning OT wastes \$730,000 annually on replacement water.¹⁰ OT has wasted approximately \$12.41 million since 2017 from losing 248.2 million liters of water.¹¹ While OT maintains that its water recycling rate is good by industry standards, we believe that it can and must do better, given the arid environment in which it operates and the vital importance of water resources for the local herding community.

Furthermore, it is well established that there is a meaningful difference between 60% and 65% solids content in tailings. A report on Sustainable Management of Thickened Tailings in Chile and Peru shows that 65% solids content is the point at which there is “no release of supernatant water”, and that this solids content is achievable by the “high density thickener” or HDT tailings thickener technology, which is the same technology used by OT.¹² Achieving the “no supernatant water” level of tailings solid content means no liquid can drain from tailings. Therefore, achieving 64-65% solids is critical in order to stop the seepage from TC1 to persist for decades as these liquids gradually drain.

Rio Tinto has the resources to consistently achieve at least 64% solids content.¹³ A key part of the tailings processing takes place in large vats where the tailings are stirred and thickened before being deposited in the tailings cell. OT currently has two thickeners, both of which are operating at less than 100% capacity due to damage that appears to date back to 2014, and which advisors have observed in person during this year’s Water Efficiency Workshop.¹⁴ OT has known they need a third thickener to allow them to repair the other two, and as part of a

⁹ Multi-disciplinary Team and Independent Expert Panel Joint Fact Finding Report, January 2017, p.207. OT’s response to Accountability Counsel’s Commentaries on TSF Remedial Action Plan dated 9 July 2024, annex 1.

¹⁰ Calculated based on a discussion held during OT Water Efficiency Workshop, September 2024. 0.51 USD is a rough estimate of the cost of one cubic meter of water from the Gunii Hooloi Aquifer. Using 0.50 USD for calculation, 1 tonne of water = 1,000 liters = 1 cubic meter = 0.50 USD. 1,000 ton/day = 500.00 USD per day to replace from Gunii Hooloi = 1% excess water in tailings. 1,000 x 365 days x 0.50 = \$182,000 per year is the replacement cost of the water wasted to tailings for each per cent below the design goal of 64%.

¹¹ Under the assumption that 2013–2017 (5 years at 56% solids) = \$1.46M annually × 5; 2018–2024 (7 years at 60% solids) = \$730,000 annually × 7.

¹² Carlos Cacciuttolo Vargas and Alex Marinovic Pulido, Sustainable Management of Thickened Tailings in Chile and Peru: A Review of Practical Experience and Socio-Environmental Acceptance, 31 August 2022, Figure 1. <https://www.mdpi.com/2071-1050/14/17/10901>

¹³ Resolution Mine in Arizona, a proposed copper mine in Arizona that is similar to OT and majority-owned by Rio Tinto, plans to achieve 65% solids content. See Resolution Copper Mining, *General Plan of Operations*, May 9 2016, page 137, available at <https://www.resolutionmineeis.us/sites/default/files/project-files/resolution-copper-gpo-vol-1-20160509.pdf>

¹⁴ “Having started production during last year, output at the massive mine was heavily impacted by post-commissioning issues during the first quarter, including rake blade failures in the tailings thickeners, which caused the shutdown of one production line for about seven weeks.” Henry Lazenby, “Oyu Tolgoi concentrate thickener rake arms fail again” Engineering News, September 10, 2014 (<https://www.engineeringnews.co.za/article/oyu-tolgoi-concentrate-thickener-rake-arms-fail-again-2014-09-10>). OT reports it has been unwilling to add the third tailings thickener due to financial limitations.

long-term strategy to improve the solids content of the tailings. As long as they delay the acquisition of a third thickener, it is clear that they continue to prioritize profit over the environmental and health impacts of seepage that are inevitable so long as OT is unable to achieve the design criteria of 64% solids content.

OT's failure to dry its tailings according to its own designs has resulted in seepage, with real (though yet-unmeasured) harm to the environment and the herder communities who live there.¹⁵ Although OT has acknowledged it is currently unable to reach 64% solids content, it has not installed a third thickener, nor taken any other step to address this, even while reassuring communities that the seepage is under control. In other words, one of the root causes of the seepage continues to go unresolved; under these conditions future seepage is all but guaranteed. OT must achieve the highest possible percentage of solids in the tailings to minimize the risks of seepage effectively.

TC1 was constructed with a faulty liner and cutoff trench, allowing the overly wet tailings to permeate what should have been an impermeable layer of thick clay.

OT maintains that some leakage and seepage from tailings cells are normal; however, it is their responsibility to minimize leakage to the greatest extent possible and implement mitigation measures to keep any seepage from contaminating soil or groundwater offsite, such as installing an impermeable liner and a proper cutoff trench—both of which were not implemented for TC1.

