INDEPENDENT ASSESSMENT REPORT OF THE GOLD MINERALISATION POTENTIAL AT THE JUMBO MINE CLAIMS MBERENGWA, ZIMBABWE

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RE: INDEPENDENT ASSESSMENT REPORT OF THE GOLD MINERALISATION POTENTIAL AT JUMBO MINE CLAIMS, MBERENGWA  

Please find attached the Independent Assessment Report (“IAR”) of the gold mineralisation potential at the Jumbo Mine gold claims in Mberengwa following exploration carried out in 2016. I have prepared this IAR in accordance with my understanding of your current requirements.  

Should you have any queries please do not hesitate to contact the undersigned on the following contact details:  
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Cleopas Machingauta
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EXECUTIVE SUMMARY

Introduction

Dr. David V. Kilpin (“the Client”) requested Mr. Cleopas Machingauta (“the author”) to visit the Jumbo Mine claims in Mberengwa, give an appraisal of the potential of the claims area regarding gold mineralization following exploration work carried out on the claims area and make any recommendations for further exploration work of the deposit.

Summary of Findings

The exploration work carried out on the claims area during 2016 involved ground magnetic survey and Real Section Induced Polarisation (RSIP) surveys, reconnaissance visit and report, surface geological mapping and trench marking.

The aim of the exercise was to identify structural and lithological field relations and establish their bearing on gold mineralization.

Ground magnetic survey was carried out in order to map sub-surface geology, including lithological contacts and lineaments, that could help in understanding the lithological and structural setting in and around the Jumbo Mine Claims, and the implication such setting has on gold mineralisation and occurrence within the area.

RSIP was done to identify potential areas that could be hosting sulphides, as these are commonly known to occur with gold. Any defined anomalies were followed down to depths of 225 m, hence determining the depth behaviour of the anomaly, and to come up with drilling targets on a reconnaissance basis.

Geological mapping was done in order to understand the rock formations of the claims area particularly on and around the old workings, hence establishing the geological and structural setting of the area so that the gathered information could be used in designing the subsequent exploration phases.

In summary, the ground magnetic survey and geological mapping have picked up a number of targets based on the existence of interesting lithological and structural features that are conducive for gold mineralization in the form of:

- shear zones, fault zones and secondary splays within the basalts and the quartz veins hosted in them,
- felsic intrusions
- intersecting structures and faults and contacts between lithologies of different competencies e.g. metabasalts and felsic intrusions and metabasalts and granites on the east end of the claims area.

Real Section Induced Polarisation (RSIP) was important in delineating potential sulphide mineralised areas and establishing the behavior of these anomalies at depth.

It is the author’s view, based on the exploration work carried out so far, that the Jumbo Mine Claims are situated in a highly prospective area for gold mineralisation in the Hokonui Formation of the Lower Greenstones on the western margin of the Mberengwa Greenstone Belt. The proximity of the claims area to
known old or current mining operations with similar geological and structural features and characteristics further supports this view.

Further investigation of the claims area is recommended and a phased approach would include:

1. Testing of the shear zone-hosted quartz veins and mineralised shear zones by trenching and sampling across strike. A number of trenches have been planned to intersect the apparent strike directions of the current workings and structural features deduced from geophysical surveys. The trenching will also test the continuity of mineralization along strike.

2. Further characterization of the behavior of the mineralised veins and zones could be achieved by mapping and sampling any of the current underground workings if they could be made accessible and safe.

3. Diamond drilling can then follow to probe the down dip extensions of the shear zone-hosted quartz veins and mineralised zones. It will also provide lithological, mineralogical, structural and sampling data besides the geological control inherent in diamond drilling. Diamond core samples will also provide samples for metallurgical test work.

4. It is recommended that some initial reconnaissance drill holes should be planned in such a way as to probe the anomalies at all depth levels i.e. shallow, intermediate and deeper levels, i.e. penetrating down to vertical depths of at least 200 m. These initial holes will be used to calibrate the actual levels of mineralisation occurrence, and any notable diagnostic characteristics of such mineralisation. Once this has been achieved, the rest of the drill holes will then be planned based on the outcome of such initial holes.
1 INTRODUCTION AND TERMS OF REFERENCE

1.1 Introduction

Dr. David V. Kilpin ("the Client") requested Mr. Cleopas Machingauta ("the author") to visit the Jumbo Mine claims in Mberengwa, give an appraisal of the potential of the claims area regarding gold mineralization following exploration work carried out on the claims area and make any recommendations for further exploration work of the deposit. Earlier exploration work mainly involved ground magnetic and Induced Polarisation surveys carried out by Mr. T. Gumede under Knowledge

1.2 Qualifications of Cleopas Machingauta

Mr. C. Machingauta is a geologist with twenty-four years experience in the mining industry including exploration projects, mining geology, geological modelling, resources evaluation, setting up and managing QAQC systems and new projects. He holds a BSc Geology degree and a MSc Earth Sciences degree from the Paul Sabatier University, Toulouse, France.

He has worked as an exploration and mine geologist for over three years for Forbes and Thompson in the Gwanda Greenstone Belt (gold), as a mine and resource evaluation geologist for over 10 years under Anglo American Corporation at Bindura Nickel Corporation, as a senior evaluation geologist for over three years under AngloGold Ashanti in Guinea in West Africa and as a senior geologist consultant for five years with SRK Consulting.

He is a member of the Geological Society of Zimbabwe.

He has no beneficial interest in the Jumbo Mine claims or in any assets belonging to the Client. He is to be paid a fee for this work in accordance with normal professional consulting practice.

- Cleopas Machingauta, BSc (Hons) Geology, MSc (Earth Sciences)

1.3 Purpose of Report

The purpose of this Report is to give a summary of the exploration work carried out on the claims area during 2016, give an appraisal of the potential for gold mineralization and make any recommendations for further exploration work of the deposit.

This Report does not provide a valuation of the gold claims or any comment on the fairness and reasonableness of any transactions related to the acquisition or lease of the claims.

