

THE UNITED REPUBLIC OF TANZANIA
 PRIME MINISTER'S OFFICE
 TANZANIA INVESTMENT CENTRE

FILE BEGINS

ENDS

PART

FILE NUMBER
 TICC

PART

FILE TITLE

CONFIDENTIAL

RP.10/042590

FILE NUMBER

INDEX HEADINGS

Officer or Section	For Action F/M	Initials	Date	Action taken vide F/M	Officer or Section	For Action F/M	Initials	Date	Action taken vide F/M
DIT	F1	[Signature]	7/1/14	6					
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R7

~~R7~~ Union Mining Co. Ltd

RZ UNION MINING COMPANY LIMITED



Ref.No: RUMCL/TIC/JAN/2014

6TH January 2014

The Executive Director,
Tanzania Investment Centre,
P.O. Box 938,
Dar es Salaam.



Dear Sir,

RE: APPLICATION FOR TIC CERTIFICATE OF INCENTIVES

We are incorporated company created for purposes operating Gold and Copper processing Project. The Proposed project will be in Kwimba and Misungwi district in Mwanza . It is due to this reasons that we hereby submit our application for TIC Certificate of Incentives to facilitate implementation of the project.

Attached herewith please find the following basic documents for you kind approval:

1. A completed and signed application form
2. A copy of our certificate of Incorporation
3. A copy of the Company's Memorandum and Articles of Association
4. A certified copy of Title deed.
5. Company Board Resolution to register with TIC
6. A copy of our Feasibility study showing the implementation Period,

Thank you for your kind consideration

Yours Sincerely,


.....
DIRECTOR

RZ UNION MINING CO. LTD.
P. O. Box 33772
DAR ES SALAAM
TANZANIA



THE EXECUTIVE DIRECTOR
TANZANIA INVESTMENT CENTER
DAR ES SALAAM
TANZANIA.

02/01/2014

Dear sir/madam,

RE: INTRODUCTION OF RZ UNION MINING CO LTD

This letter serves to introduce RZ UNION MINING CO.LTD who has maintained a relationship with our bank. RZ UNION MINING CO. LTD has maintained a local currency and foreign current account no 001-6003719/6000307 to our satisfaction for the whole duration of banking with Barclays Bank (T) Ltd.

We consider them to be trustworthy and good for the normal engagements as far as they are relationship with Barclays bank is concerned.

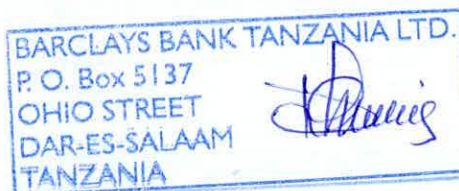
This information is given without any responsibility of Barclays Bank Tanzania Ltd on our part or our officials. Do not hesitate to contact the undersigned if you need more clarification.

Further assistance rendered to him would be highly appreciated.

Yours Sincerely,



.....
Mworia Dovick
Ohio Branch





TANZANIA INVESTMENT CENTRE

REGISTRATION FORM

FOR

CERTIFICATE OF INCENTIVES

**(Tanzania Investment Act 1997, Section 17 and 18,
and the Investment Regulations:
Regulation 42, Government Notice No. 318A of 2002)**

Tanzania Investment Centre
9A & B Shaaban Robert Street
P. O. Box 938
DAR ES SALAAM
Tel. 022 2116328
Fax. 022 2118253
e-mail: information@tic.co.tz
Website: www.tic.co.tz

(Please fill the form in duplicate)

UNITED REPUBLIC OF TANZANIA

THE TANZANIA INVESTMENT ACT
(No. 26 of 1997)

APPLICATION FOR REGISTRATION
(Made under Regulation 42)

To: The Executive Director
Tanzania Investment Centre
P. O. Box 938
DAR ES SALAAM
Tanzania

1. I/We JIAN GUO BAO
(director/directors/agent of TRZ UNION MINING COMPANY LIMITED
(name of business enterprise) apply for registration of CERTIFICATE OF INCENTIVES
under Section 17 of the Act and Part IV of the Investment Regulations, 2002.
2. The registered office of the company will be situated at MWANZA

Copies of the following documents are attached to this application:

- (i) The Memorandum and Articles of Association/or partnership agreement
(ii) Certificate of Incorporation/Registration
(iii) A copy of the Project Profile or Feasibility Study showing the implementation period, programme of implementation and operative date
(iv) Evidence of financing and evidence of land ownership for the project

3. The Head Office of the Company will be situated at MWANZA
4. The Principal Officers of the Company are 1. JIAN GUO BAO
2. GUI YU LIU 3. XIN MING ZHAO
5. Auditors of the Company are TO BE APPOINTED
6. The authorized share capital of the Company is Tshs./US\$ 500,000,000/-

7. The intended capital investment of the Company in terms of Section 2(2) of the Act

is Tshs./US\$ 3,030,000/-

8. The month and day of the financial year end is 31st DECEMBER

Note: **failure to provide all the required information will result in the return of the application by the Centre.**

I/We enclose a cheque/cash made payable to the **Tanzania Investment Centre** for Tshs./US\$

100 Being the Registration Fees. **In the event this application is unsuccessful we understand that this fee will not be refunded.**

I, JIAN RUO BAO of Post Office Number 33772 DSM

do solemnly and sincerely declare that I am a director/duly

authorized agent of RZ UNION MINING COMPANY LIMITED

AND that all the requirements of the Tanzania Investment Act, 1997 in respect of matters precedent to the registration of the business enterprise under the Act and incidental thereto have been complied with, **AND** I make this solemn declaration conscientiously believing the same to be true.

Declared at Dar es Salaam }

..... }

The 16th day of JAN 2014 }



RZ UNION MINING C. LTD.
P. O. Box 33772
DAR ES SALAAM
TANZANIA

Before me:



.....
Commissioner for Oaths

APPLICATION SUMMARY

Company Name: RZ UNION MINING COMPANY LIMITED

Certificate of Incorporation Number: 88740 Status: NEW

Certificate of Incorporation Date: 19 JANUARY 2012

Post Box: 33772

Town: DAR ES SALAAM

Sector: MANUFACTURING

Sub-Sector: GOLD & COPPER PROCESSING

Investment Financing Plan in Million US\$/Tshs.

Foreign Equity	Local Equity	Foreign Loan	Local Loan
3.03			

Project Objectives: TO ESTABLISH GOLD AND COPPER PROCESSING

Capacity:

Employment: Foreign: 16 Local: 126 Total: 142

Implementation Period: 3 YRS

Project Location

Site/Plot/Block No.: IGOMA HILLS

Street: KIWIMBA District: KIWIMBA & MISUNGWI Region: MWANZA

Shareholders

Nationality

%

JIAN GUO BAO CHINESE 45.5%

XIN MING ZHAO CHINESE 45.5%

GUO YU LIU CHINESE 9%

Investment Breakdown **US\$/Tshs.M**

Land/Building 900,000
Plant 1,200,000
Vehicles 800,000
Furniture & Fittings 90,000/-
Pre-expenses 40,000/-
Others
Working Capital 900,000/-
TOTAL **3,030,000**

Contact Details:

Name: **QIANG GAO**

Title: **PROJECT MANAGER**

Telephone: **0768042811**

Fax:

Email:

Payments to be made payable to:

TANZANIA INVESTMENT CENTRE
STANDARD CHARTERED BANK TANZANIA LTD.
SWIFT ADDRESS: **SCBLTZTX**
ACCOUNT NO.: **8702006002000**

QIANG GAO BAO
XIN MING SHAO
GUO YU LIN
CHINESE
CHINESE
CHINESE

042590

Investment fund beyond three years will be forfeited

8



TANZANIA INVESTMENT CENTRE

Shaaban Robert Street, P.O. Box 938, Dar Es Salaam, Tel. +255 22 2116328-31, Fax: +255 22 2118253

RECEIPT

FC014170

No. 008106

Received from : RZ UNION MINING CO. LTD

Address P.O. Box 33772 DSM

Received the sum of (In words): ONE THOUSAND ZERO CENTS ONLY



Being payment in respect of :

CERTIFICATE OF INCENTIVES

Amount : USD 1,000.00

Cash / Cheque No: D D D D D

Date :

BUISSO

Receiving Officer

DAR-ES-SALAAM
P.O. Box 939
22 JAN 2014
RECEIVED
TANZANIA INVESTMENT CENTRE

THE LAND ACT, 1999

(NO:4 OF 1999)

CONTRACT OF LEASE

(UNDER SECTION 64)

This lease is made this 1st Day of June 2013, between **M/S JANE M.NGEREJA** of P.o Box 14070,Dar es Salaam , Tanzania (herein after referred as the "Lessor" of the one part and **M/S RZ UNION MINING COMPANY Ltd** of P. O. Box 33772, Mwanza (herein after called "the Lessee") of the other part.

Where as the Lessor is the owner of the premises situated at **Plot No. 46, at Ikoma Hill,Kwimba,Misungwi District,**

And WHERE AS the Lease is desirous to occupy the said premises for a period of **5 yrs** as from 1st day of June 2013 at the monthly rental of Tshs. 1,000,000 per month.

The rentals are payable in advance for 1 year at a time. The Landlord acknowledges receipt of the stipulated rents by signing this Lease Agreement and issuing relevant receipts.

A. THE LESSEE COVENTS WITH THE LESSOR as follows:

1. To pay the rent agreed the manner as herein before provided.
2. To use the said premises for only for parking and office and also requintenance workout
3. Not to make any structural or other alterations to the said premises or Erect or install any fixtures or fittings save movable fittings without the consent of the lessor previously obtained in writing which consent shall not be unreasonably withheld.
4. Not to do or permit anything to be done in or upon the demised premised premises or any part there of which may be or become a nuisance annoyance or disturbance to the occupants in the neighborhood.
5. Not to sublet or part with the possession of the whole or any part of the said Premises except with the consent in writing of the Lessor first had and obtained.
6. To repaint the premises at the expiration of the Lease.

B. THE LESSOR HEREBY COVENANTS WITH THE LESSEES as follows:-

i) To pay all Land rates and all other charges/imposed on the demised premises whether by the Government or the local Authorities

ii) Permit the Lessees paying the rent hereby reserved and performing and observing the Covenants and conditions herein contained or implied and on its part to be performed and observed peaceably and quietly to possess and enjoy the demised premises during term hereby created without any interruption from or by the Lessor or any person rightfully claiming from or under him.

IT IS: Hereby mutually agreed by and **BETWEEN** the parties here to as follows:-

a) The lease shall determine at the expiration of five years to be counted from the 1st day June 2013

b) Both parties to pay Advocate charges at in respect of this Lease.

WHEREFORE, We, the undersigned, agree to this Lease, by signing two copies (one to be kept by Tenant and one by Landlord).

LANDLORDS

Signature..... *[Handwritten Signature]*

(date 9th JUNE 2013

TENANTS

(signature) *[Handwritten Signature]*

Date..... 01-06-2013



TICC/PP.10/042590/3

20th January, 2014

Managing Director,
RN Union Mining Co. Ltd
P.O. Box 33772
MWANZA

**RE: CERTIFICATE OF INCENTIVES FOR GOLD AND COPPER
PROCESSING FACILITY**

We wish to acknowledge receipt of your project proposal to establish and operate Copper and Gold processing facility as presented in the TIC P.A. 1 Form No. 11625 and Feasibility Study with a projected investment amounting to USD 3.93 m.

We are pleased to inform you that your investment proposal is now officially registered by TIC and therefore the project will be granted a Certificate of Incentives under authority conferred upon TIC under Part III, Section 17 (1-8) of the Tanzania Investment Act, 1997. In order to enable TIC prepare your Certificate of Incentives, You will be required to submit the following:-

- Certified document showing evidence of Land ownership for the location of the project.

Also be informed that you will have to submit a project implementation Progress Report on the implementation of the project in every six months for centre's information and review. Guidelines for the preparation of the report are contained in annexure attached to this letter. Please do not hesitate to contact the Centre for any clarification if the need arises. Also note that a facilitation fee equivalent to US\$ 1000.00 is payable at the ruling exchange rate prior issuance of the Certificate of Incentives. Please make deposit direct to the bank as per bank details below:

.../2

TICC/PP.10/042590/3

20th January, 2014

*Tanzania Investment Centre
Standard Chartered Bank (T) Ltd
US Dollar A/C 8702006002000
T.Shs A/C 0102006002000*

We wish you every success in the implementation of the project.

