

ENVIRONMENTAL AND SOCIAL ACTION PLAN
LAPSEKİ GOLD AND SILVER MINE AND PROCESSING PROJECT
&
IVRINDI GOLD AND SILVER MINE AND PROCESSING PROJECT
TURKEY (THE 'PROJECT')

DRAFT FOR DISCLOSURE PURPOSES. FINAL ESAP TO BE AGREED POST DISCLOSURE AND PRIOR TO FINANCING DECISION

| No. | Action | Environmental & Social Risks (Liability/Benefits) | Requirements (Legislative, EBRD PR, Best Practice) | Resources | Timetable | Completion Indicator | Status |
|------------|--|---|--|--------------------------------|--|---|--------|
| PR1 | Assessment and Management of Environmental and Social Risks and Impacts | | | | | | |
| 1.1 | Submit an environmental and social ¹ 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 | Company ² resources | <p>During commissioning and first two years of operations: 2017-2019 Environmental and social report and ESAP progress update to the Lenders every six months for the duration of construction phase.</p> <p>January 2020 and onwards: Annual environmental and social 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>2017-2019 (6 monthly ESRs)</p> <p>2020 and onwards AESRs</p> <p>Environmental and social reports (template to be provided by the EBRD) and ESAP progress updates received.</p> <p>Reports and progress against this ESAP satisfactory to the EBRD.</p> | |

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

² TUMAD, TUMAD Madencilik San. ve Tic. A.Ş

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| 1.2 | <p>Fully develop the environmental and social management system (ESMS) and associated procedures, provisions and resources to ensure appropriate mitigation, management, monitoring and reporting of environmental and social issues associated with the Project during the construction, operation and closure phases. The ESMS should be aligned with international best practice such as ISO 14001, and SA 8000 for social management system.</p> <p>Integrate the consideration of the occupational health and safety issues in the ESMS or create a separate occupational health and safety management system (HSMS) – see action 1.3. Ensure that environmental, social and health and safety issues are considered in an integrated manner</p> | Appropriate management of environmental and social issues through implementation of a formal management system | EBRD PR 1 Best practice | <p>Company resources</p> <p>External resources for certification process</p> <p>Assign responsibilities</p> | <p>In place prior to operation and closure where relevant.</p> <p>Implementation as required.</p> | <p>EHS management system in place and implemented.</p> <p>ISO 14001 Certification completed by 2019</p> <p>SA 8000 Certification by 2020</p> <p>UN Global Compact signatory</p> | |
| 1.3 | <p>Conduct relevant Environmental and Social Impacts Assessments at standard acceptable to EBRD prior to commencement of any works relating to acquisition of licences immediately north from current Lapseki site and any other licences/areas, which may result in the future expansion of either Lapseki or Ivrindi projects.</p> <p>Carry out any construction or operational activities in these areas in line with EBRD Performance Requirements</p> | Management of environmental and social impacts and risks | EBRD PR 1 National EIA Regulation | <p>Company resources</p> <p>External resources for ESIA</p> | Prior to commencement of any works relating to acquisition relating to acquisition of licences immediately north from current Lapseki and any other licences/areas, which may result in the future expansion of either Lapseki or Ivrindi projects | ESIA study for the new mine sites | |
| 1.4 | Develop and implement an occupational health and safety management system (HSMS) and associated procedures, provisions and resources (or integrate the HSMS into the ESMS) to ensure appropriate mitigation, management, monitoring and reporting of occupational health and safety issues associated with the Project during the construction, operation and closure phases. The HSMS should be aligned with international best practice such as OHSAS 18001. | Appropriate management of health and safety issues through implementation of a formal management system | EBRD PR 1 and 4 | <p>Company resources</p> <p>Assign responsibilities</p> | <p>In place prior to operation and closure where relevant.</p> <p>Implementation as required.</p> | <p>HSMS in place and implemented</p> <p>OHSAS 18001 certification completed by 2018</p> | |

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| 1.5 | <p>Appoint appropriate, experienced and qualified professionals for the management of Company commitments under the ESMS. The following positions should be appointed:</p> <ul style="list-style-type: none"> • Occupational Health and Safety (OHS) Manager (supported by team of 5 H&S professionals) at each site; • Environmental Manager (supported by a team of Site Environmental Officers) • Community Relations Manager, supported by Community Relations Officer • Community Investment Officer • Communication Specialist (one female) • Land Acquisition Manager • Security and human rights advisor • Communications specialist for external affairs team. | Implementation of the environmental, social, health and safety management systems. | EBRD PR 1 | Company resources | Prior to operation at Lapseki and prior to construction at Ivrindi Mines and then maintain the team for the life of the Project. | <p>Relevant teams present at Lapseki site prior to commencement of operations.</p> <p>Relevant team appointed at Ivrindi site prior to commencement of construction.</p> <p>Maintain the team for the life of the Project.</p> | |
| 1.6 | <p>Develop a Corporate Social Responsibility (CSR) programme, linked with the Community Investment Strategy, the Stakeholder Engagement Plan, and the public safety objectives.</p> <p>Consult on, implement and disclose annual Community Investment Plans in line with the multi-year Community Investment Strategy.</p> <p>Disclose activities through website</p> | Establishing and delivering appropriate and sustainable community benefits | PR 1 and PR 10 Best practice | Own resources | <p>CSR Strategy- 3 year</p> <p>First annual plan by 2018</p> <p>Subsequent annual plans</p> <p>Reports on Community Investment Plans management and achievements on a continuous basis through local media and at a minimum every six months through the Company websites</p> | CSR program document submitted to lenders | |