1.4 Site Visit

Site visits, including an underground visit of the Dunbeth Shaft, were carried out on the claims area during 2016 to get a general understanding of the geological and structural characteristics following geophysical surveys and verify and confirm the corner coordinates of the claim blocks. The visits resulted in recommendations for detailed geological mapping and in the siting of trenches.
1.5 Sources of Information

Table 1 shows a list of information sources used by the author for compiling the appraisal report.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
<th>Date</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Mberengwa Topographic Map</td>
<td>1982</td>
<td>The Surveyor-General, Zimbabwe, Mberengwa 2029 B4</td>
</tr>
<tr>
<td>4</td>
<td>Various Public Reports and Documents</td>
<td>-</td>
<td>Zimbabwe Geological Survey Library</td>
</tr>
<tr>
<td>6</td>
<td>Site visits and geological report on Jumbo Mine Claims, Mberengwa</td>
<td>2016</td>
<td>Messrs. M. Ncube and F. Mupudzi</td>
</tr>
</tbody>
</table>

2 DISCLAIMER

2.1 Limitations and Reliance on Information

The opinions expressed by the author in this assessment report are based on the observations he made during reconnaissance visits carried out on the claims area during 2016 and exploration work involving geophysical surveys carried out by T. Gumede and geological mapping done by F. Mupudzi and N. Ncube and supplemented by the geological reviews of publicly available bulletins of the Geological Survey of Zimbabwe. They apply to the information, as it existed at the time of the author’s investigations. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report, about which the author had no prior knowledge nor had the opportunity to evaluate. The bulk of geophysical survey section of this report was extracted from the report compiled by T. Gumede of Knowledge Factory Private Limited.

2.2 Legal Reliance

The author did not carry out any legal due diligence of the claims. He has assumed that any information of a legal nature pertaining to land ownership and usage, right of access to and exploitation of minerals, necessary licences and consents including planning permission, any servitudes and conditions contained in any sole-ownership or joint venture agreements for the property are in order and have no adverse technical and financial implications.
3 PROJECT DESCRIPTION AND LOCATION

3.1 Access and Infrastructure

3.1.1 Roads

The Jumbo Mine claims are situated on an area straddling across Shangri La East and Dunning Farms, 2.4 km south of Belingwe and about 30 km SSW of Zvishavane. (Figure 1) The claims are accessible through the Zvishavane-Mbalabala-Bulawayo highway for 25 km and branching off eastwards towards Mberengwa. About 5 km on this tarred road, a dirt road branches off leading to the claims a further 2 km south-westwards.

![Figure 1: Jumbo Mine claims area](image)
3.1.2 Electricity

Electricity for current small-scale mining and plant operations is drawn from a Zimbabwe Electricity Supply Authority (ZESA) sub-station that is located on the claims and this is fed from a nearby 11kva line.

3.1.3 Water

The waterlogged old Dunbeth Main shaft services current plant operations and domestic needs for the surrounding community. The nearby Dohwe River could be used for any future bulk water for mining and plant operations.

3.2 Physiography and Climate

3.2.1 Drainage

Two major rivers pass through the area. The Mtshingwe River, which commonly stops flowing during the dry months, enters the area from the west along the line of the Mtshingwe Fault and passes through the Great Dyke over granite terrain erratically following the fault trace onto the Belingwe Greenstone belt before joining the Ngezi River north-east of the claims area. The Ngezi River, also commonly dry for part of the year, enters the area from the north-west. From their confluence, the Ngezi follows the fault line until the effect disappears eastwards and meandering starts. Locally, a smaller river, the Dohwe, passes west of the claims area before feeding into the Mtshingwe River in the north.
3.2.2 Topography
This western flank of the Mberengwa Greenstone Belt generally lies above 1160 m above sea level and is generally flat lying to the south and west of the claims area although occasional ridges rise above the general plain.

3.2.3 Vegetation
The natural vegetation of the area is rarely preserved, and then only on the more accessible peaks where it consists essentially of low shrub trees. The thorn tree is very prominent in this western part of the greenstone belt.

3.2.4 Climate
The greater part of the area like most parts of the surrounding country enjoys a semi arid climate due to its low altitude.

Daily sunshine averages ten hours and humidity is relatively low. The winter months run from June to early August when mean high temperatures of 20°C are experienced during the day before falling to about 6°C at night. The summer temperatures are always high with maximum temperatures of 35°C during the day. The rainy season starts in November and normally ends in early April. The rainfall is relatively low and averages at 550mm per year.

3.3 Project Status
Small-scale artisanal mining activity is being undertaken on the claims area on the Old Dunbeth Main shaft but no commercial mining activity at the scale the Client envisages has happened so far.

Milling and gold recovery for both in-house and custom operations are undertaken on the plant comprising a crusher, hammer mill and separator.

A cyanidation and elution plant for the tailings material is currently in operation on the claims.

Although abundant water is available for current operations, challenges are faced when there is no grid power. A stand-by generator would address this challenge should it arise.

3.4 Tenure and Ownership
The Jumbo Mine claims are registered under David Victor Kilpin. They are legally secure through payment and workings. The claims are fully beaconed and maintained and he has provided copies of the relevant registration certificate details the list of which is shown in Table 2 and APPENDIX.

The property boundaries were located with a hand held GPS using Arc 1950 and UTM Zone 36S coordinate system in conjunction with the map showing an outline of the blocks from the Ministry of Mines.
Table 2: Summary of Jumbo Mine Claims registration details

<table>
<thead>
<tr>
<th>Registered Number</th>
<th>Receipt Number</th>
<th>Registration Date</th>
<th>Licence Number</th>
<th>Name of Block</th>
<th>Area (hectares)</th>
<th>Commodity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3368</td>
<td>076581</td>
<td>13 Oct 2014</td>
<td>052604 AA</td>
<td>Jumbo 91</td>
<td>6.6</td>
</tr>
<tr>
<td>2</td>
<td>3369</td>
<td>076582</td>
<td>13 Oct 2014</td>
<td>052605 AA</td>
<td>Jumbo 92</td>
<td>7.2</td>
</tr>
<tr>
<td>3</td>
<td>3370</td>
<td>076853</td>
<td>13 Oct 2014</td>
<td>052606 AA</td>
<td>Jumbo 93</td>
<td>7.3</td>
</tr>
<tr>
<td>4</td>
<td>16182</td>
<td>016049</td>
<td>06 Aug 2015</td>
<td>097155 AA</td>
<td>Jumbo 91 west</td>
<td>21.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>42.4 ha</strong></td>
<td></td>
</tr>
</tbody>
</table>

In terms of the Mines and Minerals Act Chapter 21:05 the dominion and the right to search for, mine and dispose of all minerals, mineral oils and natural gasses is vested in the President of the Republic. Anyone wishing to search for or exploit any mineral may do so only by virtue of right acquired in terms of the above Act.

