

GRAND TOP GEMSTONES CO. LIMITED



A Business Plan for

Gemstone Processing Project at Merelani Block "D" in Simanjiro District



GRAND TOP GEMSTONES COMPANY LIMITED
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EXECUTIVE SUMMARY

This report represents an objective analysis of the overall viability of establishing a Gemstone processing project exclusively for the export market. The project will be implemented in two phases. Phase One will involve exploration and digging for gemstones at Merelani Block “D” in Simanjiro District. It is further envisaged that in Phase Two, the sponsors will embark on gemstone cutting and polishing, targeting Tanzanite as their most favourite gemstones. Their product mix will therefore include only gemstone jewellery.

For simplicity, this business plan focuses on the first five [5] years only.

The project is being sponsored by M/S Grand Top Gemstones Co. Limited, a newly incorporated company under Certificate No: 142259206 dated 30th day of July 2020.

The shareholders of the company are:

1. Asha Simai Mahmoud
2. Jakob Hoyer
3. Jan Kynicky
4. Jindrick Kynicky
5. Open Gemstones Company Limited

This is a well thought out project: a brain child of Asha Simai Mahmoud, Jakob Hoyer, Jan Kynicky and Jindrick Kynicky, entrepreneurs with unquestionable integrity and wide experience in various international business disciplines. They are well-established executives, carrying out various businesses including but not limited to minerals. Having been in the above-mentioned business for over ten years, the four entrepreneurs are now seeing a very bright future in the gemstones.

The sponsors plan to source state-of-the-art gemstone processing technology from mainly Italy, Germany and Japan. Other sources of technology would include India and Switzerland. The project plans to procure and import excavators, tippers, trucks, tractors, diggers, drilling platforms, compressors, generators, washing plant for gemstones, gemological equipment, cutting machines, diamond chainsaws, containers, cutting machines and other technical equipments.

The project’s annual production capacity is estimated at 10,000 kilograms of gemstones in a period of Five Years, that is, 2,000 Kg every year. This represents an annual turnover of USD 105,015,200 during the first year of operation.

The project is expected to contribute to the increased supply of gemstones. It will also contribute to the growth of the Tanzanian economy through generation of employment of 134 people, foreign exchange and increase in government revenue through payment of taxes and royalties.

The total project cost, combining start up costs, capital expenditure and working capital amounts to USD 5,000,000.

The project will be financed by both local equity from the local investors and foreign contribution from the foreign partners. The local investors who are the directors and shareholders of the company will inject equity into the project in the form of assets. Assets will comprise primarily of gemstone mines at Merelani Block “D” in Simanjiro District, Manyara region. The total amount of local equity from the local investors is expected to amount to USD 1,000,000, while foreign equity would be USD 4,000,000.

The projected cash flows indicate a very strong cash position.

On the basis of the results of the analysis, the project is financially viable as it has a positive net present value. The Internal rate of Return (IRR) of 25.70% is also above the cost of capital.

The project is recommended for approval and immediate implementation.

1.0 INTRODUCTION

1.1 Introduction

Tanzania is one of Africa's most mineral-rich countries. Tanzania's mineral sector has experienced a boom that coincided with high and stable economic growth. The mineral sector expanded rapidly following the mineral policy reforms of 1997. So far over US\$ 3.0 billion has been invested in the sector. The value of Tanzania's minerals increases each year, notably, in 2011 the value of mineral exports reached \$2.1 billion, more than 95 percent of which came from six gold mines. 3% of Tanzania's GDP is from the mining sector, with strategies in place to increase the contribution to 10% of the country's GDP. The Tanzania has minerals such as gold, diamonds, gemstones, iron and base metals, platinum, industrial minerals and coal. Gemstones are mineral crystals which, in cut and polished form are incorporated in jewelry or other adornments. Gemstones have aesthetic value in terms of luster and rarity lends value to gemstones. Tanzania is blessed with gemstones such as Tanzanite, diamonds, emerald, ruby and sapphire.

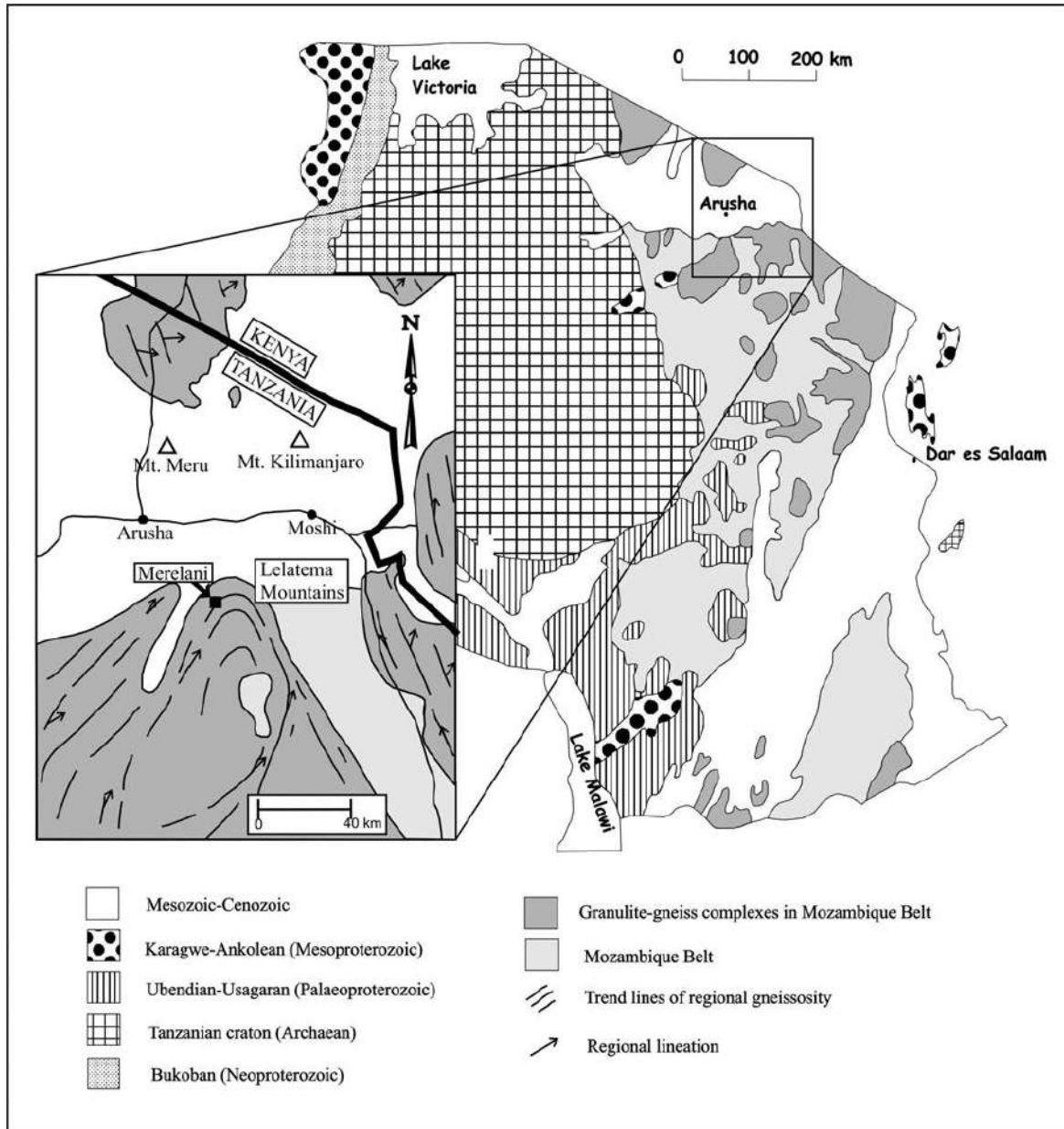
1.2 Merelani Tanzanite

Tanzanite is a rare gemstone variety of the mineral zoisite, discovered in the Simanjiro district in Manyara Region. With its exquisite violet-blue hues and incomparable rarity, Tanzanite is recognized as a mainstream gemstone, competing with the likes of ruby, emerald and sapphire. The deposit covers an area of approximately 7 km by 1 km and its current estimated life expectancy is less than 20 years. Tanzanite is one of the most sought after gemstones in the world and has an estimated yearly industry sales value of around US\$200 million. Since the discovery of Tanzanite in the late sixties very little has been published on the geological setting, structural deformation, genesis and colour related mineralogy of this popular gemstone.

The Merelani tanzanite deposit is situated in the "Ruby belt" extending from Northern Mozambique to Central Kenya. The area contains numerous gemstone deposits including ruby, sapphire, emerald, various gemstone varieties of garnet, beryl, alexandrite and Tanzanite.

