



MTL CONSULTING COMPANY LIMITED

Engineers and Scientists

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COMPANY PROFILE

**ENVIRONMENT. MINING. OIL & GAS
PROFESSIONAL CONSULTANCY SERVICES**

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1.Overview

MTL Consulting was incorporated in Tanzania in 1998 as MTL Geological and Mining Services Company Ltd and later changed its name to MTL Consulting Company Ltd (MTL Consulting or MTL) with incorporation number 33799. It is wholly owned and managed by Tanzanians with its headquarters in Dar es Salaam, a registered branch office in Uganda with Registration number 162862 and representation in Kenya.

Vision

To be recognized as a leader in providing professional Consulting services to the extractive and natural resource fields.

Mission

- Provide Creative solutions and quality consultancy services to our clients,
- Be Worthy of clients' confidence by remaining accountable for our services,
- Deliver Services based on real needs that add value to our clients' projects,
- Become the first choice Consultancy Company that clients in the areas that we serve will turn to.

MTL Consulting Company Ltd principal objective is to provide Consultancy Services in the areas of;- Mining & Mineral Processing, Oil & Gas, Engineering Geology, Mineral prospecting and exploration, Geotechnical engineering, Water Resources Management, Relocation and Resettlement Action Plans, Land Use and Livelihoods Assessment, Training, Geographical Information Systems (GIS), Mining Cadastre systems design and management, Mineral Rights and Permitting, Environmental and Social Impact assessment, Environmental Auditing, Due diligence studies, Implementation of Environmental Management Systems, Social & Health Impact Assessment, Work place Public Health and Safety (Occupational Health and Safety), Site Reclamation and Rehabilitation and Mine Closure.

2. Strength

The company draws its strength from the knowledge and experience accumulated for over 16 years of practical consulting experience in Tanzania and Africa in general. The knowledge and experience from its key personnel who have many years' experience in the public and private sectors both locally and internationally, add to our strength. MTL is managed by a board of directors composed of professionals with wide experience in geology and mineral exploration, oil & gas, mineral rights

management and environmental and social management, both locally and internationally. The day to day activities of the Company are carried out by a core team of full-time and associate experts in the relevant fields. The team is lead by a Managing Director who is assisted by two Directors and Section Managers.

3. Membership

MTL Consulting is registered with the Engineers Registration Board of Tanzania (ERB) as a “Local Engineering Consulting Firm (Mining)” with registration No. 114 and with the National Environmental Management Council of Tanzania (NEMC) as Environmental Impact Assessment (EIA) (Reg. No. NEMC/EIA/0030) and Environmental Audits (EA) (Reg. No. NEMC/EA/0020) Experts. Our key members of staff are registered with several national and international professional bodies.

4. Services Offered

AREA	SERVICES
ENVIRONMENT	<ul style="list-style-type: none"> — Environmental & Social Impact Assessment — Environmental Management Plans preparation & Auditing — Environmental Audits — Environmental Monitoring & preparation of Monitoring Plans — Environmental baseline studies — Preparation & Implementation of EMS — Environmental Due Diligence studies — Air Quality, Noise & Vibrations Monitoring
SOCIAL	<ul style="list-style-type: none"> — Socio-economic baseline studies and surveys — Social Impact Assessment — Social Management Plans — Cultural Heritage Impact Assessment — Health Impact Assessment — Relocation and Resettlement Action Plans
MINING	<ul style="list-style-type: none"> — Pre and Feasibility studies — Mine design and Planning — Mine Closure — Rock blasting and Explosives management — Geo-technical engineering — Small Scale Mining Services — Minerals Prospecting & Exploration