An individual acquires this right when they purchase a prospecting license or a company acquires an exclusive prospecting order (EPO) over a defined area of ground and from this stems the right to peg claims or mining locations and the right to dispose of minerals. The rights to these mineral claims are preserved by either working the claims or through paying annual renewal fees to the mining commissioner of the district in which the mine claims are located.
4 MINING HISTORY

4.1 Mining History of the Claims area

The documented history of the mines within and around the claims area is as summarised in Table 3:

Table 3: Declared Historical Production

<table>
<thead>
<tr>
<th>Mine</th>
<th>Year</th>
<th>Gold Ore (tonnes)</th>
<th>Gold recovered</th>
<th>Reef description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Mine</td>
<td>1922</td>
<td>191</td>
<td>1.49 kg @ 7.8 g/t</td>
<td>Quartz vein in grenestone</td>
</tr>
<tr>
<td>Blue Bell Mine</td>
<td>1933-1960</td>
<td>145</td>
<td>1.47 kg @ 10.14 g/t</td>
<td>Veinlets of stibnite in quartz</td>
</tr>
<tr>
<td>C Mine</td>
<td>1907–2000s</td>
<td>309,515</td>
<td>2,104 kg @ 6.8 g/t</td>
<td>Shear-hosted quartz vein in greenstone</td>
</tr>
<tr>
<td>D Mine</td>
<td>1933-1941</td>
<td>376</td>
<td>4.2 kg @ 11.17 g/t</td>
<td>Shear-hosted quartz vein in mafic greenstone</td>
</tr>
<tr>
<td>Dunbeth Mine</td>
<td>1945-1949</td>
<td>1,720</td>
<td>12.50 kg @ 7.27 g/t</td>
<td>Shear-hosted reef in amygdaloidal greenstone</td>
</tr>
<tr>
<td>Jumbo Mine</td>
<td>1915-1946</td>
<td>34,270</td>
<td>280.09 kg @ 8.17 g/t</td>
<td>Shear-hosted quartz vein in mafic greenstone</td>
</tr>
</tbody>
</table>

4.1.1 A Mine
The A Claims are situated on Shangri La Farm, 200 m east-south-east of the C Mine. The Anglo-French Company Limited acquired these claims and other properties whose names were designated by letters of the alphabet in the early 1900s.

An east-west striking quartz reef in greenstone, parallel to the C Mine reef, in 1922 produced 1.49 kg of gold from 191 tonnes of milled ore, giving an average recovered gold grade of 7.8 g/t.

4.1.2 Blue Bell Mine
The mine was located 2 km west Mberengwa.

The orebody consisted of two parallel east-striking white quartz reefs containing chalcopyrite, pyrite and galena in hornblende schist close to the intrusive tonalite contact.

The mine produced 1.47 kg of gold from 145 tonnes of gold ore intermittently between 1933 and 1960 giving an average recovery grade of 10.14 g/t.

4.1.3 C Mine
The mine, which was operated by Boulder Mining (Pvt) Ltd, is located about 4.5 km almost due west of Mberengwa.

The reef is a basic greenstone and shear-hosted massive quartz vein (up to 12 m wide) that is replaced by a shear-hosted stringer zone below 15th Level. Gold and sulphides contained in fine sinuous chloritic laminations wandering from footwall to hanging wall.

The mine produced 2.104t of gold from 309,515 tonnes of gold ore giving an average grade of 6.8 g/t.

4.1.4 D Mine
The mine is 3.8 km west of Mberengwa.
The reef consisted of a fine-grained mafic greenstone and shear-hosted 0.5m-wide white quartz vein striking east and dipping 80° to 85° south.

The mine produced 4.2 kg of gold from 376 tonnes of gold ore, intermittently between 1933 and 1941, giving an average gold grade of 11.17 g/t.

4.1.5 Dunbeth Mine

The mine is situated on Shangri La Farm, 2.4 km south-west of Mberengwa.

The reef consists of a south-trending shear zone hosted in fine-grained amygdaloidal greenstones.

In the documented past, the mine produced 12.5 kg of gold from 1,720 tonnes of gold ore giving an average recovery grade of 7.27 g/t.

4.1.6 Jumbo Mine

The mine is situated on Dunning Farm, 2.4 km south of Mberengwa.

The reef consists of an east-trending quartz vein dipping south at 50° and hosted in mafic schists and doleritic greenstones.

The mine, together with Jumbo mine North, produced 280.09 kg of gold from 34,270 tonnes of ore, intermittently between 1915 and 1946, giving an average recovered grade of 8.17 g/t. Tailings sands retreated totalled 45,952 tonnes.

5 RECENT AND CURRENT MINING ACTIVITIES

5.1 Current mining activities

Current small-scale mining activity is being undertaken about 46 m underground on the Dunbeth Main Shaft. The mine development and production activities are following a 30 cm-wide and N-S-trending shear-hosted quartz vein, in metabasalt, dipping west at about 60°.

Production levels are still low at around 1t/day with the recovered grade averaging 8 to 10g/t. There is need to improve safe mining conditions through: provision of relevant PPE, ground support by timbering, roof bolting and installation of wire mesh and the installation of a reliable signal system. This should be ensured through the engagement of a qualified mining engineer or miner. A qualified mine surveyor is also required to help guide the direction of development and production activities.

5.2 Recent artisanal mining activities

Recent artisanal mining activities were carried out during early 2016 on:

- the ATM workings that are following quartz vein in a shear zone, striking at 16° magnetic and dipping 80° east, at the contact between a felsic intrusion and the mafic greenstone. The wall rocks around the quartz vein are silicified. Reports indicate that the quartz vein averaged 20 cm in width with fine disseminated gold and grades reaching 30 g/t or even higher where the reef narrowed.
- the “KG” workings that follow quartz veins and stringers in a shear zone at the contact between feldspar porphyry on the hanging wall and quartz-sericite schist on the footwall in amphibolite
country rock. The mineralized zone is limonitic and the quartz veins milky white with “box-work” weathered sulphides. These foliated rocks give rise to small, sharply angular outcrops.

The series of shafts appear to be following a right-stepping Z inflection towards the north-west with an apparent splay on the hanging-wall.

- The workings located south-east of Main Dunbeth shaft are found in strongly sheared chloritic schist. The mineralised quartz vein within the normally 1m-wide shear zones can reach a width of 30 cm. Reports indicate that the old shaft used to be a subsidiary of the C Mine.
- Workings east of the old Dunbeth Main appear to follow a poorly exposed low lying area towards the eastern extremity of the claims area bordering the local villagers’ fields.

