



ENVIRONMENTAL AND SOCIAL ACTION PLAN ANNUAL REPORT

Teghout cjsc

11/07/2012

Quality Management

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Background

This section provides an introduction to the project along with details on the requirement for an Environmental and Social Action Plan (ESAP) Management plan to be developed. An overview is also provided of the approach and methodology resulting in this document.

The Project

The Teghout Copper-Molybdenum Project is located in the northeast area of the Lori region in Armenia. It is the first open pit mining project in Armenia where a substantial part of the project site will occupy a forest area. At present, areas of this land has been stripped of vegetation and top soil and some overburden, enabling the construction of the road infrastructure. The project includes the following:

- Removal of an estimated 64 million cubic metres of soil and overburden rock materials;
- Creation of an open cast mine with an area of 212ha. The pit area will be around 1.5km long and 1km wide, excavated to a depth of 480m;
- Construction of a mine processing plant with an average production capacity of 52,787 tpa of copper concentrate and 812 tpa of molybdenum concentrate from 7 million tonnes of ore;
- Development of a waste depository for overburden rock and oxidised ores that are not handled through the mine processing plant;
- Development of a tailings depository;
- Development of water treatment lagoons and culverts to divert existing water courses;
- Development of site buildings for administration and welfare functions. Buildings will also be developed for plant and vehicle maintenance; and
- Site access infrastructure, including temporary roads and a bypass around the site.

Location

Teghout is located in Lori, a province of Armenia bordering with Georgia and Azerbaijan. The site lies 70km to the northeast of the city of Vanadzor which is the main administrative centre of the region and 32km to the south-west of the second largest city in the region, Alaverdi. The closest residential areas are the villages of Shnogh and Teghout, located respectively 4 and 6 km to the south-west of the site. Figure 1 illustrates the location of the deposit within Armenia.

Figure 1: Location of Teghout Copper-Molybdenum Mine, Lori Province, Armenia



Environmental and Social Action Plan

Teghout cjsc has agreed to take on additional obligations regarding the management of EHSS issues ahead of the potential financing guarantees from EKF in the Teghout copper–molybdenum mine project, located in the Lori region of Armenia. An Environmental and Social Due Diligence (ESDD) of the project was undertaken by ERM, which reviewed existing environmental and design documentation, as well as information on related public disclosure on the consultation process, against IFC Environmental and Social requirements and applicable EU legislation. The report presented ERM’s findings in identifying gaps between current performance and the standards. As a result an Environmental and Social Action Plan (ESAP) has been developed detailing the commitments Teghout cjsc has agreed.

Teghout cjsc has committed to undertake annual reporting to EKF on the progress of the implementation of the ESAP items. This annual report details the requirements of the action plan and the current status of each item along with a commentary of compliance with national regulatory requirements and IFC standards. It also reports on the results of the monitoring undertaken, the monitoring requirements have been set out in a separate Monitoring Plan. Through completion of the tables presented below it will allow Teghout cjsc to provide details on the status of each item of the ESAP and the results from the monitoring undertaken.

