9. Botswana – Limpopo Belt Project

9.1 Executive Summary

The Limpopo Mobile Project comprises 2 Prospecting Licenses (PLs) located within eastern Botswana on the border with Zimbabwe. The project has been investigated historically with multiple methods of exploring for Volcanic Massive Sulphide mineralisation.

- Geophysical surveys and interpretation (Airborne magnetic, EM and IP surveys)
- Geological mapping and surface geochemistry (soil sampling)
- 871 m of RC drilling from 9 drill holes and unknown meters from 4 diamond drill holes

The Limpopo Mobile Belt Project has exceptional additional exploration potential based upon:

- The setting of the licenses along the prospective North Limpopo Thrust Zone, as well as historical work completed by numerous groups (i.e. ASX listed Botswana Metals Ltd), who has proved the presence of copper mineralisation in the area, provides significant potential for further exploration.
- Outcropping pegmatite with tantalum in soil anomalies requires follow up work

The Virgo Resources Limpopo Mobile Belt project comprises 2 Prospecting Licenses (PLs) on state land located to the northeast of Gaborone, the capital of Botswana (Figure 9-1).
Figure 9-1: Location of Virgo’s Limpopo Mobile Belt Project in eastern Botswana comprising two prospecting licenses (PLs).

Table 9-1: Limpopo Mobile Belt project tenement details.

<table>
<thead>
<tr>
<th>TENEMENT</th>
<th>NAME</th>
<th>HOLDER</th>
<th>STATUS</th>
<th>AREA</th>
<th>VIRGO INTEREST</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL048/2018</td>
<td>LIMPOPO BELT</td>
<td>VIRGO BUSINESS SOLUTIONS</td>
<td>ACTIVE Metals</td>
<td>211 sq km</td>
<td>100 %</td>
</tr>
<tr>
<td>PL049/2018</td>
<td>LIMPOPO BELT</td>
<td>VIRGO BUSINESS SOLUTIONS</td>
<td>ACTIVE Metals</td>
<td>100 sq km</td>
<td>100 %</td>
</tr>
</tbody>
</table>

9.1.1 Access and infrastructure

Both of the Virgo PLs are easily accessible from the regional town of Selebi Phikwe. Note that PL048/2018 also wholly encloses the Letsibogo dam which results in a number of good quality roads on the PL. PL049/2018 is located on the Zimbabwe border and although more remote, is still easily accessible via good quality-maintained gravel roads. Some roads on both PLs may become more difficult to travel during the rainy season (Nov. to March) but this should not influence exploration activities.
Selebi Phikwe is a well-maintained town and served as the main focus point for business travellers during the BCL nickel mine operations (BCL is in liquidation). Francistown located 150 km to the north, has an international airport served by 3 times a week direct flights to Johannesburg in South Africa on Air Botswana.

**Figure 9-2:** Access to Virgo PLs is from the regional capital of Selebi Phikwe showing access route followed during 2018 field visit, as well as transmission lines
9.1.2 Topography and Vegetation

The Limpopo Project is situated within the Mopane Savannah Vegetation type in an area averaging between 800 and 1,000 m average height above sea-level.

Figure 9-3: Regional Vegetation map of the Limpopo Project.
9.1.3 Climate
The Limpopo Project is situated within an area that averages between 200 and 300 mm of rain per annum and has an average annual temperature of 23 degrees Celsius.

Figure 9-4: Average Annual Rainfall map of the Limpopo Project area

9.1.4 Encumbrances
The project has no encumbrances.

9.1.5 Environmental liabilities
The project has no environmental liabilities.

9.1.6 Work permits
Work permits are required for permanent workers on the project that are non-resident or non-Botswana citizens.

9.1.7 Other significant factors
There are no other significant factors.
9.2 Geological Setting

Botswana contains parts of the Angolan, Zimbabwe and Kaapvaal Archaean cratons as well as parts of Archaean to Upper Proterozoic mobile belts.

9.2.1 Regional Geological Setting

The Limpopo Mobile Belt of southern Africa is an extensive strongly deformed and high metamorphic grade terrane that can be subdivided into three lithologically and structurally distinct zones in southern Zimbabwe, eastern Botswana and northern South Africa. Each zone is separated from another by shear zones. For example, the Northern Marginal Zone (NMZ) is separated from the Zimbabwe Craton (ZC) by a southward dipping ductile shear zone known as the North Limpopo Thrust Zone (NLTZ) extending from the NE to the SW through the Virgo Resources Limpopo licenses (Rigby et al., 2008).