A well-constructed liner along the entire foundation of a tailings cell can greatly help limit potential seepage.¹⁶ Constructing a liner is standard industry practice.¹⁷ Different natural and synthetic materials can make up effective tailings pond liners, but industry committee ANCOLD notes that “[n]atural clays often have relatively high permeability due to fissures, root holes etc. hence the requirement for re-working and compaction.”¹⁸ Despite multiple requests, OT has not

¹⁵ “The sensitive environmental receptor from TSF seepage is groundwater contained within shallow alluvial sediments including that of the Dugat/Khaliv ephemeral river channel. These are the units accessed by herder wells and wildlife. Therefore any investigation of seepage from the TSF should focus on this hydrogeological unit; TSF seepage has migrated into the alluvial sediments of the Dugat/Khaliv ephemeral river channel, as evidenced by elevated TDS concentrations, and beyond all barriers installed to contain such migration. This seepage has been detected in the shallow alluvium directly beyond the MLA; The full extent of the impact of this elevated TDS downgradient of the site is not known. There is no indication of seepage impacting the shallow groundwater at OTMB 16-86 (approximately 1km downgradient) or the Baishint herder well, approximately 7km downgradient from the site.” IESC Report May 2024, p. 62.

¹⁶ 2012 ANCOLD *Guidelines on Tailings Dams*, p 41, available at <https://www.resolutionmineeis.us/sites/default/files/references/ancold-2012.pdf>.

¹⁷ “Depending on the chemical characteristics of the tailings and the surrounding environment, the engineered TSF will generally be lined with a composite liner system consisting of a low permeability soil liner overlain by a geosynthetic liner such as high-density polyethylene (HDPE) to prevent impacts to surface and groundwater systems.” Newmont, *Tailings Fact Sheet*, August 2020, available at https://s24.q4cdn.com/382246808/files/doc_downloads/sustainability/environmental/Tailings-Fact-Sheet.pdf.

¹⁸ *Id.* at 41.

shared liner reports or as-built design drawings for the TC1 liner to demonstrate its fitness. The IESC noted in a 2022 report that “[m]ost of the TSF Cell # 1 foundation to the north and west overlies thick natural clays; however an engineered 1 m thick compacted clay liner was *purportedly* constructed in the southeast corner of Cell #1 at a location with little to no naturally occurring clays.”¹⁹ As OT has not shared documentation of compaction or conditioning of the natural or engineered clay, and given that the seepage occurred in the area where the engineered liner was purportedly constructed, it is likely the leakage took place there due to a patchy liner.²⁰

After the failure to install a proper liner, the failure to install functioning cutoff trenches was another inadequate line of defense against seepage.²¹ Cutoff trenches play a crucial role when the foundation of the tailings cell rests on layers of alluvial sediment, as OT’s TSF does.²² The original 2011 designs for the TSF included tailings dams built with cutoff trenches that reached down to a geologic layer of unweathered bedrock.²³ That was not achieved, as evidenced by the seepage escaping offsite. We have asked for as-built designs or construction reports to be shared for TC1 to be able to confirm whether the cell was constructed according to the initial designs, but we have not received access to those as-built design documents.

We are concerned that these failures are not limited to TC1. Public acknowledgment of this seepage from TC1 came towards the end of TC1’s life cycle, as OT was already constructing the next cell, TC2, which will be used through 2033. TC2 has been in use since mid-2023,²⁴ with the base liner and dams already constructed—leaving herders and advisors no chance to observe the liner or the depth of the cutoff trench to unweathered bedrock. In response to the seepage from TC1, OT has publicly stated that they made “significant” design changes to TC2, to account for the failures of TC1 to prevent seepage.²⁵ They claim the TC2 liner is adequate

¹⁹ September 2022 IESC Report, page 42 [emphasis added] available at <https://www.accountabilitycounsel.org/wp-content/uploads/202209-iesc-monitoring-report-oyu-tolgoi-mine.pdf>.

²⁰ *Id.*

²¹ “Methods to limit or manage foundation seepage include cut-offs, interception trenches or wells, grouting, and collection sumps/dams below points of seepage. Cut-offs are useful in areas where preferential seepage zones of higher permeability exist within the foundations.” 2012 ANCOLD *Guidelines on Tailings Dams*, p. 41.

²² “Where the foundations contain permeable layers of sands, gravels or alluvial, the question of seepage control must be addressed (refer Section 5.8). Cut-off trenches or under drainage collection systems may be required, depending on the type of tailings dam, the nature of the tailings water, the topography and the ground water regime.” *Id.* at 53.

²³ The trench must reach bedrock that has no cracks or fissures (i.e. is unweathered) as opposed to bedrock that has fissures that could let seepage travel beyond the tailings cell and into soil and groundwater.

²⁴ Accountability Counsel tracks the functioning of TC2 as early as August 2023 through satellite images that show liquid is filling the cell.