Table 1: Status and Progress of ESAP items

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified.	Target Date of Completion	Date Completed
Stakeholder Engagement Plan, Grievance Mechanism and Compensation Framework	1.	Develop a compensation framework to ensure 'like for like' replacement of the lost amenity or economic factor.	Approved compensation framework.	A compensation framework has been developed and operationalised.		July 2013	TBC
	4.	Approve a SEP and implement and grievance mechanism.	Stakeholder Engagement Plan and Grievance Mechanisms	A land acquisition and a compensation framework have been developed and implemented.		April 2013	
	7.	Implement a workplace grievance mechanism for employees and contractors.	Employee Grievance Mechanism			May 2013	
	10.	Develop a land acquisition and compensation framework.	Land acquisition framework.	A stakeholder engagement plan has been developed, this includes, but is not limited to:		Completed	TBC
	14.	Develop and operationalise the SEP – Review this throughout the project	Stakeholder Engagement Plan, consultation schedule and disclosure plan and grievance mechanisms.	<ul style="list-style-type: none"> ■ A non technical summary of the project; ■ Identification of stakeholders and their criticality; 		April 2013	
	15.	Develop a full schedule of public engagement activities, hold public meetings and engagements.	A formalised schedule of stakeholder engagement activities. Records and minutes of meetings.	<ul style="list-style-type: none"> ■ A grievance mechanism and associated forms; ■ A schedule for public meetings and engagement activities. 		April 2013 Meetings minutes – ongoing	
	16.	Operationalise the SEP. Hold public meetings and undertake engagement activities.	Stakeholder Engagement Plan and Grievance Mechanisms. Records and minutes of meetings.			<ul style="list-style-type: none"> ■ April 2013 Meetings and activities – ongoing 	
	13.	Develop an information pack for public disclosure, including a non technical summary of the project, the identified impacts associated with the project and the current status. Disclose this information at relevant locations where stakeholders will be able to obtain the,	A publicly available information pack.			<ul style="list-style-type: none"> ■ June 2013 – updates throughout the different phases of the project. 	
The Social and Health Baseline Assessment.	5.	Undertake a social and health baseline survey in the nearby communities Teghout and Shnogh.	Completion of the social and health baseline survey. An assessment of the results.			July 2013.	
	6.	Undertake a social and health impact assessment, with a combination of procedures, methods and tools to assess the potential social and health impacts of a project on the local communities.	A comprehensive social and health assessment and updated ESIA.			September 2013	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified.	Target Date of Completion	Date Completed
EHS Management Organisations Structure	2.	Ensure there is an adequate EHSS management structure capable to deal with EHSS aspects.	Appointed management representatives for the EHSS management programme.			May 2013	
	62.	Identify the environmental permits that should be obtained for the project.	Identify and obtain the relevant permits for the project. Identify the organisation / unit who are required to maintain the permitting documents.			June 2013	
Update the ESIA to meet IFC performance standards.	4.	Undertake a gap analysis against the IFC ESIA requirements. Develop supplementary information reports.	An updated and approved ESIA in line with IFC standards.			End of 2014	
	25.						
Training	3.	Develop a training needs analysis, determine the types of training each job function should receive that relates t EHS control. Review and Update this periodically. Ensure training needs are fulfilled and documented	Training needs analysis and training records.			January 2014	
Cultural Heritage and Archaeology	8.	Develop and implement a chance find procedures, covering the code of conduct for all workers to follow in the event of a discovery.	An approved and operational procedure.			April 2013	
	9.	Develop a report and supporting map detailing the sites of cultural heritage. The report should include a written procedure on the protection of the site. Ensure contractors are aware of this and monitoring of performance is conducted.	Annotated map A documented procedure Covenants in contracts			June 2013	
Biodiversity Surveys and Assessment	11.	Complete the full range of biodiversity surveys as per the methodology designed by WSP.	An updated ESIA identifying the potential biodiversity impacts and associated methods of mitigation.			August 2014	
	28.						
	29.	Following the conclusions of the surveys, develop a report to detail the findings. Identify locations of sensitive habitats and species. Update the ESIA.	An updated ESIA, include an annotated map.			August 2014	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified.	Target Date of Completion	Date Completed
	26.	Develop a biodiversity baseline survey methodology. Undertake the surveys as per the methodology. Develop a habitats management programme.	Approved biodiversity baseline survey methodology. Updated ESIA Habitat management programme.			Methodology – April 2013 Completion of surveys – March 2014 Management programme and ESIA update – August 2014	
	31.	Develop a full management plan based on the findings of the surveys to include mitigation, minimisation and compensatory plans.	An updated ESIA. A management plan.			ESIA – August 2014 Management Plan – May 2014	
