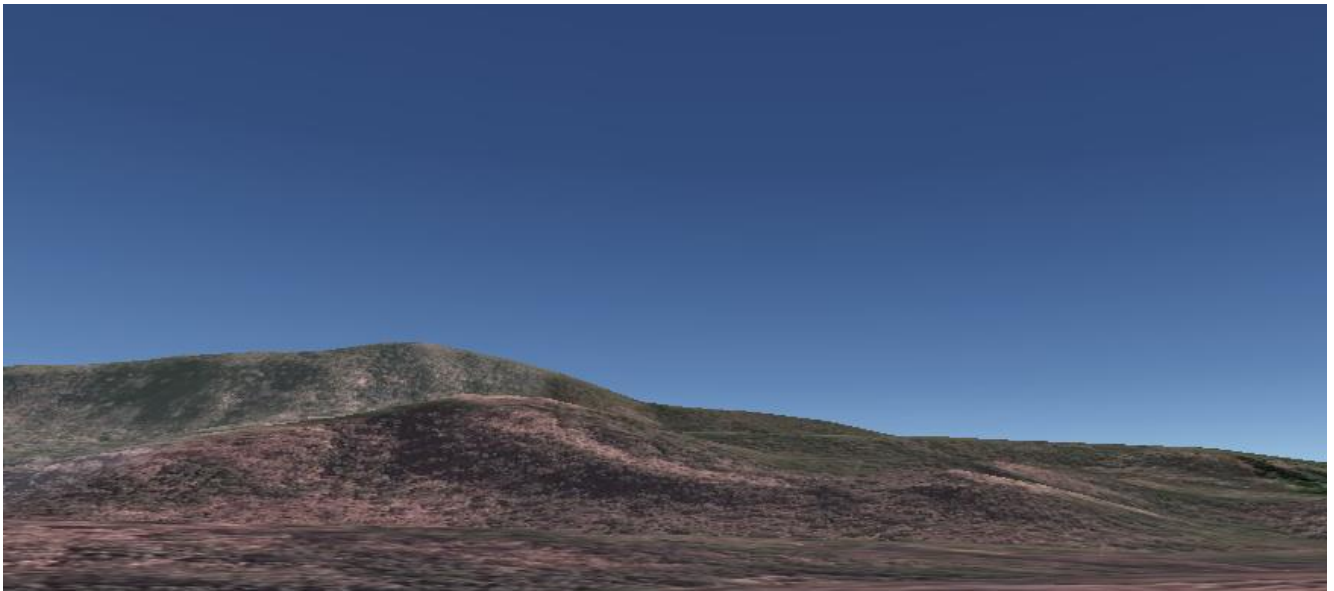


# **SHORT REPORT ON THE BERYL ROSE LIMESTONE CLAIMS**



## **BACKGROUND**

Chinda Resources (Private) Limited is a company registered in Zimbabwe and wholly owns the Beryl Rose limestone claims located in the Umfurudzi Safari Area. The Beryl Rose limestone claims are situated 6 km north of Mbubu limestone deposits, which are currently mined by Lafarge. Location of the Beryl Rose claims is shown in Figure 1. The company has been granted permission by the Environmental Management Agency (EMA) to carry out an Environmental Impact Assessment for either the exploration programme or exploration and mining (full EIA).

Two bulk rock samples collected from the deposit indicated cement grade properties. A rough resource estimation carried out shows that the deposit contains an 'Inferred' resource of at least 318 million tonnes of limestone. The location of the deposit is especially significant since it is located near major cement end-users such as Harare and Tete Province of Mozambique. The Beryl Rose limestone claims have no historical exploration but have the potential to sustain a cement production plant.

## **PROPERTY DESCRIPTION**

### **Location and Access**

The Beryl Rose limestone claims are located on the north eastern corner of Umfurudzi Safari Area, Shamva District, approximately 174 km north east of Harare. Access to the limestone claims is good with 131 km of the access road tarred, and 43 km gravel.

The limestone claims can be reached from Harare by taking Enterprise road and on the outskirts of the city turning to the left into Shamva road, and going past Shamva for 31 km to reach Madziwa Mine. From Madziwa Mine a tarred road heading east is taken for 7 km to reach the Umfurudzi Safari Area gate, and from this point a game park access road is taken for 50 km to reach the claims.