Figure 9-5: Location of the Virgo Limpopo Mobile Belt licenses along the prospective Magogaphate shear zone (an extension of the North Limpopo Thrust Zone - NLTZ) which also hosts the Botswana Metals Copper - Nickel massive sulphide mineralisation.
9.2.2 Local Geological Setting

The Virgo Resources Ltd PLs comprise Archean aged metasediments and metavolcanics and hosts the economically important North Limpopo Thrust Zone and cover a substantial proportion of the Magogaphate Shear Zone (MSZ). This is a major dextral shear zone that lies on the boundary between the Central Zone and the Northern Marginal Zone of the LMZ in Botswana. The MSZ is up to 15 km wide in the Magogaphate area and contains a linear series of sequences that are often mylonitic, but which contain more competent units that are less deformed. Historical geological mapping and interpretation suggest that a sequence of bimodal volcanics and/or epiclastics, mafic and ultramafic intrusives, granitic intrusives and sediments are present. The sequence is mapped in published government geological maps as Banded Gneiss, due to it consisting predominantly of locally a quite variable paragneiss.

Figure 9-6: Geological map of the Limpopo Belt showing the Virgo licenses set within Archean metasediments and metavolcanics along the Magogaphate shear zone, part of the prominent North Limpopo Thrust Zone. This shear zone also hosts the ASX listed Botswana Metals Copper - Nickel projects.
Paragneisses of variable quartz-feldspar-amphibole content, plus or minus garnet, dominate the Virgo project area and are intruded by mafic to ultramafic amphibolites and serpentinites. The paragneisses are strongly deformed and are sometimes mylonitic or slightly brecciated. Metamorphism has been to granulite facies then retrogressed to amphibolite facies. Some of the amphibole has retrogressed to biotite. Minor pegmatites that appear to be undeformed are also present as well as swarms of quartz veins. The MSZ is thought to have developed, together with a series of other similar shear zones, during the 2,000 Ma reactivation of the LMZ.

Dolerite dykes that are presumed to be part of the Karoo age dyke swarm also cut across the project area. These form part of the continental scale Orapa Dyke Swarm (ODS). These dykes were the feeders for the extensive Stormberg basalts that are preserved in a fault-controlled basin to the east of the project area. A thin veneer of Kalahari Sand, a Cretaceous to Pleistocene sequence, is partially preserved in the project area.

9.2.3 Regional Mineralisation

Mineralisation in the Limpopo - Shashe Belt includes mafic-ultramafic plug and sill related nickel-copper and copper mineralisation, shear zone related gold mineralisation, minor hydrothermal chromite mineralisation, hard rock uranium mineralisation, probable volcanogenic style lead-zinc mineralization and copper-silver vein style mineralisation. The area to the east and south of Francistown i.e. eastern Botswana hosts a number of intrusive magmatic Ni–Cu–(PGE) sulphide prospects that remain poorly characterised. Several of the prospects are of considerable economic interest, including the mines at Phoenix and Selebi-Phikwe as well as the Selkirk ore body. The prospects are of variable size (The CP is unaware if these resource numbers are JORC compliant):

- 150 Mt of ore (1 % Ni, 0.9 % Cu) at BCL (Selebi Phikwe)
- 4.1 Mt of ore (0.7 % Ni, 0.5 % Cu) at Dikoloti

Some of the prospects also contain important concentrations of platinum group elements (i.e. 5 to 10 ppm in the sulphides) and possibly cobalt.

The eastern Botswana Ni–Cu–(PGE) prospects may be subdivided into two groups. The first group of prospects, hosted by the Phoenix, Selkirk and Tekwane intrusions occurs within and in the periphery of the Tati Greenstone Belt. The second group of prospects (of which Virgo projects are interpreted to be prospective for), comprising Phikwe, Dikoloti, Dikoloti North, Lentswe, Kima and Phokoje, are hosted by the Selebi-Phikwe mafic-ultramafic intrusions that occur within gneisses of the Limpopo Mobile Belt some 200 km to the south of the Tati.
Belt. Most of the known prospects were discovered by BCL (*Bamangwato Concessions*) using soil geochemistry (Maier *et al.*, 2007).

