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8 Assessment of Social and Economic Impacts

8.1 Framework for Social and Economic Impacts

The purpose of this section is to identify changes in baseline socio-economic conditions that are expected to result from the KMT project, and to describe and analyse the impacts. The project will change baseline conditions in many ways. The following are key drivers of socio-economic change:

- Foreign investment in the DRC and in Kolwezi District. The DRC economy has had limited investment for decades, and the flow of new money will boost national and regional economies.
- The construction and operation of KMT works. The construction of the tailings dam, plant, Musonoi diversion canal and associated infrastructure will convert the use of over 600 ha of land. Operations will have impacts in terms of the movement of people, vehicles (including many heavy vehicles) and materials, and also in terms of the production of various waste streams.
- The creation of jobs. During construction, KMT will employ around 1300 people, including around 400 expatriates from Indonesia and the Philippines, and an additional 200 contractor expats, mainly technicians and managers from South Africa, Canada and Australia. As many workers as possible will be recruited locally, limiting the influx of workers during the construction phase. The estimated operations workforce will be approximately 660. It is anticipated that the large majority will be local, with a small expatriate contingent reducing over time.
- The procurement of goods and services. The procurement bill for construction is likely to be substantial, with materials and services obtained locally and elsewhere. Operational procurement will also contribute to the local economy, with some goods and services likely to be obtained elsewhere.
- The construction or upgrading of infrastructure. KMT has already upgraded access roads and continue to undertake limited upgrading of services, mainly where this relates directly to its operations. Targeted upgrading of some services may take place under the Community Development Plan.
- Capacity building. The KMT project will build individual and group capacity in a variety of ways. Key vehicles will be skills and on-the-job training within KMT operations, and the promotion of capacity in associated enterprises.
- The export of final products. KMT will export copper and cobalt products. This will fund operations and generate profits. A proportion of the profit will flow out of the DRC, but some

will remain in the country, in the form of taxes (discussed above), dividends to shareholders (including the DRC Government and Gécamines) and reinvestment.

- The implementation of social policies and programmes. Under FQM's policy, KMT will provide a Social Fund, and will implement social programmes and projects through a Community Development Plan.

Specific social, economic and cultural impacts flowing from these drivers are discussed in this chapter. The impacts are rated using an adaptation of the environmental impact rating framework described in Chapter 1. In terms of this framework, a composite significance rating is calculated using criteria relating to the likelihood of impact and the consequence of the impact. The impact assessment criteria used are the following:

Likelihood:

- **Frequency of the change driver:** How often the identified driver will be active. Higher frequency gets a higher score. The drivers are used here because social impacts are seldom linked to a simple physical project activity, as is frequently the case with environmental impacts.
- **Frequency of impact:** The frequency with which a stressor will impact on one or several receptors. High frequency gets a high score.

Consequence:

- **Severity/Benefit:** The degree of impact on receptors in terms of reversibility, sensitivity, duration and conflict potential. Since social impacts are frequently positive, the notion of benefit is explicitly included here.
- **Scope:** In the environmental impact rating framework, scope is often defined spatially. In the social context, scope refers to the population impacted, ranging from specific sub-groups to the national population. Wider scope gets a higher score.
- **Duration¹:** The length of time over which an activity will cause an impact. Higher scores are associated with longer-term impacts.

Against this background, the significance ratings are largely indicative. The scores mask nuances, but the overall picture is useful to inform management and mitigation planning. Impacts with high negative significance require urgent and effective mitigation, and purposeful monitoring. Impacts that have high positive significance should be reinforced or consolidated, and opportunities for development multipliers should be explored. Where an impact is positive this has been noted in brackets. All other impacts are negative.

¹ The standard construction, operation, decommissioning and closure terminology is used to describe socio-economic impacts in project phases. A pre-construction phase is added (to incorporate planning activities), and organizational "set-up" is seen to take place in parallel with construction activities. The nature and importance of impacts will vary across project phases. This variation is described in the impacts table below.

8.2 Macro Economic Impacts

The KMT project will have a significant impact on the DRC economy (key figures are presented below), and especially on the economies of Katanga Province and Kolwezi District. The impact is magnified by prevailing low levels of Gross Domestic Product, Foreign Direct Investment, foreign reserves, government revenue and mining production. Against this background, two macro-economic impacts are considered here; increase in national GDP, and increase in Kolwezi District Gross Geographic Product (GGP). Socio-economic impacts for Kolwezi town and its environs (the “Project Impacted Area”) are considered in Section 8.3.

Impact ME-1: Increase in National Gross Domestic Product

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	5	5	5	3	High (positive)
Score	9				117

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
5	5	3	5	4	High (positive)
Score	10				120

Impact ME-2: Increase in Kolwezi District Gross Geographic Product

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	5	5	5	3	High (positive)
Score	9				117

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
5	5	4	5	4	Very High (positive)
Score	10				130

The Gross Domestic Product (GDP) of the DRC was US\$ 7 104 million in 2006, and the Kolwezi Gross Geographic Product (GGP) was estimated at US\$ 94.8 million in the same year (Economic Intelligence Unit, 2007). The KMT capital investment of US\$ 593million is clearly significant in this context, as is the ongoing economic value added throughout the life of the mine. In relative terms, the impact is especially significant at District level. A substantial portion of the capital investment will be made during the construction phase, with high benefit for both country and region. Levels of investment will be lower during operations, but GDP and GGP contributions will be more sustained, through ongoing investment, sale of mining products, and taxes and royalties.

8.3 Socio Economic Impacts

The socio-economic impacts listed below address contexts in which project-related impacts are likely to occur. These contexts are: population and politics; economy and work; land and resources; social services; organization and community; and social divisions.

Impact SE-1: Secure jobs, incomes and social security for KMT employees. Benefits end post-closure.

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	5	5	2	3	Medium-high (positive)
Score	8			10	80

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	5	5	2	5	High (positive)
Score	9			12	108

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	5	2	5	Medium-low
Score	6			12	72

The KMT project will employ around 1300 people during construction (among which about 700 locals and approximately 660 throughout the operational phases. All will enjoy the benefits of an income, but operational phase employees will also have access to long-term job security (life of mine is expected to be about 20 years) and social benefits as laid out in the KMT HR Policy. This security will enable households to sustain a reasonable standard of living, and to plan for the future.

These new jobs and associated benefits will end post-closure, with the return to the status quo.

Principles of mitigating return to status quo²:

- KMT will make severance arrangements in compliance with DRC legislation and labour practice. These arrangements will be embedded in the company's HR policy, and will be made known to all stakeholders.

² The mitigation principles underpin the more detailed management and mitigation measures described in Table 4.1 of the Environmental and Social Management Plan. Impact numbering is standardized for ease of cross-referencing.

