

MARBLE CLAIMS BLOCKS 5456BM, 5457BM, 5458BM & 5510BM (DESKTOP STUDY)

Introduction

Marble resources covered by 5456BM, 5457BM, 5458BM, and 5510BM blocks of claims are part of the Tengwe River Marbles Group located approximately 146 km to the northwest of the town of Chinhoyi, which is 115 km northwest of Harare. The distance from Harare to the marble claims area is 261 km and 195 of that distance is tarred road.

Historical laboratory analytical results have shown that the marbles of this area contain more than 80 % calcium carbonate (CaCO_3) and low magnesia making it suitable for cement manufacturing. The Tengwe River Marble Group area was known to hold hundreds of millions of tonnes of cement grade resources as early as the 1950s. During that time this knowledge prompted interest from many private companies to investigate the area. Several companies, among them big cement companies, undertook geological exploration work during that time leading to pegging of marble claims. One or two companies still hold claims in this area from this early exploration work.

Location

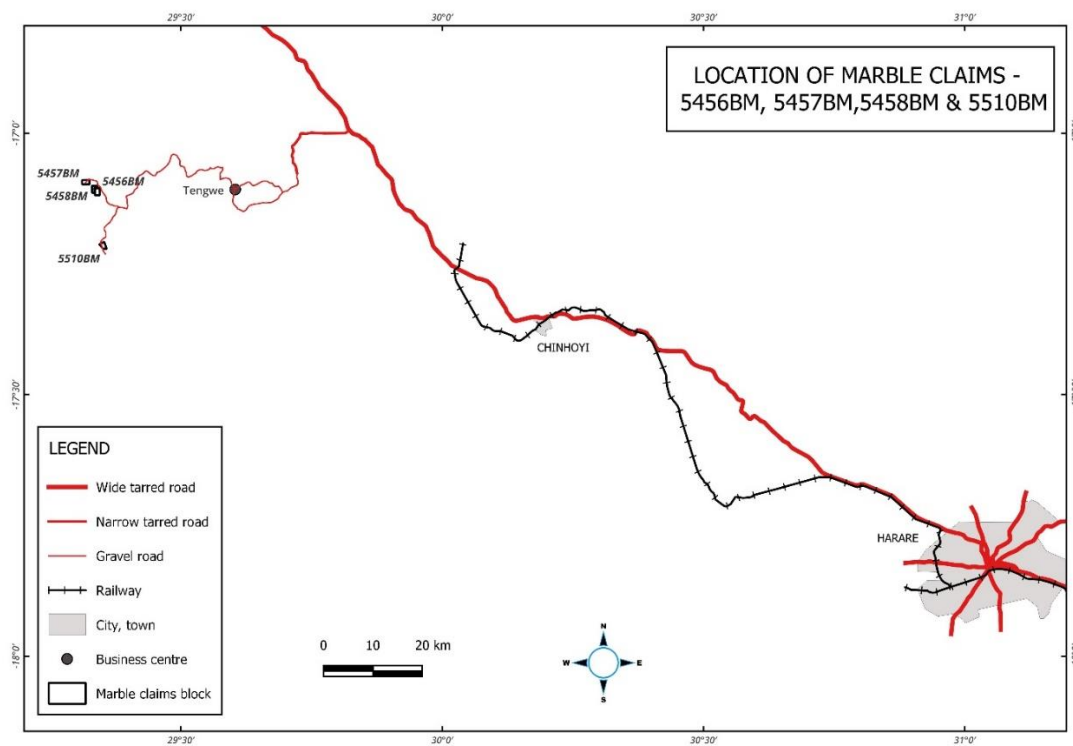


Figure 1. Location of the marble blocks of claims

Regional geology

The oldest rocks in the area are Urungwe Group gneissic granites and meta-arkoses of Archaean age (Figure 2). The meta-arkoses are massive, even-grained, pink sediments, and the gneissic granites are contaminated coarse-grained rocks composed of large plates of micro-perthite and sericitized plagioclase, quartz, and red-brown biotite.

The Archaean rocks are unconformably overlain by deformed and metamorphosed sediments of the Early Proterozoic age Magondi Super Group, which is subdivided into the Piriwiri, Deweras and Lomagundi groups. The Piriwiri Group consists of an extensive sequence of greywackes and phyllites that are overlain by black graphitic and ferruginous slates. The Deweras Group unconformably overlies the Archaean age rocks and comprises schistose arkoses and pebbly arkoses. The Lomagundi Group unconformably overlies the Archaean meta-arkoses and gneissic granite, and arkoses of the Deweras Group. It is made up of a basal 'Calcareous Stage', which mainly consist of meta-dolomite with widespread horizons of marble, slate and minor beds of chert and quartzite. The marble horizons have cement-grade qualities and in the past have been a subject of geologic exploration by cement manufacturing companies.

