

POLYGOLD COMPANY LIMITED

BUSINESS PLAN

FOR

ESTABLISHMENT OF PLANT

FOR GOLD PROCESSING

AT IKUNGU PENINSULA, 17 KM SW OF THE TOWN OF MUSOMA, ALONG THE SHORE OF LAKE VICTORIA. MARA REGION

1.0. Introduction.

POLYGOLD COMPANY LIMITED is a company registered in Tanzania under companies Act 2002, the company hold certificate of incorporation No. 139627 dated 29th November 2017, the company is based in Dar es Salaam and operation in Musoma region of Tanzania

The project owners are well established international investors. Having been in the business for over 10 years the directors are now well prepared for gold project in Tanzania

2.0 Over view of Ikungu Gold Projec

The Ikungu Gold Project is situated at Ikungu Peninsula, 17 km SW of the town of Musoma, along the shore of Lake Victoria. Due to historical mining activity, 4 main payable reefs were known at Ikungu Peninsula. Those are Phoenix Reef, Main Reef, Forest Reef and so-called 18dwt Reef. As of 1965 a total of 47344 tons of ore was reported to had been mined there, yielding 512 kg of fine gold. Until 2016 the area had been covered by prospecting license PL 5150/2008 which was expired in 2016. After expiration the area was assumed to be assigned as demarcated for Primary Mining Licenses area, but this assignation has not been approved so far. To date the area is covered by number of PML's, part of

them have been approved and the mining right were granted. Other part is still under the application status. According to Tanzanian regulations the Primary Mining License/Licenses can be converted to ML following to amalgamation procedures with submission of Feasibility Study Report and Environmental Impact Assessment study. Polygold Company Limited has accomplished the process of amalgamation and instituted rights transfer of 8 PML's covering the gold bearing structures of Ikungu project including Main and 18dwt Reefs.

1.2 Property geology

Ikungu project occurs in a granite-greenstone terrain that extends from central Tanzania northward into southwestern Kenya. The internal stratigraphy of the greenstone belts is reasonably consistent. At the base is an essentially mafic volcanic series, overlain by carbonaceous and pyritic sediments, tuffs, banded iron formation (BIF) and cherts, and then by felsic volcanics. In the area of Victoria Lake this sequence has been named the Nyanzian Group. Regional metamorphism of these rocks is generally only reached to greenschist grade. Greenstones at Ikungu Peninsula are presented by mafic lava flows interbedded with rhythmic sequences of sediments. Lithostratigraphic sequence may be divided into three units, each with their associated

basalts. The lower domain contains lenses of metasedimentary rock interbedded with pillowed basalts. The middle domain is composed by homogeneous basalt. The upper domain consists in a thick sequence of basaltic flows intruded by several ultramafic sills. Late intrusions are presented by the granite batholiths, the microgranite bodies, the diorites and dioritic lamprophyre dykes. Local alteration processes are presented by sericitic alteration and silicification. Sericitic alteration are usually developed over metasediments. The processes of silicification are development over all lithological units including the basalts and metasediments. Basalts do not show any other alteration features apart from silicification, although they have undergone greenschist facies metamorphism. Structural control plays a crucial role for gold distribution. Obtained during oriented core drilling data (historical MDN and recent Polygold Company Ltd drilling campaigns) were processed in the course of this work. The results of this exercise coupled with assay data indicated that gold mineralization follows to simple set of vein network related with bedding planes. Thereby according to current geological model, the deposit is represented by linear stockwork which is spatially associated with contact of two

geological units - a series of pillow basalts with intercalated metasediments and a series of basalts penetrated by gabbroic sills. The mineralization is structurally and lithological controlled. The main features of the deposit are following: - the linear mineralized stockwork can be observed as a linear structure striking at $N110^{\circ}$ and displaying a consistent dip of 70° - 80° towards the SSW; - the lenses of metasediments along the main structure represent zones of competency contrast which favored more intense deformation and development of tension gashes during several successive episodes of tectonic reactivation. These zones have focused hydrothermal and mineralizing fluids; - gold mineralization is associated with grey-blue quartz vein networks; however, gold is also present in highly silicified replacement zones within the metasediments in contact with the basalts. The difference in the competency between metasediments and basalts played the crucial role for origin of the Ikungu deposit and determined the gold distribution. Gold deposits of Lake Victoria Goldfield field belong to the class of orogenic lode gold deposits (mesothermal substyle) localized in greenstone belt. Deposits of this class typically occur in deformed greenstone

belts of all ages. They are distributed along major crustal-scale fault zones.

