

Polymetal Kyzyl ESAP (DRAFT FOR DISCLOSURE)

22 December 2016

No	Action	Environmental Risks Liability/ Benefits	Legislative requirement/ EBRD performance requirement/ Best practice	Investment Needs /Resources/ Responsibility	Timetable Action to be Completed	Target and Evaluation Criteria for Successful Implementation	Status update
PR1	Assessment and Management of Environmental and Social Impacts and Issues						
1.1	Submit an environmental and social ¹ (E&S) report to the EBRD on the environmental and social performance of the Project and the status of the implementation of this ESAP.	EBRD reporting requirement	EBRD PR 1	Polymetal resources	<p>During construction: E&S report and ESAP progress update to the EBRD every quarter for the duration of construction phase.</p> <p>During operation: Annual E&S report and ESAP progress update to the EBRD within 60 days of Company year-end for the duration of EBRD financing of the Project.</p>	<p>E&S reports (template to be provided by the EBRD) and ESAP progress updates received. Reports and progress against this ESAP satisfactory to the EBRD.</p> <p>EBRD, or appointed consultant, to maintain rights for monitoring visits as required.</p>	

¹ 'Environmental and social' includes occupational and community health, safety, and security, as well as human resources matters and working conditions.

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1.2	<p>When Polymetal selects a concentrate processing facility(ies) (excluding sale of concentrate to commodity buyers), Polymetal to consider potential environmental and social (including industrial hygiene) risks associated with such a facility(ies) as well as the potential reputational risks. Polymetal to seek concentrate processing facilities that manage environmental and social risks appropriately and in line with good international practice and Polymetal's corporate environmental and social practices. Risks to be considered include the appropriate handling, treatment and disposal of arsenic and other heavy metals potentially associated with the processing of Kyzyl concentrate.</p>	<p>Potential environmental and social risks associated with concentrate processing.</p>	<p>EBRD PR1</p>	<p>Polymetal resources</p>	<p>Before first concentrate shipment.</p>	<p>Polymetal confirmation in a form of a written statement that in the selection of concentrate processing facilities that environmental, social (including industrial hygiene) and reputational risks have been considered by Polymetal and that Polymetal is satisfied that its concentrate will be processed appropriately from an environmental and social perspective and would not pose reputational risks to Polymetal.</p>	

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1.3	<p>Undertake a detailed assessment, including baseline data gathering, modelling and impact assessment, of the potential impacts associated with dewatering during the underground development phase of the Kyzyl Project.</p> <p>Put in the place the necessary measures to address and monitor the identified impacts and risks.</p>	<p>Risk of impacts to local aquifers, other water users and surface water interactions.</p>	<p>EBRD PR1, PR3 and PR6</p>	<p>Polymetal resources and external expertise</p>	<p>Assessment to commence 12 months prior to final investment decision for the underground development phase of the Kyzyl Project. Assessment to be completed prior to commencement of underground development phase.</p> <p>Impact mitigation and monitoring during underground development phase.</p>	<p>Detailed assessment of impacts associated with dewatering during the underground development phase on groundwater and surface water conducted. Mitigation, management and monitoring measures implemented.</p>	
1.4	<p>Develop the existing framework environmental and social management and monitoring plans developed as part of the Project ESIA and SESR into fully detailed plans and integrate them into the EHS management system for the Kyzyl Project.</p>	<p>Management and monitoring of E&S issues through implementation of management and monitoring plans.</p>	<p>EBRD PR 1 Best practice</p>	<p>Polymetal resources External consultants, if required. Assign responsibilities</p>	<p>Prior to construction, operations and closure where relevant.</p>	<p>Fully developed environmental and social management and monitoring plans in place and implemented by the Kyzyl Project in accordance with EBRD PR 1 paragraphs 17-20.</p>	
1.5	<p>Ensure that the necessary provisions are in place to manage environmental, health and safety and labour risks associated with contractors and suppliers including the inclusion of the necessary clauses in tenders and contracts and regular Company monitoring and audits of contractor and supplier performance.</p>	<p>Management and monitoring of potential contractor environmental, health and safety and labour risks.</p>	<p>EBRD PR 1 and 2 Best practice</p>	<p>Polymetal resources Assign responsibilities</p>	<p>In place prior to appointment of contractors or suppliers.</p> <p>Management and monitoring during contracting periods.</p>	<p>Adequate provisions in place to manage contractor and supply chain environmental, health and safety and labour risks.</p>	
PR 2							