The Magondi Super Group is overlain by the Sijarira Group, which is made up of unmetamorphosed sedimentary rocks mainly red grits, sandstones, shales and conglomerates.

Marble deposits

Marble horizons occur at the base of the meta-dolomite at several locations within the area and these localities constitute the Tengwe River Marble group. On 1st July 1955 United Portland Cement were granted Exclusive Prospecting Order (EPO) number 32, for a period of two years, to prospect for limestone and gypsum in the Tengwe area. Work in this EPO included trenching that totalled 3,650 metres, and 395 metres of core drilling. Exploration findings from exploration work undertaken in EPO 32 showed that the marble was of good quality and contained more than 80 % CaCO_3 and less than 2 % MgCO_3 with minor impurities of silica and alumina. Work carried out by Circle Cement in 1970 showed the marble, including thin horizons of micaceous units and siliceous zones, to be hundreds of metres thick. Narrow horizons of meta-dolomite also occur within the marble units.

The marbles outcrop as smooth, elongate slabs, are very fine-grained and white, cream, pale green or pale pink in colour, and interbedded with micaceous pelitic and psammitic rocks. The overlying meta-dolomites form rough outcrops with typical 'elephant hide' weathering, are very fine-grained, and pale grey, white or pink in colour.

Estimated marble quantities

Estimation of marble quantities shown on the table below was calculated using the total surface area of marble in each claims block based on outcropping exposures. A vertical mining depth of 40 metres has been assumed for the estimation. The total marble tonnages obviously include intercalated horizons of micaceous pelitic and psammitic rocks, silicious zones and meta-dolomite.

Claims block	Marble surface area (m ²)	Mining depth (m)	Specific gravity	Marble tonnage
5456BM	978,586	40	2.6	101,772,944
5457BM	Not exposed			-
5458BM	840,171	40	2.6	87,377,784
5510BM	742,354	40	2.6	77,204,816
TOTAL	2,561,111			266,355,544

Marble quality

The quality of the marble has not yet been assessed by the holder of the four blocks of claims and is based solely on historical work from similar claims within the Tengwe River Marble Group. Claims block 5510BM covers the historical Kawayá Fly Gate marble claims. The historical chemical analysis for a composite sample collected from this block of claims is shown below.

125C KAWAYA GATE MARBLE							(17°13'S 29°21'E)
A sample of marble collected 1.6 km SE of Kawayá Gate was analysed and shown to contain:							
Composition. Source	CaO %	MgO %	R ₂ O ₃ %	Insols %	LOI %	CaCO ₃ %	MgCO ₃ %
Anon (1953b)	52.76	Tr	2.07	3.88	41.29	94.18	Tr