²⁵ “Recognizing the seepage from TSF Cell#1, OT made significant design changes to TSF Cell #2 which include (but are not limited to): Installation of a permeable seepage collection system beneath the TSF Cell #2 walls; Installation of a deep engineered clay cut off trench beneath the entire perimeter of TSF Cell #2. This trench has a minimum depth of 4 meters, and extends up to 12 meters in some locations to remove fissured clays and sand lenses.” September 2023 Detailed Water Review Report, page 12, available at

along the entire base of TC2, and that the dams are being built up atop an impermeable wall layer of clay that fills in the cutoff trench to unweathered bedrock. However, a herder shared a picture of a plant coming out of the TC2 as it was ready to begin operation, which should not happen if a proper liner has been installed in TC2.



Photo taken by a herder of TC2, July 2023, showing plants and bushes growing from the base of TC2 which was ready to be operated. This image is a courtesy of Accountability Council.

We have asked for as-built drawings and construction reports to confirm that the proper designs were indeed constructed, and we have asked for geologic maps to prove that the cutoff trenches truly reach unweathered bedrock. We have not been granted access to those documents. In the context of trust that has been breached in the past,²⁶ we believe transparency in sharing those documents with the EHT, herders and their advisors is needed to substantiate OT's claims.

Lenders should hold OT to applicable standards

Lenders' past failures to apply proper oversight of OT's designs and operations played a role in the impacts herders face today. OT's initial 2011 design for TC1 was rejected in part due to an inadequate liner,²⁷ and although a later design was approved, there was no transparency around the approval process. The amended designs were not shared publicly, preventing herders and advisors from participating in any real consultation on the design decisions and their impacts. In this context, lenders failed to scrutinize the reasons for the initial rejection and ensure the amended designs were robust, ultimately allowing leakage to occur years later.

Improving the performance of its TSF is within reach for OT. Achieving 64% or higher solids content of the tailings is possible if OT invests in needed solutions. This would put OT back where they are meant to be performing according to their own designs. OT must also share its TC2 designs and as-built drawings to allow herders and advisors to confirm that the cell has an adequate liner overlaying the entire base area of the cell, and that the cutoff trenches in the dams reach the layer of unweathered bedrock. These requested actions are supported by international standards that aim to protect the health and environment of local communities.

a. Rio Tinto's standards:

- In 2012 Rio Tinto published its own guidelines, the "D5 Management of Tailings Storage Facility and Water Storage Facility," last updated in 2021.²⁸ The D5 standard requires that TSF designs "must address the risks" associated with the mine throughout its lifetime, from construction and operation, to closure and postclosure, while identifying engineering and operational measures to mitigate those risks.²⁹ Uncontrolled leakage and seepage of tailings liquid are one clear

²⁶ One example of breached trust is the long delay in alerting local herders that seepage had occurred. Detail provided in Section 3, paragraph one below.

²⁷ State Specialized Inspection Agency of Mongolia issued a letter on 12 March 2013 stating the following, "The OT LLC has violated the requirements and conditions set forward in the Detailed Environmental Impact Assessment on the "Joint project on extraction and processing of gold and copper from Oyu Tolgoi mine" due to failing to use synthetic materials for the lining of the tailing storage facility for storing thickened tailings to prevent seepage. Our Agency has conducted two inspections at the mine that resulted in setting deadlines for the OT to fix the situation and issued an official letter that the General Agency for Specialized Inspection cannot approve the tailings storage for thickened tailings up until the OT meets the requirements and conditions for the TSF design indicated in the Detailed Environmental Impact Assessment."

²⁸ Rio Tinto 2021 *Group procedure – D5 – Management of tailings and water storage facilities v1.2*, available at

<https://www.riotinto.com/-/media/Content/Documents/Sustainability/Corporate-policies/RT-Management-tailings-water-storage-procedure.pdf?rev=de446fc5d65742b4bf6d597a2eb30ae1>.

²⁹ Rio Tinto 2021 *Management of Tailings and Water Storage Procedure* page 17.

example of a potential risk that tailings facilities designs should address and mitigate.³⁰ **To comply with this standard, OT's 2012 ESIA should have identified the risks of seepage and included adequate measures to prevent or mitigate seepage, but it did not; its Remedial Action Plan (RAP) to address seepage is belatedly trying to address that failure, but the RAP still doesn't go far enough because it is focused on addressing the symptoms of the seepage without resolving the root cause, which is the low solids content.**

- The D5 Standard also requires mining operators to set performance objectives to address public health and safety concerns and mitigation of environmental impacts; and to succeed at those objectives, mines must regularly assess whether objectives are being met, making adjustments if improvements are needed.³¹ **To comply with this standard, OT must provide information to herders about the chemical composition of the seepage and offer health check-ups to herders to ensure any harm from the seepage is detected and addressed in a timely manner.**

b. Lender institution standards:

- The social and environmental protection policies of lenders, including the EBRD and IFC, also require companies to refrain from polluting the environment and causing harm to the health of local communities. For example, the EBRD's Environmental and Social Policy ("ESP") instructs project implementers to "avoid, minimize and manage the risks and impacts associated with hazardous substances and materials"³² and requires that implementers "need to appropriately treat and/or dispose of [waste] in an environmentally sound and safe manner that includes the appropriate control of emissions and residues resulting from the handling and processing of the waste material, and where relevant, in accordance with EU substantive environmental standards."³³ As a waste material containing hazardous substances, seepage water that is uncontrolled runs the risk of polluting groundwater sources. **OT bears responsibility to avoid or minimize that risk; and lender institutions including EBRD and IFC bear the responsibility to apply scrutiny towards OT's efforts to properly handle its own waste products without harming the environment or local communities.**
- The IFC Environmental, Health and Safety Guidelines for Mining also advise that "mine effluent streams discharged to the environment ... should be managed and

³⁰ The D5 standard explicitly requires that the design of tailings facilities "must consider...seasonal and extreme weather, the effect of process upsets, seepage...long term groundwater impacts and controls." Id. at page 5.

³¹ Rio Tinto 2021 *Management of Tailings and Water Storage Procedure* page 17, available at <https://cdn-rio.dataweavers.io/-/media/content/documents/sustainability/corporate-policies/rt-management-tailings-water-storage-procedure.pdf?rev=cd25a89d2bf140a69a998aac9b3a9e11>.

³² 2019 EBRD Environmental and Social Policy, PR 3, par. 4, available at <https://www.ebrd.com/environmental-and-social-policy.pdf>.

³³ EBRD ESP PR 3, par 11.

treated to meet the applicable effluent discharge guideline values.” **We believe the TSF seepage constitutes a violation of this guideline. While OT still has not provided data on the chemical composition of the seepage, we know that it exceeds water quality standards for livestock.**³⁴

c. Global Industry Standard on Tailings Management (GISTM):

- Lastly, the GISTM, a set of standards resulting from a Global Tailings Review in 2020, also requires mining companies to properly manage the risks of tailings facilities to prevent impacts to local communities and the environment. The GISTM requires mining companies to “[a]pply design criteria, such as factors of safety for slope stability and seepage management, that consider estimated operational properties of materials and expected performance of design elements, and quality of the implementation of risk management systems.”³⁵
- The GISTM also requires that mining companies “Demonstrate that project-affected people are meaningfully engaged throughout the tailings facility lifecycle in building the knowledge base and in decisions that may have a bearing on public safety and the integrity of the tailings facility.”³⁶ **To comply with this requirement, OT must demonstrate that it has shared adequate information about the TSF with herder communities and consulted them on seepage that could impact their health and safety.**

Overall, these standards require OT to take steps to **prevent** seepage; to have in place **detailed plans to respond** to seepage, and **mitigate** its impacts; and to work with local communities to **communicate the potential impacts and remedy** any harm. We have found that while OT is taking seriously seepage containment, we have yet to see concerted efforts from OT to address potential public health impacts arising from the seepage. Since the seepage was identified, we have seen no disclosure of the chemical substances seepage has introduced to herders’ water sources, and no actions to conduct medical check-ups for herders living in the area affected by the seepage. While the RAP provides for a toxicology assessment and the latest Progress Report promises that this will be ready soon, the assessment has a questionable scope if it’s going to address health impacts as it does not include a health assessment for humans and animals who use the water affected by the seepage.³⁷ What’s more, OT’s delay in alerting communities to the seepage is a problematic gap in their plan to monitor and communicate environmental and health risks as required by the standards discussed above.

³⁴ September 2022 IESC Report, page 45, available at <https://www.accountabilitycounsel.org/wp-content/uploads/202209-iesc-monitoring-report-oyu-tolgoi-mine.pdf>.

³⁵ 2020 GISTM, requirement 4.5, available at <https://globaltailingsreview.org/wp-content/uploads/2020/08/global-industry-standard-on-tailings-management.pdf>.

³⁶ 2020 GISTM, requirement 1.3.

³⁷ TSF RAP Q3 2024 Progress Report, point 11 states, “The study of toxicology (Action 10) will cover treatment of the seepage water and its specifications.” Available at <https://admin.ot.mn/wp-content/uploads/Progress-Report-Q3-EN.pdf>.

The efforts from OT must have stronger monitoring from lenders to ensure that the applicable safeguards are in place. OT's seepage RAP is a good starting point, but to regain the trust of the community, OT must live up to requirements to regularly measure the risks to groundwater stemming from seepage and commit to transparency by sharing those studies; and it must take concrete steps to prevent health impacts to local communities. This will require more effective communication with herders, especially those who live nearest the TSF. **We recommend OT to urgently disclose the independent research on the water quality to identify the chemical substances found in the water** used by herders and their animals, as well as the impacts to the soil and biodiversity around the mining area **and conduct a routine medical check up for herders and animals** to identify whether there has been, or might be a risk of herders and their animals to contract illness or diseases from consuming contaminated water, be it directly or through consuming animal/plant products affected by the water.