- Information on the life of the mine, its contribution, and the implications of closure will be disseminated locally, via a KMT communication strategy.
- Closure planning will be undertaken and this process will be accountable to KMT management. The closure planning function will formulate and implement a closure strategy.

See Volume 3: ESMP and Annexures. The Rehabilitation and Closure Plan (Annex E) and the Stakeholder Engagement Plan (Annex F) address closure planning and the dissemination of information about closure. The Community Development Plan (Annex D) outlines initiatives that have the potential to extend benefits after closure.

Impact SE-2: Increased disposable income among KMT employees and local multipliers. Benefits end post-closure

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	5	4	4	3	Medium-high (positive)
Score	9			11	99

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
5	5	4	4	4	High (positive)
Score	10			12	120

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	4	4	5	Medium-high
Score	6			13	78

Construction and operational phase jobs will generate disposable income among individuals and households involved. This income has positive implications for household quality of life and livelihoods, and for the providers of goods and services to households (formal and informal). A typical employment multiplier for an impoverished District such as Kolwezi might be between 1:3 and 1:6, thus non-mine jobs created during the operational phases might range between 2250 and

4500. With more money in circulation locally there is a risk of inflation (already evident as a cumulative impact). This would be detrimental to the poor and unemployed.

KMT incomes and multipliers will end with closure and return to the status quo.

Principles of mitigating return to status quo:

The mitigation principles are as above. In addition, KMT will encourage and promote local cooperation around local economic planning and development, and will similarly promote the establishment of a small trader's interest group. Both initiatives are to be led by appropriate local structures such as the Office of the Mayor or the Fédération des Entreprises du Congo (FEC).

See note on RCP, PCDP and CDP under Impact SE 1.

Impact SE-3: Local business opportunities arising from KMT procurement of goods and services. Benefits end with closure.

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	4	4	4	3	Medium-high (positive)
Score	8			11	88

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	5	4	4	4	High (positive)
Score	9			12	108

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	5	4	5	Medium-high
Score	6			14	84

KMT procurement of goods and services will provide opportunities for individuals and local businesses, possibly reviving some enterprises that served Gécamines, and promoting the

establishment of new operations. KMT corporate payments for water and electricity will strengthen cash-poor service providers, with potential benefits to others served by these organisations.

Procurement benefits are potentially high during construction, but for some materials and services the demand will not be sustained into the operational phases. There is also a strong possibility that goods and services will have to be sourced outside Kolwezi in some cases (impacts discussed later). Procurement over the life of the mine should encourage investment in local support enterprises, and the local share of procurement income should increase.

Procurement benefits will end with closure and return to the status quo.

Principles of mitigating return to status quo:

KMT will clarify and elaborate policies and practices relating to the procurement of goods and services, ensuring fair access to information about tenders and opportunities, and to the work itself. The policy will be implemented in all phases. See notes on local economic development, small trader development and communication around closure above.

See note on RCP, SEP and CDP under Impact SE 1.

Impact SE-4: Construction of temporary and permanent housing, with impacts on the building industry (suppliers and contractors).

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	2	2	4	3	Medium-low (positive)
Score	6			9	54

KMT will provide temporary housing for construction workers. This will be erected in a camp adjacent to the plant site. Permanent housing is to be erected on a two hectare site within the concession area. Both housing initiatives will provide work for local contractors during the construction phase and opportunities for materials suppliers. Other impacts associated with housing are discussed later (SE-12, Demand for Services; SE-15, Local Improvements to Infrastructure; SE-18, Community Disruption by Non-Local Workers).

Enhancing the benefits:

- Erection of construction worker and permanent housing will be compliant with the relevant land and local government laws and regulations.

- Where possible, tender procedures will facilitate the participation of local contractors and suppliers.

Impact SE-5: Increase in business confidence and attraction of investors. Benefits end with closure

Impact Significance

Pre-Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	2	4	3	Medium-low (positive)
Score	6			9	54

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	3	3	4	3	Medium-low (positive)
Score	7			10	70

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
5	3	3	4	4	Medium-high (positive)
Score	8			11	88

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	4	4	5	Medium-high
Score	6			13	78

The KMT investment and local/regional economic multipliers should enhance the evident increase in overall business confidence following a long and deep local economic depression. This impact will be most pronounced during the operational phases, due to the steady and sustained economic

contribution of KMT activities. The confident mood may further attract banks and other investors, possibly making more money available to new and expanding businesses.

The benefits will decline with closure and the return to the current status quo. The possible reduction in confidence may be mitigated to some extent by ongoing mining activities at other local mines.

Principles of mitigating return to status quo:

- KMT public communication will ensure local awareness of investment and operational multipliers, and of local benefits. Businesses and investors will have access to this information.
- KMT will encourage and promote local development planning and small enterprise development, to be led by local government and business interests (see discussion under Disposable Income in SE-2 above).

See note on RCP, SEP and CDP under Impact SE 1.

Impact SE-6: Dividends to KMT shareholders. Ending of dividends with closure

Impact Significance

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
5	3	3	5	4	Medium-high (positive)
Score	8				96

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	3	5	5	Medium-high
Score	6				78

Dividends will accrue to KMT shareholders when the company is profitable (hence during the operational phases). The shareholders include the DRC government (5%) and Gécamines (12.5%). Consequently 17.5% of the dividends will remain in the DRC. Potential benefits are many, including possible reinvestment in the revival of DRC mining.

Dividends will end with closure.

Principles of mitigating return to status quo:

- General growth in the economy of Kolwezi (and possibly in Gécamines activities) should substitute for the loss of local KMT dividends post closure. Several other mining ventures are being developed, many of which will also contribute dividends to the DRC government and Gécamines.

See note on RCP, SEP and CDP under Impact SE 1.

Impact SE-7: Opportunistic invasion of fields in the Project Concession Area

Impact Significance

Pre-Construction Phase (tailings and other facilities still to be constructed)

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	3	3	2	2	Low
Score	4			7	28

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	2	2	2	3	Very low
Score	3			7	21

The construction of new infrastructure will convert the use of over 600 ha of land (see SE-10), including fields cultivated by surrounding communities. Mitigation and compensation will be organised through a Resettlement Action Plan (RAP), based on an earlier Land Acquisition and Compensation Plan (LACP). The RAP is an international lending requirement which will comply with DRC regulatory requirements and international standards. Compensation has already been paid to the owners of fields and crops affected by the construction of access roads, drill pads and early work on the housing sites, based on an Interim Resettlement Action Plan. Against this background there is a risk that opportunists will invade and occupy land in the Project Concession Area in the expectation of compensation.

Some sites have already been secured in preparation for construction, but some have not. The impact of possible opportunistic invasion will be most severe in the Pre-Construction Phase of facilities yet to be built, and especially prior to the conclusion of the RAP. A small element of invasion may continue into the Construction Phase, especially when awareness of compensation under the LACP is raised. The impacts are generally low however, because of the small population potentially affected.