2.1 **Property history**

Exploration Gold on Ikungu Peninsula was discovered in 1934 by Major F.H. Russell. Later, in 1938, the property was sold to Ikungu Mines Ltd.. Deposit (mainly the Forest Reef) was under production between 1938 and 1945. 47,344 tons of ore with average grade of 12.5 g/t Au were mined by underground workings and processed using cyanide leaching. Between 1946-1952 the claims were owned by Mr. E.H. Ratzeburg. Since 1961 and up to 2009 several companies conducted limited exploration works over Ikungu Peninsula. Fulfilled activities included geochemical studies, trenching, RAB, RC and DD drilling. Exploration works were smoothed through the area and indicated the absence of large-scale mineralization. Intensive exploration works were conducted by MDN between 2009 and 2011 which included: grab reconciliation sampling, Mobile Metal Ion soil survey, geological mapping, reverse circulation drilling and diamond drilling. MDN drilling had aimed a big tonnage deposit discovery. Reverse circulation and diamond drilling were done with 100m space between drilling fences along all

2.5km structure. The holes were targeted mainly to test the structure along the strike, at depth and the Mobile Metal Ion soil survey anomalies. Polygold Company Limited completed two drilling programs during exploration campaign of 2018- 2019. At the first stage verifying Reverse Circulation drilling was executed to validate the historic exploration data and understand general orebodies morphology. A total 35 RC drill holes for 3312m been drilled in 2018 comprising 5.5-inch diameter face sampling hammer drilling and hole depths range from 25m to 200 m. Second stage diamond drilling was conducted for further resources delineation. The drilling was executed by HQ diameter with RC pre-collaring. These results, integrated with historical drilling have enabled the completion first formal resource estimate for the project.

1.4 Mineral Resource Estimate

This mineral resource estimation was completed using a three-dimensional block modelling approach, with the application of Micromine software. The resources have been estimated for Main and 18DWT reefs. Grade interpolation was done by Ordinary Kriging, utilizing metasediment wireframes as the boundaries of mineralization up to horizon 850 meters for the 18DWT Reef and up to horizon 900m for the Main Reef. Gold mineralization remains open beyond the limit of

resource estimation. Resource classification criteria were based on so called "Two-Thirds Rule", which placed the boundaries between Measured/Indicated resource categories at two thirds of the data variability and Indicated/Inferred at one of data variability as represented by the sill of the variogram., Ikungu Structure resources can be further validated and increased on subsequent stages of drilling, since the current exploration has not exhausted Project resource potential.

2.2 Mineral processing and metallurgical testing

The results of two metallurgical tests are available for Ikungu ores. First batch sample, representing oxidized and semi-oxidized ores, was collected within Main reef by Tankaz Gold Mining Ltd and was tested by Peacocke & Simpson (Zimbabwe). Second batch sample, unoxidized ore, was collected by Polygold Company Ltd and was studied by Zhengzhou Sinowatt Machinery Co., Ltd (China). This sample was composed from the coarse rejects of RC drilling samples for 4 drilling holes. Both metallurgical tests results indicated low gold recovery to gravity concentrate (18-19%). No visible gold particles were observed. Therefore, the Au in raw ore cannot be effectively recovered through gravity

concentration. The leaching test shown good results with recovery (83-87%) both for sodium cyanide and cyanide free leaching reagents with the leaching time up to 24 hours. Based on test the leaching was selected as a main process for gold recovery. Zhengzhou Sinowatt Machinery Co. recommends processing flowsheet which have been used later for preliminarily plant design.

2.3 Recovery Methods

Polygold Company Limited considered the possibility to process the ore of Ikungu deposit at the gold recovery plant on the mine site. Preliminary plant design was prepared by senior Metallurgy and Processing consultant Konstantin Mashenko. The developed design provides for the flow sheet based on the direct sorption cyanidation of all mined ore and production of Dore bars as a final product. Expected gold recovery is 85%. The process flow sheet for Ikungu plant was developed based on metallurgical studies conducted by Zhengzhou Sinowatt Machinery Co. Ltd and Peacocke&Simpson. Pre-design of the plant for this scoping study assumes phased commissioning of two lines with **annual production 150 thousand tons each** to lower the risks. 1.7 Capital and operation costs Capital and operation

costs estimation was conducted by senior Metallurgy and Processing consultant Konstantin Mashenko. The costs were later corrected by Polygold Company Limited experts adjusting for practical experience based on peer Seka plant construction and operations.