Yours sincerely,

Tanzania Investment Centre



N. A. Senzia

Ag. Executive Director

Copy to: Permanent Secretary,
Ministry of Finance,
P. O. Box 9111,
DAR ES SALAAM

Permanent Secretary,
Ministry of Industry, Trade and Marketing,
P.O. Box 9503,
DAR ES SALAAM

Commissioner General,
Tanzania Revenue Authority,
P. O. Box 11491,
DAR ES SALAAM



TIC Evaluation Report

Name of the Company
RN Union Mining Co. Ltd.

Post Box	Igoma Hills, Kwimba & Misungwi	COI Number	88740-01	Contact	Mr. Qiang Gao
Post Office	33772	COI Date	19/01/2012	Designation	Project Manager
Region	Mwanza	Application F. No	11625	Phone	0
Country	Tanzania	Status	New	Direct Phone	0
		Sector	Manufacturing	Cell Phone	0768 042811
		Sub Sector	Gold & Copper Processing	Fax	0
		File No	042590	E-Mail Address	0

Project Location		Investment Finance Plan in Millions USD											
Plot/Block	Igoma Hills Area	<table border="1"> <thead> <tr> <th>Foreign Equity</th> <th>Local Equity</th> <th>Foreign Loan</th> <th>Local Loan</th> </tr> </thead> <tbody> <tr> <td>3.93</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Foreign Equity	Local Equity	Foreign Loan	Local Loan	3.93	0	0	0			
Foreign Equity	Local Equity		Foreign Loan	Local Loan									
3.93	0		0	0									
Street	Kwimba District												
District	Misungwi												
Region	Mwanza												

Shareholders Detail			Investment Breakdown (USD Million)	
Name	Nationality	(%)	Land/Building	0.9
Gui Yu Liu	Chinese	9	Plant	1.2
Xin Ming Zhao	Chinese	45.5	Vehicles	0.8
Jian Guo Bao	Chinese	45.5	Furniture & Fittings	0.09
			Pre-expenses	0.04
			Others	0
			Working Capital	0.9
			Total	3.93

Employment	142	Evaluated By	wf officer3
Capacity	xxxxx	Drawn By	wf registry2
Project Turn Over		Project Type	Local

Description

To establish Gold and Copper processing facility

Recommendations

Be approved subject to providing evidence as required by section 17 of Tanzania Investment Act, 1997

Decision





00220641

THE UNITED REPUBLIC OF TANZANIA

Certificate of Incentives

(Section 17 of the Tanzania Investment Act, 1997)

042590

No:

This is to certify that

.....
RZ. UNION MINING COMPANY LIMITED
.....

of address P.O. BOX 33772

.....
MWANZA
.....

has been granted a Certificate of Incentives to invest in a new, ~~XXXXXXXXXXXXXXXXXXXX~~
~~XXXXXXXXXXXX~~ enterprise known as

.....
RZ UNION MINING COMPANY LIMITED
.....

Which is located at PLOT NO. 46 IGOMA HILL AREA, KWIMBA.....

.....
KWIMBA - MWANZA
.....

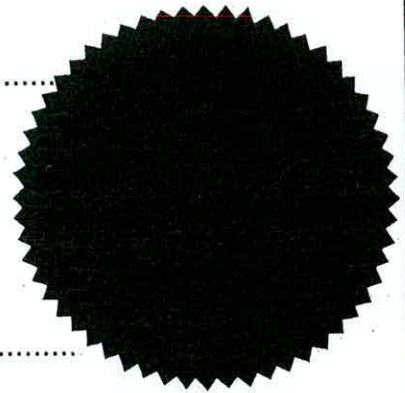
Further particulars required by Section 17 of the Tanzania Investment Act are set out overleaf.

.....

Executive Director

Tanzania Investment Centre
P.O. Box 938, Dar es Salaam

Dated 20TH JANUARY, 2014



This Certificate is issued in accordance with the provisions of Section 17 of the Tanzania Investment Act, 1997 and subject to the conditions prescribed under item 14 and 15 hereafter:—

1. Shareholders

	Nationality	Shareholding (%)
Gui Yu Liu	Chinese	9
Xin Ming Zhao	Chinese	45.5
Jian Guo Bao	Chinese	45.5

2. Proposed Activities :..... To establish gold and copper processing facility.....

3. Sector: Manufacturing Subsector Gold & Copper Processing.....

4. Investment cost: Foreign USD 3.93m. Local USD 0m. Total USD 3.93m.

5. Project Financing: Equity USD 3.93m. Loans USD 0m. Total USD 3.93m.

6. Source, terms and conditions of loan.....

7. Assets to be invested:

	Foreign	Local	Total
Capital items:	<u>USD 3.93m.</u>	<u>USD 0m.</u>	<u>USD 3.93m</u>

8. Technology Agreement None.....

9. Date of TIC Registration: 20th January, 2014.....

10. Implementation period January 2014 - December, 2016.....

11. Operative date..... January, 2017.....

12. Investment Incentive Grade: As defined in part III Section 19 (1), (2) and Section 20 of the Tanzania Investment Act, 1997
 (i) Applicable Import Duty And VAT as per Customs Tariff Act, 1976 & VAT Act, 1997
 (ii) Applicable with-holding Tax As per Income Tax Act, 2004 (as amended)
 (iii) Eligibility of Capital Allowances As per Income Tax Act, 2004 (as amended)

13. Protection of Investment, Arbitration and Transfer of Foreign Currency: as defined in part III Section 21, 22 and 23 of the Act.

14. Conditions attached to this Certificate of Incentives
 - (i) Date of Commencement of investment has to be notified to the Centre.
 - (ii) Certificate not to be transferred, assigned or amended
 - (iii) Failure to commence implementation within two years invalidates Certificate
 - (iv) Failure to operate investment must be notified to the Centre
 - (v) Changes in shareholding, project activities and level of invested capital must be notified to the centre

15. Additional conditions attached to Certificate
Finished goods are not allowed under this certificate.....

Signed
 Executive Director

GENERAL MEETING OF SHAREHOLDERS

HELD ON 3rd January 2014

Agenda

- i) Registration with Tanzania Investment Centre
- ii) AOB

At 10.00 a.m. on January 3rd, 2014 the shareholders of **M/S RZ UNION MINING COMPANY LIMITED** held a meeting to discuss the agenda above. It was unanimously agreed that **M/S RZ UNION MINING COMPANY LIMITED** would register with Tanzania Investment Centre for Project of gold and copper processing.

There being no other business to discuss. The meeting was closed at 10.30 a.m.


.....
JIAN GUO BAO
Chairman

RZ UNION MINING CO. LTD.
P. O. Box 33772
DAR ES SALAAM
TANZANIA


.....
GUI YU LIU
Secretary

TANZANIA



Certificate of Incorporation

Section 15

No 88740

I HEREBY CERTIFY THAT

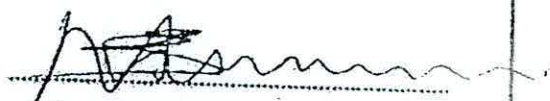
RZ UNION MINING COMPANY LIMITED

is this day incorporated under the Companies Act, 2002 and that the Company is Limited.

Given under my hand at Dar es salaam

this 19TH day of JANUARY

TWO THOUSAND AND TWELVE.


Asst. Registrar of Companies

CTIN:1870314

ISO 9001 : 2008 Certified



TANZANIA REVENUE AUTHORITY

CERTIFICATE OF REGISTRATION

FOR

TAXPAYER IDENTIFICATION NUMBER (TIN)

(ISSUED UNDER SECTION 133 OF THE INCOME TAX ACT NO. 11 OF 2004)

THIS IS TO CERTIFY THAT

RZ UNION MINING COMPANY LIMITED

.....

has been registered with the Tanzania Revenue Authority and assigned the Taxpayer Identification Number

116-926-571

.....04-04-2012.....

with effect from

P. N. Kassera

OFFICIAL SEAL

COMMISSIONER FOR DOMESTIC REVENUE

NOTE: THE REQUIREMENTS UNDER WHICH THIS CERTIFICATE IS ISSUED ARE STATED OVERLEAF

THE COMPANY ACT (ACT NO.12 OF 2002)

COMPANY LIMITED BY SHARES

MEMORANDUM

AND

ARTICLES OF ASSOCIATION

OF

RZ UNION MINING COMPANY LIMITED

DRAWN BY:
ANDREW HUANG (SUBSCRIBER)
P.O. Box ,33772
DAR ES SALAAM.

THE COMPANY ACT (ACT NO.12 OF 2002)

COMPANY LIMITED BY SHARES

MEMORANDUM

AND

ARTICLES OF ASSOCIATION

OF

RZ UNION MINING COMPANY LIMITED

Incorporated this _____ day of _____ 2012

DRAWN BY:
ANDREW HUANG (SUBSCRIBER).
P O BOX 33772
DAR ES SALAAM.

TANZANIA
Stamp Duty Fee
PAID ON ORIGINAL
Receipt No. 21380
Stamp Duty Office

THE COMPANIES (CAP. 12 OF 2002)
PRIVATE COMPANY LIMITED BY SHARES
MEMORANDUM OF ASSOCIATION

OF

RZ UNION MINING COMPANY LIMITED

Stamp Duty Fee
21380
Stamp Duty Office

1. The name of the company is "RZ UNION MINING COMPANY LIMITED".
2. The registered office of the Company will be situated in the United Republic of Tanzania
3. The objects for which the company is established are:-
 - (a) To Carry out exploration and conduct research for all type of Minerals and gemstones including diamond in Tanzania: to such for ores and minerals and to work the mines and mining rights under or upon the land and properties to be acquired by the Company, and to crush, wash, smelt, reduce or otherwise treat and render marketable and sell dispose of the produce of any mines, whether belonging to the Company or not.
 - (b) To carry on the business of mines and mining in all their branches and for the said purpose to peg, purchase take on lease or exchange or otherwise acquire concessions, easements, options, claims, properties, cassettes and effects supposed to contain minerals, diamonds or other precious stones and any interest therein, and to explore, mine, work, exercise develop and turn to account mines and mining rights and any undertaking connected therewith.
 - (c) To carry on the business of gemstones dealers, buyers, sellers, importers, exporters, cutters and setters of gemstones, precious and semi-precious stones, gold, diamonds, emeralds, sapphires, rubies, agate, Tanzanite, Rhoda lite, Garnets, Berly ony, topaz amethyst, opal, pearls, corals, alexandrite and dealers and buyers, sellers, smiths and handlers of gold, platinum, silver, copper, nickel, mercury, aluminum, metal industrial, brass and all metals and their allays as well as any other things connected with or incidental to the jewelry business.
 - (d) To carry on the business of geological projects and technical service to be engage in consultancy works in mining and

environmental matters, mineral dealings, trading and marketing, agriculture, fisheries and in any socie economic activities.

- (e) To carry on the business a jewelers, gold and silver smiths, dealers in curiosities, articles of virtue, coins, medals, bullion and stones and as manufactures of and dealers in gold and silver plate, plated articles, watches, clocks chronometers and optical and scientific instruments of any description.
- (f) To carry on the business of estate, management, estate establishment, asset management and debt collection and liability management.
- (g) To buy, sell, import, produce, manufacture or otherwise deal in food or food products of all kinds and descriptions, meet poultry, fish, groceries, fruits, vegetable, milk, wines, spirit, beer, any alcoholic beverages, linen, furniture and furnishing and other articles required in any of the business or by any of the customers of the Company.
- (h) To carry on the business of supplying building materials; survey construction and Rehabilitation; importers, exporters, manufacture of and dealer in automobile spares and spare, industrial, agricultural and machinery equipments and parts of all descriptions, tires, tubes, batteries, battery solution and all other spares, accessories bearings and goods as may be conveniently sold therewith and things necessary or convenient for carrying on any of the business specified herein or proceedings or usually dealt in by persons engaged in the like.
- (i) To carry on the business of Transporting goods and passengers; buy and sell motor vehicle and machine spares and provide motor vehicle and Machine servicing.
- (j) To act as agents for any company or companies engaged in life insurance fire insurance, marine insurance, insurance of motor cars lorries machinery and other things, insurance of owners and users of vehicles and other insurance of all kinds.
- (k) To construct and establish building ware-houses, shed, garages, warehouses, machinery and other facilities necessary of expedient for the purpose of the company and to carry on the business of transporters of goods and passengers, clearing and forwarding agents, insurance agents, customs agents and other insurance of all kinds.