### **Property Information**

The property consists of four contiguous blocks of mineral claims namely Beryl Rose 25, Beryl Rose 26, Beryl Rose 27 and Beryl Rose 28, covering a total of 495 hectares.

### **Climate and Physiography**

The area has three distinct seasons: a hot to wet season (mid-November to March), a cool to dry season (April to August), and a hot to dry season (September to early November). The area receives an average annual rainfall of 623 mm with the

highest rainfall in the month of January. Maximum temperatures of 30° C are attained in October and an average of 22.5° C recorded in July.

The highest point in the vicinity of the claims is the Mahonje Hill, located more than 1 kilometre north of the claims, with an elevation of 1,084 m above mean sea level. The centre of the northern limb of the limestone is located on a small hill, the western portion of the limestone on an east-facing slope, and the southern limb on flat ground. The limestone deposit lie between 650 and 820 m elevation.

Higher ground is dominated by the miombo woodlands and grass while valleys contain Zambezi valley type vegetation. Wildlife includes sable antelopes, waterbucks, impalas, giraffes, zebras, wildebeests, elands, bushbucks, kudus, warthogs, wild dogs, leopards, hippopotamus and various birds. Artisanal gold mining activities in the northern part of the safari area have restricted animals to the southern parts of the safari area.

### Property Ownership

Chinda Resources (Private) Limited is the registered holder of the four Beryl Rose limestone blocks of claims.

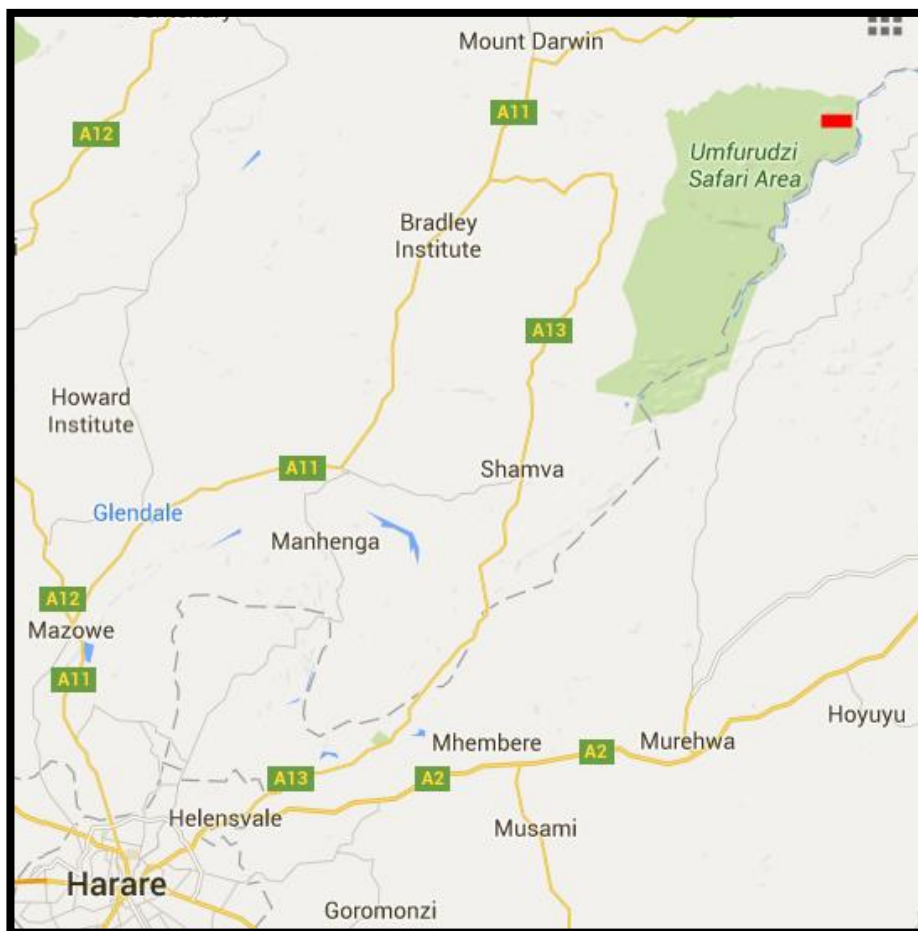


Figure 1 Location of the Beryl Rose Limestone Claims (Red rectangle)