2.4 Processing annual capacity and cost

Accepted for this scoping study plant design assumes phased commissioning of two lines with annual production 150 thousand tons each (with final capacity as per 300000 tpa (40 TPH) according to client instructions). The capital cost for the First Line was estimated at USD 8,092,400 and the capital cost for the Second Line was estimated at USD 4,012,600. Estimation is considered to be at a conceptual level with a +/- 15% level of accuracy. The final capital cost of Ikungu gold plant with capacity 300000 tpa (two lines) was estimated at USD 12.1 million. The cost of operating the process was estimated at USD 24.68/ton for the First Production Line and USD 20.10/ton for the Second Production Line. The main factors affecting operating costs are electricity, fuel consumption for generation and for machinery, reagents, grinding balls and lining for milling. Average processing cost for final 300000 tpa plant was

estimated at USD 22.39 / ton. Mining costs were accepted at 2.50 \$/t for ore and 1.80 \$/t for waste based on practical experience on Seka mine.

2.5 Mining Methods

The Ikungu deposit is planned to be developed by open-pit mining by several open pits on the first stage. Polygold Company Limited commenced a draft pit optimization to understand the potential economics as well as for scrutinizing the upcoming exploration tasks. The assumptions accepted for optimization and outcomes are shown below. The resource ranges from surface to +150 m below surface can be mined by open cut and other resources are the subject of combined mining. Pit optimization parameters Gold price, \$/Oz 1300 Mining costs: Ore, \$/t 2.50 Waste, \$/t 1.80 Dilution 1.05 Ore recovery 0.95 Processing costs, \$/t 22.39 Gold recovery, % 85 General pit slope, degree 54 Results of conceptual open pit mine study on delineated resources (geological) Measured + Indicated + Inferred Ore, th. T 2091.3 Grade, g/t 3.81 Gold, kg 7967.8 Polygold Company Limited conducted the initial engineering on the ultimate pits in order to continue geotechnical studies. The design adopts deepening latitudinal single-side

mining system, when the front of mining operations moves in parallel to the longer axis of the pit take as well as a ring one when stripping and mining operations front has a form of a ring and mining takes place from the center to the mine take boundaries. Mining solutions adopted in this design may be assessed as quite realistic. The annual production of the mine should be built up to **100 – 300 kt ore per year** at next design stages to achieve a higher economic effect and reduction of life of mine. In terms of mining conditions there is a potential of production growth at the expense of underground production.

2.6 Preliminary Economic Analyses The objectives of the Ikungu preliminary economic analyses study are as follows:

- Assess the economic viability of open pit mining and processing of gold ores using current engineering and economic parameters and industry accepted standards in mine design and engineering with capital and operating costs at a level of accuracy not more than +/- 15 percent;
- Define the production rate based on the quality and quantity of the resources, as well as the estimated capital and operating costs.

Polygold Company Limited has developed a financial model in order to evaluate the economics of the project. The inputs incorporated to the financial model are based on real CAPEX and OPEX expenses of gold producing enterprises currently operating in the district. The forecasts cover the estimated life of the project and our assumptions have been summarized in the relevant sections. The outputs of the valuation were principally Accumulated Cash and IRR under the current mining, metallurgical and marketing environment. The grade and tonnage of the deposit was compared with appropriate comparable projects at various stages of development. Applicable financial model input factors were researched and used in preparing the DCF model. The summary DCF valuation results are presented below. The results of this financial assessment are an indicator of the present value of the deposit given the quality and quantity of information provided and the quality of the estimates made on some inputs of the model. The financial assessment also demonstrates a potential to develop a significant mining project with a high NPV and IRR. Main output indicators Value Unlevered accumulated free cash US\$ 60.39M Unlevered IRR 36.5% IRR in case of 100%

loan financing 77.6 % Payback period 4 years Polygold Company Limited review demonstrates that the Ikungu Project represents a prospective gold project within Tanzania, with the potential for a number of other prospective targets within the Musoma – Mara Green Stone Belt to add to the Mineral Resource and mill feed over time.