Monitoring of EHS Performance	12.	Create a management programme, which identifies all the mitigation measures required to minimise the potential impacts associated with the project. Assign relevant personnel and dates to each task.	A programme of mitigation measures with associated KPIs.			November 2013 – update these when further surveys have been undertaken and review periodically.	
	20.	Create a management programme, which identifies all the mitigation measures required to minimise the potential impacts associated with the project. Establish and implement an internal audit programme, which will evaluate conformity with requirements and the effectiveness of EHSS management.	A programme of mitigation measures with associated KPIs. A systems procedure to monitor EHSS management.			October 2014	
	21.	Establish and implement an internal audit programme, which will evaluate conformity with requirements and the effectiveness of EHSS management. Report progress annually to EKF.	Development of an internal audit programme. Reports from each audit.			October 2014	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified.	Target Date of Completion	Date Completed
	32.	Develop procedures which cover the suggested monitoring arrangements specified in the monitoring plan.	An approved EHSS monitoring programme Reporting of results to EKF on an annual basis.			Monitoring Plan – April 2013 (reviewed regularly) Reporting to EKF –on-going.	
	53.	Develop an accident, incident and near miss reporting form.	Accident, incidents and near miss reports.			Completed	
	38.	Consider the possibilities of reducing energy consumption by using cogeneration facilities. Consider alternative uses for wastewaters and solid waste. Calculate the rate of use of power resources per a unit of commodity output.	A cost benefit analysis of implementing cogeneration facilities. Options appraisal for alternative uses of wastes. A system of KPIs using normalised indicators.			Cost Benefit Analysis – October 2014 Options Appraisal – October 214 KPIs – Decemner 2013	
EHSS Management System Development and Implementation	17.	Develop an Integrated Management System (IMS) to cover EHSS management. Gain certification to ISO 14001 and OHSAS 18001 six months after commissioning of the plant.	Environmental, health, safety and social systems developed in line with international standards (ISO 14001 and OHSAS 18001)			July 2015	
	18.						
	21.						
	52.						
	55.						
	56.						
Radiological Surveys	22.	Conduct radiological surveys/	Radiation survey reports.			Completed	
Water and Wastewater Management	23.	Develop and water and wastewater management plan.	An approved water balance and wastewater management plan.			April 2013	
	19.	Monitor the potable water as per the monitoring plan; ensure compliance with national sanitary rules.	Award a contract to an external company to monitor potable water as per the monitoring plan. Report results to EKF annually.			September 2013	
	43.	Develop a plan for the management of waste water from the construction camp.	An approved wastewater management plan.			November 2013	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified.	Target Date of Completion	Date Completed
	46.	Develop a water use balance for the production site, tailings area and general dust control systems. Ensure all designated storage areas for fuel, lubricants and other liquid hazardous substances are designed to minimise the potential for water pollution. Undertake water quality monitoring.	An approved wastewater management plan. A drainage plan Results and reports from the monitoring.			Water management plan – April 2013 Drainage plan – August 2013 Monitoring to be undertaken as per the monitoring plan, results to be submitted to EKF annually.	
	60.	Arrangement of areas of sanitary protection of sources of drinking water supply.	Implementation of arrangements to provide adequate protection of the drinking water sources for the two villages.			November 2013	
	65.	Ensure road crossings of creeks are equipped with bridges with suitable drainage to prevent pollution of water in the event of a spillage.	Bridges implements with suitable drainage to prevent pollution.			February 2014	
	71.	Ensure compliance with the requirements of the License for wastewater discharge. Implement sanitary wastewater treatment facilities Equip the belts of the sanitary protection zone of drinking water. Prevent migration to the ground and groundwater of sanitary wastewater from the filtering cesspools.	Wastewater monitoring results and reports.			February 2014.	
Waste Management	24.	Develop a waste management plan for the different phases of the project.	An approved waste management plan.			April 2013	
	42.						
	63.						
	45.	Develop a waste management plan. Undertake soil sampling of designated waste storage areas to determine the presence of heavy metals.	An approved waste management plan. Results from the sampling.			Waste management plan – April 2013 Sampling – November 2013.	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified).	Target Date of Completion	Date Completed
	33.	Identify areas for waste minimisation, opportunities for optimised measures that reduce the quantity of waste resulting from onsite processes. Identify opportunities for materials arising within the project to be reused as products within the projects.	An approved waste management plan. Optimisation measures that reduce quantities of waste from onsite processes.			April 2013 December 2015	