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| 1.7 | <p>Implement and maintain Environmental and Social Management Plans prepared as part of the Supplementary Information Package (SIP).</p> <p>Integrate the E&S Management Plans into the E &S and H&S management systems.</p> <p>Revise and update the Plans as appropriate in line with the progress of construction, operation and closing works. Where relevant develop Framework documents into comprehensive management plans</p> <p>These plans include:</p> <ul style="list-style-type: none"> • Air Quality Management Plan • Community Health and Safety Security Management Plan • Community Development Framework minimum for 3 years of operations • Conceptual Mine Closure Framework (see action 3.4) • Contractor Management Plan • Cultural Heritage Management Plan • Cyanide Management Plan (see action 3.1) • Emergency Action Plans • Explosives and Hazardous Materials Management Plan • Framework Biodiversity Action Plans • Health and Safety Management Plan • Labour Management Plan • Local Procurement Management Plan • Livelihood Restoration Framework (see action 5.1) • Noise and Vibration Management Plan • Stakeholder Engagement Plans (see action 10.1) • Traffic Management Plan • Waste Management Plan • Water Resources Management Plans | <p>Management and monitoring of environmental, social, health and safety issues through implementation of appropriate management and monitoring plans.</p> | <p>EBRD PR 1 Best practice</p> | <p>Company resources External consultants, if required Assign responsibilities</p> | <p>Lapseki –In the first year of operations and closure (i.e. Detailed Mine Closure Plan) where relevant and as defined by each framework/plan</p> <p>Ivrindi- All Management plans shall be prepared during first year of construction and prior to operations</p> | <p>Fully developed environmental, social, health and safety management and monitoring plans in place and implemented.</p> | |

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| 1.8 | <p>Ensure that the necessary provisions are in place to manage environmental, social, 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> <ul style="list-style-type: none"> In line with Contractors Management Plan prepare and implement a contractor monitoring plan and procedures. Plan includes weekly inspections of construction site and EPC contractors' E&S and occupational health and safety (OHS) performance. Contractors to report to TUMAD monthly on their E&S performance. Reporting on Contractor monitoring to be included in Lenders' reporting. | Management and monitoring of potential contractor environmental, health and safety and labour risks. | EBRD PR 1, 2 and 4 Best practice | Company resources Assign responsibilities | <p>In place prior to appointment of contractors or suppliers.</p> <p>Management and monitoring during contracting periods.</p> <p>Prior to construction of Ivrindi Mine and prior to operation of both mines</p> | <p>Adequate provisions in place to manage contractor and supply chain environmental, social, health and safety and labour risks.</p> <p>Weekly inspections performed by Tumad staff and monthly reports from Contractors to Tumad throughout construction and commissioning.</p> | |
| 1.9 | Maintain permit register as part of the Project IMS and monitor EPC contractor's compliance with permit conditions. | Ensuring that permit conditions are met at all times. | EBRD PR 1 | Company resources | Throughout Project implementation | Updated permit register submitted to Lenders with E&S reports | |
| 1.10 | Prepare a participatory monitoring mechanism . Create a committee of local stakeholders to conduct in situ monitoring of mining activities during the operating period at each mine. | Implementation of an ESMS that involves meaningful communication with the local communities affected by the project and other stakeholders | EBRD PR 1 and PR 10 Best practice | Company resources Assign responsibilities | <p>Lapseki Mine Local Committee - By end Q1 2018</p> <p>Ivrindi Mine Local Committee - By Q4 2018 & Continue to engage the Committee members during the life of both Mines.</p> | <p>Community Monitoring Committee established both in Lapseki and Ivrindi and participatory monitoring plan implemented.</p> <p>Meeting minutes</p> | |

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| PR2 | Labour and Working Conditions | | | | | | |
| 2.1 | <p>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 1.10 with respect to contractors and suppliers.</p> <p>Establish HR management system in line with SA 8000 in the Company to ensure policies and procedures are in line with international standards and continuous improvement is achieved at all facilities.</p> | Appropriate management of Company and contractor labour risks | EBRD PR 2 Labour legislation | Company resources | <p>Lapseki-Prior to operation and during the life of the Project Ivindi- 4Q 2017 or prior to construction</p> <p>SA 80000 by 2020</p> | <p>Company HR provisions and working conditions in line with PR 2 and national labour requirements.</p> <p>Company HR requirements applied to contractors. SA 8000 certification</p> <p>UN Global Compact signatory</p> | |
| 2.2 | Ensure that the workers/contractors accommodation to be used for the Project meets the requirements defined in the " IFC/EBRD Workers' Accommodation: Processes and Standards " guidance note. | Management of worker/contractor accommodation risks | EBRD PR 2 | Company resources Contractors | <p>Lapseki an Ivindi Mines: Accommodations rented/built by contractors and by Tumad shall be checked against the EBRD/IFC Guidance - 4Q 2017 and then on regular basis throughout the operations.</p> | <p>Worker/contractor accommodation in line with the requirements prescribed in the "IFC/EBRD Workers' accommodation: processes and standards" guidance note.</p> <p>Quarterly Labour Audit Reports to be provided to the Bank as part of E&S reports</p> | |