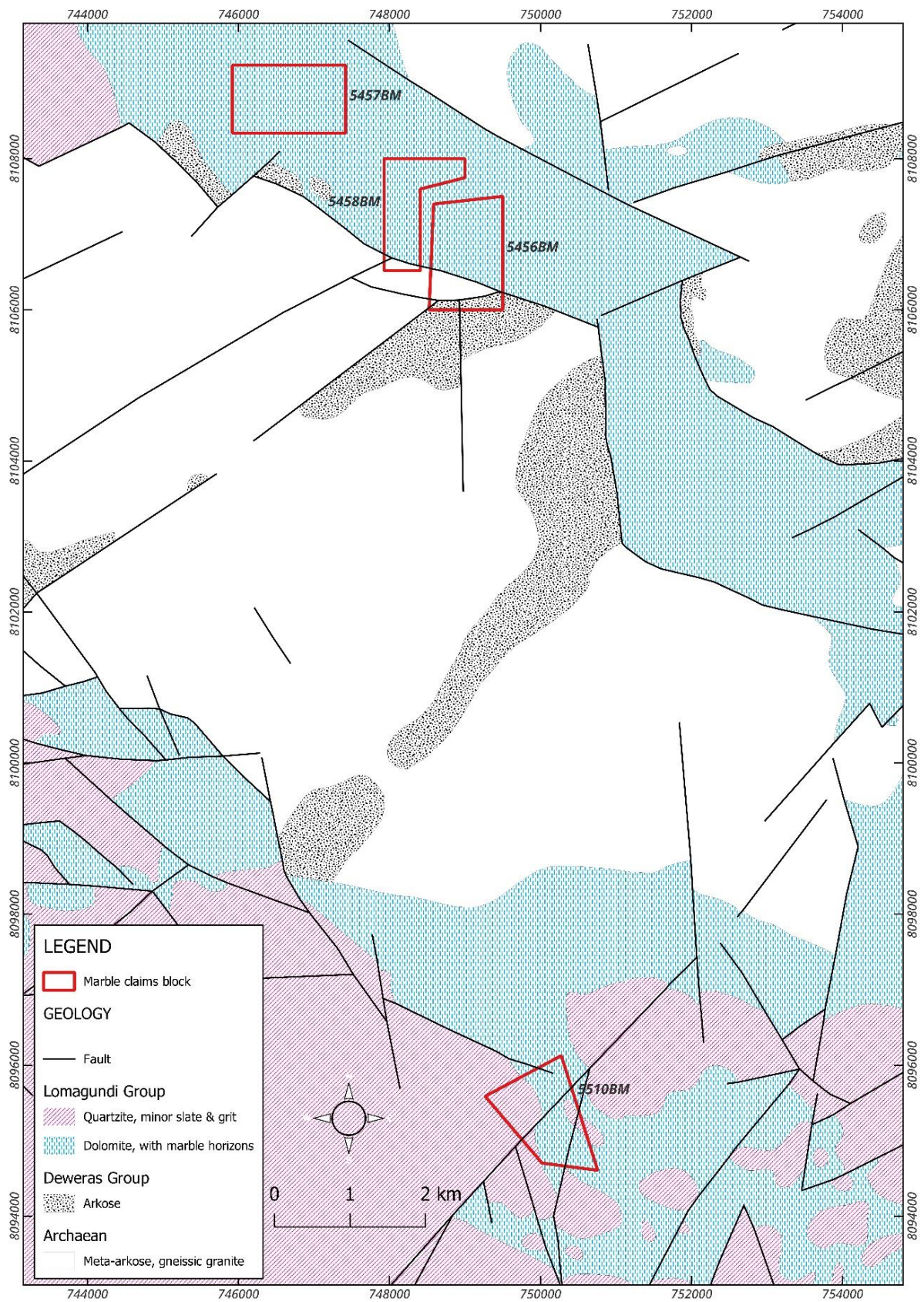


Figure 2. Regional geological setting (from Zimbabwe Geological Survey Bul. No. 55 geological map)