The three main stratigraphic domains in North East Tanzania are the Tanzania Craton, Mozambique Belt and Phanerozoic cover (Figure 1). The Merelani area is in close proximity to all three domains (Figure 2). The basement of the Mozambique Belt is predominantly Usagaran (Early Proterozoic) with a pervasive Pan-African (Neoproterozoic) overprint (Möller et al., 1998). Tertiary rift volcanic cover rocks occur to the north of the Merelani area, while the Tanzania Craton lies to the west (Figure 1). North East Tanzania was affected by different phases of metamorphism (as indeed was much of East Africa) as a result of intercratonic movement and subsequent tightening of basinal structures, creating a complex metamorphic history for the Merelani area.

Figure 1: Geological map of Tanzania (comprised from various sources including, Shackleton 1993a; 1993b). Inset indicates the Lelatema granulites situated within North East Tanzania.



1.3 Location and Access

Gemstones are mined in the vicinity of Merelani, a mining area situated on the western flank of the Lelatema mountain range in Tanzania, East Africa (Figure 1). The Merelani mining area is located in the North-Eastern part of Tanzania (Figure 2).

The project is situated at Merelani Block “D” 16 km Southeast of Kilimanjaro International Airport. This deposit lies between Latitude $-3^{\circ}32$ min. 54.09 sec, $-3^{\circ}32$ min. 52.61 sec, $-3^{\circ}32$ min. 53.96 sec and $-3^{\circ}32$ min. 55.21 sec and Longitude $37^{\circ}02$ min. 15.30, $37^{\circ}02$ min. 16.33 sec, $37^{\circ}02$ min. 17.59 sec and $37^{\circ}02$ min. 16.80 sec. The nearest towns are Arusha and Moshi.

Figure 2: The Merelani tanzanite deposit is situated in north-eastern Tanzania, approximately 70 km southwest of Mt. Kilimanjaro, between the towns of Arusha and Moshi.

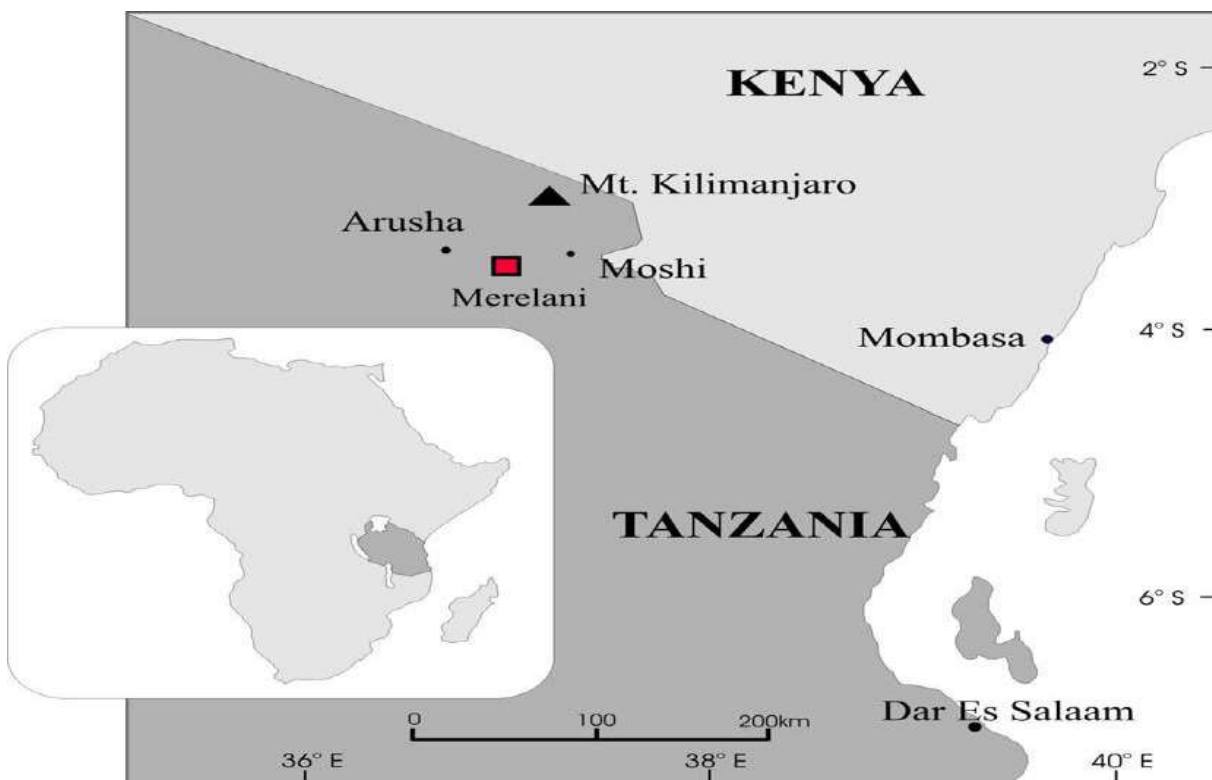
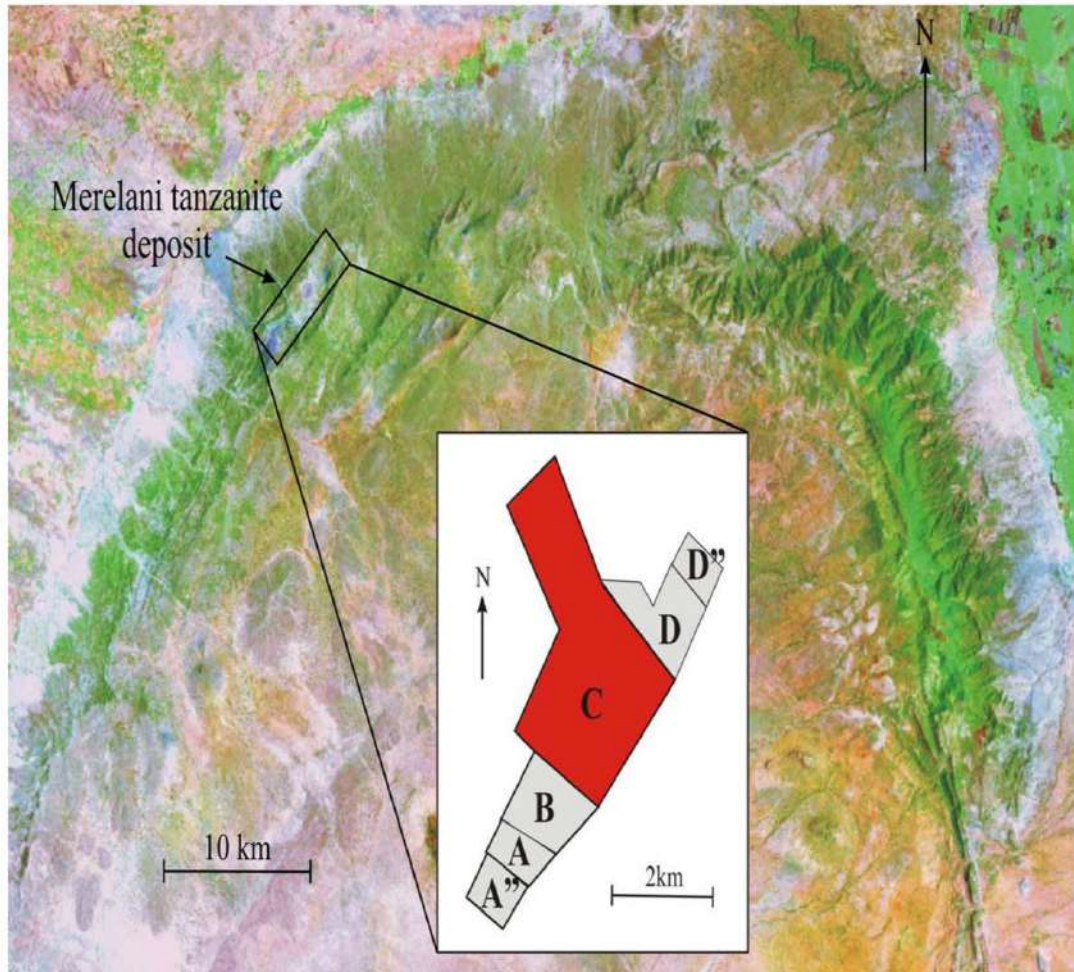


Figure 3: *The inset shows the subdivision of the Merelani tanzanite deposit into five main blocks by the Tanzanian government as well as the newly allocated Block A extension. Grand Top Gemstones will be situated in Block “D”*



1.4 Equipment Selection

Traditionally, iron ore mining operations have used large, low operating cost mining equipment. However, attempting to mine selectively with large bulk mining equipment will elevate the unit operating costs through lower productivity and potentially reduce the ore quality and quantity. A compromise is required between operating costs and the required mining selectivity.