	67.	Develop a waste management plan, ensure it describes plans for the storage of waste and the options for waste treatment and/or disposal.	An approved waste management plan. Waste management procedures (developed as part of the IMS)			Waste management plan –April 2013 Procedures – December 2013	
Soil and Groundwater	27.	Identify areas of potential historical contamination. Develop a remediation strategy. Undertake soil sampling and potentially soil leachability and associated groundwater testing.	Finalised sampling and investigation strategy. Results from soil and groundwater sampling.			October 2013	
	47.	Appropriate fertile soil storage. Assign a responsible person to ensure correct storage.	A map of soil storage areas.			July 2013	
	68.	Ensure the project design is followed with regards to the storage of topsoil. The slopes of the permanent roads are recommended to have terraces to reduce the volume of surface runoff and protect the open soil area against washing out.	Appropriate storage of topsoil. Terraces			May 2013 ongoing.	
Noise	30.	Update the ESAI noise chapter with results of a baseline noise survey. This should be undertaken at nearby noise sensitive receptors, and a predictive assessment of noise levels likely to occur once operations commences. Proposed mitigation measures should be proposed in order to demonstrate the noise limits stipulated in the IFC EHS guidelines will not be exceeded. OHS noise and vibration issues will be covered in the IMS. OHS noise measurements will be undertaken.	Updated noise chapter. OHS noise procedures developed in line with international standards (OHSAS 18001)			Surveys – November 2013 Updated chapter – March 2014 OHS noise procedures – February 2014	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified.	Target Date of Completion	Date Completed
	61.	Based on the noise baseline survey and the updated noise chapter, develop a noise monitoring programme.	An updated ESA noise chapter. A noise monitoring programme.			March 2014 Monitoring programme – November 2013, to be reviewed once the surveys have been completed.	
Nature Protection	34.	Undertake periodic checks of the cultivated areas.	Reports on the development of the area against the initial plans.			Annual reporting	
	35.	As part of the recultivation plan ensure local species of flora have been identified and included in the design. Ensure that the contractor responsible for the recultivated land has appropriate measures in place to prevent or mitigate against the invasion of alien species.	Reports on the development of the area against the initial plans.				
	40.	Arrange supervision over completeness and quality of nature protection measures implemented by contractors during felling.	An approved logging plan. Reports on compliance with this plan.			Logging plan – complete. Annual reports	
Air Emissions	36.	Assess the generation of greenhouse gas emissions, when the technical design is complete. Use IFC significance criteria to determine the project's significance. Develop measures to reduce GHG emissions and develop monitoring and reporting to demonstrate efficiency.	A greenhouse gas emissions calculation. A programme of monitoring measures with associated KPIs.			December 2013	
	37. 70.	Undertake air quality monitoring related to fugitive sources and off-site air quality impacts. Perform an air quality impact assessment based on meteorological dispersion modelling. Undertake point source monitoring on commissioning and annually thereafter, provide results to EKF. Monthly indoor OHS air quality monitoring.	Results from the dispersion modelling and an updated ESIA chapter. Annual monitoring reports to EKF. Monitoring systems and procedures implemented and maintained in line with international standards (ISO 18001)			January 2014	
	69.	Implement all mitigation measures proposed following the air quality impact assessment.	An approved plan and schedule to implement the measures.			October 2014	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified).	Target Date of Completion	Date Completed
Mine Closure	39.	Develop a mine closure plan to meet IFC EHS Guidelines Requirements. Provide cost estimates and funding considerations for the closure of the facility. Review this periodically.	An approved mine closure plan. Communication records with stakeholders.			Approved mine closure plan – September 2013. October 2013	
	44.	Develop a schedule detailing the expected truck movements to and from the sites. Develop an associated map showing permanent and temporary roads associated with the project. Installation of effective drainage. Vehicle washing and wastewater treatment.	Schedule of expected truck movements disclosed to the local community. A map of roads. A developed and maintained vehicle washing procedure			August 213 Surface water drainage system – continuous	
		50.	Implement a company road safety standard, this should cover risk factors and immediate safety outcome factors. Communication this to appropriate personnel. Review periodically.	A developed and implemented road safety standard.			September 2013
Use of Roads	64.	Ensure the car park for the office is not located within the river protection zone.	Parking outside of the water protection zone.			May 2014	
	48.	Ensure appropriate storage of fuels and lubricants to minimise the potential for ground / water contamination.	Implement hard standing and leakage protection systems in the areas of storage, include spill kits and bunding. Provide adequate pollution prevention systems to avoid direct drainage into the river. Develop procedures for the storage of fuels and lubricants.			April 2014	
Management of hazardous substances							