3.0 Project infrastructure

The project is located within well-developed area. Several big villages are situated at the eastern part of Ikungu Peninsula. The population is mainly engaged in agriculture, fishing and artisans mining. Low incomes of the population and long story of foreign companies' presence in the area create favorable conditions for providing the project with cheap and loyal labor. Government services, mechanical workshops, small local airport, hospitals, refueling stations, food supplies are available in Musoma town which is reachable by 40 minutes driving from the project. Lake Victoria is the source of the fresh water for the plant; however, the wells are required for drinking water supply. Electrical power line is located approximately 10 km from the project area. The power is supplied by TANESCO -

national power grid. Low populated hilled area right to the south from the potential pit is perspective for construction of the project facilities such as living compound, plant, waste dumps and Tailing Storage Facility. 1.11 Adjacent properties

Gold bearing structure at Ikungu Peninsula represents the regional scale structure which continues for more than 5 km. There are well-known and sufficiently explored areas with confirmed gold presences along this structure, for example, Forest Reef. It is recommended to continue prospecting and exploration activities along the strike of Ikungu structure, as well as on adjacent structures of Ikungu Peninsula in order to increase the project resources. Phoenix Mine is the one from historical mine which is located within adjoining structure. Phoenix Mine was under underground operation in the second half of the last century, and, undoubtedly, it could bring additional potential to Polygold Company Limited Ikungu Project, when the processing plant will be constructed. Kiabakari old mine is another potential target which can significantly increase resources of the Project. Kiabakari mine is located about 30 km of Musoma close to the Musoma-Mwanza road. The deposit was discovered in 1933. The first phase of deposit development was launched in 1935 and continued till 1940. At the period of 1950-1958

exploration program has been conducted and deposit been prepared for exploitation. The second phase of development started in 1959 and lasted till 1966. In 1966 mining operation was halted due to depletion of reserves for that moment.

4.0 Project Investment Cost

The proposed project is estimated to cost about US\$ **45,000,000** the project sponsors will contribute US\$ **10,350,000** and the rest of US\$ **34,650,000** will be sourced from international financial institutions.

POLYGOLD COMPANY LIMITED COST STRUCTURE

PARTICULAR	US\$
Land and Buildings	11,000,000.00
Machinery & Equipment	12,100,000.00
Motor Vehicles	4,000,000.00
Furniture & Fixtures	50,000.00
Pre exp	4,850,000.00
Others	1,000,000.00
Working Capital	12,000,000.00
TOTAL	45,000,000.00

4.1 Financing Pattern

The project will be finances both by equity and loan. Equity contribution will constitute US\$**10,350,000** while the remaining amount will be in the form of a loan. This loan amount is expected to be the equivalent of US \$ **34,650,000**.

The loan will be negotiated and acquired from international financial institutions.

Financing Pattern

	US\$
Foreign Loan	34,650,000
Foreign Equity	10,350,000
Total	10,000,000

4.1 The Project Promoters

The shareholders of this project are international investor with vast experience in mining sector

Name	% of ownership	Nationality
EVGENY MYSHKOVSKIY Skakovaya Street, 5, Apartment 218,125040 Moscow, Russia	90	Russia
IDO GORODETSKIY Palm Jumeirah, Al Sultana Building 3, PH 3, 346601, Dubai, UAE	10	Russia

4.2 **Project Location**

The project head office will be located at Ikungu Peninsula, 17 Km Sw of the Town of Musoma, Along The Shore Of Lake Victoria. Mara Region

4.3 **Objective of Study**

The purpose of this business plan is to work out the technical and commercial details and financial viability of a plant for Gold Processing.

4.4 **Project Management**

POLYGOLD COMPANY LIMITED will be under the Managing Director who has experience in managing minerals projects.

Under this management, **POLYGOLD COMPANY LIMITED** is expected to grow steadily to be one of the largest gold processing in Tanzania

The company will have a team of qualified and experienced functional managers in the areas of specialization. Other senior and middle level staff will be available for the start up and subsequent operations of the company, the total number of employees are expected to be **210**

Gender	Foreign Skilled	Local Skilled	Local Unskilled
Women	5	15	20
Men	20	50	100
TOTAL	25	65	120

5.0 Projected Revenue

For projection purposes, it is assumed that the economic life of the project is 9 years, and that revenue from gold processing business commence from the first year of operation

	Unit	Total	1	2	3	4	5	6
Net Revenue	US\$M	145.70	-	50.20	50.20	45.20	55,6	55,6

5.1 Projected Profit and Loss Statement

The Income and Expenditure Statement shows the projected income for the 9 years period. Accumulated Free Cash US\$M **73.3** in first year to US\$M and IRR 130% (refer appendix I)

5.2 Projected Cash Flows

This is shown in the Projected Cash Flows Statement in appendix II. They indicate that the project will meet its entire financial obligation, the accumulated cash flow in the 8th year **US\$M 66.3**, (refer appendix II)

5.3 Projected Payback Period

The projected payback period is within 8 years

5.4 Projected loan repayments

The company has positive liquidity to pay loan borrowed from financial institution

5.4 Projected Risks

This is a gold investment; no major risks have been identified for this kind of project so far. Unless a change in the country's political and economic stability occurs, the project is more likely to prosper very fast for a very long period.