- (l) To carry on the business of studio photo finishing equipments and Labs.
- (m) To carry on business in Tanzania and elsewhere the buying selling, Letting hire, hire purchases or easy payment systems and manufacturing and contractors of and dealers in motor-cars, taxicabs, automobiles, tramcar, motor lorries, vans wagon of all kinds and descriptions, cycles motor cycles, coaches, carriages, and all other vehicles of kinds what so ever, whether manufacturing or otherwise.
- (n) The carry on the business of passenger transport, goods, cargo and parcel transport, provide Hotel services and Guest Houses in Tanzania and elsewhere in Africa
- (o) To carry on the business of importers, dealers and distributors of kerosene, petrol, motor spirit, mineral oil crude oil petroleum, lubricating oil grease and all other kinds of mineral and petroleum products.
- (p) To carry on any other business which may seem to the company capable of being conveniently carried on in connection with the above or calculated directly or indirectly to enhance the value of or render profitable any of the company's property of rights.
- (q) To establish depots and agencies in different parts of the world for the purpose of carrying on any or all of the business of the Company.
- (r) To carry on the business of general merchants, general store keepers, universal providers, importers, exporters and in cotton, silk, and woolen goods and textile fabrics of all kinds.
- (s) To carry on the work of farm and Estate management.
- (t) To enter into any arrangement and contracts with Government or Authority – city, municipal, local or otherwise or any corporations, companies or persons having objects that may deem conducive to the Company's object or any of them and obtain from any such Government Authority, Corporation Company, or persons any characters, contract, decrees, lights, privileges and concessions.
- (u) To purchase, take on lease, option or exchange or otherwise acquire in any part of the world, prospecting lights and contracts, leases, options, mineral properties, either absolutely or conditionally.

- (v) To borrow or raise or secure the payment of money in such manner as the company shall think fit, and in particular by the issue of debenture stock, certificates or other securities perpetual or otherwise charged upon all any other company's lights and property (present and future) including any undeemed, or pay off any such security or loan.
- (w) To carry on the business of acquisition supply and distribution of agricultural inputs plus farming implements and organizing and conducting training on sustainable farming.
- (x) To amalgamate with, or enter into partnership or into any arrangement for sharing, profits, union of interest, cooperation, joint venture. Reciprocal concession or otherwise with any person or company carrying on or engage in any business or transaction which this company is authorized to carry on or engage in business or transaction capable of being conducted so directly or indirectly to benefit this company. And to take or otherwise acquire shares and securities of any such company, and sell, hold re-issue with or without guarantee or otherwise deal with the same.
- (y) To promote another company for the purpose of acquiring all or any property and liabilities of this company, or for any other purpose which may seem directly or indirectly calculated to benefit this Company.
- (z) To carry on the business by wholesale or retail or supply papers and all materials for training.
- (aa) To sell or dispose of the undertaking and property of the company or any part thereof, for such consideration as the company may think fit, and in particular for shares, debenture or securities of any other Company having objects all together or in part similar to those of this Company.
- (bb) To carry on the business of sawmills and the preparation of timber for market and the manufacture or and dealing in all articles made of or principally made of wood.
- (cc) To construct, erect, maintain and alter any buildings, machinery plant works necessary or convenient for the purpose of the Company.
- (dd) To undertake and execute any contracts for work involving the supply or use of any machinery and to carry out any ancillary or




other work comprised in such contracts, carrying passengers and goods in Tanzania.

- (ee) Generally to purchase, take on lease or in exchange hire or otherwise acquire any real and personal property and any rights or privileges which the company may think necessary or conveniently for the purpose of its business and in particular any land, buildings, machinery and plant.
- (i) To invest and deal with moneys of the Company not immediately required, upon such securities and in such manner as the company may from time to time determine.
 - (ii) To remunerate any person on company for services rendered or to be rendered in placing or assisting to place or guaranteeing the placing of the shares in the company's capital, or any debentures or other securities of the Company on the conduct of its business.
 - (iii) To distribute any part of the property of the company specie among the members.
 - (iv) To lend advance money and give credit to such persons or Companies as may seem expedient and in particular to members of the company and customers and others having dealing with the company and to guarantee the performance of contracts by such person.
 - (v) To draw, make, accept, endorse, discount execute and issue cheques, promissory notes bills of exchange, bills of lading warrants debentures and other negotiable or transferable instruments.
 - (vi) To do all or any of the above things in any part of the world as principals, agents, contractors trustees or otherwise alone or in conjunction with others.
 - (vii) To obtain all powers and authorities necessary to carry out or extend any of the above objects.

4. The liability of the Members is limited.

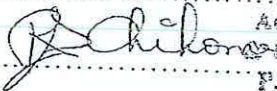
5. The authorized share capital is Tshs. 500,000,000(Five hundred million) divided into 10,000/-(Ten Thousand) ordinary shares of Tshs 50,000/-(Fifty Thousand) each with power for the company to increase or reduce such capital and to divide the shares in the capital for the time being whether original or increased in different classes and to attach thereto respectively any preferential, qualified or special right privileges or declare every issue of share, whether preference or otherwise or any such rights.

We the several persons, whose names, addresses and description are subscribed, are desirous of being formed into a company in pursuance of this Memorandum of Association, and we respectively agree to take the number of shares in the capital of the company opposite our respective names

Names, Postal Address and Occupations of Subscribers	Number of shares taken by each Subscriber	Signatures of Subscriber
1. JIAN GUO, BAO P.O. Box 19828 DAR ES SALAAM	12,500	
2. XIN MING, ZHAO P.O. BOX 19828 DAR ES SALAAM	12,500	
3. GUI YU, LIU P.O. BOX 33772 DAR ES SALAAM	25,000	

Dated at Dar es Salaam 17th day of Jan 2012

WITNESS to the above Signatures:

Full Name: Rita O. Chibwe
 Advocate, Ministry of Justice
 Signature: 
 Postal Address: 23169, D'SALAAM
 Qualification: ADVOCATE

TANGANYIKA
Stamp Duty Exe. 2500/-
PAID ON ORIGINAL
Receipt No. 21320
Stamp Duty Office
of 21/01/2012

**THE COMPANIES (CAP. 12 OF 2002)
PRIVATE COMPANY LIMITED BY SHARES
ARTICLES OF ASSOCIATION**

OF

RZ UNION MINING COMPANY LIMITED

PRELIMINARY

Stamp Duty Exe. 2500/-
21320
Stamp Duty Office
of 21/01/2012

1. The regulations in Table A in the First Schedule to the Companies Act, 2002 shall not apply to the Company except so far as the same are repeated or contained in these Articles.

INTERPRETATION

In these Articles, unless the subject or context otherwise requires, the words standing in the first column of the table next hereinafter contained shall bear the meanings set opposite to them respectively in the second column thereof.

WORDS AND MEANINGS

"Articles" these Articles of Association as originally framed or as altered from time to time by special resolution.

"Articles" means these Articles of Association of RZ UNION MINING COMPANY LIMITED. "Board" means the Board of Directors of the Company or the Directors present at a duly convened meeting of Directors at which a quorum has been attained.

"Company" shall mean RZ UNION MINING COMPANY LIMITED.

"Month" shall mean a calendar month.

"A Shareholder": Any holder from time to time of the shares.

"The Directors": The directors for the time being of the Company present at a duly convened meeting of the directors at which a quorum is present.

"The Office" : The registered office for the being of the company.

"The Act": The Companies Act, 2002 and every statutory modification and reenactment thereof for the time being in force.

2. The company is private company and accordingly, no invitation or offer shall be made to the public (whether for cash or otherwise) to subscribe for any shares in or debentures of the company, nor shall the company allot or agree to allot (whether for cash or otherwise) any shares or debentures being offered of sale of the public.

The company may pay to any person a commission in consideration of his subscribing or agreeing to subscribe, whether absolute or conditional, for any shares in the company, provided that such commission shall not exceed 10 per cent of the price at which such shares are issued, or an amount equivalent to such percentage and the requirements of section 56 of the Act shall be observed.

3. (a) The Directors may subject to Article 48 hereof allot, grant options over, or otherwise deal with or dispose of any relevant securities of the company in accordance with the provisions of these Articles and the Act to such persons and generally on such terms and conditions as the Directors think proper.
- (b) The general authority conferred by paragraph (a) of this article shall be condition upon due compliance with Article 48 hereof and shall extend to the amount of the authorized share capital of the company upon its incorporation.
- (c) The Directors shall be entitled under the general authority conferred by paragraph (a) of this Article to make at any time before the expiry of such authority any offer or agreement which will or might require relevant securities of the company to be allotted after the expiry of such authority.

4. If two or more persons are registered as joint holders of any shares any one of such persons may give effectual receipts for any dividends or other moneys payable in respect of such shares.

5. No person shall be recognized by the company as holding any share upon any trust and the company shall not be bound by or required to recognize equitable, contingent, future or partial interest in any share or any right whatsoever in respect any share other than an absolute right to the entirety thereof in the registered holder, except as by these Articles otherwise expressly provide or as required by law.

SHARE CAPITAL

6. The authorized share capital of the company is 500,000,000, /= (Five hundred thousand million) divided into 10,000 (Ten thousand) ordinary shares of 50,000 (Fifty thousand) each, each with such rights, privileges or

conditions as may be determined by or in such rights, privileges or conditions in such manner as may for the time being are provided by the regulations of the Company.

SHARES

7. Without prejudice to any special rights previously conferred on the holders of any existing shares or class of shares any share in the capital of the company may be issued with such preferred, differed or other special rights or such restrictions, where in regard to dividend, voting return of capital or otherwise as the company may from time by ordinary resolution determine.
8. Subject to the provisions of Companies Act 2002, any preference shares may with the section of any ordinary resolution be issued on the terms that they are or at the option of the company are liable to be redeemed on such terms and in such manner as the company before the issue of the shares may be special resolution determine.
9. The rights conferred upon the holders of the shares of any class issued with preferred or other rights shall unless otherwise expressly provided by the terms of issue of the shares of that class, be deemed not to be varied by the creation or issued of further shares ranking pari-passu therewith.
10. If at any time shares capital is divided into different classes of shares, the rights attached to any class (unless otherwise provided by the terms of issue of the shares of that class) may be varied with the consent in writing of the holders of the three fourths of the issued shares of that class, or with the sanction of an extraordinary resolution passed at a separate general meeting provisions of this articles relating to general meetings shall mutants apply, but so that the necessary quorum shall be two persons at least holding or representing by proxy one-third of the issued shares of the class and that any holder of shares of the class present in person or by proxy may demand a poll.
11. Every person whose name is entered as member in the register of members shall without payment, be entitled to one certificate under the common seal of the company specifying the share or shares held by him and the amount paid up thereon, provided that in respect of a share or shares held jointly by several persons the company shall be bound to issue more than one certificate and delivery of certificate of a shares to one of several jointly holders shall be sufficient delivery to all.
12. If a share certificate is defaced, lost, or destroyed, it may be renewed on

payment of such fee, if any not exceeding fifteen thousand shillings, and on such terms, if any as to evidence and indemnity as the directors think fit.

LIEN

13. The company shall have a lien on every share for all moneys (whether present payable or not) called or payable at a fixed time in respect of that share and the company shall also have a lien on all shares standing registered in the name of a single person for all moneys presently payable by him/her or his/her estate to the company, but the directors may at any time declare any shares to be wholly or in part exempt from the provisions of this article. The company's liens, if any on a share shall extend to all dividends payable thereon.
14. The company may sell, in manner as the directors think fit, any shares on which the company has a lien, but no sale shall be made unless some sum in respect of which the lien exists is presently payable, nor until the expiration of fourteen days after a notice in writing, stating and demanding payment of such part of the amount in respect of which the lien exists as is presently payable, has been given to the registered holder for the time being of the shares or the person entitled by reason of his death or bankruptcy to the share.
15. For giving effect to any such sale the directors may authorize some person to transfer the shares sold to the purchaser thereof. The purchaser shall be registered as the holder of the shares comprised in any such transfer and he/she shall not be found to see to the application of the purchaser money nor shall his/her title to the shares be affected by any irregularity or invalidity in the proceedings in references to the sale.
16. The proceeds of sale shall be applied in payment of such part of the amount in respect of which the lien exists as is presently payable and the residue shall be held (subject to a like lien for sums not presently payable as existed upon the shares prior to the sale) by the company on behalf of the person entitled to the shares at the date of the sale.

CALLS ON SHARES

17. The directors may from time to time make calls upon the members in respect of any moneys unpaid on their shares and each member shall (subject to perceiving at least fourteen days notice specifying the time or times of payment) pay to the company at the time or times of specified the amount called in his shares. A call shall be deemed to have been made at the time when the resolution of the directors authorizing the call was passed.