WATER RESOURCES	<ul style="list-style-type: none"> — Water resource studies — Surface and groundwater quality investigations — Project impacts on ground and surface water — Storm water management — Optimization of water usage
OIL AND GAS	<ul style="list-style-type: none"> — Environmental and Social Impact Assessment — Baseline Studies — Environmental Monitoring & preparation of monitoring plans — Preparation & auditing of Environmental Management plans — Project Socio-economic impacts
MINING CADASTRE AND MINERAL RIGHTS MANAGEMENT	<ul style="list-style-type: none"> — Mineral Rights Due Diligence — Processing, acquisition and maintenance of mineral Rights — Design and implementation of mineral rights management systems (Mining Cadastre Systems) — Geographical Information Systems (GIS) — Mineral rights promotion and maintenance
TRAINING	<ul style="list-style-type: none"> — Occupational Health and Safety — Mining Legislation — Environmental Management — Geographical Information Systems (GIS) — Artisanal and Small Scale Mining Cadastre and Mineral Rights Management

5. Selected Experiences

For the past sixteen years, MTL successfully completed projects in various countries in Africa, including Tanzania, Uganda, Kenya, Malawi, Lesotho, Swaziland, Botswana, Ghana, Sierra Leone, Zimbabwe and Sudan. The range of our Clients includes the Private Sector (both local and International companies), Governments and international organizations (including EU, World Bank, NDF, CDE, UNIDO and EITI).

5.1 Government Projects

CLIENT	PROJECT DESCRIPTION
Tanzania	<ul style="list-style-type: none"> • Research on ASM Mercury pollution as part of the Global Mercury Project on behalf of UNIDO - 2000 • Baseline survey of the artisanal and small scale mining (ASM) activities and preparation of an ASM data base (2010 – 2012); • Investment Benefits Study under “The Sustainable Management Of Mineral Resources(SMMRP)Project, Tanzania, Ida Credit 4584-Ta (in Collaboration with Oxford Policy Management Limited) (2010 – 2011);
Ghana	<ul style="list-style-type: none"> • Development of technology to replace the use of Mercury in ASM • Establishment of the Fairtrade Gold programme for ASM;
Uganda	<ul style="list-style-type: none"> • Implementation of Mining Cadastre and Registry – 2010 – 2012??? • Facilitation of a workshop for “Baseline Profiling Of Artisanal and Small-Scale Mining” - 2005
Lesotho and Swaziland	Review of the Mining Sector Potential in Lesotho & Swaziland - 2005
Kenya	<ul style="list-style-type: none"> • Implementation of Mining Cadastre and Registry System – 2011 – 2012??? • Geological exploration for limestone for the establishment of a cement factory in West Pokot District – 2008 - 2009
Zimbabwe	<ul style="list-style-type: none"> • Research for ASM Mercury Pollution as part of the Global Mercury Project on behalf of UNIDO - 2000
Sierra Leone	<ul style="list-style-type: none"> • Due Diligence study of a diamond mining Project in Kono District for a Client looking for IFC funding – 2007; • Drafting of the strategy for implementation of the Mining Policy - 2006
Sudan	Research for ASM Mercury Pollution as part of the Global Mercury Project on behalf of UNIDO - 2000

5.2 International Organizations Projects

CLIENT	PROJECT DESCRIPTION
NDF	Implementation of mining Cadastre Registry system for the Government of Uganda – 2010 – 2012
DFID	<ul style="list-style-type: none"> • Institutional Survey Of The Ministry Of Mineral Resources Divisions in Sierra Leone – sub-contracted by GRUPPO SOGES S.p.A – 2006 • Increasing the Contribution of the Artisanal and Small-Scale Mining Sector to Poverty Reduction Targets
UNECA	<ul style="list-style-type: none"> • Compilation of Compendium of the Best Mining practice for the Small scale Mining in Africa – 2005 • Promoting Mineral Clusters: The Case for Tanzania - 2008
European Union (EU)	Development of Technology to replace the use of Mercury in ASM – 2005 - 2007

World Bank	Tanzania Baseline Survey for Small scale mining(ASM) (SMMRP) Under Ministry of Energy and Minerals Tanzania
Centre for Development of enterprises (CDE)	<ul style="list-style-type: none"> Organizing and running a workshop on Business Development for Small-scale Mining in Malawi – 2003; Organizing and running a workshop on Capacity Building Workshop of African Consultants and Correspondents in Botswana – 2004; Review of the Minerals Sector in Lesotho & Swaziland in the Framework of the SAF Programme (Mines 2000) - 2005