5.3 Economic Potential

Observations made during the field mapping show that most of the old workings fall within the shear zones, particularly where the sheared unit is a metabasalt or feldspar porphyry carrying quartz veins or stringers. The quartz veins exhibit a ‘pinch-and swell” structure and are often milky white with widths of up to 50 cm in places occurring parallel to the foliation planes within the sheared units. Thin veinlets resulting from brecciation and containing unidentified fine sulphide minerals are also common in sheared rocks.
5.4 Surface and underground mining images

**Figure 4:** ATM shaft and workings

**Figure 5:** Dunbeth Main shaft

**Figure 6:** 30cm-wide quartz vein underground at Dunbeth Main Shaft

**Figure 7:** Quartz vein at a KG workings shaft

**Figure 8:** Limonitic milky quartz reef at KG shaft
5.5 Milling and cyanidation plant images

Figure 9: Hammer mill at Jumbo Mine claims
Figure 10: Ball mill intended for sands regrind
Figure 11: Separator
Figure 12: Entrance to cyanidation plant
Figure 13: Cyanidation tanks
Figure 14: Carbon columns
6 GEOLOGICAL SETTING

6.1 Regional Geology

The Mberengwa Greenstone Belt ("MbGB") comprises a succession of volcanic and sedimentary rocks that have been folded into a tight syncline whose axis trends north-south. The MbGB has been subdivided lithostratigraphically into eight formations, which are grouped into the Lower Greenstones (or Mtshingwe Group, 2.9Ga), and the Upper Greenstones (or Ngezi Group, 2.7Ga).

The greenstone belt has a maximum width of 30 km in the south but becomes restricted to 500 metres in the central area before expanding to an average 4 km in the north.

Gold mineralisation is mainly associated with the quartz filled N-S trending Sabi Shear Zone on east of the MbGB and the Hokonui Formation of the Lower Greenstones Group on the western margin of the MbGB.
6.2 Local Geology

The Jumbo Mine Claims are located in the Hokonui Formation of the Lower Greenstones about 20 km east of the Great Dyke. The Hokonui Formation, which is restricted to the western limb of the MbGB, consists of intermediate to felsic pyroclastics that in the lower part are intercalated with fine-grained mafic rocks. Some of the mafic rocks are conformably intrusive but others are possibly volcanic in origin. This formation is intruded at its base by the Chingezi Tonalite and is overlain unconformably by the Manjeri Formation which is the basal unit of the Upper Greenstones.
7 EXPLORATION

7.1 Geological Mapping

Geological mapping within the Jumbo Mine Claims and at White Asbestos claims which are situated about 3 km NNW of the Jumbo claims, was carried out in order to gain an understanding of the local geology, i.e. lithological and structural setting of the area.

Mapping was done along 50 m traverses and infill where necessary the geological features were picked using a GPS Garmin62 receiver and plotted on graph paper. Strike and dip were measured using a Silva compass. The separate sheets were scanned and the scans geo-referenced and digitised using MapInfo to compile the geology map. The geological information compiled was compared with the anomalies that were generated from the ground magnetic surveys that were carried out earlier on.

A final ‘ground-truthing’ exercise was done after processing the geological mapping and ground magnetic survey data, during the siting of trenches, with the aim of relating the different anomaly signatures to the individual rock types and structures.

C. MACHINGAUTA

Figure 16: Jumbo Mine deposit geology

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7.1.1 Lithological descriptions

7.1.1.1 Basalt and metabasalt

The dominant lithological unit on both the Jumbo and White Asbestos claims are basaltic units that exhibit varying metamorphic grades. In some instances, the basalts are made up of undeformed fine-grained lava flows.

Some pillowed basalts were identified on top of a ridge towards the western extremity of the Jumbo claims. Immediately on the east of the pillow basalts is a coarse-grained amphibolite with some mottled hornblende crystals. Further east, the amphibolites becomes medium-grained.

Elsewhere, the basalt is fine-grained and massive. Where sheared, the metabasalt turns to chlorite-sericite schist.

7.1.1.2 Porphyritic felsic intrusions

Felsic units intrude the metabasalts along E-W and WNW trending secondary shears that splay off the principal regional N-S trending shears. The cream-coloured rocks are coarse to very fine-grained and moderately deformed to undeformed.

Where deformed the felsite shows brittle deformation that poses some rock mechanics challenges during mining operations.

7.1.1.3 Quartz veins

The quartz veins are associated with shear splays where they exhibit a pinch and swell structure. At the ATM shaft area, the quartz has a clear colour with widths of up to 30 cm. At the KG workings the quartz vein is milky white and limonitic with widths in excess of 50 cm in places.

7.1.2 Structural setting and gold mineralisation

The claims exhibit generally the same structural linear trends characterised by principal N-S shears with E-W and WNW trending splays.

The N-S shears are major regional structures. They can be traced for tens of kilometres along strike. The width of the shears varies from 5 m to 20 m. These shears sometimes carry economic free gold mineralisation but not as much as the splay shears that strike oblique to them.

The E-W and WNW-trending shear splays are of significance in terms of gold mineralisation when they are associated with quartz veins. The veins show a pinch swell cm to m scale and commonly disappear altogether along both strike and dip.

Gold mineralisation occurs concentrated in pockets where the width of the vein thins to 30 cm and below. It has been observed that where the quartz is milky and wider than 50 cm, as is the case at the KG workings, gold mineralisation is sub-economic or only confined to the margins of the enclosing splay shears.

Some quartz rubble from the claims area has been sent to the mill and gold recoveries of up to 2g/t were realised on the cyclones.

However, fine sulphide shear-hosted gold that occurs within the shears has proven to return better recoveries on cyanidation of sands after the cyclones.
7.1.3 White Asbestos claims

The dominant lithological unit are basalts that are deformed to green schist facies along predominant regional N-S trending shears as well as the secondary splay shears.

On the eastern part of the claims is a N-S trending shear, averaging 3 m in width, that carries a 30 cm – 50 cm wide grey quartz vein. The vertical ensemble traverses the entire claims without a break.

From a recently excavated shallow shaft (4 m depth), the quartz vein has been shown to carry some malachite.

Although samples collected from the quartz reef returned some sub-economic gold grades on the cyclone there is need to investigate it further and do more sampling along its strike.