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified).	Target Date of Completion	Date Completed
	49.	Evaluate the possibility of substituting hazardous materials. Ensure training has been received on handling hazardous materials. Provide appropriate preventive measures and/or PPE to mitigate the risk of health and safety exposure from use of hazardous materials. Ensure appropriate storage.	An options appraisal to investigate the potential for substituting hazardous materials. A training matrix and associated training. Complete and approved risk assessments. An inventory of ASTs			Options Appraisal – November 2013 Training – July 2014 Risk Assessment – December 2014 Inventory of AST- December 2014	
	57.	Develop an inventory of all highly hazardous materials to be used on site. Review the potential for the use of alternative materials. Develop and implement a management plan aligned with Armenian legislation.	An inventory of hazardous materials. Procedures for the management of hazardous substances.			Inventory – September 2013 Procedures – January 2014	
	58.	Develop and inventor of all refrigerant containing equipment on sites. Where CFCs and HCFCs are in use develop a phase out plan to introduce f-gases or chemical based system.	A register of refrigerants.			January 2015 – reviewed and updated periodically.	
	59.	Undertake a hazard assessment in line with IFC standards, using internationally recognised methodologies i.e. HAZAOP and HAZID. Develop a hazardous materials management plan.	Hazard assessments and associated management plan.			November 2014	
	66.	Ensure appropriate storage of fuels and lubricants.	Implement hard standing and leakage protection systems in the areas of storage, include spill kits and bunding.			April 2014	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified).	Target Date of Completion	Date Completed
Contractor Management	51.	Implement a procedure to monitor EHS compliance of contractors.	A schedule of audits to monitor EHS compliance. Audit reports detailing findings. Risk assessment of all tasks carried out with EHS aspects. OHS reports submitted by the contractors.			Contractor risk assessment – July 2013 (to be reviewed annually or at major stages of the project) Schedule of audits – August 2014	
Fire Safety	54.	Conduct a risk identification and assessment relating to fire safety at all stages of the project. Evaluate the risks and take appropriate measure to minimise the risks. Keep records of any fire hazards and have a clear plan of how to prevent fire and how to react in the event of a fire. Assign fire wardens. Conduct regular training on fire safety.	Fire risk assessment. Fire safety plan / emergency plan. Training records.			January 2014	
Preparatory Works for Construction	41.	Organise supervision when undertaking preparatory works. In particular: <ul style="list-style-type: none">- Prevention of waste burial- Prevention of slope filling with group; including slopes of forested gorges- Terracing slopes- Arrangement of temporary waste storage, based on risk assessment related to the emergency situations	Consider nominating a specifically trained supervisor to provide support covering the items listed.			April 2013.	
Recommendations from the water management plan	72.	Management of the high water table in the initial mine development. Diversion of local watercourses crossing the mine footprint.	An approved strategy along with implementation of the strategy.			June 2013	
	73.	Finalise the treatment of surface water drainage from roads.	Implementation of pollution control measures.			October 2013	
	74.	Finalisation of the water and effluent treatment from the plant.	Finalisation and implementation of water treatment facilities.			October 2014	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified.	Target Date of Completion	Date Completed
	75.	Undertake further studies to ensure that the tailings management is appropriate in terms of preventing any adverse environmental and economic impacts.	Results from the specified surveys / tests and finalisations of the most appropriate management for the tailings. Acid leachate mitigation strategy.			January 2014	
	76.	Undertake further studies / investigations to resolve the outstanding issues with regards to water balance.	Results / conclusions from the specified surveys / investigations.			October 2013	
	77.	Development and implementation of site water management strategies, along with the appointment of an Environmental and Community Co-ordinator.	Appointment of a responsible person to manage water strategies and mitigation measures. Implementation of the contingency responses as detailed in the water management plan			March 2014	
	78.	Implementation of erosion and sediment control measures.	Implementation of the specific measures, which have been identified in the water management plan.			March 2014	
Recommendations from the waste management plan.	79.	Adoption of the waste hierarchy. Development of a waste training programme.	Approved procedures and training course covering the details of the waste hierarchy.			July 2014	
	80.	Adoption of the waste reduction programme. Waste minimisation review	Conclusions from the design stage waste review. Approved procedures.			Waste review – November 2013 Procedures – July 2014	
	81.	Overburden extraction modelling. Hydrogeological investigation of tailings dam.	Results from the testing. Specified dumping areas for oxidised ores Acid leachate mitigation strategy.			On-going	
	82.	Monitoring of Tailings	Undertake monitoring as per the monitoring plan.			On-going	
	83.	Development of a Turquoise Management plan.	A Turquoise Management plan.			January 2014	

Task	ESAP Coverage (Action Number)	ESAP Summary	Output	Progress Summary	Proposed Actions (to be completed where the target date has been exceeded or non-conformances have been identified.	Target Date of Completion	Date Completed
	84.	Creation of hardstanding for waste storage areas.	A designated area of hardstanding for waste storage.			August 2014	
	85.	Explore the options for 'take-back' arrangements with suppliers.	Records of communication with suppliers. Agreements with suppliers for 'take-back' schemes			On-going	
	86.	Review of waste reprocessing capacity	Records of communication Agreements with waste contractors / Ministry			On-going	
	87.	Update waste passports	Updated waste passports Records of communication			December 2013 – to be reviewed periodically	
	88.	An ecosystem service assessment to identify opportunities for local communities to benefit from deforestation.	An ecosystem service assessment report			November 2013	
	89.	Dam safety risk assessment and associated monitoring plan.	Risk assessment and monitoring regime and schedule			April 2015 May 2015	

Monitoring Results

To include monitoring summary tables once the monitoring plan has been finalised.

Klicka här för att ange text.

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