18. The joint holders of shares shall be jointly and severally liable to pay all calls in respect hereof.
19. If sum called in respect of a share is not paid before or on the date appointed for payment thereof, the person from whom the sum is due shall pay interest upon the sum at bank rate prevailing from time to time from the day appointed for payment thereof to the time of actual payment, but the directors shall be at liberty to waive payment of the interest wholly or in part.
20. The provisions of these articles as to the liability of joint holders and as to payment of interest shall apply in the case of non-payment of any sum which, by the terms of issue of shares, becomes payable at a fixed time, whether on account of amount of the shares, or by way of premium, as if the same has become payable by virtue of call duly made and notified.
21. The directors may make arrangements on the issue of shares for a difference between the holders in the amount of calls to be paid and in the times of payment.
22. The directors may, if they think fit, receive from any member willing to advance the same all or any part of the moneys uncalled and unpaid upon any shares held by him and upon all or any of the moneys so advanced may (until the same would but for such advance, become presently payable) pay interest at such rate (not exceeding, without the sanction of any company in general meeting) the bank rate existing from time as may be agreed upon between the member paying the sum in advance and the directors.

TRANSFER AND TRANSMISSION

23. Subject to the provisions hereinafter continued shares in the company shall be transferable by written instrument in the common form signed by both the transfer and transferee, and the transferor shall be deemed to remain the holder of the share until the name of the transferee is entered in the register of members in respect therefore.
24. The directors may in their absolute discretion and without assigning any reason therefore decline to register any transfer of shares to any person who they do not approve not being already a member of the Company and may also decline to register any transfer of share on which the Company has alien. The directors may also suspend the registration of transfers during the fourteen days immediately preceding the ordinary general meeting in each year the directors may decline to recognize any instrument of transfer unless:-

- (a) A fee not exceeding shillings five thousand is paid to the Company in respect thereof, and
- (b) The instrument of transfer is accompanied by the certificate of the shares to which it relates, and such other evidence as the directors may reasonably require showing the right of the transfer to make the transfer.

If the directors refuse to register a transfer of any shares, they shall within two months after the date on which the transfer was lodged with the Company send to the transferee notice of the refusal.

- 25. The personal representatives of a deceased sole holder of share shall be the only person recognized by the Company as having any title to the share. In the case of shares registered in the names of two or more holders, the survivors or survivor, or the personal representatives of the deceased shall be the only persons recognized by the company as having any title to the share.
- 26. Any person becoming entitled to a share in consequence of the death or bankruptcy of a member shall, upon such evidence being produced as may from time to time be required by the directors, have the right, either to be registered as a member in respect of the shares or, instead of being registered himself/herself, to make such transfer of share as the deceased or bankrupt person could have made; but the directors shall, in either case, have same right to decline or suspend registration as they would have had in the case of transfer of the share by the deceased or bankrupt person before the death or bankruptcy.
- 27. Except as hereinafter provided no share in the company shall be transferred unless and until the rights of pre-emption hereinafter conferred shall have been exhausted.
- 28. Every member or other person referred to in article 26 hereof who intends to transfer shares (hereinafter called the vender) shall give notice in writing to the board of his intention. The notice shall constitute the board his agent for the sale of the said shares in one or more lots at the discretion of the board to members of the company at a price to be agreed upon by the vendor and the board, and in default of agreement, at a price which the auditor of the Company for the time being shall certify, by writing under his hand, to be in his opinion, the fair selling value thereof as between a willing vendor and a willing purchaser.
- 29. Upon the price being fixed as aforesaid the board shall forthwith give notice to all the members of the Company other than holders of employees' share of the number and price of the shares to be sold and

invite each of them to state in writing within twenty one days from the date of the said notice whether he is willing purchaser.

30. At the expiration of the said twenty-one days the board shall allocate the said shares to or among the member or members who shall have expressed his or their willingness to purchase as aforesaid, and (if more than one) so far as may be prorated according to the number of shares already held by them respectively, provided that no member shall be obliged to take more than the said maximum number of shares so notified by him as aforesaid. Upon such allocation being made the vendor shall be bound on payment of the said price to transfer the shares to the purchaser or purchasers. If he make default in so doing the chairman for the time being of the directors of the company or failing him one of the directors duly nominated by resolution of the board for that purpose shall forthwith be deemed to be duly appointed attorney of the vendor with full power to execute complete and deliver in the name and on behalf of the vendor a transfer of the shares to the purchasing money on behalf of the vendor and enter the name of the purchaser in the register of members as holder by transfer of the shares purchased by him.
31. In the event of the whole of the said shares not being purchased under article 28 the vendor may, at any time within six calendar months after the expiration of the said twenty-one days, transfer the shares not sold any person (subject to article 17) and at any price.
32. Articles 25,26,27,28 and 29 here of shall not apply to a transfer to a person who is already a member of the company, nor to a transfer merely for the purpose of effecting the appointment of new trustees, nor to a transfer by personal representatives to a legatee under the will of or to the husband, wife or next of kin of a deceased member, nor to a transfer by trustee to a beneficiary, provided that it proved to the satisfaction of the board that the transfer bona fide falls within one of these exceptions.

FORFEITURE OF SHARES AND EXPROPRIATION OF SMALL HOLDINGS

33. If a member fails to pay any call or installment of a call, on the day appointed for payment thereof, the directors may at any time thereafter during such time as any part of such call or installments remains unpaid, serve a notice on him requiring payment of so much of the call or installment as is unpaid, together with any interest which may have accrued.
34. The notice shall name a further day (not earlier than the expiration of fourteen days from the date of the notice) on or before which the payment required by the notice is to be made and shall state that in the event of

non-payment at or before the time appointed the shares in respect of which the call was made will be liable to be forfeited.

35. If the requirements of any such notice as aforesaid are not complied with, any shares in respect of which the notice has been given may at any time thereafter, before the payment required by the notice has been made, be forfeited by a resolution of the directors to that effect and such forfeiture shall extend to any dividends in respect of any shares so forfeited not actually paid at the date of the said notice.
36. A forfeited share may be sold or otherwise disposed of on such terms and in such manner as the directors think fit, and at any time before a sale or disposition the forfeiture may be cancelled on such terms as the directors think fit.
37. A person whose shares have been forfeited shall cease to be a member in respect of the forfeited shares, but shall notwithstanding, remain liable to pay to the company all moneys which, at the date of the forfeiture, were presently payable by him to the company in respect of the shares, but his liability shall cease if and when the company receive payment in the full of the nominal amount of the shares.
38. The holders for the time being of four fifths of the issued shares in the company shall be entitled at any time to purchase ex dividend all or any of the shares held by any member of the company at a price equal to the sum paid up thereon and upon the tender of that price by the holders of four fifths of the issued shares to any other member for the shares held by him that member shall execute transfer of the share to the members by whom the tender is made or their nominees in such shares and proportions as they shall direct. If the member to whom the tender is made neglects or refuses to accept the sum tendered or to execute transfers of the shares the company may on proof of his neglect or refusal accept and give a good discharge for the moneys tendered on behalf of the member to whom the same shall have been tendered, and the provisions of article 23 shall apply to the execution of transfer of the shares and the registration of the members by whom the tender was made or their nominees as owners of the said shares.
39. A statutory declaration in writing that declarant is a director of the company and that a share in the company has been duly forfeited or expropriated on a date stated in the declaration, shall be conclusive evidence of the facts therein stated as against all persons claiming to be entitled to the share. The company may receive the consideration, if any given for the shares in favour of the person to whom the share is sold or disposed of and he shall thereupon be registered as the holder of the share, and shall not be bound to see to the application of the purchase

money, if any nor shall his title to the share be affected by any irregularity or invalidity in the proceeding in reference to the forfeiture of expropriation, sale or disposal of the share.

40. The provisions of these articles as to forfeiture shall apply in the case of non-payment of any sum which by terms of issue of share, becomes payable at a fixed time, whether on account of the amount of the share, or by way of premium, as if the same had been payable by virtue of a call duly made and notified.

ALTERATION OF CAPITAL

41. The company may, from time to time by ordinary resolution increase the share capital by such sum, to be divided into shares of such amount as the resolution shall prescribe.
42. Subject to any direction to the contrary that may be given by the resolution sanctioning the increase of share capital, all new shares shall, before issue be offered to such persons as at the date of the offer are entitled to receive notices from the company of general meetings in proportion, as early as the circumstances admit, to the amount of the existing shares to which they are entitled. The offer shall be made by notice specifying the number of shares offered and limiting a time within which the offer, if not accepted, will be deemed to be declined, and after the expiration to that time or on receipt of an intimation from the person to whom the offer is made that he/her declines to accept the shares offered the directors may dispose of the same in such manner as they think most beneficial to the company. The directors may likewise so dispose of any new shares which (by reason of the ration which the new shares bear to shares held by persons entitled to an offer of new shares cannot in the opinion of the director, be conveniently offered under this article.
43. The new shares shall subject to the same provision with reference to payment of calls, lien, transfers, transmission, forfeiture, expropriation and otherwise as the shares in the original share capital.
44. The company may by any ordinary resolution:-
- (a) Consolidate and divide all or any of its share capital into shares of larger amount than existing shares.
 - (b) Sub-divide its existing shares or any of them, into shares of smaller amount than is fixed by the memorandum of association, subject, nevertheless, to the companies Act.
 - (c) Cancel any shares which, at the date of the passing of the resolution, have not been taken or agreed to be taken by any person and may by special resolution.

- (d) Reduce its share capital and any capital redemption reserve fund in any manner and with, and subject to, any incident authorized and consent required by law.

GENERAL MEETINGS

45. The company shall in each year hold a general meeting as its annual general meeting in addition to any other meetings in that year, and shall specify the meeting as such in the notices calling it, and not more than fifteen months shall elapse between the date of one annual general meeting and that of the next. Provided that so long as the company holds its first annual general meeting within eighteen months of its incorporation, it need not hold it in the year of its incorporation or in the following year. The annual general meeting shall be held at such time and at such place as the directors shall appoint.
46. All general meeting other than the annual general meeting shall be called extraordinary general meetings.
47. The directors may, whenever they think fit, convene an extraordinary general meeting. If at any time there are not within the United Republic of Tanzania sufficient directors capable of acting to form a quorum, any director or any member of the company may convene an extraordinary general meeting in the same manner as early as possible as that in which meeting may be convened by the directors.

PROCEEDINGS AT GENERAL MEETINGS

48. An annual general meeting and a meeting called for the passing of special resolution shall be called by twenty one days' notice in writing at the least and all other meetings by fourteen days' notice in writing at least. Such notice shall be exclusive of the day on which it is served or deemed to be served and of the day for which it is given and shall specify the place, the day and the hour of meeting and, in case of special business, the general nature of the business shall be given in the manner hereinafter mentioned, or in such other manner, if any as may be prescribed by company in general meeting to such persons as are under these articles, entitled to receive such notices from the company, but with the consent of all the members entitled to receive notice of some particular meeting, that meeting may be convened by such shorter notice and in such manner as those members may think fit.
49. The accidental omission to give notice to or the non-receipt of notice of a meeting by any members shall not invalidate the proceedings at any meetings.

50. All business shall be deemed special that is transacted at an extraordinary general meeting and all that is transacted at an annual general meeting, with the exception of sanctioning a dividend, the consideration of the accounts and balance sheet and the ordinary report of the directors and auditors, the election of directors in the place of those retiring by rotation, and the appointment and fixing of the remuneration of the directors.
51. No business shall be transacted by at any general meeting unless a quorum or members is present at the time when the meeting proceeds to business, same as herein otherwise provided two members personally present shall be a quorum.
52. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if convened upon the requisition of members, shall be dissolved and any other case it shall stand adjourned to the same day in next week, a the same time and place and if at the adjourned meeting a quorum is not present within half an hour from the time appointed for the meeting the meeting shall be dissolved.
53. The chairman, if any of the board of directors shall preside as chairman at every general meeting of the company.
54. If there is no such chairman, or if at any meeting he is not present within fifteen minutes after the time appointed for holding the meeting or is unwilling to act as chairman, the members present shall choose someone of their member to be chairman.
55. The chairman may, with the consent of any meeting at which a quorum is present (and shall if so directed by the meeting), adjourn the meeting from time to time and from place to place, but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place. When a meeting is adjourned for thirty or more days, notice of the adjourned meeting shall be given as in the case of an original meeting. Save as aforesaid it shall not be necessary to give an notice of any adjournment or of the business to be transacted at an adjourned meeting.
56. At any general meeting a resolution put to the vote of the meeting shall be decided on a show of hands, unless a poll is (before or on the declaration of the result of the show of hands) demanded by at least one member entitled to vote present in person or by proxy and unless a poll is so demanded, a declaration by the chairman that the resolution has, on a show of hands, been carried or carried unanimously, or by particular majority or lost and an entry to that effect in the minute book shall be conclusive evidence of the fact without proof of the number poor proportion of the votes recorded in favour of or against the resolution.