7.1.4 Mapping conclusions

Normally, structurally controlled gold deposits hosted in greenstone belts are commonly associated with hinges of folds (anticlines or synclines) and intersections of shear zones and/or faults. Consequently, prospective areas in the Jumbo Mine and white Asbestos claims encompass zones where the metabasalts are truncated by controlling shear zones and splays. The shear zones and splays would have acted as conduits for the auriferous hydrothermal fluids. These fluids rich in various elements, including gold and sulphur, would react with ferro-magnesium minerals in the metabasalts to form gold-iron sulphide complexes such as pyrite, pyrrhotite, arsenopyrite and many more.

There is need to study and understand the correlation of the lithological and structural features picked by mapping and geophysical surveys and plan for the excavation of trenches across structures.

The structures controlling mineralisation i.e. veins, shears and splays, intrusives and inflections must be thoroughly understood.

The final activity if recommended and supported by the investigations carried out through geophysical surveys, mapping and trenching should be drilling.
7.2 Ground Magnetic Survey

7.2.1 Introduction on Ground Magnetics

A detailed ground magnetic survey was carried out on the Jumbo Mine claims at a 50 m line spacing and 5m sample stations with the aim mapping out faults, shear zones and dykes which could aid in highlighting potentially favourable areas for gold mineralization within the host rocks.

The generated magnetic anomalies together with the follow-up ‘ground-truthing’ and subsequent geological mapping would be used to determine the continuity positions of the gold reefs on the old workings, as well as re-assessing the host and controlling rock types and structures on the mineralisation.

Many rocks in the earth’s crust exhibit magnetic properties, which may be magnetization induced by the present-day geomagnetic field, or a remanent magnetization acquired at some time in the geological past, or a combination of both. Mapping the patterns of magnetic anomalies attributable to rock magnetism has proven to be very effective in mapping lineaments and curvilinears that reflect fracturing, faulting, folding and shearing, which are potential conduits for gold mineralisation. Structural geometries such as disconformities may also be mapped using litho-magnetic variations.

It has to be pointed out that magnetic surveys are not direct detectors of mineralization, but give guidance if the mineralization is associated with magnetic minerals like pyrhotite, magnetite, and ilmenite.

7.2.2 Magnetic Survey Instrumentation

The survey utilized a GSM 19 magnetometer of sensitivity +/-0.01nT as a roving machine whilst the Geometrics G856 of sensitivity +/-0.1nT was the base machine.

7.2.3 Magnetic Data Processing

7.2.3.1 Map Generation

The following data transforms and routines were effected using frequency and space domain filters in MapInfo Discover Program.

a) Pole Reduction

This transform generates a total field data set whose magnetic anomaly signatures are commensurate with those at the poles rather than -60° for the induced magnetization in the prospect area. The effect is to simplify the magnetic map by rendering anomaly waveform independent of strike and to generate symmetrical anomalies over steeply dipping magnetic sources. Anomalies with asymmetric waveform reflect flatly dipping magnetic sources or with a component of remanent magnetization.

b) Gradient Data

Vertical gradient data emphasize shallow sources at the expense of broad regional responses. These are short wavelength magnetic anomalies and reflect structural lineaments.

It has to be pointed that vertical gradient anomalies over steeply dipping magnetic sources are generally less complex and are preferred in map interpretation.
7.2.4 Magnetic Survey Anomaly Discussion

The magnetic survey results, shown in Figure 17, indicates N- S regional trend characterised by a magnetic high feature to the east, a low magnetic feature centrally and a broken but intermediate to high magnetic feature to the west. The fenced out artisanal pits are associated with the shears that have a synonymous low magnetic intensity.

Figure 17: Jumbo Mine Total Magnetic Intensity Map showing reef workings
The magnetic survey has mapped 9 distinct magnetic horizons (see Figure 18), indicated as from E to W, MH1, SC, CSZ, MH2, IMH1, MSZ, DD, IMH2 and MH2 with maximum peak to trough intensity of 20nT. The small variation in this intensity indicates that the units may be closely associated in formation hence the small variation in magnetite bearing minerals.
7.2.4.1 MH1 Anomaly
This anomaly lies to the east of the artisanal pits, its westerly contact being associated with a depression that has been worked on for free coarse gold. It is the relatively more highly magnetic unit, exposed at depth by excavations, is mafic hence the relative high magnetic intensity. It shows as a N S formation its contact to the west is sheared giving rise to a large magnetic gradient.

7.2.4.2 SC Anomaly
This is a sheared contact of a more mafic unit to the east of MH1 and a granitic formation to the west. This contrast in mineralogy of the formations give rise to a large magnetic gradient that has been as SC. Stringers of quartz were observed on the excavations, making the contact a likely conduit for gold mineralisation

7.2.4.3 CSZ Anomaly
This is a low magnetic feature that has a NE-SW trend. It is interpreted as a radial/conjugate shear as it splays from SC anomaly to the east and MSZ anomaly to the west. It is associated with artisanal pits exploiting narrow rich quartz veins to the NE and SW.

7.2.4.4 MSZ Anomaly
This is a shear, showing as a magnetic low owing to the destruction of magnetite during the tectonic event. It has a N S trend, truncated by WWS EEN and NW SE structures. The conjugate structures are conduits of high grade mineralisation as observed by production from some of the pits. The structures are mapped as microvariation in intensity having a directional orientation acute to the main regional trend. Induced Polarisation surveys targeted the shear and conjugate structures to map any potential sulphide mineralisation that may be host to gold mineralisation at depth.

7.2.4.5 DD Anomaly
The feature is a short strike length anomaly to the north with a NE-SW trend. The float in the environs suggests that a dolerite dyke has cut across MSZ. The area to the north of the anomaly is scarred with shallow alluvial pits targeting gold nuggets.

7.2.4.6 IMH2 Anomaly
The anomaly is bound to the east by MSZ anomaly and of intermediate intensity having a regional N S trend. This may be interpreted as a possible buried granitic formation similar to the one identified on SC anomaly or amphibolite. The anomaly is cut by NW SE and E W structures that have affected the MSZ anomaly. Its north is terminated by more highly magnetic anomaly that appears intrusive.