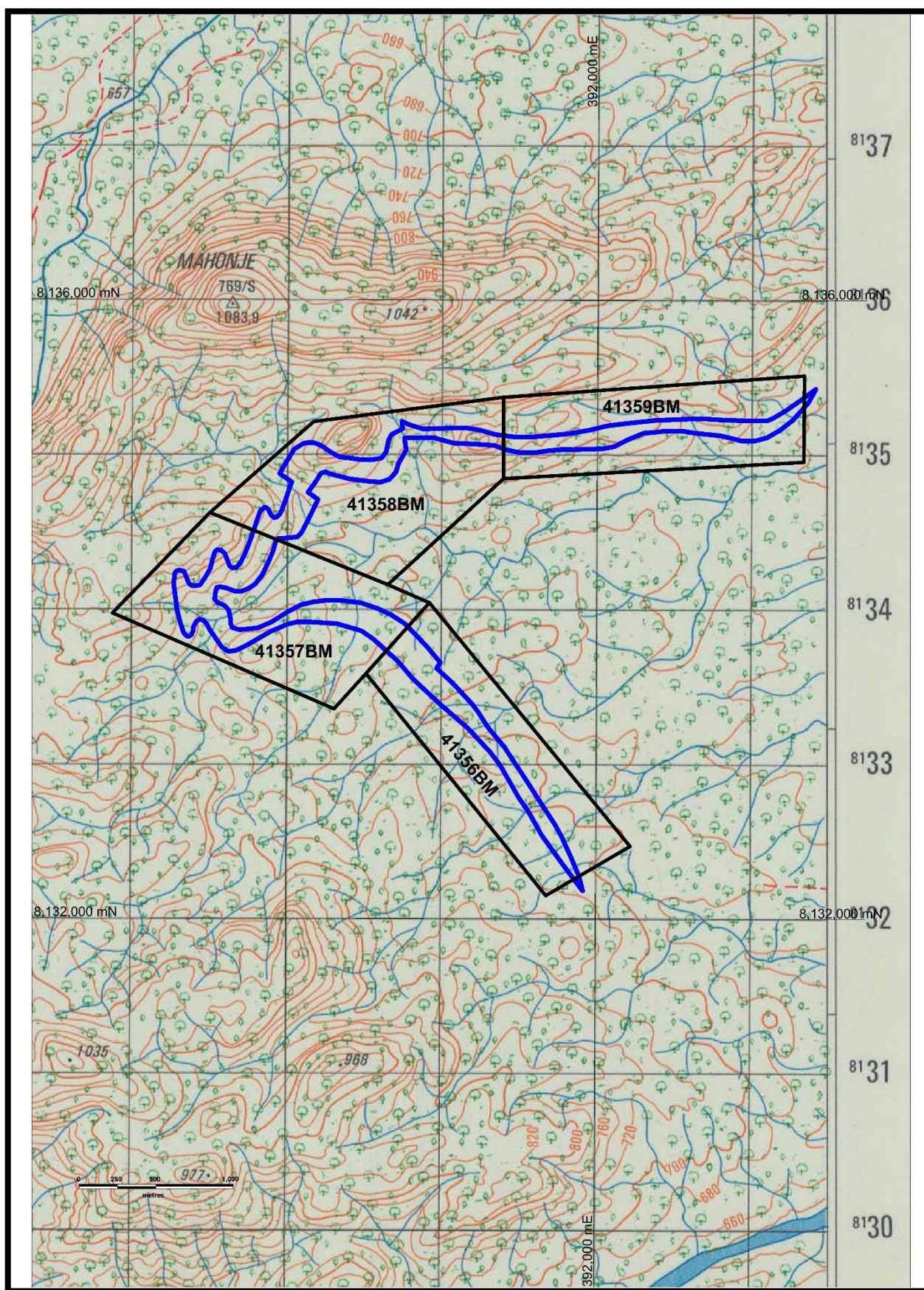


Figure 2 Beryl Rose limestone deposit and claims

## **GEOLOGY**

### **Regional Geology**

The geology of the general area has been mapped by the Zimbabwe Geological Survey and documented in Short Report No. 53 titled 'The Geology of the Country around Centenary and Mount Darwin'. The rocks outcropping in the region include, in order of decreasing age - the Mount Darwin Greenstone Belt (MDGB); Older Gneiss Complex; Younger Granites; Rushinga Group; and Late intrusives. The MDGB, Older Gneiss Complex and Younger Granites form the Basement Complex upon which rocks of the Rushinga Group were deposited.