While economies of scale should be adopted whenever possible, the Itacha iron ore deposit has limited volume available to sustain large bulk mining equipment at optimum performance for an extended period. The 250 t class excavators and 140 t class trucks are mid-sized mining units and have been selected for both ore and waste mining. The 250 t class excavator will be suitable to selectively mine to a marked-up contact within a metre of accuracy while maintaining good production rates. This size machine has been used extensively in mining operations around Tanzania and has well proven technology and performance. The 140 t class truck was assessed and recommended in this project.

While this study does not promote any particular equipment manufacturer, examples of 140 t class trucks are Caterpillar 785D, Hitachi EH3000 or the Komatsu HD1500-7. These are the same sized trucks selected in this Study. For this study there is no preference between electric drive or mechanical drive trucks.

1.5 Proposed Business Legal Status

The legal status of business tends to play an important role in any setup. The proposed gemstones processing unit will be established and operated by M/s Grand Top Gemstones Company Limited of P.O. Box 11336 Arusha. The registered office of the company is at Plot No. 46&47, Block “H” Old Moshi Road, in Arusha. This company was incorporated recently in Tanzania under Certificate of Incorporation No: 142259206 on the 30th day of July 2020. Authorized share capital of the company is TShs 10,000,000/= divided into 1,000 shares of TShs 10,000/= each. The following are the current directors and shareholders of the company:

S/N:	NAME AND POSTAL ADDRESS	NO. OF SHARES TAKEN BY EACH SUBSCRIBER	% SHAREHOLDING
1.	Asha Simai Mahmoud, P.O. Box 11336, Arusha TANZANIA	460	46%
2.	Jakob Hoyer, P.O. Box 11336, Arusha TANZANIA	170	17%
3.	Jan Kynicky Blatna 173, Vojkovice, 667 01 CZECH REPUBLIC	160	16%

4.	Jindrich Kynicky, NAM, KARLA IV.6, BRNO, 62800 CZECH REPUBLIC	160	16%
5.	Open Gemstones Company Limited P.O. Box 11336, Arusha TANZANIA	50	5%

The Directors of the company have extensive personal experiences in gemstones business in which they have brokered a number of international transactions.

In order for the promoters to operate professionally, they will approach a Geologist who will conduct a professional preliminary geological report at their area and produce a professional report.

The company has entered into a contract with Mr. Rahim H. Massawe, a legal owner of the Primary Mining License 002846NZ from the Ministry of Minerals which is valid for a period of seven (7) years, effective from 30th January 2015.

The project promoters will consider all legislations and regulations that regulate mining activities in Tanzania including:

- The Mining (Mineral Rights) Regulations, 2010
- The Mining (Environmental Protection for Small Scale Mining) Regulations, 2010
- The Mining (Safe Working and Occupational Health) Regulations, 2010
- The Mining (Mineral Trading) Regulations, 2010
- The Natural Wealth and Resources (Permanent Sovereignty) Act, 2017

1.6 Market Potential

According to a recent KPMG study the largest gemstone market is the United States with a market share of 30.8%, Japan, India, China, and the Middle East each with 8–9%, and Italy with 5%.

The investors have also secured potential buyers in Dubai, and will be producing on confirmed orders. Other potential markets include the Czech Republic, Denmark and Italy.

1.7 Capital Investment Cost and Financing Arrangement

The Investment under this scheme of the project will be approximately US\$ 5,000,000 including initial working capital.

1.7.1 Capital Investment Summary (During the Period of 5 years) in USD

1. Land, Buildings & Mines	1,000,000
2. Plant Machinery, Tools & Equipment	3,000,000
3. Motor Vehicles (including Dump trucks, Shovels, Loaders, Dozers and other haulage trucks.)	500,000
4. Furniture and Office Equipment	15,000
5. Pre-operational Expenses	100,000
Total	4,615,000

ADD:

6. Initial Working Capital	385,000
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GRAND TOTAL 5,000,000

After a period of exploration, preparation and installation of equipment, it is expected that in about 18 months from the start of operations the project will be financially self propelling. The application of reliable, flexible, modern technological methods and in-house gemstone manufacturing skills will increase the quality of the project's products.

1.7.2 Financing Arrangement

The entire project fixed costs estimated at US\$ 5,000,000 including initial working capital requirements of US\$ 385,000 will be fully financed by owners' equity capital over an implementation period of five years. The project sponsors have sufficient financial resources to undertake the contemplated investment.

1.8 Technical Requirements

The Project will be involved in the processing of gemstones. A number of equipment is to be used in the process. The plants, machinery and equipment include:

1.8.1 Plant Machinery, Tools and Equipment

These include excavators, tippers, trucks, tractors, diggers, drilling platforms, compressors, generators, washing plant for gemstones, gemological equipment, cutting machines, diamond chainsaws, containers, cutting machines and other technical equipments.

The list will also include the following:

50 mining drilling machines (a-32kg); 500 drilling rods and drills; 3 drill grinders; 15 Hydraulic platforms for drilling machines; Iron profiles - 3000kg; Iron fasteners - 1000kg; 10 barrels of Al powder / pigment; components and mining equipment - 2000kg; Flottair - 660 Screw Diesel Compressor; Engine for Flottair compressor – 660; DRD 40 - screw compressor; DRD 70 - screw compressor; Iron cart; Garden hoses and water hoses; 4 sludge pumps; 2x Aerator 2,5m3; Cocks for air vents; Iron tables and work desks; PE pipes; Reducing female threads; Pumps; Switches for pumps; Mixers; Hammer sds-max; Military telephones; and Bursting Wedges.

1.9 Labour, Management and Organization

Grand Top Gemstones Company Limited will be managed by four (4) directors and shareholders, with support of six (6) expatriate staff/trainers and local permanent technicians. The expatriate staff to be recruited from abroad will be highly trained and experienced craftsmen to operate the equipment and teach the local technicians gemstone processing skills which are not readily available in the country.

This project will contribute to the growth of the Tanzanian economy through generation of employment of 134 people.

1.10 Financial and Economic Analysis

The financial capability of the entire project will be computed by the projected investment pattern, the projected cashflow, projected profit and loss statement, the projected balance sheet, the depreciation schedule and lastly the internal rate of return.

2.0 TECHNICAL ARRANGEMENT

2.1 Location and Access

The project is located at Merelani Block “D” in Simanjiro District. The road to the area is passable throughout the year, water is available seasonally.

2.1.1 Mining and Processing

The ore in place will be broken by drilling and blasting using compressed air operated drills and explosive. After blasting, it will be loaded in special equipment ready for other process of sorting between stones and iron ore, of course with a tight supervision of geologists.

M/S Grand Top Gemstones Company Limited will use high technology to process gemstones.

3.1.2 Power

The connected load at full capacity operation of both mine and power supply is estimated to be above 300kw the mobile generators with a combined output of 500kw will be ordered and purchased. This will be installed in due course once TRA custom formalities are done, all the generators to be used at the area will be diesel operated, thus supply of fuel will have to be well managed considering the remoteness of the site.

2.1.3 Compressed Air

Compressed air will be required for operating several machines in the mine, total requirement will be determined from time to time by the management and other experts at the mines. Compressors of different sizes and capacity have been earmarked and are awaiting official formalities to be purchased and ferried to the country/site.

2.1.4 Water

The water requirement at the site with capacity utilization is estimated to be huge, due to this fact, a provision budget to purchases a mobile tanker in future has been set aside to facilitate smooth operations at the site.

2.1.5 Plant & Machinery

A complete list of plant and machinery required for gemstone mining and processing will be presented to TRA customs to enable the promoters of this project to secure fiscal incentives connected to VAT and import duty. It is better to note also that most of the machinery have already been earmarked and are awaiting official formalities in order for the same to be imported.

2.1.6 Production Programme

Production programme at the site will be closely supervised by trained geologists who will be supported by locally recruited staff but at the end of the day, the whole process will follow a key chain of command as narrated in this Report.

2.1.7 Implementation Programme

The life span of this project has been projected to take ten years-with an implementation programme of five years.

3.0 PRODUCTION PROCESS

3.1 General Description

Gemstones are a gift of nature and are magical in themselves. However, their true potential is realized by man's touch – the cutting which releases the internal fire of the stone and creates the mesmerizing scintillation which makes a gem so enticing to the human eye.

Gemstone and stone beads grading is less formal than gemstone grading as a whole. Still there are some generally accepted rules that determine which grade is assigned to a stand. Grade is assigned based on a letter with A being best and "D" being worst. Note that "D" might be just what you want for a specific project, so don't dismiss them as worthless. Sometimes you might see gem grades of A A A and A A. Those are real gem grades with A A A being near perfect. It's rare for such good quality stones to be cut into beads. They are worth more as faceted gems. The overall quality of the stones in the strand is usually derived from a combination of the classic gemstone qualities of color, cut and clarity.

