

ERDENES SILVER RESOURCE SALKHIT MINE CLOSURE PLAN PILOT

Newsletter Issue 7

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MINE CLOSURE RISK ASSESSMENT

This issue of the newsletter focuses on the risk assessment process that was conducted as part of the Salkhit Mine Closure Plan Pilot. Inherent risk assessment is a critical early step of mine closure planning. The purpose of risk assessment is to understand how existing site conditions at the mine may impact the achievement of the mine closure goals and objectives.

HOW ARE THE RESULTS FROM RISK ASSESSMENT USED?

Mine Executives use risk information to set priorities for budgets, resource allocation and strategic initiatives.

Regulators use the information when reviewing mine closure plans, to determine suitability of the plan to control risks and ensure reclaimed land can be used for other purposes.

Mine Managers use the information to decide where reclamation trials, research or investment in technology is needed.

Closure Planners use the information to inform landform designs, technology requirements and risk controls to include in the mine closure plan.

Risk Category No.	Vulnerability Description	Number of Risks
1	Geotechnical Stability	24
2	Soil	6
3	Ground Water	2
4	Surface Water	4
5	Tailings	4
6	Public Safety	6
7	Resources	6
8	Climate Change	6
9	Socia-economic	8
10	Post Closure	13



Review of the risk assessment results with ESR management

RISK DEFINITION

Inherent risk is the likelihood of a risk occurring and the consequence of a risk, assuming the current conditions on the mine site.

Residual risk is the likelihood of a risk occurring and the consequence of a risk, assuming the proposed reclamation activities, technologies and strategies are implemented.

Latent risk are events that are unknown and not imminent but are present and capable of emerging or developing.

HOW DO YOU DEFINE THE RISKS?

The first step to define risks is to review existing information sources and environmental monitoring data to understand areas of vulnerability and previously identified risks. For example, the Salkhit Mine Environmental Impact Assessment report includes specific risks and environmental monitoring data inform us on the current state of soil and water resources. Through this process we identified 10 areas of vulnerability and developed 79 risk statements.

HOW ARE RISKS ASSESSED?

Risk assessment criteria is developed and used as a guide to score the likelihood of a risk occurring and the consequence should a risk occur. It is important to establish criteria for assessors use, to score risks in a rational and defensible manner, rather than based exclusively on individual opinion. Risk assessment likelihood and consequence criteria were established for five risk types.



Brainstorming session at the mine site

WHAT ARE RISK TYPES AND HOW ARE THEY SCORED?

We used five risk types: 1. Public Health and Safety, 2. Environmental, 3. Operational, 4 Reputational, 5. Financial/Legal. Risk types enable a better understanding of specific consequences of a risk should it occur. The evaluation criteria contain a description of the consequence and likelihood for each risk type, ranging on a scale from 1 to 5. In the example provided below, risk 1.9 is scored and public health and safety and reputational risk types scored the highest (worst). Understanding differences in risk type scores for a risk, help closure planners design risk controls that are targeted and effective.

Risk Statement:	THE OVERBURDEN/WASTE DUMP IS SUSCEPTIBLE TO SLUMPING	Consequence	Likelihood	Inherent Risk Score	Total score 55
Risk Type:	Public Health and Safety	5	3	15	
	Environmental	2	3	6	
	Operational	3	3	9	
	Reputational	4	4	16	
	Financial/Legal	3	3	9	

WHAT DOES THE RISK SCORE MEAN?

A risk score is the product of consequence X likelihood. A risk matrix is used to rank the results of the risk type scores. The matrix has a maximum score of 25 for each risk type. Each risk type is ranked as being, low, medium, significant, or high. The total score, a sum of all five risk type scores, is simply used to prioritize the full list of risks from most important to least.

		Consequence				
		Insignificant Score = 1	Minor Score = 2	Significant Score = 3	Major Score = 4	Extreme Score = 5
Likelihood	Remote Score = 1	1	2	3	4	5
	Unlikely Score = 2	2	4	6	8	10
	Possible Score = 3	3	6	9	12	15
	Likely Score = 4	4	8	12	16	20
	Certain Score = 5	5	10	15	20	25

WHAT ARE THE NEXT STEPS?

MERIT conducted a final stakeholder engagement session on April 20, 2022. The objectives of this session were:

- to inform stakeholders about risk assessment importance and the process used,
- to present the risk assessment results, and
- to inform stakeholders on how closure planners use risk assessment results to develop reclamation activities and plans that are targeted toward achievement of the reclamation goals and objectives.

Risk Rating	
1 to 6	Low Risk
7 to 12	Medium Risk
13 to 19	Significant Risk
20 to 25	High Risk

■ STAGE 1 PROJECT COMPLETION AND ACKNOWLEDGEMENTS

The Project Team is celebrating the successful completion of stage 1 of the Salkhit Mine Closure Plan Pilot. Our team would like to thank all project participants, stakeholders and contactors who have contributed to this success. We especially thank our stakeholder group for providing input, advice, and opinions throughout the project. Your contributions are valuable and respected by the Project Team. Special thanks to our project sponsors, Ministry of Mining and Heavy Industry, Ministry of Environment and Tourism, and Erdenes Silver Resources for your direction, contributions, and outstanding support for the project.

■ STAGE 2 WRITING THE MINE CLOSURE PLAN

MERIT is busy finalizing the work plan and budget for stage 2 of the project. We will be hiring local Mongolia based consultants in May 2022. Stay tuned for our next newsletter, which will highlight the stage 2 project team, the work schedule, and stakeholder engagement opportunities.

CONTACT INFORMATION

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