The MDGB is made up of rocks of the Upper Bulawayan and Shamvaian Groups. The Upper Bulawayan comprises the Pfungwe (oldest), Thebus, Thackeray and Umfurudzi Formations. The basal formations of the Upper Bulawayan Group are predominantly rhyolitic and dacitic lavas, volcanic tuffs and agglomerates, mafic and ultramafic lavas with sedimentary rocks such as banded iron formations, chert and limestone. Mafic rocks with horizons of banded ironstone, chert, limestone and minor agglomerate make up the upper formations of the Upper Bulawayan Group.

The Shamvaian Group overlies the Upper Bulawayan Group and is represented only by the Mukaradzi Formation consisting of volcano-sedimentary rocks predominantly composed of tuff and greywacke that contain horizons of meta-arkose, amphibolite and agglomerate, and large tin and tantalite-bearing pegmatites.

The MDGB is intruded by Older Gneiss Complex, Younger Granites and several intrusive rocks.

### **Local Geology**

The limestone resource is in the Thackeray Formation. This formation overlies sericite schists of the Pfungwe Formation. A thick sequence of felsic tuff forms the base of the Thackeray Formation and is overlain by limestone horizons exposed at isolated locations of which the Beryl Rose limestone is by far the largest. The limestones are in turn overlain by the Thackeray banded iron formation. Lying above the banded iron formation is a thick basaltic lava forming the base of the Umfurudzi Formation.

Tight folding has contorted the MDGB in the vicinity of the Beryl Rose limestone and as a result the limestone body and other rock sequences are roughly U-shaped. The northern and southern limbs of the limestone deposit have been truncated by cross-cutting faults causing minor displacements. Average thickness of the Beryl Rose limestone is 120 m and length 8.5 km. Dip of the limestone is very steep to vertical. The dolomitic portions of the limestone tend to form ridges with good outcrops (northern limb) while the more calcitic limestones form lower



and flatter ground with poor exposures covered with soil and rock fragments (southern limb) [ZGS Short Report No. 53]. Mbubu limestone deposits, which are currently mined by Lafarge, are located 6 km south of the Beryl Rose limestone.