Principles of mitigation:

- Mitigation will take place within the framework of World Bank Group guidelines and safeguards regarding economic displacement and compensation, and in compliance with DRC legislation in this regard.

See Volume 3: ESMP and Annexures. Annexure B: Framework Resettlement Action Plan (RAP).

Impact SE-8: Increased involvement of and cooperation with traditional authorities and local government

Impact Significance**Pre-Construction Phase**

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
2	3	3	4	2	Low (positive)
Score	5			9	45

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
2	3	3	4	3	Low (positive)
Score	5			10	50

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	4	3	4	4	Medium-high (positive)
Score	7			11	77

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	3	4	5	Medium-low (positive)
Score	6			12	72

The project will require interaction with traditional authorities and local government in a number of contexts, including the planning and implementation of the Resettlement Action Plan (Annex B), and the planning and implementation of the Community Development Plan (Annex D) (with associated structures such as a Public Liaison Committee and a Non-Profit Development Trust). Against this background it is anticipated that cooperative relationships will be established in the Pre-Planning Phase (already in place for the implementation of the Interim RAP), and that these will continue through to closure. KMT involvement in the CDP will cease with the closure of the mine. Durable local development structures should be in place pre-closure, and with the participation of other local enterprises post-closure impacts should be mitigated. A process of consultation was initiated through the Public consultation and Disclosure Plan (SEP/PCDP, see Annex F)

Enhancing the benefits:

- The development of the RAP requires close consultation with government, communities and traditional authorities.
- The implementation of the Community Development Plan will be accompanied by careful and inclusive consultation, and will lead to the establishment of durable participatory and consultative structures.
- The proposed Community Development Plan will potentially grow to involve other benefactors in time, mitigating the impact of KMT withdrawal post-closure.

See Volume 3: ESMP and Annexures. Annexure B: Framework Resettlement Action Plan (RAP); Annexure D: Community Development Plan (CDP).

Impact SE-9: Loss of land, crops and associated livelihoods in project footprint areas

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
2	5	5	2	5	Medium-high
Score	7			12	84

The development of KMT infrastructure (tailings dam, process plant, housing areas, linear infrastructure (Musonoi diversion canal, pipelines, power lines, roads)) will alienate land and crops in the project footprint areas (in excess of 600 ha). Land and crops will also be impacted by construction activities (construction camp, access roads, borrow pits, quarries etc.). The loss of land and crops will cause loss of income and access to livelihoods (and resources such as medicinal plants) among households and in communities largely characterized by poverty. The diversion canal

and other infrastructure will also impede access to land and farming areas in some cases (see Impact SE 11). If unmitigated the impacts would be felt during construction. The overall Medium-high rating masks the severity of the impact (for a relatively small number of people), if the impact is unmitigated and permanent.

Principles of mitigation:

- Mitigation and compensation will be organised through a Resettlement Action Plan (RAP) which will comply with DRC and international standards.
- Some mitigation has already taken place under the Interim RAP. Further mitigation will take place prior to construction, within the framework of World Bank Group guidelines and safeguards regarding economic displacement and compensation, and in compliance with DRC legislation in this regard.

Mitigation under the RAP will combine a number of measures detailed in Volume 3: ESMP and Annexures. See Annexure B: Framework Resettlement Action Plan (RAP) and Annexure D: Community Development Plan (CDP).

Impact SE-10: Loss of crops and associated livelihoods due to changing dambo and river water levels

Impact Significance

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
2	5	4	2	5	Medium-high
Score	7				77

A loss of crops (market gardens) due to changing dambo and river water levels is possible when water level reduction associated with the treatment of the Musonoi tailings commences. If the impact materialises it will be accompanied by loss of income and livelihoods. These impacts will be more gradual than the economic displacement resulting from construction.

Principles of mitigation:

If economic displacement occurs, compensation will be managed within the RAP process. See discussion relating to loss of land and crops in footprint areas, above.

Impact SE-11: Inconvenience and danger to proximate villages**Impact Significance****Construction Phase**

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
5	4	4	2	3	Medium-high
Score	9			9	81

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
5	4	3	2	4	Medium-high
Score	9			9	81

Construction and operational activities may cause inconvenience and possible danger in proximate villages. The inconvenience and danger may include dust, heavy vehicle traffic and waste streams (for example water pollution). The settlements most at risk are Samukonga (0.5km from the new tailings dam, and 1.3 km from the plant site), and UZK and Tshala villages, close to the Kingamyambo tailings dam. The risk to the former is judged to be serious, requiring the resettlement of the village. The latter two are at risk particularly from traffic and access routes. Due to the linear nature of the project, there is also possible disturbance/severance of access to farms and worksites (artisanal miners and farmers). This impact will be particularly evident when the proposed Musonoi diversion canal is built. This may be 12m wide and 4m deep, running along the east bank of the river. The potential inconvenience and danger will be most pronounced during construction, but elements will continue into operations if unmanaged.

Principles of mitigation:

- Samukonga hamlet will be resettled under the RAP (Volume 3, Annex B). Possible issues of access loss will be addressed through the PLC in the first instance. If compensation is necessary, this will be dealt with under the RAP.
- Community Health and Safety issues are also addressed in water, dust, gaseous effluent and noise management plans (Volume 3 – ESMP) and in a Community Health and Safety Plan (Volume 3, Annex A).

- A code of practice for construction teams will be prepared and implemented. This code will guide the management and on-site behaviour of construction teams. The code will include items relating to health, safety, community relations, and HIV / AIDS. See Volume 3, Annex A.

Information on the construction phase and its activities will be disseminated prior to and during construction. Radio may be used as a medium in this context.

Impact SE-12: Increased demand for privately and publicly provided social services

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	4	2	4	3	Medium-low (positive)
Score	8			9	72

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	4	2	4	4	Medium-high (positive)
Score	8			10	80

The presence of KMT will underpin an increased demand for privately and publicly provided social and infrastructural services such as schooling, health care, water, energy and roads. The demand will be driven in part by increased incomes, and by migrants. The number of migrants (expatriates and Congolese from other areas) is likely to be small, especially after the construction phase. The modest demand may prompt some improvement in the quality of services, but may also stretch providers and facilities to some extent. There will be a peak of demand during the construction phase. Some facilities (e.g. Medical facilities) may be stretched during construction.

Enhancing the benefits:

- KMT will provide health screening and medical care for staff and their immediate families under its Health and Safety Policy.
- KMT will encourage the establishment of a social services interest group, possibly hosted by the Office of the Mayor. The purpose of the group will be to coordinate social service provider responses to new demands and also to new income opportunities.