3. OT's inadequate consultation, failure to conduct meaningful consultation and lack of transparency on the seepage issue for herders

A clear breach of trust occurred when OT delayed notifying local herders about seepage from TC1. Despite being aware of seepage at multiple spots around TC1 since it began operating in 2013, and recording this in a 2015 report, OT raised no alarm, citing that the seepage was being contained. By June 2019, elevated TDS levels were detected near the mine license area boundary, indicating seepage migration, but OT only formally recognized the issue in November 2021. Affected communities were only informed a year later, in September 2022, and even then, the acknowledgment was limited to local government and the TPC, excluding many impacted herders.³⁸

As an effort to properly address the seepage of the TC1, lenders exercised their leverage over OT and required them to develop a Remedial Action Plan (RAP) in December 2023. Accountability Counsel conducted visitations to 4 herders households who live the closest to the TSF in the September 2024 field trip. None of them shared that they knew about the existence of the RAP, nor were involved in its development. The herders admitted that they knew nothing about the extent and the impacts of the seepage, and mainly heard rumors about the seepage without proper explanation from OT. Only one of the households mentioned that a staff from OT visited them personally in their house and shared that 'the seepage has been fixed', without further information on what they meant by 'fixed'.

According to a representative from the EHT in the TPC, when OT acknowledged the seepage, they reportedly visited households in several (2–3) baghs to inform them about the situation and

³⁸ OT was aware of at least three spots around TC1 where seepage had been occurring since it first went into use in 2013, and the 2015 TSF Raise Design Report, Golder Associates 4/30/2015 recorded it. In June 2019 OT noted elevated TDS levels in monitoring bore OTMB 16-79, right at the MLA border. (Sept 2023 IESC DWRR, page 2).

conduct Q&A sessions. However, based on our interviews with affected herders, it appears the outreach has not been able to reach all impacted herders, including those visited during the September 2024 field trip. While it is unclear what went wrong, the communication may have been too infrequent, inconsistent, or technical for herders to fully understand. Alternatively, OT may not have reached every household. This highlights the need for better identification of affected herders and the use of diverse outreach methods to ensure timely and effective information sharing. Considering herders' demanding schedules caring for their animals, communication must be tailored to their circumstances.

Through these consultations, we also learned more about herders' perceptions of the TPC and gathered information to better understand OT's persistent communications challenges with directly impacted herders. Herders raised concerns about the shortcomings of TPC as a platform to gain information and share their concerns, including on the seepage issues. They shared that herding takes a lot of their time, and they do not have enough time to continuously attend TPC meetings as they prioritize herding and taking care of their animals. One of the serious issues raised by herders is that the TPC does not enable them to share their concerns as those who are not TPC members are not allowed to speak their opinions in the meeting, as stipulated in one of the provisions of the TPC Charter.³⁹ There is a clear distrust from the visited herder households who feel that OT uses the TPC to distance herders from directly communicating their concerns to OT. Meanwhile, we also observe that OT points to their communications to the TPC as a main method for disclosing information to and consulting with herders. Based on our conversations with herder households, this approach is clearly falling short as critical information is not reaching herders. Thus, there is a need for OT to broaden their information disclosure and consultation methods to focus on direct communications with the wider herder community, to ensure that those who are impacted by the seepage are able to get their concerns heard and contribute in addressing it. The TPC was never intended to be a replacement for OT's own community consultation activities.

OT continues to decide their actions unilaterally, without meaningfully engaging project affected people in addressing the seepage issues that are in misalignment with EBRD and IFC Safeguards. There is a significant gap of information disclosure provided for the herders community who are using the contaminated water for their own daily use.⁴⁰ **We reaffirm the need to disclose the impacts of the seepage to water and pasture, and to conduct a medical check up for herders and their animals who have been consuming the water with high total dissolved solids (TDS) levels which have been identified downgradient of the TSF.**

³⁹ Tripartite Council Charter, Chapter Three, Article 2, provision 2.1.9, 2019.

⁴⁰ IESC Report May 2024, p. 58-63. TSF barge pond water quality parameters exceed Australian New Zealand Environment and Conservation Council (ANZECC) Guidelines for Livestock Water for total dissolved solids, sulfate, fluoride, molybdenum, boron and selenium. Irregular increase of TDS has been documented since 2018. TDS concentrations in TSF barge pond water typically range from approximately 6,000 to 8,000 mg/L, and the investigation to date of seepage downgradient of TSF Cell #1 has recorded TDS levels up to 21,557 mg/L. The IESC Report shows that increased TDS and other chemicals are identified as far as 300m beyond the mining license area.