57. If a poll is duly demanded it shall be taken in same manner as the chairman directs and the result of the poll shall be deemed to be a resolution of the meeting at which the poll was demanded.
58. In the case of an equality of votes, whether on a show of hands or on a poll, the chairman of the meeting at which the show of hands takes place, or at which the polls demanded, shall be entitled to a second or casting vote.
59. A poll demanded on the election of a chairman, or in a question of adjournment, shall be taken forthwith. A poll demanded on any other question shall be taken at such time as the chairman of the meeting directs.
60. Any ordinary resolution of the company determined on without any general meeting and evidenced by writing under the hands of all the directors or a sole director and of members of the company holding three-fourths of the issued shares of the company shall be as valid and effectual as an ordinary resolution duly passed at a general meeting of the company duly convened and held.

VOTES OF MEMBERS

61. On a show of hands every member present in person shall have one vote, on a poll every member shall have one vote for each shares of which he is the holder.
62. In the case of joint holders the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint holders and for this purpose seniority shall be determined by the order in which the names stand in the register of member.
63. A member of unsound mind, or in respect of whom an order has been made by any court having jurisdiction in lunacy, may vote, whether on a show of hands or on a poll, by his committee a curator bonus, or other person in the nature of a committee or curator bonus appointed by that court and any such committee, curator boons, or other person may, on a poll, vote by proxy.
64. No member shall be entitled to vote at any general meeting unless all calls or other sums presently payable by him/her in respect of shares in the company have been paid.

65. No objection shall be raised to the qualification of any voter except at the meeting or adjourned meeting at which the vote objected to is given or tendered, and every vote not disallowed at such meeting shall be valid for all purpose. Any such objection made in due time shall be referred to the chairman of the meeting whose decision shall be final and conclusive.
66. On a poll votes may be given either personal or by proxy.
67. The instrument appointing a proxy shall be in writing under the hand of the appointer or his attorney duly authorized in writing, or if the appointer is a corporation, either under the common seal, or under the hand of an officer or attorney so authorized. A member shall not be entitled to appoint more than one proxy to attend on the same occasion nor may a proxy vote except at a poll.
68. The instrument appointing a proxy and the power of attorney or other authority, if any under which it is signed or a naturally certified copy of that power or authority shall be deposited at the registered officer of the company not less than forty-eight hours before the time for holding the meeting, or adjourned meeting, or taking of the poll at which the person named in the instrument proposes to vote and in default the instrument of proxy shall not be treated as valid.
69. An instrument appointing a proxy may be in the following form, or in any other form which the directors shall approve: -
 Limited "I.....of, Being a member of the Limited, hereby appoint..... of to act as my proxy to vote for me and on my behalf at the ordinary (or extraordinary, as the case may be) general meeting of the company to be held on theday ofand at any adjourned meeting thereof".
- Signed this.....day of2012.....
70. Any corporation which is a member of the company may by resolution of its directors or other governing body authorize such person as it thinks fit to act as its representative at any meeting of the company and the person so authorized shall be entitled to exercise the same powers on behalf of the corporation which he represents as that corporation could exercise if it were an individual member of the company.

DIRECTORS

71. The first directors shall be not less than two in number and shall be appointed by the subscribers to the Memorandum of Association. Unless

and until otherwise determined by the company by ordinary resolution, the number of directors shall not be less than two.

72. The name of the first directors of the company are as follows:-
1. JIAN GUO, BAO
 2. XIN MING, ZHAO
 3. GUI YU, LIU
73. (1). The remuneration of the directors shall from time to time be determined by the company in general meeting.
- (2) In addition to their usual remuneration the directors shall also be paid such traveling, hotel and other expenses as may reasonably be incurred by them in the exercise of their duties, including any such expenses incurred in connection with their attendance at meetings of directors.
74. Any director may in writing appoint any person, who is approved by the majority of the directors to be his proxy and to represent him in meetings, which he/her is unable to be present. Every such alternate shall be entitled to notice of meeting of the directors and to attend and vote there at as a director when the person appointing him is not personally present, and where he/her is a director, to have a separate vote on behalf of the director he is representing in addition to his own vote. A director may at any time in writing revoke the appointment of an alternate appointed by him. Every such alternate shall be an officer of the company and shall not be deemed to be the agent of the director appointing him/her. The remuneration of such alternate shall be payable to the director appointing him/her and the proposition thereof shall be agreed between them. An alternate director need not hold any share qualification.
75. A director and alternate director shall not require a share qualification by nevertheless shall be entitled to attend and speak at any general meeting of the company and at any separate meeting of the holders of any class of shares in the company.
76. The company may by extraordinary resolution remove any director before the expiration of his period of office, and may by an ordinary resolution appoint another person in his/her stead. A vacancy occurring in the board of directors may be filled up by the company by an ordinary resolution.

POWER AND DUTIES OF DIRECTORS

77. The business of the company shall be managed by the directors, who may pay all expenses incurred in forming and registering the company, and may exercise all such powers of the company as are not, by the companies Act 2002 or any statutory modification thereof, for the time being in force, or by these articles, require to be exercised by the company in general meeting subject nevertheless to the provisions of these articles and of the said ordinance and the exercise of such powers shall be subject to control of any general meeting of the company specially convened for the purpose, but no resolution of the company in general meeting shall invalidate any prior act of the directors which would have been valid if that resolution had not been passed.
78. The directors may from time to time appoint one or more of their body to the office of managing director or manager for such term and at such remuneration (whether by way of salary or commission or participation in profits, or partly in one way and partially in another) as they may think fit. The office of managing director shall be subject to determination ipso fact if he ceases from any cause to be a director, or if the company in general meeting resolves that his/her tenure of the office of managing director or manager be determined.
79. The directors may exercise all the powers of the company to borrow money and to mortgage or charge its undertaking, property, uncalled capital, or any part thereof and to issue debentures, debenture stock, and other securities whether outright or as security for any debt, liability or obligation of the company or of any third party.
80. The directors shall duly comply with the provisions of the Companies Act, 2002 or any statutory modification thereof for the time being in force, and particular with the provisions in regard to registration of the particulars of mortgages and charges affecting the property of the company, or created by it, and to keeping a register of the directors and secretaries and to sending to the Registrar of Companies and annual list of members, and a summary of particulars relating thereto, and notice of any consolidation or increases of shares capital, or conversion of shares into stock, and copies of special and extraordinary resolution, and a copy of the register of directors and notification of any changes therein.
81. The directors shall cause minutes to be made in the books provided for the purpose:-
- (a) Of all appointments of officers made by the directors.
 - (b) Of the names of the directors present at each meeting of the directors and of any committee of the directors.

- (c) Of all resolutions and proceedings at all meetings of the Company, and of the directors and of committees of directors and every director present at any meeting of directors shall sign his/her name in a book to be kept for that purpose.

DISQUALIFICATION OF DIRECTORS

82. The office of any director shall be vacated, if the director:-
- (a) Resigns his office by notice in writing to the company; or;
 - (b) Becomes bankrupt in this Territory or in any other territory which is declared to be a reciprocating territory under section 147 of the Bankruptcy Ordinance; or
 - (c) Is found to be lunatic or becomes unsound mind or
 - (d) Is punished with imprisonment of a term exceeding six months without the option of fine; or
 - (e) Is requested in writing by all his/her co-directors to resign.
- 83 Any director or any company or firm of which a director is a member, may/or enter into contracts with the company and any director or shareholder in respect of such contract and retain for his own use profit made by him under any such contract, provided always that unless he be at the time sole director he must disclose his interest to his co-directors before the contract is entered into by the directors, and if he be at the time sole director and is interested the contract must be entered into by the company in general meeting and before the contract is entered into the director or directors must disclose his or their interest to the meeting.

PROCEEDINGS OF DIRECTORS.

84. The directors may meet together for the dispatch of, adjourn and otherwise regulate their meetings, as they think fit. Any question arising at any meeting shall be decided by a majority of votes, in case of any equality of votes the chairman shall have a second or casting vote. A director may, and the secretary on the requisition of a director shall, at any time summon a meeting of the directors.
85. The quorum necessary for the transaction of the business of the directors may be fixed by the directors and unless so fixed shall be two.
86. The continuing directors may act notwithstanding any vacancy in the body, but, if and so long as their number is reduced below the number fixed by or pursuant to these articles as the quorum of directors, the continuing director may act for the purpose of increasing the number of directors to that number, or summoning a general meeting of the company, but for no other purpose.

87. The directors may elect a chairman of their general meeting and determine the period for which he is to hold office, but if no such chairman is elected, or if at any meeting the chairman is not present within five minutes after the time appointed for holding the same, the directors present may choose one of their number to be chairman of their meeting.
88. The directors may delegate any of their powers to committees consisting of such members of their body as they think fit, any committee so formed shall in the exercise of the powers so delegate conform to any regulation that may be imposed on them by the directors.
89. A committee may elect a chairman of their meeting, if no such chairman is elected, or if at any meeting the chairman is not present within five minutes after the time appointed for holding the same, the members present may choose any of their number to be chairman of the meeting.
90. A committee may meet and adjourn as they think proper. Questions arising at any meeting shall determine by a majority of votes of the members present, and in the case if any equality of votes the chairman shall have a second or casting vote.
91. All acts done by any meeting of the directors or of a committee of directors, or any person acting as a director, shall, notwithstanding that it is afterwards discovered that there was some defect in the appointment of any such directors or persons acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such person had been duly appointed to be a director.
92. A resolution determined on without any meeting of directors and evidenced by writing under the hands of all directors, or sole director, or of all members of a committee, or of sole member of a committee, shall be as valid and effectual as resolution duly passed at meeting of the directors or of such committee.

MANAGING DIRECTOR

93. The directors may from time to time appoint a Managing Director who may not necessarily be out of their body for such a period and on such terms as they think fit, and subject to the terms of agreement entered into any such particular case, may revoke such an appointment.
94. Managing Director shall receive such remuneration as the Directors may determine.

SECRETARY

95. The Directors shall appoint a Secretary of the Company on such terms, at such remuneration and upon such condition, as they may think fit, and they may remove the Secretary appointed by director's board resolution.

THE SEAL

96. The Director shall provide for the safe custody of the seal. The seal shall only be used by the authority of the Directors or of a Committee of the Directors authorized by the Directors. The Directors may determine who shall sign any instrument to which the seal is affixed and unless otherwise so determined it shall be signed by a Director and by the Secretary or by a second Director.

DIVIDENDS AND RESERVE

97. The company in general meeting may declare dividends, but no dividend shall exceed the amount recommended by the directors.
98. The directors may from time to time pay to the members such interim dividends as appear to the directors to be justified by the profit of the company.
99. No dividends shall be paid otherwise than out profits.
100. Subject to the rights of persons, if any, entitled to shares with special rights as to dividends all dividends shall be declared and paid according to the amounts paid on the shares, but if and so long as nothing is paid up on any of shares in the company dividends may be declared and paid according to the amount of the shares. No amount paid on a share in advance of call shall, while carrying interest, be treated for purpose of this article as paid on the share.
101. The directors may, before recommending any dividend, set aside out of the profits of the company such sums as they think proper as a reserve or reserves which shall, at the discretion of the directors, be applicable for meeting contingencies, or for equalizing dividends, or for any other purpose to which the profit of the company may be properly applied, and pending such application may, at the like discretion, either be employed in the business of the company or be invested in such investments (other than shares of the company) as the directors may from time to time think fit.

102. If several persons are registered as joint holders of any share any one of them may give effectual receipts for any dividends payable on the shares.
103. No dividend shall bear interest against the company.

ACCOUNTS

104. The directors shall cause proper books of accounts to be kept with respect to:-
All sums of money received and expended by the company, and the matters in respect of which the receipt and expenditure takes place.
All sales and purchase of goods by the company and the Assent and liabilities of the company.
Proper books of account mean such books as are necessary to give a true and fair view of the state of the company's affairs and to explain its transaction.
105. The books of accounts shall be kept at the registered office of the company, or at such other place or place as the directors think fit, and shall always be open to the inspection of the directors.
106. The directors shall from time to time determine whether and to what extent and at what time and places and under what conditions or regulations the accounts and books of the company or any of them shall be open to the inspection of members not being directors, and no member (not being a director) shall have any right of inspecting any account or book or document of the company except as conferred by statute or authorized by the directors or by the company in general meeting.
107. The directors shall from time to time in accordance with section 153 of the Companies Act 2002 or any statutory modification thereof for the time being in force, cause to be prepared and to be laid before the company in general meeting such profit and loss accounts, balance sheet, group accounts (if any) and reports as are referred to in those sections.
108. A copy of every balance sheet (including every document required by the law to be annexed thereto) which is to be laid before the company in General meeting before the date of the meeting together either a copy of the auditors report, shall not less than twenty one days be sent to every member of, and every holder of debentures of, the company and to every person registered under regulations 19. Provided that the regulation shall not require and copy of those documents to be sent to any member of whose address the company is not aware or to more than one of the joint holders of any shares or debentures.