- KMT has already addressed arrangements regarding the provision of water, electricity and upgraded road access to the permanent housing being built on the concession.

See Volume 3: ESMP and Annexures. Annexure A: Labour and Human Resources Plan; Annexure D: Community Development Plan (CDP).

Impact SE-13: Increased risk of HIV / AIDS with influx of workers and opportunity seekers

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
2	4	5	3	5	Medium-high
Score	6				78

Operational Phase 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	4	3	5	Medium-low
Score	6				72

The risk of increased levels of HIV/AIDS infection will increase with the influx of workers and especially opportunity seekers from outside the Kolwezi District. Due to local recruitment policies, the number of migrant workers may be small, especially during operations. During construction, migrants may number 600 (about 400 Indonesia and Filipino's, and 200 technicians and other contractor expats, mainly from South Africa). The number of opportunity seekers is unpredictable, but with other mining operations starting up and with access to Kolwezi improved, the cumulative impacts generated by such people might be significant. The HIV/AIDS risk is compounded by the relative isolation of Kolwezi over the past decade (due to poor roads), and low reported levels of HIV infection (between 2 and 17% in different adult populations). All sections of the community are at risk, but particularly young adults and especially women.

Principles of mitigation:

- Influx of outsiders will be limited as far as possible by local recruitment. KMT will implement an Influx Management Plan (Annexure H), in cooperation with other mining ventures where appropriate.

- In terms of KMT Health and Safety policy, health screening and counselling will be provided to employees, as permitted by DRC regulations (Annex A).
- The code of practice for construction workers (see Inconvenience and Danger to Proximate Villages, in Impact SE-11 above) will include HIV/AIDS counselling.
- Information on the implications of the construction phase will be disseminated during construction.
- The Community Health and Safety Plan will facilitate community access to health screening and counselling, as permitted by DRC regulations.
- The Community Development Plan and Programme will incorporate initiatives related to HIV/AIDS prevention and treatment (if prioritised by participating stakeholders) (Annex D).

See Volume 3: ESMP and Annexures. Annexure A: Community Health and Safety Plan (CHSP); Annexure D: Community Development Plan (CDP); Annexure H: Influx Management Plan.

Impact SE-14: Payment for services by KMT income earners, improving viability of providers. Benefit ends with closure.

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	4	3	4	3	Medium-high (positive)
Score	8			10	80

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	4	3	4	4	Medium-high (positive)
Score	8			11	88

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	3	4	5	Medium-low
Score	6			12	72

KMT income earners and KMT itself will be able to pay for services such as water and electricity, strengthening the cash-strapped providers (REGIDESO and Société Nationale d'Electricité (SNEL)), and possibly securing overall improvements in service provision. Both providers report low levels of cost recovery, and the Office of the Mayor reports high default rates. It is possible that sustained payment for services among KMT employees using the services will occur during the operational phase.

These benefits to service providers will end with mine closure and return to the status quo.

Principles of mitigating return to status quo:

The proposed social services interest group should address closure implications and appropriate business responses.

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan; Annexure E: Rehabilitation and Closure Plan; Annexure F: Stakeholder Engagement Plan.

Impact SE-15: Local improvements to road, power and other infrastructure by KMT

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	4	4	5	Medium-High (positive)
Score	6				78

KMT have and will continue to effect local improvements to road, power and other infrastructure, especially as required by KMT operations. There are possible but small spill-over advantages for proximate communities (for example use of improved roads, access to water). Whilst the benefits will be long term (with a limited number of beneficiaries), the impact will occur in the construction phase. Benefit could be significant from a regional infrastructure perspective if KMT gets involved in upgrading the Kolwezi bypass and the construction of a Kolwezi-Solwezi road.

Enhancing the benefit:

- KMT corporate communication will ensure local awareness of the infrastructure improvements.
- Further targeted infrastructure improvement initiatives may take place under the Community Development Plan and Programme, if prioritised by stakeholders.
- Use of tax payments for infrastructure development.

Impact SE-16: Increased access to social facilities for salaried KMT employees. Access ends with closure.

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	4	3	2	3	Medium-low (positive)
Score	8			8	64

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
4	4	3	2	4	Medium-low (positive)
Score	8			9	72

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	3	2	5	Medium-low
Score	6			10	60

By virtue of steady incomes, salaried KMT employees will enjoy improved access to social facilities, and especially to better-resourced facilities (including private hospitals and schools). This access in turn will generate income for such facilities. There are no hospitals or schools in Kolwezi that have sufficient resources, or which do not require improved infrastructure, staffing and equipment. Under Gécamines a number of relatively well-resourced schools, clinics and hospitals were established. New sources of income may help to restore some of the capacity and capability of these facilities.

If not mitigated, access and income streams will be lost with mine closure.

Principles of mitigating return to status quo:

- KMT will institute a variety of closure mitigation measures aimed at preserving or replacing income (see discussion under Jobs and Livelihoods, SE-1 and SE-2 above).

- The proposed social services interest group will consider business strategies to deal with closure impacts.

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan; Annexure E: Rehabilitation and Closure Plan; Annexure F: Public Consultation and Disclosure Plan.

Impact SE-17: Improved employee and community access to health care via KMT facilities. Access ends with closure

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	4	3	2	3	Medium-low (positive)
Score	7			8	56

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	4	3	2	4	Medium-low (positive)
Score	7			9	63

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	4	2	5	Medium-low
Score	6			11	66

KMT employees will have access to health care, information and counselling, due to KMT's proposed provision of health screening and a medical centre. Households and communities will benefit via the improved health of major income earners, and through savings on household medical costs. Access to these services by employees will extend across the construction and operational phases, and will end at mine closure.

Principles of mitigating return to status quo:

- The proposed social services interest group will address strategies to deal with post closure impacts.
- The CDP is likely to take up public health issues and initiatives, involving NGOs and other local structures. Sustainability beyond closure is a principle of the CDP.

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan; Annexure E: Rehabilitation and Closure Plan; Annexure F: Stakeholder Engagement Plan.

Impact SE-18: Community disruption by non-local workers and opportunity seekers**Impact Significance****Construction Phase**

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
2	3	4	2	3	Low
Score	5			9	45

Operational Phase 1

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	2	2	2	3	Low
Score	5			7	35

As discussed above, KMT construction may involve around 600 non-local construction workers and managers. The non-local contingent will be much smaller during operations (possibly no more than 40). International experience suggests that opportunity seekers may also move to Kolwezi, but the number is difficult to predict. The impact is the possible disruption of local communities, including cultural conflicts, use of alcohol and the promotion of prostitution. HIV/AIDS is discussed elsewhere (See SE-13). The impact will be most pronounced during construction, and the populations most at risk are those close to the proposed construction camp (Samukonga, Luilu and Tshala Villages). Disruption is unlikely to occur beyond Operational Phase 1, during which opportunity seekers will either settle or move on.