5.3 Oil and Gas Projects

CLIENT	PROJECT DESCRIPTION	YEAR
Beach Petroleum	<p>Conducting Karema seismic survey decommissioning Audit in Southern block of lake Tanganyika project</p> <p>MTL Consulting has been awarded a contract by Beach Petroleum to Conduct Karema Seismic Survey Decommissioning Audit. Following the completion of 2D Seismic survey activities in Karema and Ikola areas using both the vibroises trucks and explosives</p>	2015
Statoil ASA	<p>Environmental and Social Impact Assessment for Tanzania Offshore Project (TOFF)</p> <p>This is ongoing Project with the Lead Association of ERM and COWI Tanzania Ltd.</p>	2014-2017
Beach Petroleum	<p>EMP Update for Beach Petroleum</p> <p>MTL Consulting was Commissioned by Beach Petroleum to Conduct Environmental Management update of seismic survey in southern block of lake Tanganyika project in Mpanda District, Katavi Region, Tanzania</p>	2014
British Gas (BG)	<p>Environmental Monitoring for Mtwara Port</p> <p>BG Contracted MTL Consulting to conduct Environmental monitoring for the company supply base and any other properties associated with the operations in Mtwara. The Scope of Environmental Monitoring covers:</p> <ul style="list-style-type: none"> Water quality monitoring Air quality monitoring Noise levels monitoring 	2013-2014
Beach Petroleum Ltd	<p>South Block Lake Tanganyika Project</p> <p>MTL Consulting in Association with Golder Associate were contracted by Beach Petroleum to conduct physical and biological baseline studies in Lake Tanganyika South Block</p>	2013-2014
Undisclosed client	<p>MTL consulting was sun-contracted by Golder Associates to conduct due Diligence for an undisclosed client interested investing in Oil and Gas exploration in Eastern Africa (Kenya, Tanzania, Mozambique) with special emphasis on the coastal and offshore areas. The study included legal and regulatory frameworks, political and security risks and geo-information infrastructure.</p>	2009

5.4 Geotechnical Geological Exploration Projects

CLIENT	PROJECT DESCRIPTION	YEAR
Upepo Energy Partners 2866 Marledge Court Madison, WI 53711 Tel: +1-608-338-5295	Geotechnical Services for Upepo Energy Center MTL Consulting was contracted provide geotechnical services for the development of Upepo Energy Center, a 200 MW wind-powered electrical generation facility located in Singida, Tanzania. The Project includes between 100-135 wind turbine generator foundations, a substation and associated facilities. Below is the scope of Work <ul style="list-style-type: none"> • Desktop Study and Technical Memorandum • Initial Field Sample Collection – 35 Total Locations • Initial Laboratory Testing Program • Water Table Elevation • Second Field Sample Collection – 135 Total Locations (Balance of sites) • Second Laboratory Testing Program – 135 Total Locations (Balance of sites) 	2015
Mantra Tanzania Ltd	Geological Drilling for evaluation of Granite Rock MTL was contracted by Mantra Tanzania Ltd to undertake drilling for the evaluation of the Granite deposit at Namtumbo, Ruvuma, Tanzania. The work included core logging, testing and analysis of results for aggregates production.	2010
Tanzania Portland Cement Co. Ltd	Geological Drilling for evaluation of limestone deposit for Phase I and II MTL was contracted by TPCCL to undertake drilling of around 3000m in Phase I and 4000m in phase II for the evaluation of the limestone deposit at Wazo Hill cement plant in Dar-es-Salaam. The work included core logging, testing and analysis of results.	2010&2011
CEMTECH Kenya Limited	Geological exploration for Limestone for cement manufacturing <ul style="list-style-type: none"> • Undertook reconnaissance investigations and recommended a detailed exploration Programme including drilling for assessment of limestone deposit for cement production in Phase I. • This was followed by Phase II which included drilling for the Evaluation of Limestone at Ortum – Sebit – Chepchoi sites in Western Kenya. 	2008-2009
Kabanga Nickel Ltd	Geotechnical Investigations for Kabanga Nickel Project MTL subcontracted by Golder Associates of Canada to undertake geotechnical drilling, collect samples and supervise laboratory investigations for the geotechnical site investigations for the construction of a tailings dam, air strip and accommodation units for the mine. The work was undertaken and completed on schedule.	2008