CAPITALISATION OF PROFITS

109. The company in general meeting may upon the recommendation of the directors resolve that it is desirable to capitalize any part of the amount for the time being standing to the credit of any of the company's reserve accounts or to the credit of the profit and loss account or otherwise available for distribution, and accordingly that such sum be set free for distribution amongst the members who would have been entitled there to distributed by law of dividend and in the same proportions on conditions that the same be not paid in cash but be applied either in or towards paying up any amounts for the time being unpaid on any shares held by such members respectively or paying up in full un issued shares or debentures of the company to be allotted and distributed, credited as fully paid up to and amongst such members in the proportion aforesaid, or partly in the one way and partly in the other, and the directors shall give effect to such resolution.

Provided that a shares premium account and capital redemption reserve fund may, for the purpose of this regulation, only be applied in the paying up of un issued shares to be issued to members of the company as fully paid bonus share.

110. Whenever such resolution as aforesaid shall have been passed the directors shall make all appropriations and applications of the undivided profits resolved to be capitalized thereby, and all allotments and issue of fully paid up shares or debentures, if any, and generally shall do all acts and things to give effect thereto with full power to the directors to make such provision by the issue of fractional certificates or by payment in cash or otherwise as they as they think fit for the case of shares or debentures becoming distributable in fractions, and also to authorize any person to enter on behalf of all members entitled thereto into an agreement with the company providing for the allotment to them respectively, credited as fully paid up or any other shares or debentures to which they may be entitled up on such capitalization, or (as the case may require) for the payment up by the company or their behalf, by the application thereto of their respective proportions of the profits of the resolved to the capitalized of the amounts or any part of the amounts remaining unpaid on their existing shares, and any agreement made under such authority shall be effectively and binding on all such members.

AUDIT

111. Once at least in every year the accounts of the Company shall be examined and the correctness of the balance sheet ascertained by an auditor.

112. The Directors shall appoint the first auditor who will hold office until the first annual general meeting.
113. The Directors may fill up any a casual vacancy in the office of auditor.
114. The remuneration of the auditor shall be fixed by the Company in general meeting, except that the remuneration of any auditor appointed by the Directors may be fixed by the Directors.

NOTICES

115. A notice may be given by the company to any member either personally or by sending it by post to him or to his registered address, or (if has registered address in Tanzania, to the address, if any, within Tanzania supplied by him to the company for the giving of notices to him. Where a notice is sent by post, service of the notice shall be deemed effected by properly addressing, prepaying and posting a letter containing the notice and, unless the contrary is proved, to have been effected at the time at which the letter would be delivered in the ordinary course of post.
116. If a member has no registered address in Tanzania and has not supplied to the company an address within the Republic of Tanzania for the giving of notices to him, a notice to him, a notice addressed to him/her, and displayed in the registered office of the company, shall be deemed to be duly given on the day on which it is so displayed.
117. A notice may be given by the company to the joint holders of a share by giving the notice to the joint holder named first in register in respect of the share.
118. A notice may be given by the company to the persons entitled to a share in consequence of the death or bankruptcy of a member by sending it through the post in a prepaid letter addressed to them by name of the title of representatives of the deceased, or trustees of the bankrupt, or by any like description, at the address if any in the United Republic of Tanzania supplied for the purpose by the persons claiming to be so entitled, or (until such an address has been so supplied) by giving the notice in any manner in which the same might have been given if the death or bankruptcy had not occurred.
119. Notice of any general meeting shall be given in the same manner hereinbefore authorized to (a) every member of the company except those members who (having no registered address within the United Republic of Tanzania) have not supplied to the company an address within the United Republic of Tanzania) have not supplied to the company an address within the United Republic of Tanzania for the giving of notices to

then, (b) every person entitled to share in consequence of death or bankruptcy or a member, who, but for his death or bankruptcy, would be entitled to receive notice of the meeting and (c) the auditors for the time being of the company. No other person shall be entitled to receive notices of general meetings.

WINDING UP

120. If the company shall be wound up the liquidator may, with the sanction or an extraordinary resolution of the company and any other sanction required by the Companies Act, 2002 divide amongst the members in specie or kind the whole or any part of the assets of the company (whether they shall consist of property of the same kind or not) and may, for such purpose set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different classes of members. The liquidator may, with sanction, vest the whole or any part of the assets in trustees up on such trusts for the benefit of the contributors as the liquidator, with the like sanction shall think fit, but so that no member shall be compelled to accept any shares or other securities whereon there is any liability.




INDEMNITY

121. Subjected to the provisions of the companies Act, 2002 every director, Managing director, agent, auditor, secretary and other officer for the time being of the Company shall be indemnified in any proceedings, whether civil or criminal, in which judgment is given in his favour or in which he is acquitted.

ALTERATIONS OR ADDITIONS

122. Subject to the provisions of the Act and to those contained in the Memorandum of Association, the Company may by special resolution make alterations or additions to the Articles of Association and any such alterations or additions as made shall be as valid and effectual as if originally contained in these Articles and be subject in like manner to alteration by Special Resolution.

We, the several persons whose names and addresses are subscribed, are desirous of being formed into a company, in pursuance of this Memorandum of Association, and we respectively agree to take the number of shares in the capital of the company set opposite or respective names.

Names, Postal Address and Occupations of Subscribers	Number of shares taken by each Subscriber	Signatures of Subscriber
1. JIAN GUO, BAO P.O. Box 19828 DAR ES SALAAM	12,500	
2. XIN MING, ZHAO P.O. BOX 19828 DAR ES SALAAM	12,500	
3. GUI YU, LIU P.O. BOX 33772 DAR ES SALAAM	25,000	

Date at Dar es Salaam..... 17th day of Jan 2012

WITNESS to the above Signatures:-

Full Name:

Signature: 

Postal/Address: 23167, D'SALAAM

Qualification: ADVOCATE

She O. Chikoma
Attorney-Notary Public
& Commissioner for Courts

- Process of Minerals -

FEASIBILITY STUDY

FOR

RZ UNION MINING COMPANY LIMITED

GOLD AND COPPER PROCESSING PROJECT

PREPARED BY

MS. RZ UNION MINING COMPANY LIMITED

Dar es Salaam

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1.0 INTRODUCTION

1.1 Foreword

The Tanzania Government is emphasizing p on its long – term industrial plan of strengthening the metal and engineering sub- sector in the country.

The private sector has also been paying a vital role in the development of this basic industry, mainly by establishing service- oriented engineering workshops which provide maintenance and repair services.

The National demand was established to be more than 400,000 tons per annum .Indications that the demand is increasing fast and is now closed to 700,000 tons per annum

One of the basic necessities for the establishment of this basic industry is the availability of an adequate local market for its output. It is rational for local Governments, therefore , to encourage and promote the growth of the local engineering sub- sector which will ultimately consume the local based copper & iron and steel industry's output. A recently established local firm, **MS. RZ UNION MINING COMPANY LIMITED** has realized the potential this country has in terms of steel scrap, Copper and steel products markets. It is now contemplating putting up a complex that will refine steel and copper to produce various types of goods.

1.2 Objective of Study

The purpose of this feasibility study is to work out the technical and commercial details and financial viability for the establishment of Melting / refinery facilities for Copper and metal products for various and users such as civil work construction and engineering works.

1.3 Project Promoters

The proposed copper and steel mill is being promoted by a locally registered company namely **MS. RZ UNION MINING COMPANY LIMITED** of P.O Box 19828, Dar es Salaam

Name of Director	Percentage Share	Nationality
JIAN GUO BAO	45.5	CHINESE
XIN MING ZHAO	45.5	CHINESE
GUI YU LIU	9	CHINESE

2.0 EXECUTIVE SUMMARY

2.1 Introduction

This study examines the possibility for the establishing a Melting facilities for Copper and metal to produce copper bars and Various metal products by using induction furnace and hot rolling technologies and locally available metal products and imported copper from Zambia . A techno- economic evaluation has been carried out to determine the viability of the project idea.

2.2 Market and Marketing Aspect

The market survey carried out reveals that he demand for steel and copper products raising rapidly.

The survey concludes that the proposed production of about 4,800 tons of Metal copper products per annum will not face any market problems.

2.3 Process and Technology

There are various methods for Smelting/ Refining copper and metal. The most widely used method is the basic process. The method for iron smelting is of two type's .This includes the converted and the heath methods. The electric methods fall under the heath method and employ electricity as the energy for melting the inputs.

Two methods are used, namely the arc furnace and induction furnace. The former uses electrodes for current circulation while the latter used frequency. The proposed project will employ the induction method, a method which is more economical for high quality steel.

The process involved sorting out the crucible of the furnace, heating and melting it and finally pouring the liquid steel into moulds where they solidify. Thereafter the ingots are reheated to even internal temperatures

and then hot- rolled .The requisite machinery for the production include a 4 tone charge induction furnace, a reheating furnace and steel re-rolling induction accessories such as pouring and moulding equipment.

2.4 Production Inputs

The most critical inputs in to the plant are metal and copper, electric power in the magnitude of 2000 KVA will be required and this amount will be required and this amount will be supplied by Tanzania Electric Supply Company Limited

A considerable amount of water will be required for cooling .However, it will be recycles. Other production inputs include fuel oil, alloying elements, graphite powder and limestone.

2.5 Location

The plant will be located at Tanzania.

2.6 Manpower Requirements

The plant Management will comprise 3 people out of a total workforce of 142 people. There will be 81 operators, 4 expatriates and the rest in direct workforce. The plant will operate on a3- shift per day basis. The plant will be organized into three departments, namely production, , finance and Administration and technical services(repair , maintenance and quality control).

2.7 Implementation

The Major activities include registration and approval by the Tanzania Investment Centre and mobilization of funds from sponsors and banking instutions. Civil works design, tendering and construction will be carried out immediately after project is approved and would take about six months.

Machinery will be ordered after funds are committed. These will be fabricated shipped for activities related to machinery up to their receipt at site .

Training machinery installation and commissioning will be undertaken within another two months.

Activities related to civil works and machinery will take place simultaneously.

2.8 Project Economics

2.8.1 Capital Investment Requirements

DESCRIPTION	TOTAL
Land and Building	900,000
Plant & Machinery	1,200,000
Furniture & Fitting	90,000
Vehicle	800,000
Pre- Operational Expenses	40,000
Working Capital	900,000
TOTAL INVESTMENT	3,030,000

2.8.2 Financing Scheme

i) Fixed Assets and Pre- Operational Costs

US\$

Equity 3,030,000

Total 3,030,000

2.9 Recommendations

The study shows that steel & copper production is both technically and financially feasible. Furthermore, it will cut down on imports of this important product. In view of the findings the project is recommended for implementation

3.0 MARKET AND MARKETING

3.1 Product

The product which this steel and copper plant is going to produce for sale is various copper and metal products.

3.2 Demand

Demand for the proposed product has been derived on the basis of the end use method. The products are used in various ways from buildings and other civil work constructions, in manufacturing of security grills and fences and as raw materials for manufacture of industrial products and machinery parts to industries.

Copper also is one of the basic chemical elements. In its nearly pure state, copper is a reddish- orange metal known for its high thermal and electrical conductivity. It is commonly used to produce a wide variety of products, including electrical wire, cooking pots and pans, pipes and tubes, automobile radiators and many others .Copper is also as a pigment and preservative for paper, paints, textiles and wood. It is combined with zinc to produce brass and with tin to produce bronze.

There is high demand for steel & copper products as Raw materials for manufacture of Industrial products and machinery parts. The demand for these products as raw material for the manufacture of industrial products and machinery parts, analysis has revealed there is an increase which is caused by shortage of raw materials, old machineries and import of manufactured goods.

Given the current improvements in the national economy, it is expected that the average capacity utilization of the past 5 years to at least 70%. It is also expected that the average growth rate of usage of steel bars as raw materials will equal to the growth rate of GDP for the industrial sector, currently at 3.4 %.

3.3 Supply

There exist numerous factors which supply metal and copper products. The quantity has been declining over the years. The declining trend is as

a result of increasing number of steel companies being opened in the country.