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| 2.3 | <p>Continue to identify and implement best practice in respect of worker engagement, Freedom of Association (FoA), Collective Bargaining (CB) and dispute resolution including at the following entry points:</p> <ul style="list-style-type: none"> • HR Policy and procedures; include language and processes to ensure that hiring, promotion, transfers and other employment arrangements will not be affected by a worker's involvement or affiliation with a union, • Regular communications by the Company to the workers (including contractor employees) about their rights to join or form trade unions of their own choosing and to bargain collectively. • Selection of workers' representatives in a fair and transparent way; workers continue to have the right to freely choose their representatives • Employee engagement programmes and satisfaction surveys to assess issues related to FoA and CBA among others • Disciplinary procedures and practices and whistleblower protections to ensure a worker will not be harassed, abused or disciplined for union activity. • Ensure unions can conduct their activities without interference, including providing paid time off for union/worker representatives to carry out their duties at all facilities • Monitoring and reporting of all labour complaints and management responses related to the issues of freedom of association and discrimination including those complaints raised by unionised/un-unionised workers or by the trade unions that are not recognised or competent for the purposes of collective bargaining. • Training programmes for new managers and supervisors and newly hired workers on company's policies and procedures on freedom of association and collective bargaining and approach to the dispute resolution. • Hold regular feedback meetings with workers and their representatives to discuss issues related to worker engagement, FoA and CBA among other labour issues | <p>Improved company & workers relations Maintain peaceful working environment and appropriately manage potential worker conflicts/strikes and work stoppages. Trust Building among workers and the unions.</p> | <p>Compliance with EBRD PR 2 (and ILO Conventions on Freedom of Association (C87) & and Collective Bargaining (C98)) Turkey's Law on Trade Unions and Collective Agreement (LUCA, 2012)</p> | <p>Own resources of Company External consultants</p> | <p>During operations of the Mines</p> | <ul style="list-style-type: none"> - Updated HR policies/procedures (if required) - Any new collective bargaining agreements reached. - Details of grievances raised on the subject of CBA - Training records on FoA and CBAs - Progress update on the actions reported to EBRD as part of AESRs | |

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| 2.4 | Undertake an Employee Standards Audit on a regular basis to ensure compliance with EBRD PR 2/ IFC PS 2 requirements, ILO and national labour requirements by the Company and by all contractors. | Appropriate management of labour risks in the supply chain Improved human resources practices Compliance with National legislations and PR2 requirements (including core ILO conventions) | EBRD PR2 (ILO standards) National Labour Law International Standards-SA 8000 | Own resources of Company External Labour consultants | Quarterly Audits during construction and commissioning phases, and annual labour audits during operations. First Labour Audit to be conducted at both Mines by an external labour auditor within 6 months as soon as the Loan agreement becomes affective. | During construction- Quarterly Labour audits for contractors and suppliers During operations- Annual Labour audits for contractors and suppliers (Labour audits conducted by TUMAD until SA 8000 Certification is obtained) Employee Satisfaction Surveys by independent Parties for TUMAD staff | |
| 2.5 | Establish a formal Employee Grievance Mechanism (EGM) for all direct and contractor employees and provide them information on channels for internal communication and raising grievances. The workers should be informed of the complaint procedure at the time of hire in their local language. As a best practice, options of anonymous grievance mechanism should also be established to encourage concerns to be raised freely. <ul style="list-style-type: none"> • Register, track and resolve the Complaints in line with the formal EGM at all facilities. • Establish and check key performance indicators (metrics) for such tasks as addressing worker grievances (for example, how long it takes to fix a problem and if the same complaint is received repeatedly). • Establish feedback mechanism and procedure regarding the complaints (for example, how long it takes to provide response to complainant, which channel will be used) • Complainants should be consulted about the functioning of the grievance mechanisms and their input solicited for improvements. | Improved employee/ contractor relationship with management Avoid potential strikes/work stoppages and court cases against the Company | EBRD PR 2 EU/ILO standards) National legislations | Company resources | Prior to operation (in Lapseki) and prior to construction in Ivindi Mines and implement the mechanism during the life of the Project | Grievance procedure developed describing the mechanism implemented and maintained. Employee grievance tracker | |