7.2.4.7 MH2 Anomaly
This is a magnetic anomaly with its strength equivalent to MH1 anomaly and is likely to be mafic in nature. The intensity varies along strike indicating that perhaps it has suffered varying of metamorphism as one progresses north. The field outcrop also shows variation is crystal size within some formation, from relatively fine to the south to a coarser grained unit to the north.
Figure 18: Total Magnetic Intensity Map with Geology Interpretation and Outcrop areas

Legend:
- D: Dolerite
- M: Mafic
- Q: Quartz
- CG: Contact Granite
- Sh: Shear
- Am: Amphibolite
7.3 Induced Polarisation Survey

7.3.1 Introduction to Induced Polarisation Survey

As a follow up to the Ground Magnetic survey, Induced Polarisation (IP) surveys (real section IP configurations) were implemented on more prospective ground to identify potential pitting/trenching and drill targets.

The IP survey was therefore designed to check on the occurrence of sulphides as they are known to be associated with the gold in the area. The continuity of the shear zones and any other lineaments along which gold and related sulphides could be enriched would also be investigated by the IP survey.

An area of 25 hectares was surveyed using multi-gradient configuration to a 250 m depth slice at 100 m line spacing over MSZ, CSZ and other conjugate structure that may be host to gold mineralisation as was interpreted from the magnetic surveys. A 50 m receiver-electrode-dipole length was used with a 25 m along line sampling frequency to improve on resolution.

7.3.2 Instrumentation and Field Procedure

The IP surveying was conducted using an IRIS IP system, in multi-gradient array 2-D mode to survey different pseudo-depth levels. The potential electrode spacing was set to 25 metres to a depth slice of 50 m and 50 m to a 250 m depth slice while along line sampling was set at 25 m for high lateral resolution. Surveys were completed on 5 lines, 7732200N (200N), 7732300N (300N), 7732400N (400N), 7732500N (500N) and 7732600N (600N) transverse to N S, NE SW shear system as shown in Figure 19.

7.3.3 Brief Theory of IP Method and Data Processing

IP method is widely used for detecting possible sulphide mineralization (usually an indicator for gold occurrence) that is expected to give high chargeability response. In IP methods, electrical current is alternately induced into the ground and switched off, usually in cycles of 2 seconds. The induced current ionizes the ground temporarily for 2 seconds, thereby creating a temporary cell in the ground that results in an "over voltage" which decays to zero during the off phase of the cycle. The size of the stored charge, and hence the time it takes for the over voltage to decay, depends on the presence of electrically chargeable minerals in the ground such as sulphides. The chargeability (M) in Millivolts/volts, of the ground is the rate of decay of voltage across this cell. True chargeability is the ratio of the over or secondary voltage Vs, to the observed voltage Vo, applied through AB so that $M = \frac{Vs}{Vo}$, expressed as a percentage or as milli volts per volt. In reality, what is measured is the apparent chargeability (Ma) which is the area (A) beneath the voltage-time decay curve over a defined time interval $T_1$ to $T_2$ and normalized by the assumed steady-state primary voltage, Vp such that:

$$Ma = \frac{A}{Vp} = \left(\frac{1}{Vp}\right) \times \int_{T_1}^{T_2} v(t) dt$$

The unit for the resultant quantity is mVs/V.

Knowing the location of the electrodes and measuring the amount of current input into the ground and the voltage difference between two potential electrodes, one can compute the resistivity of the medium. The computed resistivity is referred to as the apparent resistivity. It is called apparent resistivity because the
earth does not have a constant resistivity or a homogenous medium i.e. it varies both horizontally and with depth.

Besides disseminated sulphides, other minerals such as graphite, oxides and clays are also possible sources of IP anomalies and they define notable chargeability anomalies. Because all these minerals are conductors, they tend to give low resistivity anomalies. However, high resistivity is possible within sulphide zones if they are hosted within resistive quartz veins or within silicified zones.

Ambiguity on interpretation in such geological environments is introduced so, that from a geological point of view, IP responses are almost never uniquely interpretable. Also, from the IP measurements the apparent (bulk) resistivity of the ground is calculated from the input current and the measured primary voltage. IP/Resistivity measurements are generally considered repeatable within about five percent. However, they will exceed that if field conditions change due to variable water content or variable electrode contact. IP/Resistivity measurements are influenced, to a large degree, by the rock materials nearest the measuring electrodes, and the interpretation of the traditional pseudo section presentation of IP data in the past have often been uncertain. This is because stronger responses that are located near surface could mask a weaker one that is located at depth.

Gradient Array - The gradient array is an efficient setup that can be used for reconnaissance or detail surface work. This array is a generalization of the Schlumberger array, and is used for surveying large grids. The size of the receiver dipoles would be based on the lateral resolution desired. This array provides data with good penetration, data are easy to interpret, there is less masking by conductive overburden, lateral resolution is very good, and can use two or more receivers on line to speed up the survey. Its main drawback is that depth to anomalous bodies cannot be determined.

Real Section IP is a form of multi-gradient array in which the current electrodes are moved to increase depth of observation. The configuration has the advantage that the polarisable body attitude can be estimated from the pseudo section, making interpretation straight forward compared to pole-dipole, dipole-dipole data.
7.3.4 Data Presentation

The geophysical data from this survey are displayed in several formats, as indicated below. All plan maps are registered to the Arc 1950, zone 35K, and UTM grid coordinate system to enable integration with magnetic data. Pseudo-sections are 3D interpreted depth sections also registered to the UTM grid for data integration. This was achieved by treating IP data as drill holes.
7.3.5 Interpretive Map Generation

Line by line depth sections of real section IP data were produced to enable determination of location of body, estimation of body attitude and thereby recommend drill positions. Pseudo-depth plan-view maps are essential to determine possibility of structures and correlation with geology mapping, magnetic survey results/interpretation, trenching to improve geological understanding of the area.

7.3.6 Induced Polarisation Survey Anomaly Discussion

Five anomalies at depth have been mapped with a NS strike with EC, CC and WC forming an echelon in which EC is the east anomaly, CC is the central anomaly immediately west of EC by to the northerly side while WC is the westerly anomaly and lying northerly to CC. The forth anomaly BC is the more easterly and broader of the anomalies while SC lies south in association with current artisanal pits.

7.3.6.1 EC Anomaly

This anomaly is mapped at depth as a N S striking feature associated with the initial Jumbo Mine Shaft area (See Figure 5a and 5b). The chargeability anomaly diminishes in its strength towards the surface, an indication of possible oxidation of sulphides that give rise to a high chargeability. It is associated with an intermediate resistivity feature some 700-Ohm m.