General process and plant design criteria for this gemstone processing plant are generally based on the criteria, design, general arrangements and equipment sizing.

3.2 Manufacturing process

3.2.1 Raw Material

There are various kinds of gemstones like ruby, emerald, sapphire, amethyst, citrine, aquamarine and many more. These gemstones are found in different parts of Simanjiro District, Merelani in particular and can be exported by the suppliers and exporters direct from the mines as rough stones. These rough stones work as raw material for further processing.

3.2.2 Shape and size

These rough edged stones are further decided to convert into shapes like oval, round, square, faceted, chips, smooth etc. and size as per the requirement.

3.2.3 Cutting and polishing

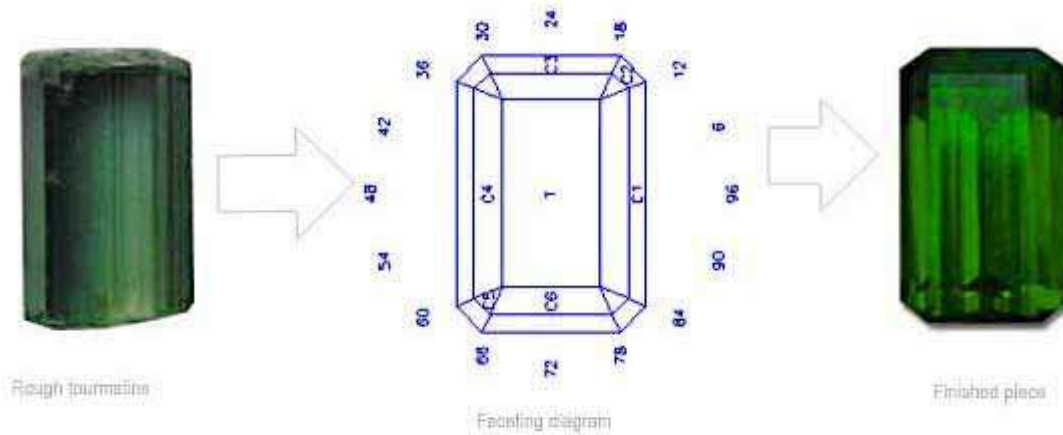
The skilled craftsmen in the manufacturing unit will later cut and polish the stone using modern machines. Most however, will be cut and polished for usage as jewelry. The two main classifications are stones cut as smooth, dome shaped stones called cabochons, and stones which are cut with a faceting machine by polishing small flat windows called facets at regular intervals at exact angles.

3.2.4 Faceting

This is where the real magic is performed. Hundreds of tiny faces or “facets” will be placed on the table and pavilion of the preshaped rough. This is an incredibly skilled and specialized talent which takes many years to perfect – experienced master cutters are a cherished breed. The grinding lap is removed from the machine and a faceting lap is now used which is a much finer lap primed with very fine diamond powder. The facets are placed on the stone at extremely precise angles. The timing and skill involved here are incredible.

Using the hand held faceter, the cutter uses the Height, Angle, Index triangle to place each individual facet separately on the crown and pavilion. Height will control the depth to which each facet is cut, angle controls the plane on which the facets are cut and the index controls the placement of facets around the shape.

Figure 4: *Rough to cut. A Rough Tourmaline pencil in its “crystal habit” lends itself well to an emerald cut (Octagon). The emerald cut maximizes weight retention where another cut would incur unnecessary weight loss.*



3.2.5 Polishing

The cutter will use a special polishing lap which is even finer than the faceting lap. It is also primed with very fine diamond powder. Each facet is then polished individually to a high sheen, giving the stone a fine luster.

A good cutter will perform each step with intuition and skill leading to a symmetrical, scintillating, beautiful finished piece. It takes many years to attain a high level of competence in this art and highly skilled cutters are revered in the trade for their ability to visualize how a piece of rough can be transformed into something of great beauty whilst balancing a host of considerations and challenges along the way.

3.2.6 Jewelry Making:

Finally these gems will be used for making beautiful Jewelry. There are many kinds of jewelry tools that help to connect the beads and metals for making necklaces, rings pendants, earrings etc.

4.0 MANPOWER REQUIREMENT

4.1 General

The mining industry falls to the category of business which needs to be guided with professionals. Grand Top Gemstones Company Limited will be managed by four (4) directors and shareholders, with support of six (6) expatriate staff/trainers and local permanent technicians. The expatriate staff to be recruited from abroad will be highly trained and experienced craftsmen to operate the equipment and teach the local technicians gemstone processing skills which are not readily available in the country.

In this context, this company is expected to be headed by the General Manager/Mining Manager who will function under the overall control of the Board of Directors of the Company. As it is in general practice, the General Manager/Mining Manager may be a mining engineer or geologist by professional. He will be assisted by Mine Superintendent. Other professionals will be supported by several key staff.

4.2 Manpower set up

Manpower requirements to support mining operations and gemstone processing have been estimated at 134 employees. **Table 1** presents the list of mine and gemstone processing workforce. Salaried personnel requirements will base on other similar operations and will be validated with Grand Top Gemstones Co. Limited management basing on their experience. Annual hourly operations and maintenance personnel requirements will be estimated based on operational requirements as well as equipment vendor data. The operations team will be responsible for achieving production targets in a safe and efficient manner. The engineering and geology team will provide support to the operations team by providing short term and long term planning, controls, surveying, geotechnical engineering, mining reserves estimation and other technical functions. The maintenance team will be responsible for planning and executing maintenance on mining processing equipment and as such the team is directly responsible for achieving equipment availability targets. A full complement of qualified supervisors is required to assure a safe and optimal mine equipment fleet.

Table 1: Workforce Requirements

Description	Number
General Manager/Mining Manager (expatriate)	1
Mine Superintendent (expatriate)	1
General Mine (expatriate)	1
Mine Shift Foreman	2
Blaster	2
Training Foreman	2
Production / Mine Clerk	1
Secretary	1
Shovel operators	3
Loader operators	2
Haul Truck Operators	3
Drill operators	3

Business Plan**Gemstone Processing Project**

Dozer operators	3
Grader operators	3
Water Truck operators	2
Other Auxiliary Equipment	3
General Labour	20
Janitor	2
Dewatering Crew	2
Maintenance Superintendent	2
Maintenance Planner	2
Mechanical/Industrial Engineer	2
Mine Maintenance Foreman	2
Mechanical and Electrical Foreman	2
Mine Maintenance Trainer	1
Mine Maintenance Clerk	1
Field Gen Mechanics	2
Field Welder	2
Field Electrician	1
Shovel Mechanics	2
Shop Electrician and Mechanics	2
Mechanic Helper	2
Welder-machinist	2
Lube/Service Truck	2
Electronics Technician	2
Tool Crib Attendant	2
Millwright	2
Chief Engineer	1
Senior Mine Planning Engineer	1
Planning Engineer	1
Pit Engineer	1
Geotechnical Engineer	1
Blasting Engineer	1
Environmental Engineer	1
Mine Surveyor	2
Chief Geologist	1
Senior Geologist (Long Term)	1
Geologist	1
Grade Control Geologist	2
Production	
Production Manager (expatriate)	1
Design Technician (expatriate)	1
Production Supervisor (expatriate)	1
Gemstone Plant Processors/Operators	15
Craftsmen	2
Administration Department	1
Human Resource/Administration Manager	1
Human Resource/Administration Officer	1
Chief Accountant	1
Accountants	2

Business Plan**Gemstone Processing Project**

Store Keeper	1
Medical Officer	1
Safety Manager	1
Environmental Manager	1
Total	134

5.0 CAPITAL AND OPERATING COSTS

The Grand Top Gemstones Co. Limited project scope is based on the construction of a facility having a nominal production capacity of 10,000 Kg of gemstones for the period of five years. The capital cost estimate for mining activities, gemstones processing plant and site infrastructure was developed by company's directors.

Table 2 below presents a summary of total estimated capital cost for the project:

Table 2: Estimated Capital Costs (in US \$)

Land, Buildings & Mines	1,000,000
Plant Machinery, Tools & Equipment	3,000,000
Motor Vehicles (including Dump trucks, Shovels, Loaders, Dozers and other haulage trucks.)	500,000
Furniture and Office Equipment	15,000
Pre-operational Expenses	100,000
Total	4,615,000
<u>ADD:</u>	
Initial Working Capital	385,000
GRAND TOTAL	5,000,000

The total Engineering, Procurement and Construction (EPC) cost will take into account amounts that the company will pay for purchase of certain equipment. The EPC cost will include the complete scope of supply with typical indirect costs, contingency and profit. The total project capital cost, including mining, construction costs, pre-operational capitalized costs as well as working capital are estimated to be **US \$5 Million**. This capital cost estimate is expressed in constant 2020 US Dollars with an exchange rate of 1 USD = 2,300 TZS.