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2.1	Review the use of the Polymetal Grievance Mechanism by employees and contractors to capture learning from grievances raised over time. Review to consider close out of grievances.	Capture issues before they can escalate. Enhanced trust with employees and contractors	EBRD PR2	Polymetal resources	On-going	Reporting to EBRD through quarterly and annual E&S reports.	
2.2	<p>Company to commission an audit/undertake a review of Polymetal/Contractor provided worker accommodation to verify that conditions are in line with the requirements of the EBRD/IFC Workers' Accommodation: Processes and Standards Guidance Note. Such a review may be undertaken through EBRD led monitoring activities.</p> <p>If worker accommodation does not meet the Guidance Note standards, Polymetal will agree on a timeline with the EBRD to bring the accommodation in line with the Guidance Note standards.</p>	Worker accommodation in line with international standards	EBRD PR2	Polymetal resources or external expertise	<p>First audit/review to take place prior to first habitation of worker accommodation and then on an annual basis for monitoring purposes.</p> <p>If worker accommodation does not meet the Guidance Note standards, Polymetal will agree on a timeline with the EBRD to bring the accommodation in line with the Guidance Note standards.</p>	Accommodation meets EBRD/IFC requirements. Audit/review report made available to the EBRD	

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2.3	Review security incidents and use of security weapons by security personnel.	Managing risks associated with security and the storage of ammunition and weapons in the same location	EBRD PR2 Voluntary Principles on Security and Human Rights.	Polymetal resources	In case of an incident.	Reporting to EBRD as part of quarterly and annual E&S reporting.	
2.4	Consider worker retrenchment during mine closure planning in line with EBRD PR 2 requirements for collective dismissals.	Retrenchment planning and management	EBRD PR2 Labour legislation	Polymetal resources	During closure planning	Captured in Mine Closure Plan	
2.5	Ensure that Human Resources (HR) provisions and working conditions for Company employees and contractors are in line with PR 2 and national labour requirements. See 1.5 with respect to contractors.	Appropriate management of Company and contractor labour risks	EBRD PR 2 Labour legislation	Polymetal resources	Prior to construction and during the life of the Project	Company HR provisions and working conditions in line with PR 2 and national labour requirements. Company HR requirements applied to contractors.	
PR 3							

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3.1	Coal fired boilers to meet IFC's "EHS Guidelines - Air Emissions and Ambient Air quality (2007): Small Combustion Facilities Emissions" if installed pre-20 December 2018. If boilers installed on or post 20 December 2018, they will be required to meet EU Medium Combustion Plant (MCP) Directive emission limits.	Reduction in emissions Air quality protection	EBRD PR3 Best Practice/IF C EHS Guidelines / EU MCP Directive (2015/2193)	External consultant/contract or, Polymetal resources	During operation of boilers. Emission limits applied in terms of boiler installation date. Boilers installed on or post 20 December 2018 will be subject to the MCP Directive.	Emission monitoring results provided to EBRD as part of quarterly and annual E&S reporting.	
3.2	Undertake a high level environmental and social and technical review of final off-site waste disposal sites to ensure the safe and appropriate disposal of waste materials.	Demonstration of company commitment to safe waste disposal.	EBRD PR3 Best Practice	Polymetal resources	By end 2017 or as necessary when appointing new waste contractors.	Review outcomes provided to the EBRD	
3.3	Maintain a Greenhouse Gas inventory for the Project including direct and indirect emissions (only for the scope 1 and 2). Indirect emissions would include those from the national and/or regional electricity network. Update this on an annual basis.	GHG reporting	EBRD PR3	Polymetal resources	Annually	GHG inventory in place and reported to the EBRD as part of annual E&S reporting.	