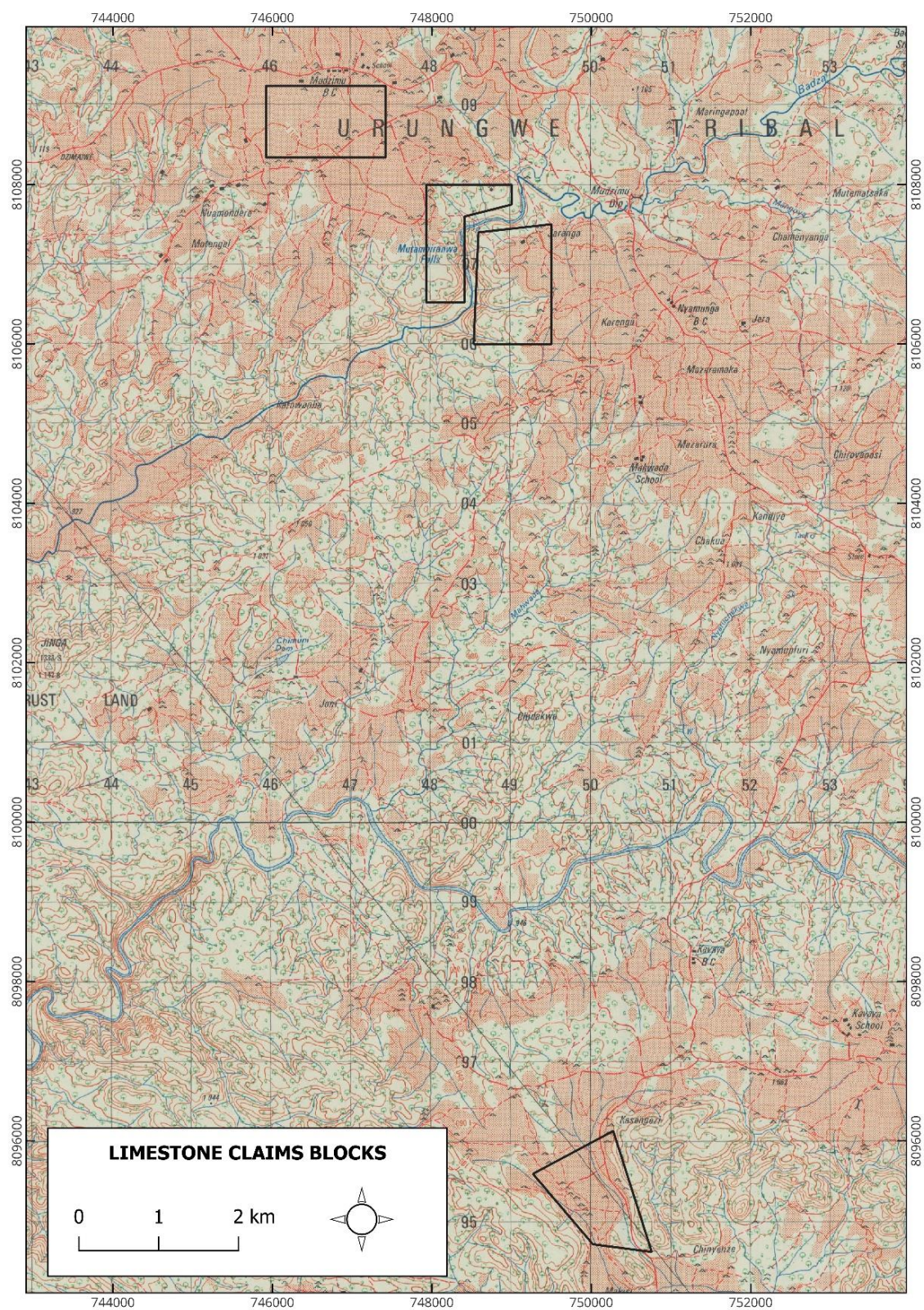


Figure 3. Outlines of marble claims blocks

MINES AND MINERALS ACT
Certificate of Registration

68481-4
Form M.M.8

Registered No. 5456BM

No. 017181

Mining Commissioner's Office

Amount
Paid

\$11,250.00

MIN. OF MINES & MINING DEV.
PROVINCIAL MINING DIRECTOR
MAHARASHTRA
25 SEP 2013
CHANDRASEKHAR COMPLEX
TEL: 057222510170

..... LAND WEST
....., 20

THIS IS TO CERTIFY that DONALD CHANAINA
..... is the Registered Holder
of a block consisting of ONE THIRTY EIGHT (138) DOLOMITE claims,
named MUTAMBIKARNA A the situation of which is indicated to be
ON MUTAMBIKARNA FALLS APPROXIMATELY 8 KM WEST
OF TRIG. 183219 (HURUNGNE)

Licence No. 021324BA

[Signature]
for Mining Commissioner

MINES AND MINERALS ACT
Certificate of Registration

68481-4
Form M.M.8

Registered No. 5457BM

No. 017182

Mining Commissioner's Office

Amount
Paid

\$11,250.00

MIN. OF MINES & MINING DEV.
PROVINCIAL MINING DIRECTOR
MAHARASHTRA
25 SEP 2013
CHANDRASEKHAR COMPLEX
TEL: 057222510170

..... LAND WEST
....., 20

THIS IS TO CERTIFY that DONALD CHANAINA
..... is the Registered Holder
of a block consisting of ONE THIRTY SIX (136) DOLOMITE claims,
named MUTAMBIKARNA B the situation of which is indicated to be
ON MUTAMBIKARNA FALLS APPROXIMATELY 7.8 KM WEST
OF TRIG. 183219 (HURUNGNE)

Licence No. 021325BA

[Signature]
for Mining Commissioner

MINES AND MINERALS ACT
Certificate of Registration

68481-4
Form M.M.8

Registered No. 54588BM

Amount
Paid
\$11,250.00

No. 017183



THIS IS TO CERTIFY that DONALD CHANAIWA is the Registered Holder

of a block consisting of NINETY THREE (93) DOLOMITE claims,
named MUTAMBIKAWA C the situation of which is indicated to be
ON MUTAMBIKAWA FALLS APPROXIMATELY 8.4 KM WEST
OF TRIG 1832/S (HURUNGWE)

Licence No. 021326BA

for 
Mining Commissioner

MINES AND MINERALS ACT
Certificate of Registration

68481-4
Form M.M.8

Registered No. 5510 BM

Amount
Paid
\$3250.00

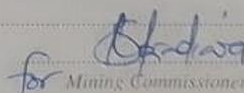
No. 017337



THIS IS TO CERTIFY that CHANAIWA DONALD

is the Registered Holder
of a block consisting of ONE TWENTY ONE (21) DOLOMITE claims,
named HURUNGWE DOLOMITE the situation of which is indicated to be
IN HURUNGWE, SURVEYOR'S COORDINATES
P.T.O.

Licence No. 031321BA

for 
Mining Commissioner



Marble exposures along streams





Marble outcrops