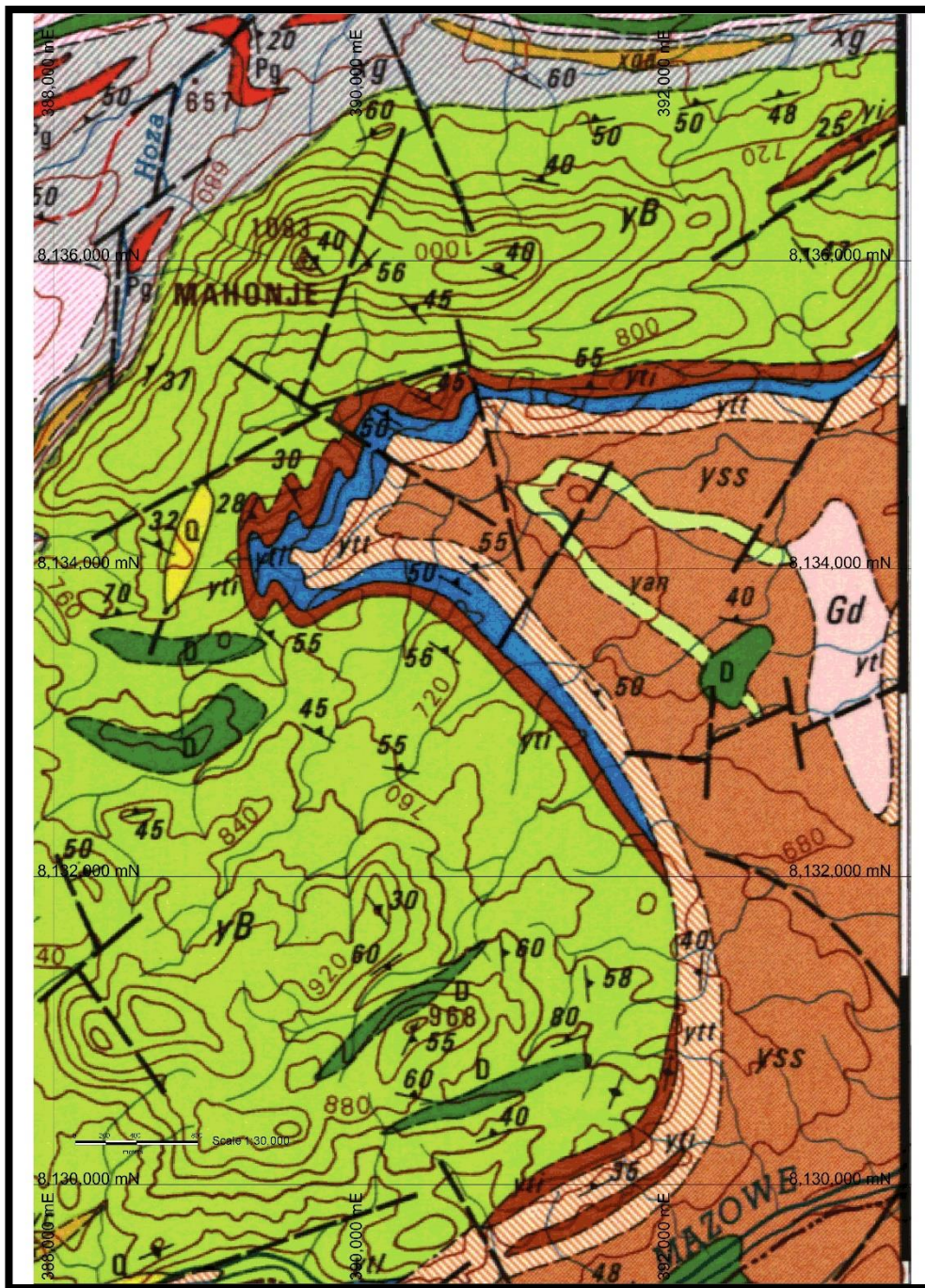


Figure 3 Geology of the area around Beryl Rose limestone claims (From ZGS Short Report No. 53)

#### LEGEND

Q	Quartz	xg	Metagreywacke	ytI	Marble
Pg	Pegmatite	xga	Meta-arkose	ytt	Felsic tuff
D	Dolerite	yB	Basaltic lava	yan	Andesitic lava
		yti	Banded iron formation	yss	Sericite schist

## LIMESTONE QUALITY

Two rock chip samples collected from the northern limb of the Beryl Rose limestone were submitted to the Institute of Mining Research for analysis. Analytical results are tabulated below and indicate cement grade properties. Better cement grade values are expected from the southern limb since it is more calcitic than the northern limb.

Sample ID	CaO %	MgO %	Fe <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	LOI %
Chinda 1	53.61	1.10	0.84	2.63	41.20
Chinda 2	45.80	2.98	1.35	9.96	38.90

## LIMESTONE RESOURCES

The average width of the Beryl Rose limestone is 120 metres as seen from the well exposed northern limb and the soil and rocky fragment covered southern limb. The length of the limestone is 8,500 m and average elevation is 720 m determined by plotting the limestone on a 1:50,000 topographical map.

Based on the above information, a rough estimation of limestone resource from an elevation of 720 m to 600 m above sea level was carried out using the formula length x width x height x specific gravity of 2.6 as shown below. The estimation shows that the limestone deposit holds 318,240,000 tonnes of limestone. Core drilling will have to be carried out to upgrade this resource to the Indicated Resource or Measured Resource Category.

$$\begin{aligned}\text{Limestone resources} &= 8,500 \text{ m} \times 120 \text{ m} \times 120 \text{ m} \times 2.6 \\ &= \mathbf{318,240,000 \text{ tonnes}}\end{aligned}$$

*Report compiled by C Matanga*

*Mobile No. +263 77 228 2991*

*Email [chmatanga@gmail.com](mailto:chmatanga@gmail.com)*

## APPENDIX 1 – CLAIMS COORDINATES

### Beryl Rose 25 (41356BM)

Point	Eastings	Northings
1	391,651	8,132,203
2	390,486	8,133,619
3	390,906	8,134,039
4	392,206	8,132,522