Mbeya Cement Company Limited	Topographical Survey Carried out a topographical survey of the quarry for updating of the mined area, survey the drilled areas and pick-up all the borehole locations and other features and update the topographical map of the mine. The survey work has been completed and the analysis, interpretation of data and preparation of maps are ongoing.	2005
KDCL Minerals (T) Ltd.	Geological survey (i) Undertook a geological survey, mapping and preparation of a geological report for a limestone deposit in Shinyanga area, and (ii) Undertook a geological survey, mapping and preparation of geological reports for Pozollana deposits in Kilimanjaro and Arusha regions.	2005
Global Mining Company Limited	Geological Survey for Limestone at Kunduchi <ul style="list-style-type: none"> • Conducted geological prospecting over a mining license area located in the Kunduchi Limestone mining area in Dar-es-Salaam. • Carried out a feasibility study of the project including mine design and planning, marketing appraisal, financial analysis and preparation of a detailed business plan of the project. • Assisted the client in processing and negotiating for project financing. 	2006

5.5 Mineral Rights Management and Mining Cadastre Systems

CLIENT	PROJECT DESCRIPTION	DATE
Unclosed Clients	MTL has contracts with several international companies for mineral rights management services: <ul style="list-style-type: none"> — Identification of available areas with geological potential for application of mineral rights — Application of mineral rights and follow up with responsible Government agencies — Mineral rights maintenance (renewals, payment of fees, preparation of reports) — Due diligence for prospective investors (legal and geological) 	2004-2014
African Barrick Gold (ABG)	Corporate Mining Cadastre System for Barrick Gold in Tanzania Subcontracted by Spatial Dimension Pty from South Africa who are developers and owners of Flexi Cadastre (a Mineral Rights Management System) to undertake the following tasks for the Barrick Tanzania Cadastre System <ul style="list-style-type: none"> — Compare data contained in the system with data in the Government system and prepare a data cleaning and update plan; — Undertake training to Barrick staff in the use of Flexi Cadastre. 	2008

Government of Uganda Funded by WB, NDF and AfDB	<p>MTL was the Lead Consultant in the implementation of the project which involved:</p> <ul style="list-style-type: none"> — Deployment of Flexi Cadastre as a mining Cadastre system for the Department of Geological Survey and Mines of Uganda. This was done under license from Spatial Dimension (developers and owners); — Training of staff in mining Cadastre and GIS; — Organizing and conducting mineral rights promotion activities in South Africa, Australia and Canada 	2011-2012
Government of Kenya	<p>MTL were Project Managers in the consortium of consultants who were doing the design and implementation of the Mining Cadastre system for Kenya. Other consultants are spatial Dimension Pty (South Africa) and ESRI EA (Kenya). The project involved:</p> <ul style="list-style-type: none"> — Design of a mining Cadastre system for the Department of Geological Survey and Mines of Kenya; — Implementation of the Mining Cadastre System for the Department of Geological Survey and Mines of Kenya; — Training of staff in mining Cadastre and GIS. 	2012

5.6 Land Acquisition and Resettlement Action Plans

CLIENT	PROJECT DESCRIPTION	YEAR
Kabanga Nickel Company Limited	<p>EIA Social Baseline Data Collection, resettlement data collection and management for Kabanga Nickel Project</p> <p>MTL was sub-contracted by Golder Associates of Canada, the EIA Lead Consultant for the for Kabanga Nickel project to carry out the Baseline socio-economic survey of the surrounding communities to the project area. The survey included socio-economic baseline data collection, assessment of properties for families identified for resettlement, drafting and negotiating contracts and consultation with all local leadership on the resettlement issues. The Project was concluded successfully.</p>	2007-2008
Shanta Mining Company Limited	<p>New Singida Mine and New Luika Mine Projects in Singida and Chunya Districts</p> <ul style="list-style-type: none"> — Conducted Environmental and Social Impacts Assessment — Preparation of Resettlement Action Plans for the Project — Advise Client on implementation of the Resettlement Action Plan 	2011-2012
African Resources/ Red Hill Nickel Ltd	<p>Dutwa Nickel Project in Bariadi and Busega Districts in New Simiyu Region</p> <ul style="list-style-type: none"> — Conducted Environmental and Social Impacts Assessment — Preparation of Resettlement Action Plans for the Project 	2011-2013