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Figure 20a: Jumbo Mine 225 m Depth Slice Chargeability Map with Interpretation

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7.3.6.2 CC Anomaly

The anomaly lies west of EC anomaly in an echelon form striking N S associated with a resistivity gradient anomaly (See Figures 22 and 23). Its intensity of chargeability diminishes towards surface an indication of possible sulphidic zones at depth. It may be associated with artisanal pits to the south that are associated with a feldspar porphyry.

7.3.6.3 WC and SC Anomalies

This anomaly is the more consistent from a 225m depth slice to a 50m depth slice. It is a NS striking anomaly echelon to CC anomaly (see Figure 6a and 6b). It is associated with an equally resistive feature that terminates against a more resistive anomaly (200 Ohm m) further to its south. It is probably the northerly extension of the SC anomaly that lies to the south.
Figure 21a: 200 m Depth Slice Chargeability Anomalies

Figure 21b: 200 m Depth Slice Resistivity Map Overlain by Chargeability Anomalies
The anomalies have been presented below as depth section with a surface plan view on top for illustration. Section Line 7732200N maps two fairly deep chargeability anomalies manifesting well from the 100m depth slice (see Figure 22 and 23). These are associated with the SC and EC anomalies from the depth slice plans. The anomalies show as steeply dipping features that are restive, for anomaly SC and conductive for anomaly EC, as shown on Figure 24.

Section line 7732400, which lies north of section line 7732200 maps 4 four of the chargeable units, SC at depth, CC at depth, EC shallower than the 100m slice and BC shallower than the 50m slice. These anomalies have a corresponding very high resistivity for SC, high resistivity for CC, intermediate to high resistivity for EC and a relatively conductive BC (see Figures 24 and 25).
Figure 23: Correlation of Section Line 7732200 Resistivity Anomalies with slice plan Interpretation

Section line 7732300, shown as Figures 11 and 12, shows EC as a shallow body that is highly chargeable with a limited depth extent. It is interpreted as part of CC anomaly that has been cut by an east dipping fault. Similarly, BC has been dissected by the same fault at depth, giving rise to an IP anomaly that is directly below EC. The anomalies have subdued resistivity counterparts, with BC still shown its conductivity characteristics.

To the west of CC anomaly lies a very resistive body at depth overlain by a conductive overburden. The resistivity anomaly is related to a low magnetic anomaly interpreted as part of a shear.
Figure 24: Section Line 7732400 Chargeability Anomalies with slice plan Interpretation

Figure 25: Section Line 7732400 Resistivity response of IP Anomalies overlain on slice plan
Figure 26: Section Line 7732300 Chargeability Anomalies with slice plan Interpretation

Figure 27: Section Line 7732300 Resistivity response of IP Anomalies overlain on slice plan
Section line 7732500N is host to WC, CC and BC anomalies with WC associated with a N S major shear mapped from the magnetic survey results. WC is cut by a NW SE structure, leading to the fattening of the anomaly along the axis scarred by artisanal pits. To the east of WC, CC shows as anomaly that has a near surface expression while BC to the east shows as the most chargeable of the three units (see Figures 28 and 29).
The northerly section line 7732600, maps WC anomaly from the 100 m depth slice and its radial anomaly to its east. The two anomalies merge at depth, a typical phenomenon of reef type deposits in the Mberengwa area (see Figures 30 and 31). The anomaly WC is associated with a broader resistivity feature from the same depth horizon.
7.4 Geophysical Surveys and Geological Mapping Recommendations and Conclusions

The ground magnetic survey and geological mapping have picked up a number of targets based on the existence of interesting lithological and structural features that are conducive for gold mineralization in the form of shear zones and splays within the basalts and the quartz veins hosted in them; felsic intrusions; intersecting structures and faults and contacts between lithologies of different competencies e.g. metabasalts and granites on the east end of the claims area.

Real Section Induced Polarisation (RSIP) was important in delineating potential sulphide mineralised areas and establishing the behavior of these anomalies at depth.

Five interesting zones were as a result identified for further testing effectively by trenching and drilling.

The following steps are therefore recommended for further exploration:

- Trenching on the defined target areas with detailed trench mapping and sampling to determine the strike and lateral extents of mineralisation.
- Drilling to sample deep seated anomalies and also determine their strike, lateral and down-dip extents.
- It is recommended that some initial reconnaissance drill holes should be planned in such a way as to probe the anomalies at all depth levels i.e. shallow, intermediate and deeper levels, i.e. penetrating down to vertical depths of at least 200 m. These initial holes will be used to calibrate the actual levels of mineralisation occurrence, and any notable diagnostic characteristics of such mineralisation. Once this has been achieved, the rest of the drill holes will then be based on the outcomes of such initial holes.
8 INTERPRETATION AND RECOMMENDATIONS

It is the author’s view that the Jumbo Mine Claims are situated in a highly prospective area for gold mineralisation in the Hokonui Formation of the Lower Greenstones on the western margin of the Mberengwa Greenstone Belt. This is supported by:

a) The presence of structural features like veins, shear zones, fault zones and secondary splay structures interpreted from geophysical surveys and also observed on the ground. These structures are potentially important targets for gold mineralisation.

b) The presence of different lithologies with different competencies in contact with each other.

c) The presence of nearby or intrusive granitic or felsic units

d) Proximity to known old or current mining operations with similar geological and structural features and characteristics

The thrust, therefore, is to identify as many of the supporting positive indicators described within the claims and adjacent mines as possible in order to allow for further characterization of the deposits with a view to developing the claims. Not much can be deduced from the present workings as to the size of the different mineralised zones. It is now necessary to determine the vertical and lateral extents and nature of the mineralisation.

Further investigation of the claims area is recommended and a phased approach would include:

1. Testing of the shear zone-hosted quartz veins and mineralised shear zones by trenching and sampling across strike. A number of trenches have been planned to intersect the apparent strike directions of the current workings and structural features deduced from geophysical surveys. The trenching will also test the continuity of mineralization along strike.

2. Further characterization of the behavior of the mineralised veins and zones could be achieved by mapping and sampling any of the current underground workings if they could be made accessible and safe.

3. The information generated from geological and structural mapping, artisanal mining activity, geophysical surveys and trench mapping and sampling will be useful in generating high priority drill targets.

4. Diamond drilling can then follow to probe the strike, lateral and down-dip extensions of the shear zone-hosted quartz veins and mineralised zones. It will also provide lithological, mineralogical, structural and sampling data besides the geological control inherent in diamond drilling. Diamond core samples will also provide samples for metallurgical test work.
9 FURTHER WORK

9.1 Proposed Trench Locations

21 trenches have been planned to cover the SC anomaly deduced from geophysical investigations and the artisanal workings at and around the old Dunbeth Main, the ATM and the KG. Although the three trenches to probe the MSZ anomaly deduced from ground magnetic investigations are included on the plan these will not be prioritised during the current exercise and will only be tested at a later stage.