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| 2.6 | Ensure local employment KPIs/targets are achieved by its Contractors through effective monitoring of the contractors, and skill surveys, vocational trainings, and skill development programmes | Optimise the employment opportunities for local people in project affected villages Establishment of good neighbouring relationship with the communities | PR 2 and PR 10 and Labour Management Plan Best practice | Own resources External resources | Skill survey to be done prior to Construction works at Ivindi and prior to operations at Lapseki Achieving the local employment KPIs throughout the construction and operation | <ul style="list-style-type: none"> • Skill survey conducted • Local employment KPIs reported to the Lenders | |
| 2.7 | <p>For Security Personnel: Include into security policy the following provisions and relevant training on: conflict resolution, crowd management, restraint and cautious exercise of the security activity, proportional use of force (if allowed) and basics of human rights. Keep records of training sessions.</p> <p>Consider including ICOCA (International Code of Conduct Association) requirement for Private Security Service Providers into the Security contracts.</p> | Crisis management Reduced security and human rights risks | EBRD PR 2 Voluntary Principles on Security and Human Rights | Own resources | 1Q 2018 and onwards | <p>Security Management Plan in line with Voluntary Principles on Security and Human Rights</p> <p>Inclusion of ICOCA (International Code of Conduct Association) requirement for Private Security Service Providers into the Security contracts.</p> <p>Training Records for security personnel</p> <p>Complaint tracker</p> | |
| 2.8 | <ul style="list-style-type: none"> • Update the procedure for selection of Contractors and main suppliers to integrate EBRD PR 2 requirements (in line with legislations and ILO core conventions) and, • Develop a system for assessing periodically the labour conditions/social compliance of the contractors and core suppliers. • Strictly monitor the overtime hours/ payments and all the other rights of Contractor employees | Integration of social compliance system into supplier evaluation Management of labour risks in the contractors and core suppliers | EBRD PR2 National legislation | Own resources of Company | 4Q 2017 and implement these throughout the mine operations | <ul style="list-style-type: none"> • Updated Supplier and Contractor selection Procedures (through integration of PR 2 requirements) • Contractor and Supplier assessment records • Overtime working procedure for contractors and evaluation records | |

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| PR3 | Resource Efficiency and Pollution Prevention | | | | | | |
| 3.1 | Implement a Cyanide Management Plan in conjunction with selected cyanide supplier to comply with the International Cyanide Management Code (ICMC) and management potential risks associated with the transport, storage, handling, and use of cyanide and disposal of cyanide bearing wastes. | Minimise risks to environment and communities related to transport, storage, handling, use of cyanide and disposal of cyanide bearing wastes. | EBRD PR 3 International Cyanide Management Code | Company resources Cyanide supplier selected | Prior to start of first cyanide shipment. | Cyanide Management Plan in place and implemented. | |
| 3.2 | Undertake cyanide risk modelling to further define the potential risks of cyanide on water resources in the event of an accident or unplanned event. | Cyanide risk management | EBRD PR 3 | Company resources Consultant | By end Q1 2018 | Cyanide risk modelling undertaken | |
| 3.3 | Seek ICMC certification for the operation of the Project and the transport of cyanide. | Cyanide risk management | Best Practice | Company resources Consultant | Within 3 years of operations commencing | ICMC certification in place | |
| 3.4 | Ensure that an appropriate mine closure plan is in place for the Project as follows: <ul style="list-style-type: none"> • Conceptual closure and plan – 1 year after commencement of mining operations; • Closure plan – within 3 years of commencement of mining operations; • Final closure plan – 2 years prior to planned completion of mining operations. | Closure and post-closure impact management | EBRD PR 1, 3, 4 and 6 | Company resources | Conceptual plan within one year of the start of mining operations | Conceptual Closure Plan in place and developed into a full plan as per timetable. | |
| 3.5 | Provide water to Şahinli and Kocabaşlar Village. | Water Management | EBRD PR 1, 3 | Company resources | Şahinli Completed, Kocabaşlar - Before the end of the 1 st year of the operation | Meet village water quality and quantity requirements | |
| 3.6 | Develop an additional geochemistry sampling and analysis program to better characterize and differentiate the PAG and NAG rock during operation. Develop PAG and NAG rock differentiation criteria based on Sulfur content, carbonate content etc Update the operation and closure seepage and run-off .water quality predictions for all project facilities and pit lake water quality estimates in accordance with the additional data obtained from the sampling and analysis program. | Water Management Mine Waste Management Prevention of long term ARD risks | EBRD PR 1, 3 | Company resources Consultant | Before the end of the 1 st year of the operation for Lapseki Prior to operation for Ivrendi | Geochemistry sampling and analysis report. Geochemical Characterization Report. Water Quality Prediction Report. | |