Principles of mitigation:

Mitigatory measures have been discussed elsewhere. These include:

- Development of a code of practice for construction workers.

- Counselling of construction workers.
- Dissemination of information on the construction phase.
- A Community Health and Safety Plan which covers construction and operations (Annex B).

See Volume 3: ESMP and Annexures. Annexure A: Community Health and Safety Plan; Annexure H: Influx Management, Annex I: artisanal mining strategy.

Impact SE-19: Income to government through payment of royalties and taxes by KMT and employees. Ending of income after closure.

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
5	3	2	5	3	Medium-high (positive)
Score	8			10	80

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
5	4	4	5	4	High (positive)
Score	9			13	117

Post-Closure Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
1	5	4	5	5	Medium-high
Score	6			14	84

KMT will contribute to local, regional and national tax bases. The new constitution which the DRC has adopted requires that 40% of the corporate tax is payable to the town where the mining will be taking place. There will also be contributions via a variety of permits, licenses and levies to provincial and local government. The current national-provincial-local split on royalties (according to the Mining Code) is as follows: 60% national; 25% regional; 15% local. Regional and local components will be distributed via central government. Employees will also pay tax, with national

and local benefits to government. Local government institutions in particular seem to have meagre tax income (in 2002 the Office of the Mayor realised only 16% of the proposed budget), so contributions are potentially substantial in relative terms. Impacts are high across all phases, particularly due to the wide spread of potential taxation benefits. There will be an end to this tax income with mine closure.

Principles of mitigating return to status quo:

- National impacts of ending of tax income post-closure are beyond the sphere of influence of KMT.
- The proposed promotion of local economic planning will assist in the development of a forum within which stakeholders can discuss the ending of tax income and other economic impacts of closure.

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan; Annexure E: Rehabilitation and Closure Plan; Annexure F: Stakeholder Engagement Plan.

Impact SE-20: Community capacity building through KMT social programmes

Impact Significance

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	5	4	2	4	Medium-high (positive)
Score	8			10	80

KMT social programmes under the CDP will support multi-faceted community capacity building and empowerment, possibly including scholarships, health counselling, teacher training, and SME development. The proposed Social Fund will make approximately USD 20 million available over the life of the mine. This is a significant amount in the context of a depressed local economy, so meaningful capacity building should be possible. The impacts will be most significant during the operational phases, when the CDP is fully implemented. Development initiatives will be lost with closure if impacts are unmitigated.

Enhancing the benefit:

- KMT is committed to a CDP. The implementation of the plan requires a number of steps, including local consultation, the establishment of relevant consultative and management structures, the consultative identification and prioritisation of projects and initiatives, the identification of implementing agents, and the implementation of the projects and initiatives.

- The CDP principles require sustainable initiatives, the promotion of self-sufficiency among structures facilitating development, and ensuring arrangements for continued cooperative development planning and support beyond KMT closure. In this context other benefactors will be encouraged to become involved in the CDP, or to establish similar initiatives of their own.

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan.

Impact SE-21: Increased role for NGOs and CBOs through the KMT Community Development Plan

Impact significance

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	4	3	4	4	Medium-high (positive)
Score	7			11	77

Numerous Non Government Organisations operate in the Project Impacted Area (around 30 were identified in the social baseline study). The NGOs are both international and local, and there are several organizations seeking to coordinate NGO activities, among them the CRONGD network. The NGO activities are wide-ranging, including agricultural support, health care support, micro credit, family support, environmental advocacy and support to vulnerable groups (elderly, orphans and abandoned children, AIDS victims). In many situations the NGOs are filling gaps left by poorly resourced state institutions. The role of NGOs and Community Based Organisations will be supported and possibly extended through the KMT Community Development Plan, where these organizations will be deployed as appropriate to guide and implement programmes and projects identified by stakeholders.

Principles of mitigating return to status quo:

- NGOs and CBOs are well placed to play a key role in the facilitation of local development.
- These organisations can also play an important role in the facilitation and monitoring of the Environmental and Social Management Plan (ESMP).
- Targeted capacity building for the above roles will be considered where appropriate.

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan.

Impact SE-22: Community social infrastructure improvement due to KMT social programmes

Impact Significance

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	2	2	4	Low (positive)
Score	6				48

The FQM Community Development Policy lists social infrastructure improvement as one of several possible development thrusts under the Community Development Plan. Such initiatives could include equipment for schools, sports equipment and community transport schemes. The benefits will be most pronounced when the CDP is fully functional (during the operational phases of the KMT project).

Enhancing the benefit:

- As with all initiatives under the CDP, possible infrastructure improvement inputs will follow consultation with and prioritisation by participating stakeholders.
- A corporate communications strategy and information sessions with the Office of the Mayor will ensure awareness of these and other community development initiatives.

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan.

Impact SE-23: Dissatisfaction with the employment and presence of expatriate managers

Impact Significance

Construction Phase and Operational Phase 1

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	3	2	2	Low
Score	6				42

Although expatriate key staff was used in the past, the presence of expatriate managers may promote resistance in some quarters (including locals seeking opportunities, and government regulators seeking to promote local skills and development). The impact is likely to be felt during the

construction and early operational phases but should be resolvable. It is expected that relationship issues (if any) around expatriate managers will have been resolved by Operational Phase 2.

Principles of mitigation:

- A policy of local recruitment is to be followed for both the construction and operational phases, limiting the numbers of expatriates.
- Existing FQM employment and recruitment policy and practice will be clarified and elaborated as necessary, to ensure fair access to information about jobs, and fair access to the jobs themselves.
- Information about recruitment (and the policy underpinning it) will be widely disseminated through the KMT communication strategy and programme.
- Training potential DRC personnel to replace expatriates will be undertaken (as required in the DRC).

See Volume 3: ESMP and Annexures. Annexure A: Labour and Human Resources Plan.

Impact SE-24: Social division over limited jobs and perceived preferential access

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	4	5	2	3	Medium – low
Score	7			10	70

Operational Phase 1

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	4	4	2	4	Medium - low
Score	7			10	70

KMT will generate 1300 direct employment opportunities during construction and around 660 during the two operational phases. During construction, 200 Filipinos and 200 Indonesians will be employed. Each of them will be linked to a Congolese worker for intensive capacity building and skills transfer to the latter. Given the extensive unemployment in the Project Impacted Area (estimated at 90% by the Ministry of Labour) and the widespread poverty, competition for jobs will

be intense. Against this background, it is possible that there will be dissatisfaction over the limited number of jobs and (if unmitigated) perceived preferential access to jobs. In the latter case, there is a risk that dissatisfaction will focus on latent social divisions. These divisions may be expatriate/local, urban/rural, Katangese/Kasaïen, Gécamines/non-Gécamines, or modern/traditional. The impacts will be most pronounced when recruitment for construction occurs, and when operations staff is employed. It is anticipated that issues will have been resolved prior to Operational Phase 2.

