

ERDENES SILVER RESOURCE SALKHIT MINE CLOSURE PLAN PILOT

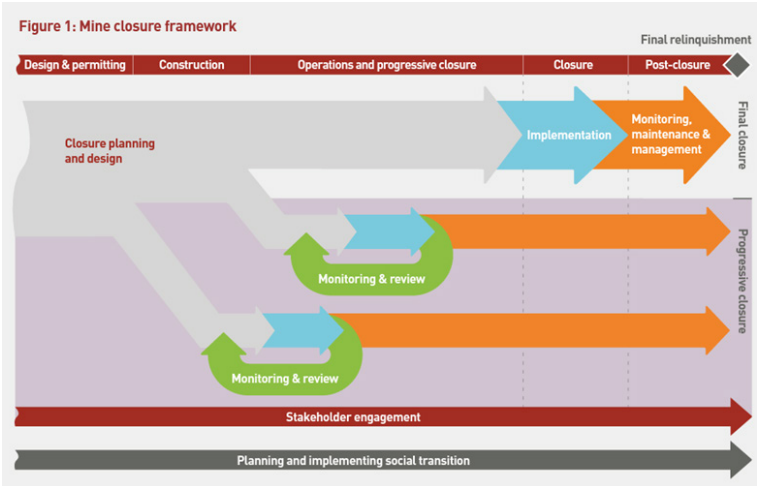
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CLARIFYING MINE CLOSURE PLANNING

As mine closure planning is a new practice in Mongolia, a clarifying statement of its definition is helpful to build understanding. Resource jurisdictions around the world require mining companies to start planning for a mine's decommissioning, remediation, reclamation, and relinquishment (collectively known as closure) long before these activities occur. In the Canadian province of Alberta, mining companies must provide a closure plan to the regulators as part of the regulatory application process before a shovel touches the ground. This allows the regulator to assess a company's financial and technical ability to close the mine and hand the land over to the original land user. The closure plan is updated regularly, as the mine plan changes, and re-submitted to the regulator for review and approval. In Mongolia, the closure planning is guided by the Regulation on Rehabilitation and Closure of Mines and Concentration Plants.

The graphic shown is from the International Council on Mining and Metal's Integrated Mine Closure Good Practice Guide. It illustrates how closure planning and design, along with stakeholder engagement, and planning/implementing social transition occurs throughout the mine life.

Figure 1: Mine closure framework



In the case of the Salkhit Silver Mine, estimates for mine operations range up to ten years. MERIT and Erdenes Silver Resources are in the early planning stages for the mine's first Closure Plan. This Closure Plan will detail the decommissioning, remediation, reclamation, and monitoring activities that Erdenes Silver Resources proposes to undertake prior to relinquishment of the mine. Should significant changes happen to the mine plan (e.g.: additional facilities are built, other pits are opened, additional tailings facilities are constructed), then Erdenes Silver Resources will be required to develop an updated Closure Plan. This is part of the progressive closure part of the above graphic.

Why are MERIT and Erdenes Silver Resources creating a closure plan now? The International Council on Mining and Metals states that "a balanced closure approach fully incorporated into mine planning…will lead to better outcomes across…health, safety, social, environmental, legal, governance, and human resources [realms]" (ICMM, 2019, p.9). The earlier that closure concepts are integrated into the mine planning process, the more successful a company will be in planning for beneficial socioeconomic community outcomes. Budgeting for required closure activities will improve liabilities associated with the mine can be managed. The Government of Mongolia is in the process of updating the Minerals Law and has prioritized mine closure planning. The Salkhit Mine Closure Plan will provide a reference model for mining companies.

SALKHIT SILVER MINE ENVIRONMENTAL SUMMARY REPORT

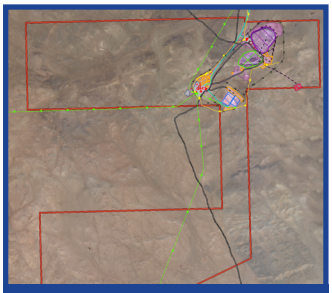
In February, the draft of the Salkhit Silver Mine Environmental Summary Report was delivered to the MERIT team and key stakeholders. The report is a desktop review of relevant environmental baseline and monitoring information from the Salkhit Mine. The information and recommendations contained within this report will be used to inform reclamation planners to design reclamation activities towards achieving the reclamation goals for the Stage II Mine Closure Management Plan.