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| 3.7 | The waste rock dump water quality include encapsulation so a more detailed encapsulation plan should be developed by using the annual mine plans and the expected PAG and NAG rock volume on an annual basis. | Water Management Mine Waste Management Prevention of long term ARD risks | EBRD PR 1, 3 | Company resources Consultant | Before the end of the 1 st year of the operation for Lapseki Prior to operation for Ivrindi | Waste Management and Waste rock dump designs including Encapsulation Plans. | |
| 3.8 | Install a weir to Kovanlık Stream, Madra Stream and Sipacı Stream and collect continuous measurements | Water Management | EBRD PR 1, 3 | Company resources Consultant | Q1, 2018 | Construction of weirs and collection of flow measurements | |
| 3.9 | Develop a detailed dewatering and depressurization program for the pit dewatering activities. | Minimize operational risks, Safety risks | EBRD PR 1, 3, 4 | Company resources Consultant | Before the end of the 1 st year of the operation for Lapseki Prior to operation for Ivrindi | Detailed dewatering and depressurisation plan | |
| 3.10 | Conduct long term pump tests in Lapseki Municipality Wells allocated to TUMAD | Water Management Minimize operational and social risks | EBRD PR 1, 3 | Company resources Consultant | Q1, 2018 | Pump test results and assessment Report | |
| 3.11 | Conduct long term pump tests in the Ivrindi groundwater abstraction wells to assess the safe yield of the wells. Receive water use permits from DSI. Evaluate options or locate additional water resources if the capacity of the wells is not adequate. Integrate with the annual site wide water balance study to minimize the groundwater abstraction. | Water Management Minimize operational risks Reduce groundwater abstraction | EBRD PR 1, 3 | Company resources Consultant | Q2, 2018 | Pump test results and assessment Report | |
| 3.12 | Design the Ivrindi Pipeline(s) required for the water supply (between the groundwater abstraction wells and the HLF and ADR Plant. | Water Management | EBRD PR 1, 3 | Company resources Consultant | Prior to Operation for Ivrindi | Pipeline design report for the Ivrindi water supply wells. | |
| 3.13 | Develop annual site wide water balance and management plan. Develop detailed designs (annually) for the contact water management including pipelines to collect and transmit pit contact water and channels to collect contact water from all project units (including roads, buildings, stockpiles crusher etc) | Water Management Reduce groundwater abstraction, better manage water resources, support closure planning of the HLF | EBRD PR 1, 3 | Company resources Consultant | Q4, 2018 | Site wide water balance and water management plans/designs based on annual project designs. | |

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| 3.14 | Develop a water management plan for the Lapseki Dry Stack Tailings Facility | Water Management Minimize operational, environmental and social risks | EBRD PR 1, 3 | Company resources Consultant | Q2, 2018 | Water management plan for the Dry Stack Tailings Facility | |
| 3.15 | Implement robust Construction Quality Assurance during the Dry stack tailings facility and ponds construction. | Water Management Minimize operational, environmental and social risks | EBRD PR 1, 3 | Company resources Consultant | During the construction | Tailings Storage Facility Construction Quality Assurance Report at the end of the construction | |
| 3.16 | Implement robust Construction Quality Assurance during the Ivrindi Heap Leach Pad and ponds construction. | Water Management Minimize operational, environmental and social risks | EBRD PR 1, 3 | Company resources Consultant | During the construction | Heap Leach Construction Quality Assurance Report at the end of Heap Leach Facility construction | |
| 3.17 | Obtain project design and construction approvals from MoEU per the Turkish Mine Waste Regulation | Meet Regulatory Requirements Water Management Minimize operational risks | EBRD PR 1, 3 | Company resources Consultant | Q4, 2017 Prior to HLF construction Prior to tailings storage (Lapseki DTSE) Prior to ore stacking and waste rock storage (Ivrindi HLF and Waste Rock Dump) | Mine Waste Management Plan and approval from MoEU for both Project Receiving application project approval (construction level design report) from the MoEU for the Ivrindi Heap Leach Facility Mine Waste Facility Storage Approval for both project (following construction) | |

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| 3.18 | <p>Assessment of Monitoring Results, Impact Assessment and Mitigation Measures: The monitoring results will be compared with the existing reference baseline conditions at each monitoring point. If the parameter concentrations exceed the defined trigger levels, a risk assessment study will be conducted to identify potential environmental and human health risks that will increase the frequency of monitoring and sampling. Depending on the result of the risk assessment and monitoring studies, further mitigation measures will be applied to reduce the impacts to an acceptable level. Revise project contact water discharge standards if the contact water discharge limits deteriorate the reference baseline water quality of the receptors. Replace groundwater monitoring wells that would be damaged or lost during the operation or add new ones depending on the monitoring studies.</p> | <p>Water Management Environmental and Social Management</p> | <p>EBRD PR 1, 3, 6, 10</p> | <p>Company resources Consultant</p> | <p>Annually during Operation</p> | <p>Annual water monitoring reports including quality and quantity and comparison with trigger levels and reference baseline conditions.</p> | |
| 3.19 | <p>The groundwater model has been developed to evaluate potential impacts of the project. The model will be reviewed and compared with the actual site and monitoring data and the model will be revised / recalibrated on an annual basis to better represent the groundwater conditions observed during the operation. Based upon this data analysis and conditions at the time, whether additional groundwater wells are needed will be determined and new wells will be drilled. Monitor annually the actual dewatering and pit-inflow results during operation and update the groundwater model and pit lake development scenarios accordingly. The contact water quantity and quality predictions will be compared with the monitoring results and the quality predictions will be revised on an annual basis depending on the data collected through the ARD monitoring plan and the PAG-NAG rock volumes excavated during the mining.</p> | <p>Water Management Environmental and Social Management</p> | <p>EBRD PR 1, 3, 6, 10</p> | <p>Company resources Consultant</p> | <p>Annually during Operation</p> | <p>Monitor actual dewatering and pit inflow results and compare with the groundwater model predictions annually.</p> <p>Risk assessment reports depending on the monitoring results.</p> <p>Annual review and update report for the groundwater model and the water quality predictions and the site wide water balance</p> <p>Water quality prediction updates if unexpected PAG volumes are encountered</p> | |