5.1 Estimated Capital Costs

The capital cost to develop the project to an annual production capacity of 2,000 Kg of gemstones is estimated to be **US \$5,000,000**. This cost includes EPC costs, procurement of plants and equipment, procurement of trucks, working capital and capitalized pre-operation costs.

5.1.1 Mine Area and General Site Infrastructure and Utilities EPC Costs

The mine area and general site costs are estimated to be US \$ 1,000,000. These costs relate primarily to obtaining the mining area, rent costs, construction development for mine site and general site infrastructure and utilities.

Included in this item are site development civil works, buildings and facilities, roads and bridges, utilities, on-site power transmission, waste management, water management, fire water and fuel storage, service buildings, etc.

5.1.2 Mining and Mineral Processing Plant and Machinery Costs

The mining and gemstones processing plant and machinery costs are estimated at US \$3,000,000. Included in this area are excavators, tippers, trucks, tractors, diggers, drilling platforms, compressors, generators, washing plant for gemstones, gemological equipment, cutting machines, diamond chainsaws, containers, cutting machines and other technical equipments.

The list will also include the following:

50 mining drilling machines (a-32kg); 500 drilling rods and drills; 3 drill grinders; 15 Hydraulic platforms for drilling machines; Iron profiles - 3000kg; Iron fasteners - 1000kg; 10 barrels of Al powder / pigment; components and mining equipment - 2000kg; Flottair - 660 Screw Diesel Compressor; Engine for Flottair compressor – 660; DRD 40 - screw compressor; DRD 70 - screw compressor; Iron cart; Garden hoses and water hoses; 4 sludge pumps; 2x Aerator 2,5m³; Cocks for air vents; Iron tables and work desks; PE pipes; Reducing female threads; Pumps; Switches for pumps; Mixers; Hammer sds-max; Military telephones; and Bursting Wedges.

5.1.3 Motor vehicle/Trucks Costs

The motor vehicles or trucks costs related to this project are estimated at US \$500,000. These costs are for procurement of Dump trucks, Shovel, Loaders, Dozers and other haulage trucks.

5.1.4 Furniture and Fittings Costs

Furniture and Fittings costs related to this project are only estimated at US \$15,000.

5.1.5 Pre-operational Capitalized Costs

These are costs incurred before the start of business (i.e. company registration, preparation of feasibility study, mining licenses/permits, legal charges, serving customers, etc.). These costs are estimated at US \$100,000.

5.1.6 Owners' Initial Working Capital

Owners' Working Capital has been estimated at US \$385,000.

5.2 Estimated Operating Costs

Average operating costs for the project have been estimated at US \$2,050,590.20 during the First Year of mining operation. Operating costs include operation of mining and mining equipment, general site, gemstones processing, administration, environment and road/air transport.

Operating costs are also based on electricity, diesel and fuel costs and royalties.

Table 3 presents a summary of total estimated average, Life-of-Mine (LOM) operating costs, in US \$ of gemstones to be produced.

Table 3: Total Estimated Average LOM Operating Cost (US \$)

Particulars	Year I	Year II	Year III	Year IV	Year V	Year VI	Year VII	Year VIII	Year IX
Insurance 2% of assets	50,000.00	54,000.00	58,320.00	62,985.60	68,024.45	73,466.40	79,343.72	85,691.21	92,546.51
Labour	1,273,608.00	1,375,496.64	1,485,536.37	1,604,379.28	1,732,729.62	1,871,347.99	2,021,055.83	2,182,740.30	2,357,359.52
Fuel & Electricity	155,404.00	167,836.32	181,263.23	195,764.28	211,425.43	228,339.46	246,606.62	266,335.15	287,641.96
Mine & Office Miscellaneous	10,510.00	11,350.80	12,258.86	13,239.57	14,298.74	15,442.64	16,678.05	18,012.29	19,453.28
Blasting	30,100.00	32,508.00	35,108.64	37,917.33	40,950.72	44,226.78	47,764.92	51,586.11	55,713.00

Business Plan**Gemstone Processing Project**

Repair and Maintenance	72,600.00	78,408.00	84,680.64	91,455.09	98,771.50	106,673.22	115,207.08	124,423.64	134,377.53
License	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Travelling costs	15,500.00	16,740.00	18,079.20	19,525.54	21,087.58	22,774.59	24,596.55	26,564.28	28,689.42
Ports and Other Transportation costs	265,500.00	286,740.00	309,679.20	334,453.54	361,209.82	390,106.60	421,315.13	455,020.34	491,421.97
Consultancy/Audit Fees	6,000.00	6,480.00	6,998.40	7,558.27	8,162.93	8,815.97	9,521.25	10,282.95	11,105.58
Royalty	20,000.00	21,600.00	23,328.00	25,194.24	27,209.78	29,386.56	31,737.49	34,276.49	37,018.60
Contingency %	141,368.20	152,677.66	164,891.87	178,083.22	192,329.88	207,716.27	224,333.57	242,280.25	261,662.67
Total	2,050,590.20	2,203,837.42	2,380,144.41	2,570,555.96	2,776,200.44	2,998,296.47	3,238,160.19	3,497,213.01	3,776,990.05

5.2.1 Equipment Operating Costs

These costs consist mainly of maintenance costs, which have been estimated based on experience and historical data on similar projects as well as vendor information. Maintenance costs include the costs of repairs, spare parts, consumables, etc., and are compiled on a maintenance cost per hour of operation basis for each equipment type. It should be noted that equipment maintenance costs exclude the cost of maintenance personnel.

5.2.2 Equipment Fuel and Electricity

Diesel fuel is used to operate mine trucks, loaders, dozers and other mine equipment. Fuel consumption is estimated for each year of operation based on equipment specifications and equipment utilization.

Electric power will be supplied to the open pit by a power loop and is used to operate the shovels, drills and mine dewatering pumps. Power consumption is estimated for each year of operation based on equipment specifications and equipment utilization.

5.2.3 Blasting

Blasting costs for ore and waste rock have been estimated based on parameters and powder factors. Blasting unit costs are estimated based on an emulsion unit cost of US \$30,100 in Year One. Blasting costs also include contractor labour costs for mixing, delivering explosives to the blastholes and loading explosives into the blastholes.

5.2.4 Labour

Labour requirements have been estimated to support the mine and gemstone processing plan, as outlined in Chapter 4 of this Report. Labour costs have been estimated based on Collective Bargaining Agreements for hourly personnel and competitive wages and benefits for salaried personnel as presented in Appendix II of this Report.

6.0 ECONOMIC AND FINANCIAL ANALYSIS

6.1 Economic Analysis

The Economic Analysis of the proposed Gemstones Project was performed using a discounted cash flow model on both a pre-tax and post-tax basis. The Capital and Operating Cost Estimates presented earlier in this Report were based on the mining and processing plan developed in this Study to produce an average 10,000 Kg during the period of five years of project operation.

The Internal Rate of Return ("IRR") on total investment was calculated based on 100% equity financing. The Net Present Value ("NPV") was calculated for discounting rates at 25% and 30% respectively, resulting from the net cash flow estimated to be generated by the Project.

Furthermore, a sensitivity analysis was also performed for the pre-tax Base Case to assess the impact of a +/-25% variation of the Project capital cost, annual operating costs and price of iron ore concentrate. The Economic Analysis was performed with the following assumptions and basis:

- The Economic Analysis was performed for the Life of Mine for the Mineral Reserves estimated in this Study. Operations are estimated to span over a period of approximately 10 years;
- Nominal annual production capacity of the proposed project is 10,000 kg of Gemstone/Tanzanite in 5 year period (i.e. 2,000 Kg every year);
- 60% of the total production will be High Quality Gem; 40% of the total production will be Low Quality Gem
- The price of 1 Kilo of High Quality Gem is US \$ 87,000;
- The price of 1 Kilo of Low Quality Gem is US \$ 769;
- All of the gemstones will be sold or exported in the same year of production;
- All cost and sales estimates are in constant dollars;
- The Economic Analysis includes working capital;
- All sunk costs are not considered in this Economic Analysis;
- A 3% gross sales royalty to be payable by Grand Top Gemstones Co. Limited.

6.2 Financial Analysis and Key Assumptions

The project cost estimates for the proposed "gemstones processing" have been formulated on the basis of discussions with industry stakeholders and experts. The projections cover the cost of mining land, machinery and equipment including office equipment, fixtures etc. Assumptions regarding machinery have been provided, however, the specific assumptions relating to individual cost components are given as under:

6.2.1 Cost of Production and Profitability

Computations connected to the profit and loss statement of the company show favourable trend of growth.