Distribution Channels

Steel & Copper products are heavy and bulky products. Hence they can be easily distributed to find consumers either directly (one level channel) to final consumers or by using only one intermediary who will resale to final consumers (two level channel)

3.4 Promotion

Experience of selling this product prescribes that they can be easily sold through personal selling (personal solicitations of orders) to potential big customers and advertisement with emphasis on product availability quality and persuasion.

4.0 PRODUCTION PROCESS AND TECHNOLOGY

4.1 Production Processes for Steel

On the basis of steel refining steel making processes fall into two chemical divisions namely:

- Acidic process
- Basic process

The terms acid and basic refer to the furnace linings and the nature of the slag formed. The bulk of steel production today is in basic processes. This is because of the quality of iron ore mostly used.

Modern steel making processes are divided into two groups as follows:-

a) Converter Method

In this method air or oxygen is blown from the top or bottom of a converter through molten iron oxidizing the impurities. Air blown processes include the Bessemer's method (acidic) in which the melting vessel is lined with silica and basic Bessemer (Thomas method) where a converter acts as a basic lining

Oxygen blown process is divided into top blown which is good for phosphorus poor and which oxygen is injected through nozzles set in the

converter bottom. There are a methods differing in the way oxygen is fed. The converter method is best used for refining and alloying of steel.

b) Hearth Process

In the health process iron is melted and refined into steel in the same vessel .The process included open heart, electric air furnace, and plasma and induction methods .In the heath process the source of melting energy can be electricity.(e.g in electric are furnace induction furnace ad plasma method) gas or oil (e.g in open hearth furnace) and the input raw material ranges from liquid metal to solid metal e.g scrap.

When special technological properties and / or clean steel are required, other methods or secondary metallurgy are employed i.e treatment of steel ousted the melting vessel- ladle metallurgy.

c) Induction Furnace and Hot Rolling

The induction furnace steel making and hot rolling processes are the technologies desired by the project promoters. The details or the said processes are as under.

The induction furnace steel- making process is most suitable and economical for production of steel castings and high quality steel grades.

This is because in this furnace the durability of based refractories is quite low and meets more frequent relatively small furnaces and the largest is about 10 tons of liquid steel per heat. Other steel production technologies are advisable when producing large steel quantities and low quality steel.

In the frequency induction furnace the heat for melting and superheating the scrap in the furnace crucible is generated in the charge itself by eddy currents induced by the magnetic field set up by an alternating current, i.e the charge acts as the secondary circuit and copper coils at the

primary winding circuit. Due to its oscillating nature nature the current changes polarity many times per second thus melting the change very rapidly.

Induction furnaces use mainly steel scrap as raw material and electricity as a source of melting energy. Availability of adequate quantities when planning for this technology. Noteworthy is that scrap prices change in accordance with supply and demand therefore the economics of this type of steel- making depends primarily on scrap availability.

d) Scrap Processing

Scrap can be from machining works e.g chips, trimmings,. Forging and stamping wastes, worn out machines, rolling stock, vehicle, rails, domestic appliances etc.

In view of the different sources, scrap can be of varying composition and does not have uniform composition.

Scrap is contaminated with sulphure – containing lubricating oils, chips etc, and non- ferrous metals (lead aluminum, tin, copper, zinc, etc) These metals are harmful to the working personnel, steel making equipment and steel quality.

Scrap processing is normally associated with the following activities and facilities:-

- Sorting the scrap for unwanted materials
 - Large size scrap are broken into pieces with hammers or hydraulic press or cut into smaller pieces using oxygen/ acetylene flame.
 - Steel chips or light scrap are crushed and presses into bales
 - Special furnaces are employed for scrap burning (to burn off wood, plastics, oils etc)
- i. Scrap Melting and steel Refining and Alloying

The sorted steel scrap will be put into baskets and fed into the crucible of the furnace where it is melted by induction method as described above.

Some additives which regulate the composition of the steel are also added into the crucible.

e) Ingot Casting

After the steel scrap in the furnace has melted down the furnace will be tilted and the melted surface charges will pour through the launder into a teeming ladle placed below it.

The liquid metal in the ladle is then poured (cast) into a number of specially prepared smaller containers (ingor moulds) Thereafter the melt is allowed to solidify.

It is advisable to retain 10% of liquid steel in the furnace to facilitate the melting of fresh scrap.

f) Re- Heating the Ingots

After the ingots have solidified, it may be worked immediately. However the ingots tend to be somewhat cooler on their outside than their centres. Therefore before they are rolled they will be put into a reheating furnace in which the sectional temperatures of the ingots are equalized .Uniform temperature is important before rolling, otherwise it results into rolled products with cracks and fissures.

Recommended rolling temperatures for mild steel is around 1100C.

The recommended technology offers a considerable saving in energy because ingots from the steel mill will be sent for re- rolling almost immediately. Only slight reheating will therefore be required.

g) Steel Hot- Rolling Process

The hot steel ingots are then fed into the rolling mills.

Rolling is the process of passing a heated ingot between the rolls revolving at the same peripheral speed and in opposite directions.

As the roll grip the work piece, they apply forging and kneading pressure the effect being that of increasing the work piece length appreciably and the width slightly.

Thereafter the rolled bars are left to cool and sold as final product.

4.2 PRODUCTION PROCESS FOR COPPER

Copper is one of the basic chemical elements. In its nearly pure state, copper, is a reddish orange metal known for its high thermal and electrical conductivity. It is commonly used to produce a wide variety of products, including electrical wire, cooking pots and pans, pipes and tubes, automobile radiators and many others. Copper is also used as a pigment and preservative for paper, paint, textiles and wood. It is combined with zinc to produce brass and with tin to produce bronze.

4.2.1 Raw Materials

Pure copper is rarely found in nature, but is usually combined with other chemicals in the form of copper ores. There are about 15 copper ores mined commercially in 40 countries around the world. The most common are known as sulfide ores in which the copper is chemically bonded with sulfur. Others are known as oxide ores, carbonate areas or mixed ores depending on the chemicals present. Many copper ores also contain significant quantities of commercially useless material. The most common sulfide ore chalcopyrite, Cu_2S , is another sulfide ore, Cuprite or red copper ore, Cu_2O , is an oxide ore Malachite or green copper ore, $Cu(OH)_2$ $CuCO_3$, is an important carbonate ore, as is

azurite or blue copper carbonate, $\text{Cu}(\text{OH})_2\text{CuCO}_3$. Other ores include tennantite boronite, chrysocolla, and atacamite. In addition to the ores themselves, several other chemicals are often used to process and refine copper. These include sulfuric acid, oxygen, iron, silica and various organic compounds, depending on the process used.

4.3.2 THE MANUFACTURING PROCESS

Process

The process of extracting copper from copper ore varies according to the type of ore and the desired purity of the final product. Each process consists of several steps in which unwanted materials are physically or chemically removed, and the concentration of copper is progressively increased. Some of these steps are conducted at the mine site itself, while others may be conducted at separate facilities.

Here are the steps used to process the sulfide ores commonly found in the western United States.

(a) Mining

Most sulfide ores are taken from huge open pit mines by drilling and blasting with explosives. In this type of mining, the material located above the ore, called the overburden, is first removed to expose the buried ore deposit. This produces an open pit that may grow to be a mile or more across. A road to allow access for equipment spirals down the interior slopes of the pit.

1) The exposed ore is scooped up by large power shovels capable of loading 500- 900 cubic feet (15-25 cubic meters) in a single bite. The ore is loaded into giant dump trucks, called haul trucks, and is transported up and out of the pit.

(b) Concentrating

The copper ore usually contains a large amount of dirt, clay, and a variety of non-copper bearing minerals. The first step is to remove

some of this waste material. This process is called concentrating and is usually done by the flotation method.

- 1) The ore is crushed in a series of cone crushers. A cone crusher consists of an interior grinding cone that rotates on a recent vertical axis, inside a fixed outer cone. As the ore is fed into the top of the crusher, it is squeezed between the two cones and broken into smaller pieces.

- 2) The crushed ore is then ground even smaller by a series of mills. First it is mixed with water and placed in a rod mill, which consist of a large cylindrical container filled with numerous short lengths of steel rod. As the cylinder rotates on its horizontal axis, the steel rods tumble and break up the ore into pieces about 0.13 in (3 mm) in diameter .The mixture of ore and water is further broken up in two ball mills, which are like a rod mill except steel balls are used instead of rods. The slurry of finely ground ore that emerges from the final ball mill contains particles about 0.01 in(0.25 mm) in diameter.

- 3) The slurry is mixed with various chemical reagents, which coat the copper particles. A liquid, called a frother, is also added. Pine oil or long- chain alcohol are often used as frothers.This mixture is pumped into rectangular tanks, called flotation cells, where air is injected into the slurry through the bottom of the tanks.The chemical reagents make the copper particles cling to the bubbles as they rise to the surface. The frother forms a thick layer of bubbles are allowed to condense and the water is drained off. The resulting mixture, called a copper concentrate, contains about 25 - 35% copper along with various sulphides of copper and iron, plus smaller concentrations of gold, silver and other material ..The remaining materials in the tank are called the gangue or tailings. They are pumped into settling ponds and allowed to dry.

- 4) The process of extracting copper from copper ore varies according to the type of ore and the desired purity of the final product. Each process consists of severally removed, and the concentration of copper is progressively increased.

c) Smelting

Once the waste material have been physically removed from the ore, the remaining copper concentrate must undergo several chemical reactions to remove the iron and sulfur. This process is called smelting and traditionally involves two furnaces as described below. Some modern plants utilize a single furnace, which combined both operations.

- 1) The copper concentrate is fed into a furnace along with a silica material called a flux. Most copper smelters utilize oxygen Enriched air is forced into the furnace to combust with fuel oil. The copper concentrate and flux melt, and collect in the bottom of the furnace. Much of the iron in the concentrate chemically combines with the flux to form a slag, which sculpture in the concentrate combines with the oxygen to form sulphur dioxide which is exhausted from the furnace as a gas and is further treated in an acid plant to produce sulphuric acid. The remaining molten mixture in the bottom of the furnace is called the matte. It is a mixture of copper sulphide and iron sulphides and contains about 60% copper by weight.
- 2) The molten matter is drawn from the furnace and poured into a second furnace called a converter. Additional silica flux is added and oxygen is blown through the molten material. The chemical reactions in the converter are similar to those in the flash furnace. The silica flux reacts with the remaining sulphur to form sulphur dioxide. The slag may be fed back into the flash furnace to act as a flux, and the sulphur dioxide is processed through the acid plant. After the slag is removed, a final injection of oxygen removes all but a trace of sulphur. The

resulting molten material is called the blister and contains about 99% copper by weight.

d) Refining

Even though copper blister is 99% pure copper, it still contains high enough levels of sulfur, oxygen and other impurities to hamper further refining. To remove or adjust the levels of these materials, the blister copper is first fire refined before. It is sent to the final electro refining process.

- 1) The blister copper is heated in a refining furnace, which is similar to a converter described above. Air is blown into the molten blister to oxidize some impurities. A sodium carbonate flux may be added to remove traces of arsenic and antimony. A sample of the molten material is drawn and an experienced operator determines when the impurities have reached an acceptable level. The molten copper, which is about 99.5% pure, is then poured into moulds to form large electrical anodes, which act as the positive terminals for the electro refining process.
- 2) Each copper anode is placed in an individual tank, or cell, made of polymer-concrete. There may be as many as 1,250 tanks in operation at one time. A sheet of copper is placed on the opposite end of the tank to act as the cathode, or negative terminal. The tanks are filled with an acidic copper sulphate solution, which acts as an electrical conductor between the anode and cathode.

When an electrical current is passed through each tank, the copper is stripped off the anode and is deposited on the cathode. Most of the remaining impurities fall out of the copper sulphate solution and form a slime at the bottom of the tank. After about 9-15 days, the current is turned off and the cathodes are removed. The cathodes now weigh about 300 lb (136 kg) and are 99.95-99.99% pure copper.

3) The slime that collects at the bottom of the tank contains gold, silver, selenium and tellurium. It is collected and processed to recover these precious metals.

e) Casting

1) After refining, the copper cathodes are melted and cast into ingots, cakes, billet or rods depending on the final application. Ingots are rectangular or trapezoidal bricks, which are re-melted along with other metals to make brass and bronze products. Cakes are rectangular slabs about 8 in (20 cm) thick and up to 28 ft (8.5m) long. They are rolled to make copper plate, strip, sheet and foil products. Billets are cylindrical logs about 8 in (20cm) in diameter and several feet (meters) long. They are extruded or drawn to make copper tubing and pipe. Rods have around cross-section about 0.5 in (1.3 cm) in diameter. They are usually cast into very long lengths, which are coiled. This coiled material is then drawn down further to make copper wire.

e) Quality Control

Because electrical applications require a very low level of impurities, copper is one of the few common metals that are refined to almost 100% purity. To ensure this purity, samples are analyzed at various steps to determine whether any adjustment to the process is required.