### Beryl Rose 26 (41357BM)

Point	Eastings	Northings
1	390,281	8,133,380
2	388,851	8,133,972
3	389,469	8,134,600
4	390,906	8,134,039

### Beryl Rose 27 (41358BM)

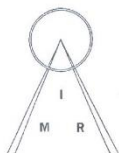
Point	Eastings	Northings
1	390,601	8,134,150
2	389,469	8,134,600
3	390,150	8,135,209
4	391,385	8,135,351
5	391,363	8,134,850

### Beryl Rose 28 (41359BM)

Point	Eastings	Northings
1	391,385	8,135,351
2	393,319	8,135,501
3	393,319	8,134,950
4	391,363	8,134,850



## APPENDIX 2 – LIMESTONE SAMPLES ANALYSIS RESULTS



### INSTITUTE OF MINING RESEARCH

UNIVERSITY OF ZIMBABWE  
P. O. BOX MP 167  
MOUNT PLEASANT  
HARARE, Zimbabwe

Tel: 303211; IMR Tel/Fax: 336418  
IMR Office Block: B026  
Email: [imr@science.uz.ac.zw](mailto:imr@science.uz.ac.zw)

Fax: (263-4) 336418  
or (263-4) 333407  
or (263-4) 335249



**Attention:** Chinda Resources (Pvt) Ltd

**Date:** 28 September 2015

**Name/Add:** 10 Earls Road  
Alexandra Park  
Harare

**Sample Nos:** 2

**Job. No.** 994

**Tel:** 077 2 282 991

**Materials:** Limestone

**Remarks:** Analysis for **calcium carbonate** by titration. Analysis for **magnesium oxide** **Iron oxide** and **Silica oxide** by wet chemical methods.

**Results:**

Sample ID	% CaO	% LOI	% Fe <sub>2</sub> O <sub>3</sub>	% MgO	% SiO <sub>2</sub>
Chinda 1	53.61	41.20	0.84	1.10	2.63
Chinda 2	45.80	38.90	1.35	2.98	9.96



L. Mlambo  
**Chairman**

INSTITUTE OF MINING RESEARCH  
UNIVERSITY OF ZIMBABWE  
P.O. BOX MP 167 MOUNT PLEASANT  
HARARE ZIMBABWE  
TELEPHONE 336418

## APPENDIX 3 – EMA PROSPECTUS FOR BERYL ROSE CLAIMS



### ENVIRONMENTAL MANAGEMENT AGENCY

*All communications should be addressed to "The Director General"*  
Makombe Complex, Block I,  
Harare Street / Herbert Chitepo Avenue,  
P.O. Box CY 385, Causeway, Harare, Zimbabwe  
Telephone (04) 705671/3 /705661/3 Fax 793123

E-mail: [ema@ema.co.zw](mailto:ema@ema.co.zw)

17/1/1/3A

04 NOVEMBER 2015

CHARLES MATANGA

CHINDA RESOURCES (PVT) LTD

10 EARLS ROAD

ALEXANDRA PARK

HARARE

PROPONENT: 0772 282 991

CONSULTANT: ATEG: 0772 712 158

EMAIL: [takunda.ateg@gmail.com](mailto:takunda.ateg@gmail.com)

**RE: PROSPECTUS REVIEW FOR BERYL ROSE 25/28 LIMESTONE MINE EXPLORATION  
(PROJECT NUMBER 8041)**

The above matter refers.

A decision for you to carry out a full EIA was taken in compliance with the provisions of the **Environmental Management Act [Chapter 20:27]**. However you are being advised to include the following over and above the terms of reference you have already presented in your prospectus and the specific EIA contents provided under **Section 99** of the **Environmental Management Act [Chapter 20:27]**

1. Public consultation should include all Government related Ministries and Departments at Local, District, Provincial and National level and should be presented on official letterheads. Public consultation should also include other institutions related to the project as well as neighbouring land users.
2. Critically outline and examine the project processes through a comprehensive and clear project description.
3. Critically examine other land uses that may be affected by the project during implementation.
4. An analysis of the biodiversity impacts of the projects, land tenure system, soil and hydrological analysis should be done.
5. Attach soils, hydrological and topographical maps and make an analysis of the impacts of the project to the current environmental baseline.