Principles of mitigation:

The mitigation principles are the same as those discussed under “dissatisfaction with the employment and presence of expatriate managers” above. In addition, expectations have been managed via the previous Public Consultation and Disclosure Programme, and will continue to be managed through the Stakeholder Engagement Plan. In this context, limitations on the number of jobs potentially available were disclosed and discussed.

See Volume 3: ESMP and Annexures. Annexure A: Labour and Human Resources Plan; Annexure F: Public Consultation and Disclosure Plan / Stakeholder Engagement Plan.

Impact SE-25: Social division over perceived preferential access to procurement

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	4	2	3	Medium-low
Score	6			9	54

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	4	2	4	Medium-low
Score	6			10	60

KMT will procure goods and services during construction, and also over the life of the mine. The procurement bill for construction is likely to be substantial, with materials and services procured locally and elsewhere. The scale of procurement and the local – extra local balance is presently unknown. Operational procurement will also contribute to the local economy, with some goods and services likely to be obtained elsewhere. In the context of a depressed local economy, it is possible

that dissatisfaction may emerge, especially if access to procurement is perceived to be unfair or preferential. As with jobs, the dissatisfaction may focus attention on latent social divisions.

Principles of mitigation:

- Policies and practices relating to the procurement of goods and services will be clarified and if necessary elaborated. This will ensure fair access to information about tenders and opportunities, and fair access to the procurement itself.
- Information about procurement (and the policy underpinning it) will be widely disseminated through the KMT communication strategy and programme.

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan; Annexure F: Social Engagement Plan.

Impact SE-26: Social division over perceived preferential access to the Social Fund and Community Development Foundation

Impact Significance

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	3	2	4	Medium-low
Score	6			9	54

The proposed Social Fund / Community Development Foundation will disburse USD 20 million over the life of the mine. If unmanaged, dissatisfaction might arise due to perceived preferential access to Social Fund resources. The dissatisfaction may sharpen latent social divisions. Impacts will be evident during the implementation of the CDP, which will coincide with the operational phases.

Principles of mitigation:

- The Community Development Plan and Programme will be developed in wide and detailed consultation with all relevant stakeholders. Several consultative structures will be established to guide and oversee the appropriate developmental use of funds. Among these structures is a Public Liaison Committee.
- The activities of the CDP and its structures will be communicated through the proposed communication strategy.

- The Foundation will be managed by a representative committee of local stakeholders, and not by KMT, to avoid perceptions of inequalities of access.

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan.

Impact SE-27: Social division over perceived inequities in compensation

Impact Significance

Pre-Construction Phase

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
2	3	4	1	2	Low
Score	5				35

Economic displacement in project footprint areas and as a result of project activities will be addressed within the framework of Resettlement Action Plan (RAP) Compensation is one of the mitigatory measures mobilised through the RAP. As discussed earlier, compensation has already been paid to the owners of fields and crops affected by the construction of access roads and drill pads and by clearing for the construction of housing, based on an Interim RAP. Against this background, there is potential for dissatisfaction due to perceived inequities in compensation. The impact will be in the pre-construction phase and will accompany the negotiation and implementation of the RAP.

Principles of mitigation:

- Compensation will take place in compliance with DRC legislation in this regard and within the framework of World Bank Group (WBG) and especially IFC guidelines and safeguards regarding economic displacement and compensation.
- WBG guidelines will be followed in the development of the RAP. This process makes provision for careful and thorough determination of compensation entitlements, and for transparent and accountable grievance procedures associated with RAP implementation.
- LACP implementation will be monitored according to WBG standards.

See Volume 3: ESMP and Annexures. Annexure B: Land Acquisition and Compensation Plan; Annexure D: Community Development Plan.

Impact SE-28: Assistance to vulnerable groups through KMT social programmes**Impact Significance****Operational Phases 1 and 2**

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	4	1	4	Medium-low (positive)
Score	6			9	54

Vulnerable groups (women, elderly, youth) are likely to be assisted through the KMT CDP. The nature and scope of initiatives will be developed in consultation with stakeholders, through the participatory structures established to manage and implement the CDP. Impacts will be present through the operational phases, coinciding with the active implementation of the CDP.

Enhancing the Benefit

See principles discussed under “Community capacity building through KMT social programmes” (See Impact SE-21).

See Volume 3: ESMP and Annexures. Annexure D: Community Development Plan.

Impact SE-29: Disruption of artisanal mining and associated activities in the Project***Concession Area.*****Impact Significance****Construction Phase**

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
2	3	3	2	3	Low
Score	5			8	40

Operational Phases 1 and 2

Likelihood		Consequence			
Frequency of change driver	Freq of impact	Benefit/Severity of impact	Population scope	Duration	Rating
3	3	3	2	4	Medium-low
Score	6			9	54

Artisanal mining in the KMT Project Impacted Area takes place largely in waste rock dumps around the entrance road in the vicinity of UZK Village and the Kingamyambo Tailings Dam. There are two groupings of artisanal miners operating in the concession area. The first, small and highly organised mining operation on the tailings dam has been active for some years. The second artisanal grouping comprises of roughly 300 artisanal miners who have established themselves along the side of the road near the main Gécamines entrance. A key feature of artisanal mining – a relatively recent phenomenon on the concession area – is the important role it has come to play in livelihoods and household survival strategies throughout the Project Impacted Area. Possible impacts of KMT activities are the following:

- Access to and across the Kingamyambo Tailings Dam will be restricted during operations, for safety reasons. The secured area will move as extraction of tailings moves through the dump.
- Impacts on artisanal mining in proximate waste rock dumps are likely to be temporary, if they occur at all. (See Annexure I: Artisanal Mining Strategy).
- Sporadic gold panning in the upper reaches of the Musonoi will have to move elsewhere once exploitation of the tailings begins in the Operational Phase.

Overall, disruption of artisanal mining and associated activities in the Project Concession Area will be low, and in many cases transitory.

Principles of mitigation:

- KMT has adopted an in-principle approach that will seek a positive working relationship with artisanal miners operating on the Concession area.
- Operational rules and conditions will be developed and negotiated with artisanal mining interests to secure a sustainable working arrangement between them and KMT.

Actions relating to Artisanal mining are addressed in detail under Impact SE-29 in Table 4-1 of the ESMP, in the RAP, and in the Artisanal Mining Strategy (See Volume 3: ESMP).

8.4 Archaeological and Cultural Heritage Impacts

Archaeological and cultural heritage impacts are likely to be very limited. Two specific impacts are detailed below.