6.2.2 The Cashflow Projections

The projected cashflows indicate a strong cash position as presented in the Report. Computations in the annexed cashflow prove beyond reasonable doubt that the project will be able to meet its day to day operational costs and at the same time support the day to day mining operational costs.

6.2.3 Projected Profit and Loss Accounts

The projected profit and loss statement annexed together with this feasibility study report prove that the project will make profit throughout its life span and save for year one to three. This is due to heavy initial investments connected to the nature of mining projects.

6.2.4 Projected Balance Sheet

The projected balance sheets indicate a healthy trend, with a total equity position. The projected current assets will remain substantially above current liabilities, thus posing no liquidity problems. The projected income statement shows a steady increase in net income starting from the first year of project implementation.

6.2.5 Projected Depreciation Schedule

The depreciation schedule in this Report will enable the management of the company to plan how to replenish plant and equipment.

6.2.6 The Ratios

Almost all key ratios connected to this project have proved to be positive. This also proves the viability of the entire project.

The analysis of financial viability of the projected was done using the Discounted Cash flow approach (DCF) and the payback method. On the basis of the results of the analysis, the project is financially viable as it has a positive net present value.

6.2.7 Financial (After Tax) Rate of Return

Computation of financial rate of return has been computed at the rate of 25.7%. This means that this ratio is acceptable taking into consideration that this is a mining project.

7.0 SOCIAL ASPECTS

The company understands the importance of the community in areas where it does business as an important stakeholder to the company. During due diligence review of the sector and social implications, nothing negative about the social implications of the project came to the attention of the promoters, aside from environmental aspects dealt with above. The project promoters have budgeted for sustainable environment programmes.

The project promoters will participate and engage in the community's joint efforts to improve infrastructure and other social services around their business areas. The company will seek partnership with community groups to engage in community development issues, and to resolve amicably, any social misunderstanding or conflicts of interest that arise between the company and other parties such as the government, employees, customers, suppliers, and other stakeholders.

Various environmental studies, permitting, and stakeholder engagement activities for the project will be undertaken. This project will be subject to Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP). As part of the EIA process, environmental baseline studies will be conducted including the following:

- Air Quality and Noise Monitoring and Modelling;
- Water Resources Studies;
- Socio-economic Studies;
- Ecological Land Classification;
- Archaeological Surveys; and
- Rare Plant Surveys.

An analysis of predicted project effects will be presented. Upon completion of the effects analyses, it is now partially concluded that the project is not likely to result in significant adverse residual environmental effects during construction, mining and normal operating conditions. In the case of economy, employment and business, the residual effects will be positive.

8.0 CONCLUDING REMARKS AND RECOMMENDATIONS

8.1 Overall Project Concept

The overall project concept is sound as it contributes to increased supply of gemstones. The project is timely and highly desirable in the country at this material time. It is a very lucrative proposition both to the investors and the country.

8.2 Economic and Financial Viability

The technical analysis indicates that the project is both financially and economically feasible.

8.3 Social and Administrative Sustainability

The project is socially acceptable as it contributes directly to the national development objective. There are no likely social complexities with respect to the project.

8.4 Recommendations

The project is highly recommended for implementation and necessary approvals. Provided all other economic factors remain substantially the same, a fast implementation of this venture is highly recommended especially now when the mining sector contributes immensely to the growth of our economy.

Project Development Schedule

No.	Activity	Year	2020	2021	2022	2023	2024	2024
1.	Mining and Gemstone Processing Feasibility Study							
2.	Project Promotion							
3.	Exploration							
4.	Financial Model/Outsource additional funding							
5.	Market Study							
6.	Environmental Impact Assessment							
7.	Detailed Engineering							
8.	Construction Start-up							
9.	First Gemstones Production/Processing							

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

CAPITAL INVESTMENT STRUCTURE (in US \$)

Description	Equity	Loan Contribution	Total
Land, Buildings, Mine and General Site	1,000,000.00	-	1,000,000.00
Mining/Processing Plants, Machinery & Equipment	3,000,000.00	-	3,000,000.00
Furniture & Fittings	15,000.00	-	15,000.00
Motor vehicles/Trucks	500,000.00	-	500,000.00
Pre-Operation Expenses	100,000.00	-	100,000.00
Working Capital	385,000.00	-	385,000.00
Total	5,000,000.00	0.00	5,000,000.00
Contribution in Percentage	100%	0%	100%

**M/S GRAND TOP GEMSTONES COMPANY
LIMITED P.O. BOX 11336 ARUSHA**

Staff Remunerations Schedule (in USD)

Position	Employees	Salary	Monthly Pay	Annual Package
General Manager/Mining Manager	1	5,000	5,000.00	60,000.00
Mine Superintendent	1	4,000	4,000.00	48,000.00
General Mine Foreman	2	4,000	8,000.00	96,000.00
Mine Shift Foreman	2	2,000	4,000.00	48,000.00
Blaster	2	1,000	2,000.00	24,000.00
Training Foreman	2	1,000	2,000.00	24,000.00
Production/Mine Clerk	1	800	800.00	9,600.00
Secretary cum Receptionist	1	200	200.00	2,400.00
Shovel Operator	3	600	1,800.00	21,600.00
Loader Operators	2	600	1,200.00	14,400.00
Haul Truck Operators	3	400	1,200.00	14,400.00
Drill Operators	3	400	1,200.00	14,400.00
Dozer Operators	3	400	1,200.00	14,400.00
Grader Operators	3	400	1,200.00	14,400.00
Water Truck Operators	2	300	600.00	7,200.00
Other Auxiliary	3	100	300.00	3,600.00
General Labour	20	100	2,000.00	24,000.00
Janitor	2	400	800.00	9,600.00
Dewatering Crew	2	300	600.00	7,200.00
Maintenance Superintendent	2	1,000	2,000.00	24,000.00
Maintenance Planner	2	800	1,600.00	19,200.00
Mechanical/Industrial Engineer	2	900	1,800.00	21,600.00
Mine Maintenance Foreman	2	800	1,600.00	19,200.00
Electrical & Mechanical Foreman	2	700	1,400.00	16,800.00
Mine Maintenance Trainer	1	800	800.00	9,600.00
Mine Maintenance Clerk	1	500	500.00	6,000.00

Business Plan**Gemstone Processing Project**

Field Gen Mechanics	2	700	1,400.00	16,800.00
Field Welder	2	500	1,000.00	12,000.00
Field Electrician	1	450	450.00	5,400.00
Shovel Mechanics	2	400	800.00	9,600.00
Shop Mechanic & Electrician	2	600	1,200.00	14,400.00
Mechanic Helper	2	500	1,000.00	12,000.00
Welder Mechanics	2	450	450.00	5,400.00
Lube/Service Truck	2	400	800.00	9,600.00
Electronics Technician	2	450	900.00	10,800.00
Tool Crib Attendant	2	300	600.00	7,200.00
Millwright	2	300	600.00	7,200.00
Chief Engineer	1	1,500	1,500.00	18,000.00
Senior Mine Planning Engineer	1	1,000	1,000.00	12,000.00
Planning Engineer	1	800	800.00	9,600.00
Pit Engineer	1	900	900.00	10,800.00
Geotechnical Engineer	1	800	800.00	9,600.00
Blasting Engineer	1	750	750.00	9,000.00
Environmental Engineer	1	800	800.00	9,600.00
Mine Surveyor	2	800	1,600.00	19,200.00
Chief Geologist	1	1,100	1,100.00	13,200.00
Senior Geologist (Long Term)	1	900	900.00	10,800.00
Geologist	1	750	750.00	9,000.00
Grade Control Geologist	2	700	1,400.00	16,800.00
Production Manager	1	3,000	3,000.00	36,000.00
Design Technician	1	2,000	2,000.00	24,000.00
Production Supervisor	1	2,000	2,000.00	24,000.00
Gemstone Processors/Operators	15	400	6,000.00	72,000.00
Craftsmen	2	750	1,500.00	18,000.00
Human Resource/Administration Manager	1	1,500	1,500.00	18,000.00
Human Resource/Administration Officer	1	600	600.00	7,200.00
Chief Accountant	1	1,500	1,500.00	18,000.00
Store Keeper	1	1,500	1,500.00	18,000.00
Accountants	2	800	1,600.00	19,200.00
Medical Officer	1	700	700.00	8,400.00

Business Plan**Gemstone Processing Project**

Safety Manager	1	900	900.00	10,800.00
Environmental Manager	1	1,000	1,000.00	12,000.00
Sub Total	134		6,155.00	1,117,200.00
Payroll Levy 4%				44,688.00
10% Pension fund				111,720.00
Grand Total				1,273,608.00

Note: *

- 10% of the benefits will be for Social Security Fund's contribution.
- Salary will be inclusive of housing allowance