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**EMA - PROTECTING THE ENVIRONMENT**

## ENVIRONMENTAL MANAGEMENT AGENCY

6. The appendices should include Certificate of incorporation of the company, CR14 and Declaration by the Company on the company's responsible official to deal with environmental Issues.
7. Any other issues relevant to the mitigation of impacts likely to be caused by the project during implementation.

Your EIA presentation should also be able to satisfy the provisions of the statutory regulations of the **Environmental Management Act** and be of professional standard in quality and presentation.

However, let it be known that several factors will play a determining role in the consideration of the EIA study and, as such, the acceptance of this prospectus shall in no way be interpreted as implied acceptance and granting of the EIA certificate by the Agency.

Please do not hesitate to contact us on any environmental issues related to the implementation of your project and you are advised not to implement the project until an EIA certificate has been granted.

Thank You



P. SHOKO

**DIRECTOR ENVIRONMENTAL PROTECTION  
FOR DIRECTOR GENERAL**

Cc: PEM MASHONALAND CENTRAL PROVINCE



RECEIVED BY: Takunda Hwe  
DESIGNATION: Consultant  
CONTACT NUMBER: 0772 712 158

DATE: 16/11/2015  
I.D NUMBER: 67-110824X03



# APPENDIX 4 – BERYL ROSE REGISTRATION CERTIFICATES

**MINES AND MINERALS ACT**  
**Certificate of Registration**

68481-4  
Form M.M.8

Registered No. 41356BM

Mining Commissioner's Office

Nº 034257 **16 OCT 2015**

PO BOX CY 374, CAUSEWAY  
ZIMBABWE TEL: 762691/4

Amount Paid  
\$ 500

THIS IS TO CERTIFY that CHINDA RESOURCES (PVT) LTD, 20

is the Registered Holder

of a block consisting of 15 (ONE HUNDRED AND FIFTEEN) LIMESTONE claims,

named BERYL ROSE 25 the situation of which is indicated to be

IN SHAMVA STATELAND, APPROX 2.5KM S.E. OF TRIG

BEACON 769/S. (MAHONTI)

Licence No. 026173A

FOR: Mining Commissioner (SHAMVA)

**MINES AND MINERALS ACT**  
**Certificate of Registration**

68481-4  
Form M.M.8

Registered No. 41357BM

Mining Commissioner's Office

Nº 034258 **16 OCT 2015**

PO BOX CY 374, CAUSEWAY  
ZIMBABWE TEL: 762691/4

Amount Paid  
\$ 500

THIS IS TO CERTIFY that CHINDA RESOURCES (PVT) LTD, 20

is the Registered Holder

of a block consisting of 35 (ONE HUNDRED AND THIRTY FIVE) LIMESTONE claims,

named BERYL ROSE 26 the situation of which is indicated to be

IN SHAMVA STATELAND, APPROX 1.5KM SOUTH OF TRIG

BEACON 769/S. (MAHONTI)

Licence No. 026174A

FOR: Mining Commissioner (SHAMVA)



**MINES AND MINERALS ACT  
Certificate of Registration**

68481-4  
Form M.M.8

Registered No. 41358BM

Mining Commissioner's Office

No 034259



Amount  
Paid

\$ 500

THIS IS TO CERTIFY that CHINDA RESOURCES (PVT) LTD is the Registered Holder  
of a block consisting of 150 (ONE HUNDRED AND FIFTY) LIMESTONE claims,  
named BERYL ROSE 27 the situation of which is indicated to be  
IN SHAMVA STATELAND, APPROX 1,6KM SOUTH OF TRIG  
BEACON 76915.

Licence No. 026175A

(SHAMVA)  
FOR: Mining Commissioner

**MINES AND MINERALS ACT  
Certificate of Registration**

68481-4  
Form M.M.8

Registered No. 41359BM

Mining Commissioner's Office

No 034260



Amount  
Paid

\$ 500

THIS IS TO CERTIFY that CHINDA RESOURCES (PVT) LTD is the Registered Holder  
of a block consisting of 95 (NINETY-FIVE) LIMESTONE claims,  
named BERYL ROSE 28 the situation of which is indicated to be  
IN SHAMVA STATELAND, APPROX 2,6KM N.E. OF TRIG  
BEACON 76915 (MATHONTI)

Licence No. 026176A

(SHAMVA)  
FOR: Mining Commissioner