Impact C-1: Loss of sites of archaeological or cultural importance such as graves and cemeteries

Impact Significance

Construction Phase

Likelihood		Consequence			
Frequency of activity	Freq of impact	Severity of impact	Spatial scope	Duration	Rating
4	3	3	2	5	Medium-Low
Score	7			10	70

Operational Phase 1

Likelihood		Consequence			
Frequency of activity	Freq of impact	Severity of impact	Spatial scope	Duration	Rating
4	1	2	2	5	Low
Score	5			9	45

Operational Phase 2

Likelihood		Consequence			
Frequency of activity	Freq of impact	Severity of impact	Spatial scope	Duration	Rating
4	3	3	2	5	Medium-Low
Score	7			10	70

Post-Closure Phase

Likelihood		Consequence			
Frequency of activity	Freq of impact	Severity of impact	Spatial scope	Duration	Rating
1	1	1	2	-	Very Low
Score	2			3	6

The destruction of graveyards and other sites of cultural significance are potentially significant due to the cultural importance of these sites and the rituals associated therewith. The impact of the disturbance or destruction of such sites is therefore an offence to cultural practices.

There are few cultural resource sites – several graveyards and one ceremonial site on the concession area and no significant archaeological sites. The possible construction of the road and proposed pipelines between the plant and pump stations takes place in close proximity to grave sites 6, 16 and 17 and there is the potential that these sites could be disturbed during construction activities. During the Operational Phase once the Musonoi tailings are reworked there is the potential that an alleged Chief's grave within the Musonoi tailings could be destroyed, but it will not be located until exposed during mining, if at all.

Principles of mitigation:

- Known graves and graveyards are to be geo-referenced and mapped, and their history specified;
- Where archaeological and cultural heritage sites are close to proposed project activities, these areas will be fenced off and signs erected to avoid any disturbance
- Routing of linear infrastructure shall avoid such sites;
- Clearing of ground for linear infrastructure shall proceed cautiously, to ensure that any uncovered sites can be timeously investigated and removed, if necessary
- Any threatened graves shall be timeously disinterred and relocated, in accordance with local custom.
- In the case of discovering a national cultural heritage site, adherence to the process to be followed as outlined in Article 205 and 206 of the Mining Regulations.

The ESMP includes a dedicated Cultural Heritage Management Programme.

Impact C-2: Offence to cultural practices of local communities**Impact Significance****Construction Phase**

Likelihood		Consequence			
Frequency of activity	Freq of impact	Severity of impact	Spatial scope	Duration	Rating
5	3	3	2	5	Medium-High
Score	8			10	80

Operational Phase 1

Likelihood		Consequence			
Frequency of activity	Freq of impact	Severity of impact	Spatial scope	Duration	Rating
1	2	2	2	5	Low
Score	3			9	27

Operational Phase 2

Likelihood		Consequence			
Frequency of activity	Freq of impact	Severity of impact	Spatial scope	Duration	Rating
4	2	1	2	5	Low
Score	6			8	48

Post-Closure Phase

Likelihood		Consequence			
Frequency of activity	Freq of impact	Severity of impact	Spatial scope	Duration	Rating
1	1	1	2	5	Very Low
Score	2			8	16

The sacred (ceremonial) site near the Muninga forest is known to be used for ceremonies prior to hunting; to converse with the spirits and bring good luck to hunting activities. Certain sections of the forest cannot be entered by people unless they are part of “*les delegations en provenance du chef de Terre Kamimbi*”. This site lies between the new tailings dam and the plant site and the construction of the pipeline route between the tailings dam and plant site will take place in close proximity to this site increasing the possibility of disturbance by project activities. Uncontrolled access to the area, by people who do not respect/understand the local traditions, could disturb the general cultural landscape starting from construction activities through the life of this operation. The probability of uncontrolled access is low due to KMT’s control of the Concession Area.

Principles of mitigation:

- Where archaeological and cultural heritage sites are close to proposed project activities these areas will be fenced off and signs erected to avoid any disturbance
- All project infrastructure must avoid the Muninga dam area and access through this area should be strictly controlled.

The ESMP includes a dedicated Cultural Heritage Management Programme.

8.5 Summary of Social Impacts

A summary of all the social impacts is provided in Table 8.1.

Any positive economic or developmental impact in this depressed economy will be highly significant. The economic impacts are related to tax and royalty contributions to Kolwezi town over the life of the project, and to local spending through investment, salaries and procurement. Positive social impacts will be mobilised substantially through the Community Development Plan. These have the potential to transform the town considerably. There are some socio-economic costs, however, relating mostly to loss of access to land for subsistence agriculture in the Concession Area and loss of standing crops when project construction begins, as well as the need to resettle Samukonga village (home to 76 people) and changes in the sense of place of the immediate, rural landscape. The number of people affected by these impacts is relatively small and although the impacts have the potential to alter their quality of life they are not expected to be unmanageable. In any event, indications are that patterns of land use will change again, with people relying less on subsistence agriculture and natural resource harvesting, as new economic opportunities emerge and the local mining economy revives.

Close to Samukonga, along the Muninga stream, lies a sacred site in the riverine forest, a site whose 'sense of place' might be negatively impacted by the cumulative effects of project activities in its vicinity, even though all project components have been sited so as to avoid impacts on the site.

There is relatively little artisanal mining in the tailings, and artisanal ore recovery in these areas will be low in comparison to mining the waste rock dumps. On the whole, disruption of artisanal mining and associated activities in the Project Concession Area will be low, and in many cases transitory.

Overall, the socio-economic benefits of this project can be considered to outweigh the relatively moderate negative biophysical impacts and resource losses, given that project commitments are to the highest standards of design, development and management.

Table 8.1: Summary of significance rating for physical, biological and socio-economic impacts prior to mitigation measures being implemented

Impact No.	Environmental Components and Impacts	Pre-construction	Construction	Operation 1 (yr 1-7, mining Kingamyambo only)	Operation 2 (+ yr 7, Musonoi also being mined)	Post-closure ³
	SOCIOLOGICAL ENVIRONMENT					
	MACRO-ECONOMIC					
ME-1	Increase in National Gross Domestic Product		HIGH	HIGH	HIGH	
ME-2	Increase in Kolwezi District Gross Geographic Product		HIGH	VERY HIGH	VERY HIGH	
	SOCIO-ECONOMIC					
SE-1	Secure jobs, incomes and social security for KMT employees. Benefits end post-closure.		MEDIUM-HIGH	HIGH	HIGH	MEDIUM-LOW
SE-2	Increased disposable income among KMT employees and local multipliers. Benefits end post-closure.		MEDIUM-HIGH	HIGH	HIGH	MEDIUM-HIGH
SE-3	Local business opportunities arising from KMT procurement of goods and services.		MEDIUM-HIGH	HIGH	HIGH	MEDIUM-HIGH