5.7 Environmental Audits

CLIENT	PROJECT DESCRIPTION	YEAR
Geita Gold Mine – Anglo Gold Ashanti (AGA)	Carried out a comprehensive environmental audit of the EMP with the aim of identifying changes in the Project since 2005 when the last ESIA was done, the associated impacts and hence update mitigations and the EMP. Final EMP report has been submitted to the Client.	2013 - 2014
North Mara Gold Mine	Conducted a compliance environmental audit for the North Mara Gold Mine which is a legal requirement under Environmental Management Act, 2004. Audit reports were submitted and approved by the Client.	2009 & 2013
Tulawaka Gold Mine	Carried out compliance environmental audit of the Tulawaka Gold Mine and a report was submitted to the Client. Whereas the 2010 audit was carried out by MTL alone, the 2004 was carried out in collaboration with Sue Posnik & Associates of South Africa and in 2005 with ERM also of South Africa.	2004, 2005 and 2010
Bulyanhulu Gold Mine	Carried out compliance environmental audits for the gold mining operations at Bulyanhulu gold mining project. Bulyanhulu mining project is the largest underground mine in the country. Whilst audits in 2001 – 2005 were carried out in collaboration with other external experts, the 2007 and 2013 audits were carried out by MTL alone.	2001, 2003, 2004 2005, 2007 2010 & 2013
Golden Pride Mine - Resolute (Tanzania) Ltd	Carried out an environmental compliance audit of the project activities and the reports were submitted to the Client.	2002, 2004, 2006, 2009, & 2012
Williamson Diamonds Ltd- WDL	De Beers Management Carried out a Comprehensive Environmental Audit (Initial Audit) of the operations of the diamond mining project with the aim of identifying the environmental impacts associated with the sixty years operations and hence proposed mitigation measures that will form the basis for the preparation of the Environmental Management Plan as per requirements of the Tanzania environmental legislation for Projects started without an ESIA.	2003
	Petra Diamonds Management Conducted a compliance Environmental Audit for the Williamson Diamonds Mine in line with the changes in management and hence strategies for environmental management and in compliance with the requirements of the Environmental Management Act, 2004. The Audit report was submitted to the Client.	2010 & 2012
Buzwagi Gold Mine – African Barrick Gold (ABG)	Carried out an Annual Environmental Compliance Audit of the Buzwagi Gold Mine and the report was submitted and approved by the client.	2010
New Luika Gold Mine	Carried out the annual Environmental Compliance Audit of the operations of the New Luika Gold Mine located in Chunya district. The report was submitted and approved by Client.	2013
Ngaka Coal Mine – Tancoal Energy Limited	Carried out the annual Environmental Compliance Audit of the operations of the Ngaka Coal Mine located in Mbinga District. The report was submitted and approved by the Client.	2013