4.3.2 PRODUCTS/ WASTE

The recovery of sulfuric acid from the copper smelting process only provides a profitable byproduct, but also significantly reduces the air pollution caused by the furnace exhaust. Gold, silver and other precious metals are also important byproducts. Waste products include the overburden from the mining operation, the tailing from the concentrating operation, and the slag from the smelting operation. This waste may contain significant concentrations of arsenic, lead, and other chemicals, which pose a potential health hazard to the surrounding area.

The Future

Demand for copper is expected to remain high, especially in the electrical and electronics industries. The current trends in copper processing are towards methods and equipment that use less energy and produce less air pollution and solid waste.

One encouraging trend is the increased use of recycled copper, Currently over half the copper being produced in the world comes from copper machining operations, such as screw forming and 45% comes from the recovery of used copper products, such as electrical wire.

4.4 Power Utilization

In the operation of electrical facilities, the most favorable installation for power costs is attained at preferably high utilization with preferably low power peak. This is achieved in modern medium- frequency melting by provision of constant power supply in the converters and through selective switching of power feed units.

4.5 Environment Protection

During the process of melting steel scrap there will be the emission of dust and gaseous fumes. Fumes especially are toxic and of complex composition. The most common are sulphur and nitrogen oxides (SO_x, NO_x) In the developed world where there are many steel works this is of concern, Therefore, it is recommended to arrest this problem right from the beginning in countries entering the steel industry. In the recommended technology i.e induction furnace, the amount of hazardous gases emitted will be very small especially because only cleaned raw materials will be used. There is therefore no environment hazardous waste expected from this project

5.0 Plant Location and Civil Works

The plant will be located in Tanzania. Production Building Required which is an open shed roofed with GCI sheets, and constructed from reinforced concrete slab in site is ideal for both the furnace and rolling mill facilities. The scrap and finished products would both be stored in the open

6.0 Utility Services

a) Water

The site has already been supplied with water. A 3 inch diameter pipeline connects the plot to the main pipeline. The plant water requirement is basically for cooling purposes and water will be recycled. About 10,000 litres of water will be required per day. Therefore a water reservoir of capacity 30,000 litres is recommended to be constructed.

b) Electricity

The site will tap its power from substation nearby. A number of machines will be premedical operated. There will therefore be a need to have a central compressor station which will generate the compressed air requirements. A central compressor station will be provided to provide compressed air for some of the production units.

As said elsewhere in this report, the source of energy for meeting the scrap will be electric power. Power is consumed in very large quantities and it is among the biggest cost element in this type of steel production. The demand for this plan is estimated at around 2000Kva

c) Material Handling Equipment

The plant will require the services of an overhead crane which will be employed for lifting the scrap containers for feeding the furnace as well as move the ladles with liquid steel into the casting area.

d) Weighing Scales

A road vehicle weigh bridge and a portable dial platform scale will be required at the plant site for weighing incoming trucks with scrap and weighing the production inputs during production

e) Oxygen and Acetylene Gas Cutting Equipment

Several gases cutting equipment of the type mentioned above and their corresponding cutting torches will also be required for the steel mill.

f) Workshop Facility

In order to enable the company to handle small repairs to its assets we recommend the acquisition of a minimum number of metal working machines such as one lathe, a milling/drilling machine power hacksaw and tool kits.

7.0 MANPOWER AND ORGANISATION

The proposed copper and metal plant complex will have three Independent departments, namely administration and finance production and technical staff.

Organisation

The top people in the day- to day running of the company will be General Manager .Under the General Manager's office will e three department, namely finance/ administration production and technical services. Each department will be under a Manager and will comprise a number of sections each headed by section head such as Finance/ Personnel Department Production Department.

Each section will be manned by a number of personnel with varying education levels and work experiences. The management team will comprise the General Manager, Chief Accountant and the four expatriates who will head the different production and service department.

He will also be responsible for repair and maintenance for company assets and research and development activities.

The technical department will comprise three sections, namely:

- a) The repair and maintenance section which would be responsible for all repair works. An expatriate will be employed to train the local technician in the machinery repair works.
- b) Laboratory section which will be responsible for quality control of both the raw materials and finished goods.
- c) Research and development section.

7.1 Production Department

The production department will comprise two sections, namely steel mill and rolling mill.

Finance and Administration Department

An Administration and Finance Manager will head the department. He will be responsible for the administration of the company as well as overseeing the financial aspect of the company

7.2 Manpower Requirement

The manpower requirement for running the proposed steel and rolling mill is 142 people. The administration staff will work on one shift per Day. The production and technical departments will work on 3 shifts per Day basis.

8.0 INVESTMENT AND FINANCING

8.1 Assumptions

The financial projections to determine the viability of the Copper and metal Project is based on the following key assumptions:

- The project will operate at 50% capacity in year 1 , 60% in year 2, 70% in year 4 and thereafter
- Plant will operate on three shifts per day for 250 days per year.
- The whole project output will be sold locally

8.2 Summary of Capital Costs

The total initial investment required for undertaking the project is estimated at US\$ 2,85 million. Spread over a year as shown. The breakdown of the capital investments is presented in table below:

DESCRIPTION	Total
Land and Building	900,000
Plant & Machinery	1,200,000
Furniture & Fitting	90,000
Vehicle	800,000
Pre- Operational Expenses	40,000
Working Capital	900,000
TOTAL INVESTMENT	3,030,000

8.3 Building and Civil Works Costs

The premises will be renovated e for constructions for plant installation only. These are Estimated and given under cost of machinery

8.4 Plant Machinery and Equipment Costs

The main machinery for the envisaged project will be electric furnace, steaming ladles and moulds reheating various tools, accessories etc.

8.5 Furniture and Fittings

The items to be purchased will comprise office furniture and computers for office and factory.

8.6 Vehicles

A 15 toner truck and a 5 toner truck that will be used for transportation of raw Materials and finished products and other office activities are recommended. A Bus of 45 seats will be provided for workers' transport and two saloon cars for the top management

8.7 Pre- Production Capital Expenditures

These include project development cost for feasibility study and start-expenses

Including interest on loan taken for capital investment in the pre-production Period

8.8 Initial Working Capital

Initial Working capital requirements for the proposed steel mill project works Out at about US\$0,20 Million

8.9 COST OF OPERATION

The anticipated costs for operating the project are detailed in the following Sections the capacity utilization has been assumed to grow at a rate of 50% in year 1, 60% in year 2, 70% in year 3 while stabilized production is envisaged From the fourth year at 80% of rated capacity. 80% will be the sustainable Production level.

8.10 Repair and Maintenance

Annual repairs and maintenance of the machinery and equipment have been Worked out to cover all costs including spare parts.

8.11 Vehicle Running Expenses

Vehicle running expenses include fuel, lubricants, tear and wear, road licence Insurance etc, This cost item has been estimated at 35% of the original cost of the vehicle annually

8.12 Salaries and Wages

The total wage package is estimated at US\$ 0,070 million for the first two years

8.13 Administrative Overheads.

The main item in the administrative cost is insurance of fixed assets. The administrative costs are estimated at US\$0,010 million/ annum

Dividends for the first 5 years during which are company will have to meet other

Commitments like loan repayment, costs for technology training etc.

9.0 FINANCIAL ANALYSIS

9.1 Income and Expenditure

9.1.1 Income

The proposed steel and copper mill project expects to earn its income through the sale of reinforcement copper and steel products mainly at sustainable level of production, the total sales are expected to stand at US\$ 1,632 million from the Fourth year of production onwards by selling a total of 4800t of final products.

9.1.2 Cash Flow Statement

The project's cash flow is impressive as the need for external assistance arises Only in the initial stages of the project investment.

10.0 Economic Benefits

The successful operation of this processing plant will contribute significant Economic benefit to Kilimanjaro region people and Tanzania as whole . In summary the benefits which will be realized are as follows:

- The execution of this project will bring about employment opportunities
- Provision of income to other services providers, thus contributing to the reduction of poverty. The income to be earned will help in improving standard of living of the workers and other people residing in the region
- The direct income for the workers combined with help in overall efforts of alleviation of poverty in the Region
- This project will facilitate opportunities to increase foreign exchange earnings through export of some of its value products
- Project will create Government Revenue through Taxation

11.0 Conclusion

The investment and development of these products processing undertaking is in Line with the Government objective of encouraging proper development of Industries in the country. It will have a positive

impact on the development of the region as, it would Generate a number of benefits and more positive impact on the economy of the region
This document has provided a full analysis on the financial , Techno-economic viability and have established that the proposed project is technically sound financially viable , and economically/ socially beneficial.

MS. RZ UNION MINING COMPANY LIMITED

INVESTMENT COST

DESCRIPTION	TOTAL
Land and Building	900,000
Plant & Machinery	1,200,000
Furniture & Fitting	90,000
Vehicle	800,000
Pre- Operational Expenses	40,000
Working Capital	900,000
TOTAL INVESTMENT	3,030,000

MS. RZ UNION MINING COMPANY LIMITED

PROJECT FINANCING

US\$

DESCRIPTION	FOREIGN	TOTAL
Equity	3,030,000	3,030,000
TOTAL INVESTMENT	3,030,000	3,030,000

MS. RZ UNION MINING COMPANY LIMITED
DEPRECIATION SCHEDULE

		Rate		1	2	3	4	5	6	7	8	10-Sep
Land & Building		4%	900,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000
Plant & Machinery		12.50%	1,200,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000
Furniture & Fitting		12.50%	90,000	11,250	11,250	11,250	11,250	11,250	11,250	11,250	11,250	11,250
Vehicles		25%	800,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Pre Operational Expenses		20%	40,000	8,000	8,000	8,000	8,000	8,000	8,000	-		
TOTAL				405,250	405,250	405,250	405,250	405,250	405,250	397,250	397,250	397,250

MS. RZ UNION MINING COMPANY LIMITED
PROFIT & LOSS FORECAST

	1	2	3	4	5	6	7	8	9	
	60%	80%	90%							
PNOVER	979000	1,305,600	1632000	1632000	1632000	1632000	1632000	1632000	1632000	1632000
Sale of Steel & Copper Products										
	979000	1,305,600	1632000	1632000	1632000	1632000	1632000	1632000	1632000	1632000
RECT COSTS	242000	322000	403000	403000	403000	403000	403000	403000	403000	403000
Total Direct Cost	242000	322000	363000	403000	403000	403000	403000	403000	403000	403000
LOSS PROFIT	737000	939600	1229000	1229000	1229000	1229000	1229000	1229000	1229000	1229000
OTHER COSTS	200750	200750	200750	200750	200750	200750	196750	196750	196750	200750
Depreciation										
Profit before tax	536250	738850	1,028,250	1,028,250	1,028,250	1,028,250	1,032,250	1,032,250	1,032,250	1,032,250
ERATING PROFIT	536250	738850	1,028,250	1,028,250	1,028,250	1,028,250	1,032,250	1,032,250	1,032,250	1,032,250
Taxation 30%	160875	221655	308475	308475	308475	308475	309675	309675	309675	309675
GROSS PROFIT	375375	517195	719775	719775	719775	719775	722575	722575	722575	722575
MULATIVE	375375	892570	1,612,345	2,332,120	3,051,895	3,771,670	4,494,245	5,939,395	5,939,395	6,661,970

MS. RZ UNION MINING COMPANY LIMITED
PROJECTED CASH FLOW

	0	1	2	3	4	5	6	7	8	
Source										
Profit before		737000	939600	1229000	1229000	1229000	1229000	1229000	1229000	1229000
interest and										
Depreciation										
Equity	3,030,000									
Total Sources	3,030,000	737000	939600	1229000	1229000	1229000	1229000	1229000	1229000	1229000
Duplications	3,030,000									
Capital										
Expenditure	3,030,000									
Tax	3,030,000	536250	738850	1,028,250	1,028,250	1,028,250	1,028,250	1,032,250	1,032,250	1,032,250
Sub Total	3,030,000	536250	738850	1,028,250	1,028,250	1,028,250	1,028,250	1,032,250	1,032,250	1,032,250
Capita										
Duplications	3,030,000	536250	738850	1,028,250	1,028,250	1,028,250	1,028,250	1,032,250	1,032,250	1,032,250
Net working										
capital		200750	200750	200,750	200,750	200,750	200,750	196,750	196,750	196,750
Acumulated Cash		200758	401500	602,250	803,000	1,003,750	1,204,500	1,401,250	1,598,000	1,794,750