The priority trenches are indicated as follows:

- The SC series with seven trenches giving a total length of around 350 metres
- The KG series also with seven trenches giving a total length of around 290 metres
- The ATM series with one trench with a length of 80 metres and
- The DB series with three trenches giving a total length of 200 metres

The total planned length for this phase is 920 metres. The trench coordinates are shown in Table 4.
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Independent Assessment Report of Gold Mineralisation Potential at the Jumbo Mine Claims

Figure 33: Trench plan overlain on Jumbo Mine claims geology

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Figure 34: Trench plan overlain on ground magnetics survey plan

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### Table 4: Jumbo Mine claims blocks and proposed trench coordinates

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9.2 Trenching and Sampling

9.2.1 Trenching

- The priority trenches are indicated as follows:
  - The SC series with 7 trenches giving a total length of around 350 metres
  - The KG series also with 7 trenches giving a total length of around 290 metres
  - The ATM series with one trench with a length of 80 metres
  - The DB series with 3 trenches giving a total length of 200 metres
- The total planned length for this phase is 920 metres
- All trenches to be sited by a GPS receiver according to the planned coordinates
- The excavation to be done by a backhoe to 1 metre width and between 1.0 and 1.5 metres depth or to bedrock if feasible
- The trenches have been planned to cover at least 5m on either side of the mineralized zone to ensure coverage of potentially mineralized structures in the footwall and hanging wall rocks

9.2.2 Trench mapping

- Once completed, the trenches must be mapped and channel samples must be collected in the bedrock at the base of each trench
- All trenches are to be logged in detail by the geologist
- Beginning and end coordinates of each trench, rock type, quartz veins, lithological boundaries, structural measurements, alteration, visible mineralization and sample intervals are to be recorded on the appropriate data collection sheet.

9.2.3 Trench sampling

- Trench sampling to be carried out by channelling a sample along the floor of the trench and each channel to be approximately 8 centimetres wide and 3 to 4 centimetres deep
- Sampling to be carried out “geologically”, i.e. sample intervals are to be determined by geological features, and not done simply on a meter-by-meter basis i.e. samples should not cross lithological boundaries.
- In homogeneous rock, the maximum sample interval shall be 1 metre.
- The minimum sample interval to be employed is 0.3 m
- Veins, altered zones, or distinct geological units to be sampled so that the contacts are a standard 2 cm within the sample boundaries. Sample weights should not exceed 3 kilograms where possible. The size of the sample can vary by difficulty of grooving (material hardness), but the width and depth will be constant.
- A total of between 1000 and 1100 trench samples to be collected
- Separate ticket books with a separate range of ticket numbers are to be used for all trench samples
- Samples must be collected in plastic bags with the unique ticket number folded and stapled into a fold at the top of the bag

9.2.4 QAQC

- A maximum of 10 x 2-3kg samples are to be stored in white grain bags ready for dispatch to the laboratory.
- These must include standards, blank and repeat samples. Every 10th sample must be a standard,
blank or repeat sample but the order of these can be varied and an accurate record of sample number and QC sample type and code where appropriate must be maintained by the project leader.

- All grain bags are to be clearly marked on the outside with a black permanent marker and a plastic tag with sample and bag numbers must be tightly secured at the top of each bag with wire or string.

At the end of every day all trench samples are to be prepared for dispatch at camp to the laboratory. Once samples have been bagged, they will be ready for dispatch and must not be reopened until they reach the laboratory.

9.3 Sample Analysis

Samples will be analysed at ZIMLABS for gold and arsenic.
APPENDIX

COPIES OF THE JUMBO MINE CLAIMS REGISTRATION CERTIFICATES

[Image of two certificates]

Mines and Minerals Act
Certificate of Registration

Registered No. 13868

No. 076581 DA

Mineral Commissioner's Office

Mines and Minerals Development Commissioner

Mine Commissioner

Ministry of Mines & Mineral Development

Certificate of Registration

Registered No. 13868

No. 076582 DA

Mineral Commissioner's Office

Mines and Minerals Development Commissioner

Mining Commissioner

Ministry of Mines & Mineral Development
INDEPENDENT ASSESSMENT REPORT

C. Machingauta

Independent Assessment Report of Gold Mineralisation Potential at the Jumbo Mine Claims

Mines and Minerals Act
Certificate of Registration

68481-4
Form M.M.8

Registered No. 18870

DAVID VICTOR KILPIN

Mining Commissioner's Office

No. 076583

Amount Paid

0.20

0.20

This is to certify that DAVID VICTOR KILPIN is the registered holder of a block consisting of nine (9) gold reef claims, named JUMBO 93, the situation of which is indicated to be on messegona communal lands, some 10793 feet north east of shavenika trig beacon 508/7.

Licence No. 052606AA

Mines and Minerals Act
Certificate of Registration

68481-4
Form M.M.8

Registered No. 15132

DAVID VICTOR KILPIN

Mining Commissioner's Office

No. 016049

Amount Paid

0.20

0.20

This is to certify that DAVID VICTOR KILPIN is the registered holder of a block consisting of nineteen (19) chrome claims, named JUMBO 91 west, the situation of which is indicated to be on shavenika east farm approx 100m north of trig beacon 508/7 on an un-named hill.

Licence No. O19155 MA MIDLANDS

CZM_Project 01/17

January 2017
ABBREVIATIONS

Au  
Gold

IP  
Induced Polarisation

QAQC  
Quality Assurance and Quality Control

RSIP  
Real Section Induced Polarisation

GLOSSARY

Greenstone belts  
Are zones of variably metamorphosed mafic to ultramafic volcanic sequences with associated sedimentary rocks that occur within Archaean and Proterozoic cratons between granite and gneiss bodies. The name comes from the general green colour imparted by the metamorphic minerals chlorite, actinolite and other green amphiboles within the mafic rocks.

Metabasalt  
A low-grade, mafic metavolcanic rock with preserved evidence of its original basaltic character.

Pillow structures  
Are relics of pillow lavas that were formed during the extrusion of lava under water. Pillow lavas in volcanic rocks are characterized by thick sequences of discontinuous pillow-shaped masses, commonly up to one metre in diameter.

UNITS

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