5.8 Environmental and Social Impact Assessment

CLIENT	PROJECT DESCRIPTION	DATE
URANEX Tanzania Ltd	MTL was contracted to carry out ESIA and Preparation of Resettlement Action Plan (RAP) for its Nachu Graphite Project in Ruangwa. The TOR and Scoping Report has been approved by NEMC and now the Team is conducting detailed ESIA and Finalizing Preparation of RAP.	2014-2015
Kibarani Resources (T) Limited	MTL carried out the ESIA for the proposed graphite mining project based in Mahenge, south-west of Morogoro. The field work for the environmental scoping and stakeholders' consultations have been completed. A Scoping Report and Terms of Reference for detailed ESIA were Completed and submitted to NEMC for approval. EIA Certificated has been issued.	2013-2015
Mbeya Cement Co. Ltd – Lafarge Group	MTL carried out an Environmental and Social Impact Assessment for the upgrade of the current cement production plant at Mbeya Cement. MTL Completed the assignment and the certificate was issued by NEMC 2015	2014-2015
Tulawaka Gold Mine – African Barrick Gold	Conducted an Environmental and Social Impact Assessment for Moja Moja and western zone for the purpose of expanding the mining activities. The study was carried and completed and the EIA Certificate was issued in early 2014.	2013 - 2014
North Mara Gold Mine – African barrack Gold	MTL was contracted in 2010 to undertake environmental and social impact assessment studies for a number of Projects that the Mine had put together for development. These Projects were not being implemented at the same time and hence ESIA's had to be sequenced accordingly. They included: <ul style="list-style-type: none"> • Expansion of the Airport Non-Acid Forming (NAF) Waste Rock - Completed and EIA Certificate Issued; • Construction of the TSF Waste Rock Dump – Completed and EIA Certificated issued; • Expansion of the Potential Acid Forming (PAF) waste rock dump – Completed and EIA Certificate Issued; • Installation of a waste Incinerator – Completed and Certificate issued; • Preliminary Environmental Assessment for the Construction of a Water Treatment Plant – Completed and approved; • Construction of the Nyabirama Pit cutback 3 – Completed and submitted to Government; • Switching of the open pit operations at Gokona and Nyabigena to underground operations – Ongoing. 	2010 - 2014
Bulyanhulu Gold Mine – African Barrick Gold (ABG)	Conducted an Environmental and Social Impact Assessment for the expansion of the Tailings Storage Facility (Cell 4) for the Mine. This Project was undertaken in collaboration with Golder Associates (South Africa) – Completed & submitted for approval	2013
Cradle Resources Ltd	MTL Carried out the environmental scoping study of the proposed Project and prepared the Terms of Reference for a detailed ESIA. MTL is on finalization detailed ESIA for submission to NEMC for approval	2013-2015
Wigu Hill Mining Company Limited	Carried out an Environmental and Social Impact Assessment for Wigu Hill Rare Earth Elements mining Project. The study was completed on time and the EIA Certificate was issued in 2013.	2012 - 2013

Ntaka Hill Project – Continental Nickel	Carried out an Environmental and Social Impact Assessment including baseline studies for the proposed Nickel mining Project at Ntaka Hill in Nachingwea District, South Tanzania. The study was completed and report submitted to Client.	2011 - 2013
Mantra Tanzania Limited	Conducted an environmental and social impact assessment for the proposed Mkuju River uranium mining Project. Given the sensitivity of the Project environment, a large number of specialized studies were also carried out under the coordination of MTL. We were also responsible for assisting the Client and Government in seeking the boundary change of the World Heritage Site of the Selous Game Reserve so that mining can be carried out outside the site. The Project was successfully completed and an EIA Certificated issued in 2012.	2009-2012
Geita Gold Mine Ltd – Anglo Gold Ashanti	Conducted an Environmental and Social Impact assessment for the Water Treatment Plant for Geita Town. Geita Gold Mine was financing the construction of the water treatment plant for the residents of Geita Town in collaboration with Geita District Council. The Project included the supply of water from the treatment plant to the main storage tank for Geita town.	2011-2012
Tulawaka Gold Mine - African Barrick Gold	Undertook an Environmental and Social Impact Assessment for the Tailings Storage Facility (TSF) uplift for Tulawaka Gold Mine. The Mine was planning to uplift the TSF in order to meet the production requirements. The study was completed and EIA Certificate was issued in 2012.	2011-2012
Resolute Tanzania Limited, Golden Pride Mine	Carried out an Environmental and Social Impact Assessment for the proposed Far East mining pit at Golden Pride, Nzega. This was an extension of the existing mining operations. Project was completed and EIA Certificate issued in 2012.	2011 - 2012
	Carried out an Environmental and Social Impact Assessment for the restoration of the Bundomo Creek which was diverted at the start of Mining. This was a condition of the Mine Closure. Project was completed and EIA Certificated issued in 2012.	2011- 2012