When asked about their main concerns around the seepage, herders shared that they are most concerned about the pasture, water and their livelihood as herders. Lenders have to ensure OT complies with their safeguards, especially in ensuring that project affected people are meaningfully consulted and involved in addressing the seepage,⁴¹ as well as protecting the environment around the mining area.⁴² It is time for OT to actually comply with the lenders' safeguard, and not only try to comply with it.⁴³

In order to truly engage herders meaningfully, **OT should ensure there is a significant improvement in their stakeholder engagement plan (SEP) which currently does not include the issues of seepage in its summary of issues and the delayed implementation of the HCRAs.**⁴⁴ While OT has developed a Communications and Engagements plan in relation to the TSF seepage through their RAP, herder households we visited who live close to and herd their animals around the TSF are still not well informed, nor meaningfully participate in the development of the RAP itself. This shows the inadequacy of the implementation of stakeholder engagement related to the seepage issues.

OT should urgently improve their information disclosure approach to comply with the lenders' safeguards and the highest international standards applicable. This should include prompt sharing of information on the updates of the RAP, including reports on seepage monitoring and tailings management, and all referred attachments/annexes, in Mongolian and English. Since the first publication of the RAP in April 2024, there has not been any links to the important data which is mentioned to be attached to the report including clay layer test result, seepage assessment, and an offer to conduct toxicology study.⁴⁵ These documents are imperative to be made public for all interested stakeholders to understand the situation of the seepage fully and to show OT's honesty in addressing the seepage concerns. There will be no meaningful contributions made to address the issue without transparent information disclosure. Continuous socialization of the efforts conducted within the RAP should be consulted with herders to get their feedback as required under lenders' safeguards as a part of Ongoing Reporting to Affected Communities.⁴⁶

We recommend lenders to expand their information sources to gain information from the wider groups of herders as there is a disparity between the information known by lenders and the experiences of herders on the ground. This can be done by arranging a meeting with herders during lenders' annual visit and expanding the source of the auditors to engage with

⁴¹ IFC Performance Standard 1 point 25-31. EBRD Performance Requirement 1 point 11 and Performance Requirement 10 point 27-30.

⁴² IFC Performance Standard 1 point 7-16, Performance Standard 3 point 4-6, 9-12. EBRD Performance Requirement 1 point 9-12, 29-33 and Performance Requirement 3 point 6-19.

⁴³ In the meeting with IFC, EBRD and EDC in Ulaanbaatar, September 2024, it was stated by lenders that OT is trying to comply. This is not enough. Clients of the lenders must be in compliance with their safeguards in order to prevent harms towards local communities and the environment.

⁴⁴ Oyu Tolgoi ESIA 2012, CHAPTER D14: STAKEHOLDER ENGAGEMENT CONSTRUCTION MANAGEMENT PLAN, p. 20-22.

⁴⁵ Oyu Tolgoi Remedial Action Plan Q2, July 2024.

⁴⁶ IFC Performance Standard 1 point 36. EBRD Performance Requirement 10 point 6-9, 27-30.

external stakeholders to ensure a wide range of perspectives are included and the analysis is not heavily reliant on one single party.

4. OT has the opportunity to protect pastureland and water resources that herders rely on for their livelihood

Herders have made it clear that the long-term health of their environment is a top concern for them. They understand that OT will be their neighbor for many years, and they are asking for OT to honor its relationships with local communities by not causing harm to the environment, and prioritize the sustainable management of desert resources. Two key resources that are already in scarce supply are land and water for their herds. When OT first settled in the area, many herder families were displaced from their ancestral pastures. Some families had little choice but to give up herding, while others were forced to share pastures, contributing to overgrazing and increasing conflicts over shared pastures. In addition to the displacement from traditional pastureland, herders also saw the displacement of the Dugat-Khaliv and Undai rivers—two key resources. While the Undai river to the south of the mine has been successfully rerouted, the Dugat-Khaliv river did not receive the same careful planning; the TSF directly overlays the Dugat-Khaliv riverbed. To build TC1 and TC2, OT had to also build a diversion channel to carry the surface waters around the cells. This diversion channel has impacted the herders' right to access water at various points.

When the seepage issue was disclosed, OT endangered herders' water supply by re-routing surface flow from the Dugat-Khaliv river back to the TSF area as a stop-gap measure to contain potential seepage contamination.⁴⁷ In other words, OT was taking water that should have flowed to herders living downstream of the TSF, without communicating about this with downstream herders.⁴⁸ In the July 2023 Field Trip Report of Accountability Counsel, we captured the changes of water availability in 4 spring downgradient of the mine, namely Budaa, Baishint, Ulaan Khoshuu and Bural. In the September 2024 OT site visit, we came to Budaa and Baishint springs which were flowing with water due to high precipitation immediately preceding the time of the visit. Local herders who lived and used to herd in that area shared that in the past, these springs were filled with water all year long, but now it has become ephemeral, only flowing if there is rain. One of the OT staff mentioned that these springs are not documented in the OT's baseline studies because they are not identified as permanent springs, but as ephemeral springs. OT disregarded herders' lived experience and wealth of knowledge in this exchange, showing that the baseline studies were not consulted with the local herders to identify important springs that have been utilized for hundreds of years. This kind of approach further elevates the level of distrust of herders towards OT.