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| 3.20 | Operational ARD Management: During the mining phase of the Project, a testing program will be used to classify waste rock and segregate PAG and NAG material by testing method very similar to that used for segregation of ore and waste. During mining, when benches in the pit are drilled, samples will be collected from each borehole for gold assays. The samples will also be measured for sulfur to identify PAG and NAG rock. A sulfur threshold to segregate NAG and PAG rock will be developed during the first year of the mining operation by conducting further static/kinetic testing and barrel testing | Water Management Prevent long term ARD risks, support closure | EBRD PR 1, 3 | Company resources Consultant | Annually during Operation | Annual review and update of the conducted encapsulation activities and following years plans based on PAG and NAG volumes identified by sulfur analyses conducted during additional geochemical sampling and during operation. | |
| 3.21 | Geotechnical Stability Review: Monitoring for geotechnical stability will include visual monitoring, site inspections as well as geotechnical instrumentation that will be installed in and/or around the HLF and DTSF. Monitoring instruments would include vibrating wire piezometers, monuments to measure settlement and movement, radar systems and inclinometers. Vibrating wire piezometers would also be installed to the pit to better define vertical hydraulic gradients on the active pit walls. | Water Management Prevent long term ARD risks, support closure | EBRD PR 1, 3 | Company resources Consultant | Q4, 2018 Annually during Operation | Development of a geotechnical monitoring plan Annual geotechnical stability monitoring reports. | |
| 3.22 | Any future changes in the project and water management designs should approved by relevant authorities. | Meet Regulatory Requirements Water Management Minimize operational risks | EBRD PR 1, 3 | Company resources Consultant | Prior to design change and application | DSI and MoEU approvals for any water structure design revisions | |
| 3.23 | Develop and establish a contact water treatment plant depending on the contact-water quality generated during the operation or the impacts on the receptors by taking the baseline water qualities and the defined trigger limits into consideration. | Water Management Environmental and Social Management | EBRD PR 1, 3 | Company resources Consultant | During Operation | Wastewater treatment plant design and construction if the contact water quality or impacts on receptors indicate such requirement based on monitoring results and risk assessments. | |

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| 3.24 | Due to the future mining activities and the use of processing method involving cyanide, an ongoing monitoring programme for detection of cyanide in the environment will be conducted. Further investigations and risk assessments would be initiated if the cyanide concentrations increase and exceeds the pre-operation baseline conditions and if WAD cyanide exceeds 0.005 mg/L limit at the on-site groundwater monitoring wells. | Water Management Environmental and Social Management | EBRD PR 1, 3, 4, 6, 10 | Company resources Consultant | During Operation & Closure | Monitoring programme for detection of cyanide in the environment | |
| 3.25 | Develop a robust monitoring plan including continuous groundwater level measurement from the groundwater observation wells and monthly flow measurements from the catchment and fountains used by the villagers. In case of water flow or quality reductions, Provide alternative water sources to replace the impacted receptors | Water Management Environmental and Social Management | EBRD PR 1, 3, 4, 6, 10 | Company resources Consultant | During Operation & Closure | Provision of alternative water resources in case these monitoring results indicate impacts on resources. | |
| 3.26 | Depending on the results of monitoring of the Kovanlık stream water quality and flow, revise the design and modification of the domestic waste water treatment plant and meeting the 91/271/EEC on Urban Waste-Water Treatment discharge standards. | Water Management Environmental and Social Management | EBRD PR 1, 3, 6 | Company resources Consultant | During Operation | Assessment of monitoring results and re-design of the Lapseki domestic waste water treatment plant if necessary | |
| 3.27 | Based on the Mine Closure Framework and additional technical information gained through monitoring activities, develop and maintain and implement a comprehensive Mine Closure Plan aligned with national requirements, ESIA commitments, EU Mine Waste Directive and best practise. | Mine waste water, air quality, biodiversity, community safety, stakeholder engagement management. | EBRD PR 1, 3, 4 | Company resources Consultant | During operation phase of the Project, in preparation for Closing phase | Comprehensive Plan Developed and implemented. Activities related to the Plan development and implementation reported to EBRD within the AESRs. | |
| 3.28 | Monitor the contact water of the pits and the waste rock dump separately. The water collected from the Kabaktepe pit will be sent directly to the plant without mixing it in the settling basin in all conditions and used as process water The Project will use contact water as possible in the process in order to reduce the groundwater abstraction from the wells. Update the water management plan and approach based on site wide water balance, site wide water management plan and water quality prediction updates. Third party water users will not be negatively impacted in terms of quantity and quality, the situation will be monitored and mitigation measures will be implemented if required. | Water Management Reduce groundwater abstraction, Minimize water quality impacts | EBRD PR 1, 3 | Company resources Consultant | During Operation | Monitoring Results of the contact water from each facility and the discharge water quality and quantity Water Management Plan review and update on an annula basis | |