³ The post-closure loss of benefits derived from KMT employment and procurement is reflected as a negative impact. This does not detract from the significant positive benefits during construction and operations, it simply prompts appropriate mitigatory and development initiatives prior to closure

POSITIVE IMPACTS		NEGATIVE IMPACTS	
Very High	126-150	Very High	126-150
High	101-125	High	101-125
Medium-High	76-100	Medium-High	76-100
Medium-Low	51-75	Medium-Low	51-75
Low	26-50	Low	26-50
Very low	1-25	Very Low	1-25

Impact No.	Environmental Components and Impacts	Pre-construction	Construction	Operation 1 (yr 1-7, mining Kingamyambo only)	Operation 2 (+ yr 7, Musonoi also being mined)	Post-closure ³
	Benefits end with closure.					
SE-4	Construction of permanent and temporary housing, with impacts on the building industry (suppliers and contractors)		MEDIUM-LOW			
SE-5	Increase in business confidence and attraction of investors. Benefits end with closure	MEDIUM-LOW	MEDIUM-LOW	MEDIUM-HIGH	MEDIUM-HIGH	MEDIUM-HIGH
SE-6	Dividends to KMT shareholders. Loss of dividends post closure			MEDIUM-HIGH	MEDIUM-HIGH	MEDIUM-HIGH
SE-7	Opportunistic invasion of fields in the Project Concession Area	LOW	VERY LOW			
SE-8	Increased involvement of and cooperation with traditional authorities and local government	LOW	LOW	MEDIUM-HIGH	MEDIUM-HIGH	MEDIUM-LOW
SE-9	Loss of land, crops and associated livelihoods in project footprint areas		MEDIUM-HIGH			
SE-10	Loss of crops and associated livelihoods due to changing dambo and river water levels				MEDIUM-HIGH	
SE-11	Inconvenience and danger to proximate villages		MEDIUM-HIGH	MEDIUM-HIGH	MEDIUM-HIGH	
SE-12	Increased demand for privately and publicly provided social services		MEDIUM-LOW	MEDIUM-HIGH	MEDIUM-HIGH	

POSITIVE IMPACTS		NEGATIVE IMPACTS	
Very High	126-150	Very High	126-150
High	101-125	High	101-125
Medium-High	76-100	Medium-High	76-100
Medium-Low	51-75	Medium-Low	51-75
Low	26-50	Low	26-50
Very low	1-25	Very Low	1-25

Impact No.	Environmental Components and Impacts	Pre-construction	Construction	Operation 1 (yr 1-7, mining Kingamyambo only)	Operation 2 (+ yr 7, Musonoi also being mined)	Post-closure ³
SE-13	Increased risk of HIV / AIDS with influx of workers and opportunity seekers		MEDIUM-HIGH	MEDIUM-LOW	MEDIUM-LOW	
SE-14	Payment for services by KMT income earners, improving viability of providers. Payment capacity ends with closure		MEDIUM-HIGH	MEDIUM-HIGH	MEDIUM-HIGH	MEDIUM-LOW
SE-15	Local improvements to road, power and other infrastructure by KMT		MEDIUM-HIGH			
SE-16	Increased access to social facilities by salaried KMT employees. Access ends with closure		MEDIUM-LOW	MEDIUM-LOW	MEDIUM-LOW	MEDIUM-LOW
SE-17	Improved employee and community access to health care via KMT facilities. Access ends with closure.		MEDIUM-LOW	MEDIUM-LOW	MEDIUM-LOW	MEDIUM-LOW
SE-18	Community disruption by non-local workers and opportunity seekers		LOW	LOW		
SE-19	Income to government through payment of taxes by KMT and employees. Income ends with closure.		MEDIUM-HIGH	HIGH	HIGH	MEDIUM-HIGH
SE-20	Community capacity building through KMT social programmes			MEDIUM-HIGH	MEDIUM-HIGH	
SE-21	Increased role for NGOs and CBOs through the KMT Community Development Plan			MEDIUM-HIGH	MEDIUM-HIGH	

POSITIVE IMPACTS		NEGATIVE IMPACTS	
Very High	126-150	Very High	126-150
High	101-125	High	101-125
Medium-High	76-100	Medium-High	76-100
Medium-Low	51-75	Medium-Low	51-75
Low	26-50	Low	26-50
Very low	1-25	Very Low	1-25

Impact No.	Environmental Components and Impacts	Pre-construction	Construction	Operation 1 (yr 1-7, mining Kingamyambo only)	Operation 2 (+ yr 7, Musonoi also being mined)	Post-closure ³
SE-22	Community social infrastructure improvement due to KMT social programmes			LOW	LOW	
SE-23	Dissatisfaction with the employment and presence of expatriate managers		LOW	LOW		
SE-24	Social division over limited jobs and perceived preferential access		MEDIUM-LOW	MEDIUM-LOW		
SE-25	Social division over perceived preferential access to procurement		MEDIUM-LOW	MEDIUM-LOW	MEDIUM-LOW	
SE-26	Social division over perceived preferential access to the Social Fund and Community Development Foundation			MEDIUM-LOW	MEDIUM-LOW	
SE-27	Social division over perceived inequities in compensation	LOW				
SE-28	Assistance to vulnerable groups through KMT social programmes			MEDIUM-LOW	MEDIUM-LOW	
SE-29	Disruption of artisanal mining and associated activities in the Project Concession Area		LOW	MEDIUM-LOW	MEDIUM-LOW	
	ARCHAEOLOGICAL AND CULTURAL RESOURCES					

POSITIVE IMPACTS		NEGATIVE IMPACTS	
Very High	126-150	Very High	126-150
High	101-125	High	101-125
Medium-High	76-100	Medium-High	76-100
Medium-Low	51-75	Medium-Low	51-75
Low	26-50	Low	26-50
Very low	1-25	Very Low	1-25

Impact No.	Environmental Components and Impacts	Pre-construction	Construction	Operation 1 (yr 1-7, mining Kingamyambo only)	Operation 2 (+ yr 7, Musonoi also being mined)	Post-closure ³
C-1	Loss of sites of archaeological or cultural importance such as graves and cemeteries		MEDIUM-LOW	LOW	MEDIUM-LOW	VERY LOW
C-2	Offence to cultural practices of local communities		MEDIUM-HIGH	LOW	LOW	VERY LOW

POSITIVE IMPACTS		NEGATIVE IMPACTS	
Very High	126-150	Very High	126-150
High	101-125	High	101-125
Medium-High	76-100	Medium-High	76-100
Medium-Low	51-75	Medium-Low	51-75
Low	26-50	Low	26-50
Very low	1-25	Very Low	1-25