Documents reviewed included the Baseline Environmental Assessment (BEA), the Detailed Environmental Impact Assessment (DEIA), the Environmental Audit Report (EAR), the Land Quality Assurance (LQA), and the Environmental Monitoring Program (EMP), which were developed between 2016 to 2021. The documents were reviewed against the Mongolian National Standards. The report provides a description of the mine site, its infrastructure, and a baseline overview of the regional climate.

The data summarized from the documents listed above includes:

- baseline soil, vegetation, and wildlife,
- air quality and noise monitoring from mine site operations
- groundwater quality
- soil contamination from mine site operations
- tailings samples

Comprehensive mapping was conducted. For example, the map included shows the Salkhit Mine operations and facilities. Key findings and recommendations from the report are as follows:



Aerial photo of Salkhit mine

- Mine waste rock, waste rock dump and tailings characterization sampling are required to understand how to manage these materials at the time of reclamation.
- Further data analysis will be conducted to characterize environmental baseline conditions for air, soil, and water tests. Additional baseline sampling may be required.
- A desktop review on local native plant propagation methods would be beneficial to support development of re-vegetation strategies. Trials could be undertaken with specific native plant species.
- Assessment of topsoil stockpiles to document soil chemical and physical properties would be useful for reclamation planners to develop revegetation prescriptions.
- The information in this report will partially inform the risk assessment. Following the risk assessment, data gaps will be better understood, and a sampling plan and design will be prepared to execute in May/June 2022.

REFINING CLOSURE GOALS AND DEVELOPING CLOSURE OBJECTIVES FOR THE SALKHIT MINE

In January, key stakeholders came together to brainstorm closure goals for the Salkhit Mine. Following these sessions, an online survey was developed, asking the participants to score each of the goals according to criteria adapted by the ICMM. CPP Environmental analyzed the responses, and on February 15th, facilitated a discussion to focus the goals. Two closure goals were developed for the Salkhit Mine:

1. Reclaimed sites exhibit characteristics and functions close to the natural ecosystem state, that support traditional land use type for local communities.
2. Based on mine infrastructure, develop business opportunities to support local growth and socio-economic development.



Goals and Objectives Development Stakeholders Working Sessions IV and V

On February 16th, an overview of objective-setting for mine closure was presented to key stakeholders. Objectives establish high-level outcomes to be achieved for a reclamation site to realize the goal. Reclamation outcomes are typically associated with the following best practice closure principles: safety, physical stability, chemical stability, socio-economic transition, ecological stability, and risk management (ICMM, 2019). These mine closure principles should be considered when reviewing and developing objectives. The two overarching goals set the tone for the stakeholder session on the closure objectives on February 16th.

Over the course of the February 15th and 16th meetings, 30 representatives from various organizations attended and provided valuable contributions. These included Erdenes Silver Resources (ESR), Ministry of Mining and Heavy Industry (MMHI), Ministry of Environment and Tourism, MRPAM, MERIT, Water Agency, Dundgobi Governor's Office, Dundgobi Environment and Tourism Department and Inspection Department, and Gurvansaikhan district , and Chuluut bag representatives.



Mike Poscente, Lead Technical Advisor (MBA, RPFT) and Jennifer Adams, MERIT Project Director

The objectives were shared with a wider group of stakeholders and community members on February 23rd and 24th, through consultations at the Salkhit Mine and in Mandalgobi, Dundgobi. The participants' feedback was gathered, and the objectives were refined. A subsequent survey was sent out to stakeholders, to score the objectives. Final goals and objectives will be presented to the key stakeholders in early March for acceptance.



Stakeholder's visit at Salkhit mine site

NEXT STEPS:

The March issue of the newsletter will summarize closure goals and objectives finalization and will introduce the next phase of the pilot - risk assessment, and how it is a critical component of successful mine closure planning.

Sources: https://www.icmm.com/en-gb/guidance/environmental-stewardship/integrated-mine-closure-2019