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| PR4 | Health & Safety | | | | | | |
| 4.1 | The OHS team is to implement an ongoing OHS audit programme to ensure the implementation of the H&S Plan. The programme will be ongoing and target all topics contained within the H&S plan although will follow a risk based approach with higher risks topics being audited more frequently than lower risk topics; | H&S of TUMAD employees and Contractors | OHSAS 18000, PR1 & PR4 | Company Resources, H&S Team in cooperation with Operational Directors | Aligned with development and certification of the HSMS in line with OHSAS18001 | Developed and maintained audit plan to cover HSMS. Records of audit reports and timely closed of follow up actions. | |
| 4.2 | Develop operating safety procedures considering the results the Chemical Risk Assessment studies | Management of Occupational Health and Safety | EBRD PR 1 and 4 | Company resources | Prior to operation and during the life of the Project | Safety procedures in place and implemented | |
| 4.3 | The Company is to ensure all electrical maintenance work is carried out under a permit to work system. The permit must ensure that an isolation manager has been appointed separate from the work party and this person certifies the electrical supply are fully isolated / de-energised using lock out / tag out methods prior to the commencement of any work; | H&S of electrical works | PR4 | Company resources | Permit to work system for electrical works implemented by the end of 2017. | Records of work carried out under the permit system. | |
| 4.4 | Communication and coordination will be established with the representatives of the nearby villages and companies having projects in the immediate vicinity of both mines, including the quarries operating in Şahinli, efforts will be made to ensure that timing of blasting operations do not coincide and do not create safety risks to third parties. | Community Health and Safety Management | EBRD PR 1 and 4 | Company resources | During the life of the Project | Communication and coordination established, blasting timings aligned | |
| 4.5 | Prepare a photographic baseline of structures conditions near mine sites prior to commencement of blasting works. | Community Health and Safety Management Protection against liabilities | PR 4 | Company resources/ Blasting Contractor | Prior to commencement of blasting work | Baseline documentation in place | |
| 4.6 | Implement site fencing/ open pit fencing as appropriate for each mine | Community Health and Safety | PR 4 | Company resources | Prior to commencement of operational and construction work | Fencing on site | |
| 4.7 | OHS trainings and compulsory Vocational trainings and certification will be acquired for all workers working in hazardous jobs in line with the legislations and PR 4 requirements. | OHS of mine workers | H&S Turkish regulations PR4 | Company resources | From the onset of operations | Records of appropriate training. H&S audit records. | |

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| 4.8 | <p>Develop and implement road safety policy, practices and procedures applicable to TUMAD drivers and Contractors. Driving systems to include:</p> <ul style="list-style-type: none"> defensive driving and antiskid driving training programs; vehicle monitoring systems into all vehicles and is to monitor drivers speed, breaking, acceleration, seat belt use and other parameters which provide a clear indication of driving behaviour. The system is to be supported by company standards including actions taken in the event of poor driving standards. The standards are to be communicated to all workers; alcohol and drug use testing in the driver monitoring. | <p>Community Health Management</p> <p>Management of OHS risks of the Mine workers</p> | PR 4 | Own resources | Prior to operations in Lapseki and prior to construction of Invrindi Mines | <p>Road safety policy</p> <p>Driver monitoring implemented by the end of 2017</p> <p>Defensive Driving Training programs and training records</p> | |
| 4.9 | <p>Site based traffic management system is to be introduced which will include, where practical, one way systems, pedestrian segregation, flagman at crossing points, priority traffic and speed limits signage. The company will ensure the site layout considers the safety of pedestrians and does not increase risks to their health and safety (i.e. minimise the need for pedestrians to cross roads, welfare accommodation away from busy traffic routes, minimise traffic interaction and need for turning/reversing etc). The company is to also introduce seat belt and reversing standards that will be communicated to all vehicle drivers under its operations.</p> | Traffic safety | PR4 | Company own resources | Traffic Management Plan revised to include detailed site traffic plans by the end of November 2017. | <p>Traffic Management Plan revised.</p> <p>Appropriate organisation of traffic on site audited by H&S audits.</p> | |
| 4.10 | <p>Develop Community safety campaigns in relation to:</p> <ul style="list-style-type: none"> traffic safety; explosives safety; Emergency response. <p>Deliver training/ presentations in cooperation with local police or local authorities at local schools and community centres.</p> <p>Develop relevant posters and handouts, placed in local press.</p> | Community Health and Safety | PR4 | Company resources (Community Relations Manager, supported by Community Relations Officer, Community Investment Officer) | <p>At the outset of operational in Lapseki and at the outset of construction in Ivindi.</p> <p>Run campaigns periodically. At least once in the calendar year.</p> | Records of campaigns, copies of posters, leaflets | |
| 4.11 | <p>In parallel to the findings of the census as part of the LRF/LRP the noise and vibration management plan will be updated to include any identified resident houses in the highlands where the noise and vibration will be measured during operations specifically during blasting. If any vibration impact exceeding project standards are observed, the blasting patterns will be modified to reduce the impact and the noise and vibration management plan will be revised accordingly.</p> | Community Health and Safety | PR4 | Company resources (Community Relations Manager, supported by Community Relations Officer, Community Investment Officer) | During operations specifically during blasting | <p>Records of measurements</p> <p>Update of Noise and Vibration Management Plans (when necessary)</p> | |