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3.4	Undertake further additional geochemical test work to further define and ensure a robust approach to waste rock management, void management, tailings management and mine closure so as to avoid impacts, such as ARD, on water resources during operations and to achieve self-sustaining landforms post closure.	Waste rock, tailings and closure management	EBRD PR3	Polymetal resources/Consultant inputs if required	Prior to operations and periodically during operations	Appropriate data in place to inform waste rock and tailings management during operation and closure.	
3.5	Ensure continued review of waste rock dump and tailings facility stability during the life of the Project during both dynamic and static conditions.	Safety management	EBRD PR3 and PR4	Polymetal resources/Consultant inputs if required	During the life of the Project.	Waste rock dump and tailings facility stability review and corrective actions if required.	
PR4							

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4.1	<p>Implement enhanced health monitoring of employees (and long-term contractors where appropriate) for elevated arsenic and cadmium exposure. Maintain a dialogue with local medical facilities and professionals with respect to potential arsenic and cadmium exposure amongst local community members to determine potential legacy impacts or future impacts on community health. If impacts on worker and community health are identified, put in place the necessary measures to avoid and reduce such impacts.</p> <p>The monitoring shall only apply to employees which are most exposed to arsenic and cadmium. The test group size shall not be more than 5% of total number of workers/employees.</p>	Protection against potential health impacts from dust inhalation and ingestion	PR2 and PR4 Biological Exposure Indices as per ACGIH: Arsenic in urine: (35-50µg/L). Cadmium in blood (5 µg/L) or urine: (5µg/g Creatinine)	Polymetal resources, external medical consultant if required	Implement enhanced health monitoring of employees (and long-term contractors where appropriate) for arsenic and cadmium during the construction period and during operation for a period of at least three years. Enhanced health monitoring will cease if biomonitoring data indicate that worker/employee arsenic and cadmium levels are below stated Biological Exposure Indices.	Reporting on implementation and findings within annual E&S report to the EBRD.	

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PR5							
5.1	Undertake a monitoring survey of Resettled and other Affected Parties, (as far as is reasonably possible) during the first year of operations to monitor the potential livelihood effects from physical resettlement and economic displacement.	Monitoring impacts from voluntary resettlement and economic displacement.	EBRD PR5	Either Polymetal resources and EBRD review or Independent consultant as part of monitoring programme	Monitoring survey during first year of operations	If negative impacts identified, implement measures to mitigate these impacts. If no longer negative impacts are identified, in consultation with EBRD consider resettlement completed.	
PR6							
6.1	If the old tailings are to be reprocessed, ensure that the feasibility study conducted to inform reprocessing includes provisions for the closure and revegetation of the previous tailings management facility. Closure requirements and provisions for the previous tailings management facility, if the tailings are reprocessed, will be included in Polymetal's own Mine Closure and Rehabilitation Plan.	Appropriate site closure	EBRD PR 3 and PR6	Polymetal resources	<p>Closure and revegetation of previous tailings management facility considered in feasibility study if there is a decision to reprocess the old tailings.</p> <p>Monitoring of previous tailings management facility during life of project for stability, potential loss of containment, impacts on the receiving environment, etc.</p>	Closure and revegetation of previous tailings management facility considered in feasibility study if there is a decision to reprocess the old tailings. Closure requirements and provisions included in Polymetal's own Mine Closure and Rehabilitation Plan.	

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6.2	<p>Concept Mine Closure and Rehabilitation Plan to be updated every five years.</p> <p>Two years prior to closure, ensure that a full, detailed and appropriate Mine Closure and Rehabilitation Plan is in place and that adequate financial resources are in place to implement the plan.</p>	Appropriate site closure	EBRD PR 3 and 6	Polymetal resources	<p>Concept Mine Closure and Rehabilitation Plan to be updated every five years.</p> <p>Two years prior to closure: Full, detailed and appropriate Mine Closure and Rehabilitation Plan</p>	<p>Concept Mine Closure and Rehabilitation Plan updated during mine life.</p> <p>Full, detailed and appropriate Mine Closure and Rehabilitation Plan in place with adequate financial provisions in place.</p>	
10							
10.1	Implement and maintain the stakeholder engagement plan (SEP) for the life of Project. The SEP should be revised and updated on a regular basis. The SEP may be integrated into existing company procedures.	Appropriate stakeholder engagement and information disclosure	EBRD PR 10	Polymetal resources	During ESIA disclosure and for the life of the Project	SEP implemented and maintained.	
10.2	Regularly review the community grievance log to understand community and stakeholder issues and perspectives (including gender perspectives), and trends over time. This review should consider the close-out of grievances.	Appropriate management of community and stakeholder issues. Social licence to operate	EBRD PR10 Best Practice	Polymetal resources	On-going	Appropriate grievance management and maintaining social licence to operate.	