5.5 Economic Aspects

Implementation of this project will have the following social and economic values

- The project is an ideal option for minerals value addition
- The project will significantly contribute in increase of exports of added value goods from Tanzania
- The project will create direct employment for 210 people on permanent contract basis leave alone temporary employees.

- It will create more business opportunities to local suppliers and small miners, which will also have a trickledown effect in the Tanzania economy as whole.
- It will generate substantial revenue to the government in the form of corporate tax paid for 9 years, value added tax and pay as you earn etc.
- The project will have transfer of knowledge and skills as far as mineral processing is concerned

6.o Implementation Schedule

Project implementation is expected to be relatively very short once project has been approved by all government regulatory authorities

Project Implementation

S/N	ACTIVITY	PERIOD
1	Processing TIC Certificate of Incentive	February 2021
2	Obtaining approvals	March 2021-Jan 2022
2	Processing exemption	February –Oct 2021
3	Procurement machines other facilities	May 2022
4	Machine installations	June -Dec 2022
5	Testing business and in-house training	Jan-August 2023
6	Commercial operations	September 2023

7.0 Conclusion and Recommendations

The project is technically feasible, financially viable, and economically sound, provided the sponsors will manage it efficiently.

It is recommended that the project be approved by Tanzania Investment Centre and be granted the TIC Certificate of Incentives with its associated privileges and benefits as provided for under the Tanzania Investment Act, 1997.

**POLYGOLD COMPANY LIMITED
PROJECTED INCOME & EXPENDITURE
STATEMENT (US\$)**

	Unit	Total	1	2	3	4	5	6
Mining Schedule	kt	870.00	-	300.00	300.00	270.00	300	300.00
Open Pit Ore Mined	Kt	879.00	-	300.00	300.00	270.00	0	-
Underground Ore Mined	Kt	-	-	-	-	-	300	300.00
Payable Au	KOZ	111.70	-	38.50	38.50	34.70	42.6	42.60
Net Revenue	US\$M	145.70	-	50.20	50.20	45.20	55,6	55,6
Opex	US\$M	(54.00)	-	(18.60)	(18.60)	(16.80)	39.9	39.90
Depreciation	US\$M	(4.50)	0	(1.50)	(1.50)	(1.50)	-1.5	(2.00)
Corporate Taxes	US\$M	(22.50)	-	(7.80)	(7.80)	(7.00)	-2.9	2.70
Working Capital	US\$M	2.00	2.00	-	-	-	0	-
Initial Capex	US\$M	(12.10)	(12.10)	-	-	-	0	(3.50)
Project FCF	US\$M	43.00	(14.10)	19.70	19.70	17.70	8.2	4.80

Project Cash
and IRR

Accumulated Free Cash	US\$M	73.30						
IRR	%	130.00						

POLYGOLD COMPANY LIMITED
PROJECTED CASH FLOWS STATEMENT (US\$M)

	0	1	2	3	4	5	6	7	8
SOURCES:									
Profit before interest and depreciation	0	-54.00	0.00	-18.60	-18.60	-16.80	39.9	39.9	39.9
Equity	10.35								
Loan	34.65								
Total Sources	45.00	(54.00)	-	(18.60)	(18.60)	(16.80)	39.90	39.90	39.90
Applications:									
Capital expenditure	27.16	-	-	-	-	-			
working Capital & Others	17.84	-	-	-	-	-			
Cash	0	(31.50)		(10.80)	(10.80)	(9.80)	42.8	42.8	42.8
Tax	-	-22.5	-	-7.8	-7.8	-7	-2.9	-2.9	-2.9
Sub total	45.00	(54.00)	-	(18.60)	(18.60)	(16.80)	39.90	39.90	39.90
Total applications	45.00	54.00	-	18.60	18.60	16.80	39.90	39.90	39.90
Accumulated cash		(31.50)	(31.50)	(42.30)	(53.10)	(62.90)	(20.10)	22.70	65.50

POLYGOLD COMPANY LIMITED COST STRUCTURE

PARTICULAR	US\$
Land and Buildings	11,000,000.00
Machinery & Equipment	12,100,000.00
Motor Vehicles	4,000,000.00
Furniture & Fixtures	50,000.00
Pre exp	4,850,000.00
Others	1,000,000.00
Working Capital	12,000,000.00
TOTAL	45,000,000.00

Financing Pattern

	US\$
Foreign Loan	34,650,000
Foreign Equity	10,350,000
Total	10,000,000