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

Operating Cost Schedule (in USD)

Guidelines:

- Operating cost will increased by 8% every year
- Insurance will be 2% of the major capital assets(Motor vehicles and Machinery/Equipment)

Particulars	Year I	Year II	Year III	Year IV	Year V	Year VI	Year VII	Year VIII	Year IX	Year X
Insurance 2% of assets	50,000.00	54,000.00	58,320.00	62,985.60	68,024.45	73,466.40	79,343.72	85,691.21	92,546.51	99,950.23
Labour	1,273,608.00	1,375,496.64	1,485,536.37	1,604,379.28	1,732,729.62	1,871,347.99	2,021,055.83	2,182,740.30	2,357,359.52	2,545,948.29
Fuel & Electricity	155,404.00	167,836.32	181,263.23	195,764.28	211,425.43	228,339.46	246,606.62	266,335.15	287,641.96	310,653.32
Mine & Office Miscellaneous	10,510.00	11,350.80	12,258.86	13,239.57	14,298.74	15,442.64	16,678.05	18,012.29	19,453.28	21,009.54
Blasting	30,100.00	32,508.00	35,108.64	37,917.33	40,950.72	44,226.78	47,764.92	51,586.11	55,713.00	60,170.04
Repair and Maintenance	72,600.00	78,408.00	84,680.64	91,455.09	98,771.50	106,673.22	115,207.08	124,423.64	134,377.53	145,127.74
License	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Travelling costs	15,500.00	16,740.00	18,079.20	19,525.54	21,087.58	22,774.59	24,596.55	26,564.28	28,689.42	30,984.57
Ports and Other Transportation costs	265,500.00	286,740.00	309,679.20	334,453.54	361,209.82	390,106.60	421,315.13	455,020.34	491,421.97	530,735.73
Consultancy/Audit Fees	6,000.00	6,480.00	6,998.40	7,558.27	8,162.93	8,815.97	9,521.25	10,282.95	11,105.58	11,994.03
Royalty	20,000.00	21,600.00	23,328.00	25,194.24	27,209.78	29,386.56	31,737.49	34,276.49	37,018.60	39,980.09
Contingency %	141,368.20	152,677.66	164,891.87	178,083.22	192,329.88	207,716.27	224,333.57	242,280.25	261,662.67	282,595.69
Total	2,050,590.20	2,203,837.42	2,380,144.41	2,570,555.96	2,776,200.44	2,998,296.47	3,238,160.19	3,497,213.01	3,776,990.05	4,079,149.25

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

Assumptions for Projections

- Nominal annual production capacity of the proposed project is 10,000 kg of Gemstone/Tanzanite in 5 year period (i.e. 2,000 Kg every year)
- 60% of the total production will be High Quality Gem; 40% of the total production will be Low Quality Gem
- The price of 1 Kilo of High Quality Gem is US \$ 87,000
- The price of 1 Kilo of Low Quality Gem is US \$ 769
- 1 USD = Tshs. 2,300
- The Price will remain constant over the period of ten years

Sales/Revenue Projections (in USD)

Product	Year I	Year II	Year III	Year IV	Year V	Year VI	Year VII	Year VIII	Year IX	Year X
High Quality Gem (60%)-1,200 Kg	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000
Low Quality Gem (40%)-800 Kg	615,200	615,200	615,200	615,200	615,200	615,200	615,200	615,200	615,200	615,200
Total	105,015,200	105,015,200	105,015,200	105,015,200	105,015,200	105,015,200	105,015,200	105,015,200	105,015,200	105,015,200

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

Assumptions for Projections

- Salaries and Wages will increase by 5% every year from year 3

Projected Profit and Loss for 10 Yrs (in US \$)

Particulars	Year I	Year II	Year III	Year IV	Year V	Year VI	Year VII	Year VIII	Year IX	Year X
Revenue:										
Sales/Revenue	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000
Total Income	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000	104,400,000
Less: Expenses:										
Salary and Wages	1,273,608.00	1,273,608	1,337,288	1,404,153	1,474,360	1,548,078	1,625,482	1,706,757	1,792,094	1,881,699
Operating Expenses	2,050,590	2,203,837	2,380,144	2,570,556	2,776,200	2,998,296	3,238,160	3,497,213	3,776,990	4,079,149
Total Expenses	3,324,198	3,477,445	3,717,433	3,974,709	4,250,561	4,546,375	4,863,643	5,203,970	5,569,084	5,960,848
Operating Profit	101,075,802	100,922,555	100,682,567	100,425,291	100,149,439	99,853,625	99,536,357	99,196,030	98,830,916	98,439,152
Less: Interest	0	0	0	0	0	0	0	0	0	0
Profit Before Tax	101,075,802	100,922,555	100,682,567	100,425,291	100,149,439	99,853,625	99,536,357	99,196,030	98,830,916	98,439,152
Tax exp there on 30%	30,322,741	30,276,766	30,204,770	30,127,587	30,044,832	29,956,088	29,860,907	29,758,809	29,649,275	29,531,746
Net Profit After Tax	70,753,061	70,645,788	70,477,797	70,297,704	70,104,607	69,897,538	69,675,450	69,437,221	69,181,641	68,907,406
Accumulated Profit/Loss	70,753,061	141,398,849	211,876,646	282,174,350	352,278,958	422,176,495	491,851,945	561,289,167	630,470,808	699,378,214

Business Plan

Gemstone Processing Project

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

Appendix VI

Depreciation Schedule (in US \$)

NO:	Item	Rate	Method	Year 0	Year I	Year II	Year III	Year IV	Year V	Year VI	Year VII	Year VIII	Year IX	Year X	R/Value
1	Land, Buildings, Mine & General Site	4%	DB												
	Opening Balance			1,000,000.00	1,000,000.00	980,000.00	960,400.00	941,192.00	922,368.16	903,920.80	885,842.38	868,125.53	850,763.02	833,747.76	
	Depreciation				20,000.00	19,600.00	19,208.00	18,823.84	18,447.36	18,078.42	17,716.85	17,362.51	17,015.26	16,674.96	
	Closing Balance				980,000.00	960,400.00	941,192.00	922,368.16	903,920.80	885,842.38	868,125.53	850,763.02	833,747.76	817,072.81	817,072.81
2	Motor Vehicle/Trucks	25%	SLM												
	Opening Balance			500,000.00	500,000.00	375,000.00	250,000.00	159,000.00	119,250.00	79,500.00	39,750.00	0.00	0.00	0.00	
	Depreciation				125,000.00	125,000.00	125,000.00	39,750.00	39,750.00	39,750.00	39,750.00	0.00	0.00	0.00	
	Closing Balance				375,000.00	250,000.00	125,000.00	119,250.00	79,500.00	39,750.00	0.00	0.00	0.00	0.00	0.00
3	Office Furniture & Fittings	12.5%	DB												
	Opening Balance			15,000.00	15,000.00	13,125.00	11,484.38	10,048.83	8,792.72	7,693.63	6,731.93	5,890.44	5,154.13	4,509.87	
	Depreciation				1,875.00	1,640.63	1,435.55	1,256.10	1,099.09	961.70	841.49	736.30	644.27	563.73	
	Closing Balance				13,125.00	11,484.38	10,048.83	8,792.72	7,693.63	6,731.93	5,890.44	5,154.13	4,509.87	3,946.13	3,946.13
4	Machinery & Equipment	25.0%	DB												
	Opening Balance			3,000,000.00	3,000,000.00	2,250,000.00	1,687,500.00	1,265,625.00	949,218.75	711,914.06	533,935.55	400,451.66	300,338.75	225,254.06	
	Depreciation				750,000.00	562,500.00	421,875.00	316,406.25	237,304.69	177,978.52	133,483.89	100,112.92	75,084.69	56,313.51	
	Closing Balance				2,250,000.00	1,687,500.00	1,265,625.00	949,218.75	711,914.06	533,935.55	400,451.66	300,338.75	225,254.06	168,940.54	168,940.54
5	Preparation Expenses			100,000											
6	Working Capital			385,000											
	Total Invest.& Reinvestment			5,000,000.00	4,515,000.00	3,618,125.00	2,909,384.38	2,375,865.83	1,999,629.63	1,703,028.49	1,466,259.86	1,274,467.63	1,156,255.90	1,063,511.69	
	Total Depreciation				896,875.00	708,740.63	567,518.55	376,236.19	296,601.14	236,768.64	191,792.23	118,211.73	92,744.21	73,552.20	

Note: DB - Declining Balance Method

SL - Straight Line Method

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

Working Capital Schedule (In US \$)