⁴⁷ "OT by [September 2022] had begun pumping from the Dugt/Khaliv Surface Water Diversion located downgradient of the Dyke, routing these collected waters to the TSF. This water likely included a mix of both seepage from the TSF as well as surface waters collected in the Dugt/Khaliv Surface Water Diversion which diverts flood waters around TSF Cell #1." September 2023 IESC Detailed Water Review Report, page 2.

⁴⁸ September 2023 IESC Detailed Water Review Report, page 9.

Another problem is that the diversion channel was not built to handle the capacity of the river after heavy rainfall, leading to multiple instances when the channel flooded. The current diversion channel should theoretically allow the river's surface flow to skirt the boundary of TC2, and reconnect with the natural streambed footprint further downstream. Unfortunately, the current diversion channel is not large enough to handle a heavier flow in a flood scenario, and we have already witnessed flooding of the diversion channel which resulted in water from the Dugat-Khaliv around TC2.⁴⁹ While flooding is not a constant occurrence, it is a foreseeable risk during each annual rainy season.

To protect the integrity of the Dugat-Khaliv river, which plays a vital role for herders, OT should build a permanent Dugat-Khaliv diversion channel with capacity to handle heavy flooding. As climate patterns change and heavier rainfall becomes more common, Mongolia's rainy period is even more likely to produce heavier flooding than in the past. OT is currently planning to address issues with the diversion channel by constructing a new one,⁵⁰ and herders are asking for OT to accept the likelihood of future flood events by building a diversion channel with maximum probable flood capacity. We request access to the preliminary designs and calculations for the new DK diversion channel to allow herders and advisors to confirm that it will have capacity to divert the river even during periods of intense rainfall and flooding.

Presenting an additional complication to the construction of a new diversion channel, we also know that OT has plans to expand the mine license area to build two additional tailings cells to be used once TC2 is full—in ten years or less. That plan would take up at least eight square kilometers of grazing land from herders. One of the planned future tailings cells would be located directly atop the area where OT plans to construct the DK diversion channel, once again putting this key water source at risk, and requiring that in just ten years, another diversion channel would need to be constructed. This inefficient decision is certain to lead to more impacts on the environment and herders.

In addition to needlessly risking herders' access to the Dugat-Khaliv river with this expansion plan, OT would needlessly take even more pasture from the herders that remain. Ensuring that herders have access to information and have opportunities to voice concerns and participate in the planning of the TSF are key components of international

⁴⁹ "There was a substantial precipitation event on 28 July 2023 which transferred large amounts of water through this system. A contractor involved in construction work on TSF Cell# 2 had infilled a portion of the Dugt/Khaliv Surface Water Diversion to allow vehicle access over the trench. This obstruction caused large volumes of water (estimated at 50,000 m3) to be directed to the seepage collection area between TSF Cell#1 and the Dyke." Detailed Water Review report, September 27 2023, page 12-13. See also, "Accumulated flood waters in a clay borrow pit used for TSF Cell#2 construction are routed directly to the Dugt/Khaliv surface water diversion channel, against environmental control protocols. This is not formally considered an Environmental Incident, but perhaps could have been." Detailed Water Review report, September 27 2023, page 7.

⁵⁰ During our site visit to the mine in September 2024, we observed the new path for the DK Diversion channel. However, OT shares that this construction has been delayed until 2026.

requirements.⁵¹ Not only is it critical to meaningfully consult with herders in all aspects of the mine that directly affect them, but we believe it is inadvisable and inefficient for OT to build the full-scale diversion channel now, only to bury it under TC4 in 20 years and thus force themselves into re-building another diversion channel. It would be more logical, more secure, and reduce risks to herders and their environment, to build one properly-constructed diversion channel with probable maximum flood capacity, that can be used for the remaining lifetime of the mine. **We urge that OT properly consult with local herders in developing a plan for future tailings management that minimizes impacts to herders' livelihoods and environment.**

The consultation we request would require OT to reconsider its future tailings management plan, which we understand will require time and resources. However, we think in the long term, finding a way to responsibly store the tailings without acquiring more pastureland would be more efficient and cost-effective. In meetings with the OT leadership team and the TSF management team, **we have proposed an alternative plan for future tailings management that would reorganize the development of TC3 and TC4 to the area where TC5 and TC6 are currently planned as it will prevent more pasture loss for herders while optimize the use of OT's MLA.** While this strategy would require additional consideration, OT still has plenty of time before it will need to build TC3 and TC4. We strongly urge OT to consider alternatives, given the valuable ties herders have to their land, and OT's obligation to prevent adverse impacts to herders' livelihoods and human rights.