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| PR5 | Land Acquisition and Involuntary Resettlement | | | | | | |
| 5.1 | Develop and implement a detailed Livelihoods Restoration Plan (which includes concrete actions for livelihood restoration, budget, resources, timeline and monitoring) based on the Livelihoods Restoration Framework. | Livelihood risks of physically and economically displaced land owners and land users appropriate mitigated | EBRD PR 5 | Company resources | Prior to commencement of mining operations from Ivindi Q1 2018 for Lapseki | Completed and implemented Livelihoods Restoration Plan | |
| 5.2 | Undertake Livelihood Restoration completion audit at both mines two years after implementation of the Livelihood Restoration Plan | Ensure economic displacement and livelihood impacts are restored | EBRD PR 5 | External resources | Min 24 months after completion of LRP Implementation | LRP Competition audit | |
| 5.3 | Develop and implement a land accusation management plan and procedure | | EBRD PR 5 | Company resources | Prior to commencement of mining operations from Ivindi Q1 2018 for Lapseki | Completed Land Acquisition Plan and Procedure | |
| PR6 | Biodiversity Conservation and Sustainable Management of Living Natural Resources | | | | | | |
| 6.1 | Develop and implement comprehensive Biodiversity Action Plans (BAP) for both Lapseki and Ivindi based on the BAP Framework documents that have been disclosed as part of the Supplementary Information Package | Impacts to Priority Biodiversity Features and Critical Habitat | EBRD PR 6 | Internal TUMAD resources External biodiversity specialists | Prior to Construction | Draft BAP documents approved by EBRD Final BAP documents disclosed on TUMAD website | |
| 6.2 | Implementation of the Lapseki Biodiversity Offset Strategy (BOS) | Impacts to Priority Biodiversity Features and Critical Habitat | EBRD PR 6 | Internal TUMAD resources External biodiversity specialists | 2017-2019, as outlined in the BOS | Summary of activities provided annually in the annual environmental and social report (AESR) | |
| 6.3 | Development and implementation of Lapseki Biodiversity Offset Management Plan (BOMP). | Impacts to Priority Biodiversity Features and Critical Habitat | EBRD PR 6 | Internal TUMAD resources External biodiversity specialists | Draft BOMP provided by Q3 2019 Final BOMP provided by Q4 2019 | Final BOMP approved by EBRD and disclosed on TUMAD website | |

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| 6.4 | Perform a site visit to confirm the habitat status of the Kestanelik Creek | Impacts to Priority Biodiversity Features and Critical Habitat | EBRD PR 6 | Internal TUMAD resources External biodiversity specialists | Before the diversion works start | Confirmation of the fact that the Kestanelik Creek freshwater habitat does not contain any species that would trigger critical habitat | |
| PR8 | Cultural Heritage | | | | | | |
| 8.1 | Implement the chance finds procedure during construction works and operations | Management of potential chance finds | EBRD PR 8 | Company resources and contractors | During operations | Chance finds (if any) appropriately managed in line with the chance finds procedure and national legislation. | |
| PR10 | Information Disclosure and Stakeholder Engagement | | | | | | |
| 10.1 | Implement Stakeholder Engagement Plan (SEP) which includes project level grievance mechanism Monitor effectiveness of SEP implementation 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. | Ensure effective stakeholder engagement and maintain good community relations | EBRD PR 10 | Company resources | During ESIA disclosure and for the life of the Project | SEP implemented and maintained Regular community meeting minutes and billboard notifications available for Lender review Minutes of public consultations on E&S Studies and Management Plans Regular maintenance and updating of Project website Records of engagement with NGOs and national level Stakeholders Minutes of the meetings which will be held with the Community Monitoring Committee | |
| 10.2 | Develop a project level external communication plan for CSOs/NGOs and Media with the support of a risk communications specialist Maintain access to environmental and social documents of interest to the public | Effective communications with interest groups | EBRD | Company resources External resources | 2018 and during the lifetime of both mine operations | Detailed Communications plan (annual) targeting national level interest groups such as CSOs/NGOs and media | |

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| 10.3 | Work with local authority, other mine companies and Gold Mine Association to undertake a potential cumulative environmental, heritage and social impacts from the operation of existing and reasonably foreseeable future Mine projects in the region and establish a network to raise awareness in the sector with regards to international standards. | Mitigating the potential negative cumulative impacts is not solely the responsibility of TUMAD. Other project owners, relevant local and national authorities should also take responsibility to mitigate the potential impacts. | PR 1 and best practice | Own and external resources | 2018 and onwards | Regional network of miners I Canakkale and Balikesir Cumulative Impact Assessment and an Action Plan | |
| 10.4 | Maintain a functional external grievance mechanism for the life of the Project. | Stakeholder grievance management | EBRD PR 10 | Company resources | During ESIA disclosure and for the life of the Project | Grievance mechanism implemented and maintained. | |
| 10.5 | Disclose the final mine closure plan when available in accordance with the SEP. | Information disclosure | EBRD PR 10 | Company resources | When final closure plan is available | Final mine closure plan disclosed. | |