Item\ Year	Year I	Year II	Year III	Year IV	Year V	Year VI	Year VII	Year VIII	Year IX	Year X
Current Assets:										
Debtors 1 Year of sales	8,751,266.67	8,751,266.67	8,751,266.67	8,751,266.67	8,751,266.67	8,751,266.67	8,751,266.67	8,751,266.67	8,751,266.67	8,751,266.67
Trade debtors insurance - 1 Year	50,000.00	54,000.00	58,320.00	62,985.60	68,024.45	73,466.40	79,343.72	85,691.21	92,546.51	99,950.23
Total Current Assets	8,801,266.67	8,805,266.67	8,809,586.67	8,814,252.27	8,819,291.11	8,824,733.07	8,830,610.38	8,836,957.88	8,843,813.18	8,851,216.90
Current Liabilities:										
Labour (1 month)	106,134.00	111,440.70	117,012.74	122,863.37	129,006.54	135,456.87	142,229.71	149,341.20	156,808.26	164,648.67
Fuel & Electricity (1 month)	12,950.33	13,986.36	15,105.27	16,313.69	17,618.79	19,028.29	20,550.55	22,194.60	23,970.16	25,887.78
Mine & Office Miscellaneous (1 month)	875.83	945.90	1,021.57	1,103.29	1,191.56	1,286.88	1,389.83	1,501.02	1,621.10	1,750.79
Ports and Other Transportation (1 month)	22,125.00	23,895.00	25,806.60	27,871.13	30,100.82	32,508.88	35,109.59	37,918.36	40,951.83	44,227.98
Travelling cost (1 month)	1,291.60	1,394.93	1,506.52	1,627.04	1,757.21	1,897.78	2,049.61	2,213.58	2,390.66	2,581.91
Blasting (1 month)	2,508.33	2,709.00	2,925.72	3,159.77	3,412.56	3,685.56	3,980.40	4,298.84	4,642.74	5,014.16
Repair and Maintenance Expenses (1 month)	6,050.00	6,534.00	7,056.72	7,621.26	8,230.96	8,889.43	9,600.59	10,368.64	11,198.13	12,093.98
Total Current Liabilities	151,935.09	160,905.88	170,435.13	180,559.56	191,318.42	202,753.70	214,910.29	227,836.22	241,582.88	256,205.27
Net Working Capital	8,649,331.57	8,644,360.79	8,639,151.54	8,633,692.71	8,627,972.69	8,621,979.37	8,615,700.09	8,609,121.66	8,602,230.29	8,595,011.63
Change in Working Capital	8,649,331.57	-4,970.79	-5,209.25	-5,458.83	-5,720.02	-5,993.32	-6,279.28	-6,578.43	-6,891.36	-7,218.66

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

Cashflow Projections (in US \$)

Item	Year I	Year II	Year III	Year IV	Year V	Year VI	Year VII	Year VIII	Year IX	Year X
Inflows:										
Local Equity	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Foreign Equity/Contribution	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00
Profit Before Tax	101,075,802.00	100,922,555.00	100,682,567.00	100,425,291.00	100,149,439	99,853,625.00	99,536,357.00	99,196,030.00	98,830,916.00	98,439,152.00
Depreciation	896,875.00	708,740.63	567,518.55	376,236.19	296,601.14	236,768.64	191,792.23	118,211.73	92,744.21	73,552.20
Total Inflows	105,972,677.00	106,631,295.63	106,250,085.55	105,801,527.19	105,446,040.14	105,090,393.64	104,728,149.23	104,314,241.73	103,923,660.21	103,512,704.20
Outflows:										
Investment	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00
Reinvestment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Change in Working Capital	8,649,331.57	-4,970.79	-5,209.25	-5,458.83	-5720.02	-5,993.32	-6,279.28	-6,578.43	-6,891.36	-7,218.66
Total Outflows	13,649,331.57	4,995,029.21	4,994,790.75	4,994,541.17	4,994,279.98	4,994,006.68	4,993,720.72	4,993,421.57	4,993,108.64	4,992,781.34
Operating Cashflow	92,323,345.43	101,636,266.42	101,255,294.80	100,806,986.02	100,451,760.16	100,096,386.96	99,734,428.51	99,320,820.16	98,930,551.57	98,519,922.86
Less: Loan Instalment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Cashflow	92,323,345.43	101,636,266.42	101,255,294.80	100,806,986.02	100,451,760.16	100,096,386.96	99,734,428.51	99,320,820.16	98,930,551.57	98,519,922.86
Cumulative Cashflows	92,323,345.43	193,959,611.85	295,214,906.65	396,021,892.67	496,473,652.83	596,570,039.79	696,304,468.30	795,625,288.46	894,555,840.03	993,075,762.89

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

Discounted Cashflows (in US \$)

Item	Year 0	Year I	Year II	Year III	Year IV	Year V	Year VI	Year VII	Year VIII	Year IX	Year X
Inflows:											
Profit Before Tax		101,075,802.00	100,922,555.00	100,682,567.00	100,425,291.00	100,149,439	99,853,625.00	99,536,357.00	99,196,030.00	98,830,916.00	98,439,152.00
Depreciation		896,875.00	708,740.63	567,518.55	376,236.19	296,601.14	236,768.64	191,792.23	118,211.73	92,744.21	73,552.20
Residue Value		404,202.52	386,890.68	329,615.25	273,464.06	231,445.04	200,561.86	172,177.04	145,689.74	138,710.16	132,835.08
Total Inflows	0.00	102,376,879.52	102,018,186.31	101,579,700.80	101,074,991.25	100,677,485.18	100,290,955.50	99,900,326.27	99,459,931.47	99,062,370.37	98,645,539.28
Outflows:											
Investment	2,300,000.00	2,300,000.00	2,300,000.00	2,300,000.00	2,300,000.00	2,300,000.00	2,300,000.00	2,300,000.00	2,300,000.00	2,300,000.00	2,300,000.00
Reinvestment		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Change in Working Capital		576,776.57	-5,178.54	-5,492.19	60,840.77	67,152.31	74,107.66	81,771.93	90,216.79	99,521.12	109,771.76
Total Outflows	2,300,000.00	2,876,776.57	2,294,821.46	2,294,507.81	2,360,840.77	2,367,152.31	2,374,107.66	2,381,771.93	2,390,216.79	2,399,521.12	2,409,771.76
Net Cashflows	-2,300,000.00	101,800,102.95	102,023,364.85	101,585,192.99	101,014,150.48	100,610,332.87	100,216,847.84	99,818,554.34	99,369,714.68	98,962,849.25	98,535,767.52

NPV at 25%	286,823,196.77	
NPV at 30%	238,778,167.73	
IRR	25.70	

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

Projected Balance Sheet (in US \$)

Particulars	Year I	Year II	Year III	Year IV	Year V	Year VI	Year VII	Year VIII	Year IX	Year X
Assets:										
Fixed Assets (net)	1,408,900.00	1,417,850.00	1,429,351.75	1,435,625.18	1,441,445.04	1,460,561.86	1,478,177.04	1,485,689.74	1,488,710.16	1,492,835.08
Current Assets:										
Cash & Bank	678,785.82	733,897.35	744,928.17	750,839.81	751,147.79	779,081.68	820,775.78	834,199.48	811,317.77	868,090.56
Debtors	166,666.70	185,293.33	205,485.33	237,149.07	289,002.21	311,068.32	323,374.22	345,950.52	388,832.23	422,059.44
Total Current Assets	845,452.52	919,190.68	950,413.50	987,988.88	1,040,150.00	1,090,150.00	1,144,150.00	1,180,150.00	1,200,150.00	1,290,150.00
Less: Current Liabilities:										
Trade Creditors	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00
Net Current Assets	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00	1,150,150.00
Net Total Assets	1,104,202.52	1,186,890.68	1,229,615.25	1,273,464.06	1,331,445.04	1,400,561.86	1,472,177.04	1,515,689.74	1,538,710.16	1,632,835.08
Financed by:										
Local Equity	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Foreign Equity/Contribution	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00
Reserves	104,202.52	186,890.68	229,615.25	273,464.06	331,445.04	400,561.86	472,177.04	515,689.74	538,710.16	632,835.08
Net Worth	1,104,202.52	1,186,890.68	1,229,615.25	1,273,464.06	1,331,445.04	1,400,561.86	1,472,177.04	1,515,689.74	1,538,710.16	1,632,835.08

M/S GRAND TOP GEMSTONES COMPANY LIMITED P.O. BOX 11336 ARUSHA

Return On Investment (ROI) Schedule

By Definition - $\frac{\text{Net Profit} \times 100}{\text{Total Investment Year}}$

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Profit	70,753,061	70,645,788	70,477,797	70,297,704	70,104,607	69,897,538	69,675,450	69,437,221	69,181,641	68,907,406
Investment	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
ROI	1415%	1413%	1410%	1406%	1402%	1398%	1394%	1389%	1384%	1378%

Average 1399%