5.9 Environmental Management Plan Updates

CLIENT	PROJECT DESCRIPTION	DATE
Buzwagi Gold Mine – African Barrick Gold	Undertook review of the activities of the Buzwagi Gold Mine in order to establish the changes since the last approval and hence identify new impacts, devise mitigation measures and update the EMP. Study was completed and approved by NEMC in 2012	2012
North Mara Gold Mine – African Barrick Gold	Reviewed the mining operations and the associated activities at the North Mara Gold Mine in order to establish the changes since the last approval and hence identify new impacts, devise mitigation measures and update the EMP. Study was completed and approved by NEMC in 2012	2011 - 2012
Williamson Diamonds Ltd – Petra Diamonds Ltd	Undertook review of the activities of the Williamson Diamonds Mine in order to establish the changes since the last approval and hence identify new impacts, devise mitigation measures and update the EMP. Study was completed and approved by NEMC in 2013	2012 - 2013
Tulawaka Gold Mine – African Barrack Gold	Undertook review of the activities of the Tulawaka Gold Mine in order to establish the changes since the last approval and hence identify new impacts, devise mitigation measures and update	2010 - 2011

	the EMP. Study was completed and approved by NEMC in 2011	
Golden Pride Mine – Resolute (T) Limited	Golden Pride Mine EMP was developed in 1997 before the enactment of the Environmental Management Act, 2004. As such, a review of the Mine’s activities was undertaken and the EMP updated in line with the requirements of the new legislation.	2007

5.10 Air Quality, Noise and Vibrations Monitoring

CLIENT	PROJECT DESCRIPTION	DATE
Aga Khan Foundation	Undertook monitoring of air quality, noise and vibrations for a site identified for the construction of a new university that is located close to a highway. The results of the survey which was carried out in line with the Tanzanian Standards were submitted and approved by the Client.	2013
British Gas	MTL was contracted in 2013 to undertake quarterly monitoring of air quality and noise for the operations at the Mtwara Port in Southern Tanzania. Monitoring for three quarters have been completed and results submitted and approved by the Client.	2013 - 2014
Buzwagi Gold Mine – African Barrick Gold	Undertook the monitoring of the noise and vibrations of the Buzwagi Gold Mine. The survey included locations selected within the surrounding communities. The report of the survey was submitted and approved by Client.	2010
	Undertook the monitoring of the noise and vibrations of the Buzwagi Gold Mine. The survey included locations selected within the surrounding communities. The report of the survey was submitted and approved by Client.	2012
Tulawaka Gold Mine	Undertook the noise and vibrations monitoring for the Tulawaka Gold Mine. The survey aimed at capturing the peak noise and vibration levels during blasting and the landing and take-off of the passenger airplane. The monitoring results were submitted and approved by the Client.	2006

5.11 ASM Projects

CLIENT	PROJECT DESCRIPTION	DATE
Ministry of Energy and Minerals,	<p>Baseline survey of Artisanal and small-scale Mining (ASM) activities and preparation of an ASM database</p> <p>In collaboration with two local consulting firms, a baseline survey of the ASM activities across the country was carried out. The baseline survey was carried out in all parts of the country where ASM is carried out. Based on the collected data, a database was prepared with a link to other components within the larger database of the Ministry of Energy and Minerals.</p>	2011-2013
Geita Gold Mine Ltd/ AngloGold Ashanti	<p>Census for artisanal and small scale mining</p> <p>MTL carried out a census to establish the extent and type of artisanal and small-scale mining in the areas within and around the Geita Gold Mine. Prior to undertaking the survey, 15 villages surrounding the Mine Lease area, the associated wards and the District authorities were identified as key stakeholders. The survey was completed and a report submitted and approved by the Client.</p>	2012
	<p>Development of an ASM Formalisation Framework</p> <p>MTL undertook the development of an ASM Formalisation Framework that will guide GGM in engaging government and other stakeholders in possible support of ASM Formalisation of the ASM gold sector in the Geita Region of Tanzania. The framework was developed and submitted to the Client.</p>	2013
	<p>ASM Politics of ASM Gold Supply Chain</p> <p>Conducted a comprehensive study of the politics of gold supply chain in the ASM sector with the aim of understanding the ASM gold supply chain in Geita, region, Tanzania and global context. The study also looked at the power/political dynamics between the different participants of the gold supply chain and their influence on its structure. The report was completed and submitted to the Client.</p>	2013
North Mara Gold Mine - African Barrick Gold	<p>Development of a small-scale mining programme to promote sustainable, safe and environmentally acceptable activities</p> <p>Barrick was planning to transform ASM activities around North Mara Mine from the existing haphazard operations to organized small-scale mining enterprises. MTL Consulting was contracted to undertake baseline study of ASM in the area, conduct topographical survey and geological investigations to establishing the available resources and development of organized small-scale mining and processing operations. The Project was executed according to plan and produced estimation of reserves and production of geological maps that were to be used for design of the small-scale mine.</p>	2008
Williamson Diamond Mines Ltd - De Beers	<p>Mwadui Community Diamond Partnership Project (MCDP)</p> <p>With the financing from De Beers and in collaboration with the Government, MTL undertook a study aimed at developing a programme to assist the small-scale miners from surrounding communities to develop organized ASM operations. The programme also included development of alternative livelihoods for the non-mining communities. The Programme was</p>	2006