Lastly, OT would be able to save even more valuable water resources by adopting the recommendations produced by OT and RT staff during the Water Efficiency Workshop in September 2024. During this workshop, attendees discussed potential options to optimize water usage by improving different aspects of the mine's operation, including certain aspects of tailings management. On average, OT is currently losing around 300 liters per second of standing water in tailings ponds to evaporation. By optimizing water usage, OT could save 100 liters per second from being evaporated—significant monetary value. The agreed-upon recommendations include:

- **Thickening tailings to 64%, which would allow water to be collected for recycling before reaching the tailings cell** (discussed more above). The workshop attendees noted this could be done by acquiring a third tailings thickener. As this change would also prevent seepage, herders consider this recommendation a high priority.
- **Optimizing tailings distribution for TC2:** this recommendation includes straightforward changes to decrease evaporation, for example increasing the slope of the tailings cell to a 2% grade slope so the water flows down to collect along one edge of the cell, then to be returned; and putting tailings spigots in more positions around the perimeter of the cell to allow for a more even distribution of tailings throughout the cell.
- **Intercell or multicell operations:** this could involve transferring tailings from TC1 to TC2. The first step would be to install a bore well dewatering system in inactive TSF Cell 1 to enable recovery of previously entrained water; then the removed water would be

⁵¹ See, e.g., IFC Performance Standard 1: "When Affected Communities are subject to identified risks and adverse impacts from a project, the client will undertake a process of consultation in a manner that provides the Affected Communities with opportunities to express their views on project risks, impacts and mitigation measures, and allows the client to consider and respond to them."

conveyed to Cell 2 for reclaim to Concentrator. OT could also save water by dividing each tailings cell into multiple cells to allow deposition rotation to reduce tailings evaporation and promote consolidation.

- **Split tailings stream:** a system that involves separating the dry tailings components (sands) from the wet tailings components (slimes) and disposing of them separately, which can optimize slimes fractions.
- **Heap leach:** a dry tailings system as opposed to OT's current thickened tailings operation. This involves using chemicals ("flocclulants") to separate the valuable ore from the waste, similar to the flocculants OT currently uses in its thickened tailings operation, but uses much less water. This change would overhaul the current system and render many of the above recommendations unnecessary.

Improving its water efficiency would not only conserve precious water resources in the desert environment; it would strengthen OT's image as a mining company on the cutting edge of resource management.

5. Recommendations

First and foremost, we recommend that OT's leadership team continue to prioritize an active dialogue with herder representatives to have dedicated space to resolve these and any future issues that may arise. We greatly appreciate Ms. Ligenfelder's openness in meeting with us during our time in Ulaanbaatar, and we welcome the opportunity to continue strengthening the relationship between herders and OT, including by arranging meetings with herder representatives directly, even between the site visits of the international advisors team.

Beyond that, we have some specific suggestions for actions OT and its funders should take to honor their commitment to respect the rights of local communities:

1. Fully implement HCRAs in a timely manner:

- a. Develop an official HCRAs tracking system, made available publicly and updated periodically for herders to monitor its implementation.
- b. Urgently create a renewed timeline for a full implementation of the HCRAs to prevent further delays that harm herders' livelihoods.

2. Improve actions taken to address and remediate seepage:

- a. Immediately disclose the independent study assessing the impact of the seepage, to understand how far it traveled offsite, what chemicals or metals are present, and what impact it has had and continues to have on the local environment, animals, and people.
- b. Develop a plan for facilitating access to health check-ups for herders to ensure any potential harms from seepage contamination are detected and addressed in a timely manner.
- c. Begin planning specific means to achieve compliance with the intended 64% solid content design of the TC1 (e.g. by purchasing a third thickener), and bring the entire TSF operations to comply with international standards (e.g. by improving the water reclaim pond system).

- d. Urgently implement the key recommendations made in the Water Efficiency Workshop in September 2024 to reduce water loss in the South Gobi Desert.
- 3. Strengthen community outreach and meaningful consultation:**
- a. Improve outreach and communications strategies with local herders to ensure that important health and safety information regarding seepage incidence is accurately conveyed and to include herders' perspectives in mitigation planning.
 - b. Commit to sharing key information with stakeholders, beyond the TPC, including relevant documents and reports available in Mongolian and English online.
 - c. Improve OT's stakeholder engagement plan (SEP) to include meaningful consultations to address issues of seepage in its summary of issues and the delayed implementation of the HCRAs.
 - d. Conduct annual Water Efficiency Workshops to address follow-up on short-term and long-term opportunities to save water.
- 4. Preserve pastures and waters in order to protect herders' livelihoods:**
- a. Reorder the plan for future TC3 and TC4 which are currently designed outside of the mining area to be developed in the area of TC5 and TC6 which are within OT's mining area.
 - b. Build a permanent Dugat-Khaliv diversion channel with capacity to handle heavy flooding to protect the integrity of the Dugat-Khaliv river.
- 5. OT should take all lessons learned from TC1 and conduct measures to prevent the occurrence of the same mistakes in operating TC2.**
- 6. Lenders should consider postponing additional financing of OT until it proves its compliance with the lenders safeguards.**