	developed to utilize part of the mine lease by the ASM participants.	
Government of Ghana financed by European Union	Development of mercury-free technology for ASM in Ghana MTL in collaboration the British Geological Survey and Wardell Armstrong of UK, were contracted to carry out investigations and develop technology that will be used to replace the use of mercury in ASM gold mining. Direct smelting in locally built burnt-brick furnaces using Borax as the main ingredient was developed and tested successfully for non-sulphidic ores. For the sulphide ores, acid washing prior to smelting was also found effective.	2005
Government of Uganda Financed by WB	Facilitation of workshop for development of ASM Profiling toolkit for the Sustainable Management of Mineral Resources Project (SMMRP) Facilitation of a multi-stakeholders' workshop aimed at Developing ASM profiling Guidelines, whose content and methodologies are appropriate for use in Uganda. The workshop was also intended to build capacity of Department of Geological Survey and Mines (DGSM) personnel to utilize the guidelines and establish linkages with other sectors of the economy. The workshop was organized and run successfully and a report compiled and submitted to the Client.	2011
DFID	Increasing the Contribution of the Artisanal and Small-scale Mining Sector to Poverty Reduction Targets The study was carried out through baseline survey of the ASM activities in gold and diamond mining areas in the Lake Victoria basin and development and implementation of strategies for poverty alleviation in the sector. The developed strategies were also tested in the second phase of the Project in collaboration with Geita Gold Mine as a supporting partner.	2004
GEF/ UNIDO	Removal of barriers for the Introduction of Cleaner Technology in Small-Scale Mining The study started with a survey of the ASM activities in Tanzania, Sudan and Zimbabwe and development of a proposal for GEF funding for removal of barriers for introduction of cleaner technology. This was followed by combining surveys done in Brazil, Indonesia and Myanmar to develop a Global Mercury Project under the financing of the GEF. The proposal was approved and the Project financed in all six countries.	2006
IAMGOLD	Advisory services to IAMGOLD on development of ASM Programmes Providing advisory services on all issues associated with artisanal and small-scale mining activities to IAMGOLD. The Company was operating in an area with high density of ASM activities and hence had to deal with ASM operators on a day-to-day basis. The Company developed a number of programmes to assist the miners including training and surrendering part of its exploration leases for ASM development.	2008
Government of Tanzania	Chairing a Steering Committee for the management of the ASM Demonstration Centre Overseeing the construction, commissioning and running of a small-scale mining technology demonstration Centre based in Chunya District, Mbeya, for an initial period of three years. The Centre included a gold processing plant and had a plan to develop a demonstration underground mine. The Centre also	2003

	had equipment that were used for hire and training of other small-scale miners operating in the surrounding areas.	
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6. Contacts US

MTL CONSULTING COMPANY LIMITED	MTL CONSULTING UGANDA LIMITED
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