### 9.3 Previous exploration

Extensive work was previously carried out in the regional area over the past >50 years including geophysical surveys, soil sampling, mapping, trenching, drilling and underground exploration by shafts and drives. Work carried out on the Virgo license area are restricted to geophysical surveys according to the CP knowledge.

**Table 9-2: Previous work conducted within the regional area of the Virgo Limpopo Mobile Belt licenses in eastern Botswana.**

<table>
<thead>
<tr>
<th>Period</th>
<th>Company</th>
<th>Work completed</th>
<th>Data Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930’s</td>
<td>Victoria Prospecting Company</td>
<td>Mapping</td>
<td>No</td>
</tr>
<tr>
<td>1960’s</td>
<td>Roan Selection Trust</td>
<td>Mapping, trenching, drilling</td>
<td>No</td>
</tr>
<tr>
<td>1990’s - 1990’s</td>
<td>Mineral Holdings / Falconbridge</td>
<td>Geochemistry, geophysical surveys</td>
<td>No</td>
</tr>
<tr>
<td>2004 to date</td>
<td>A-Cap / Botswana Metals Ltd</td>
<td>Airborne surveys and interpretation (Magnetics and EM)</td>
<td>Yes, from ASX releases</td>
</tr>
</tbody>
</table>

The *Victoria Prospecting Company* (a subsidiary of *British South Africa Company*) carried out regional scale-oriented mapping and prospecting traverses and found numerous occurrences of gold and copper mineralisation. In the 1960’s *Roan Selection Trust Exploration (RSTE)* conducted extensive exploration work in the area and led to the discovery of the nearby world-class Selebi Phikwe nickel-copper deposits.

In the late 1980’s-1990’s exploration work in this area was conducted by *Mineral Holdings and Clutha*, and subsequently with *Falconbridge* in a JV. The program included a regional scale stream sediment program and was largely based on the results of an airborne geophysical survey (GEOTEM EM/magnetics) conducted for the Botswana Government in 1989. This survey extended over a substantial portion of the Magogaphate Shear Zone and generated a large number of geophysical anomalies. In addition to geophysical work, *Falconbridge* also
conducted detailed field mapping, soil sampling and trenching. This data and associated target areas are unavailable.

Work by ASX listed A-Cap Resources commenced in 2004. Initial objectives were to digitally capture the existing Falconbridge data, attempt to track down historical data and compile a 3D computer model to assess the potential for mineralisation. Botswana Metals Ltd further progressed the exploration carried out by Falconbridge and A-Cap Resources by analysing previous holes drilled by A-Cap. BML also completed a detailed magnetic and detailed airborne VTEM surveys over the regional area with some follow up IP surveys.

9.3.1 Botswana Metals Ltd

The Virgo Resources Limpopo Mobile Belt PLs 048/2018 and 049/2018 formed part of the ASX listed Botswana Metals Ltd project area from 2004 to 2014. The licenses were previously labelled 046/2004 and 047/2004.

Figure 9-7: Historical BML PLs 047/2004 (Gobe shear) and 046/2004 (Sampowane) which are now the Virgo Resources PLs 048/2018 and 049/2018 (BML 2017 Investor presentation) (BML Half-year report, 2007).
9.3.1.1 The regional area of PL049/2018 (previously BML PL047/2004)

*BML* has been investigating PL54/98 (Takane) which surrounds *Virgo* PL 049/2018 since 2004. In the December 2012 quarter, *BML* announced that it had entered into a Joint Venture agreement with *BCL Limited* ("BCL"), a major Botswana mining and smelting company. The agreement relates to three PL’s 54/1998, 110/1994 and 111/1994. In 2011, *BML* flew an airborne VTEM survey across the entire tenement area (including the *Virgo* license PL049/2018) in an effort to locate significant in-ground conductors that potentially represent accumulations of base-metal sulphides. In excess of 20 anomalous conductors were identified and early-stage ground follow-up exploration has subsequently been undertaken over some of these targets (note that most targets are located off the Virgo license PL049/2018).

*Figure 9-8: EM survey completed by BML over the regional area showing target areas on BML projects surrounding Virgo PL049/2018 (BML 2017 Investor presentation).*

Sulphide mineralisation at Maibele North (part of PL110/1994) on the northern boundary of *Virgo* PL049/2018) comprises moderately high-grade nickel sulphides comprising the minerals pyrrhotite (FeS) and pentlandite (Nickel sulphide), with
chalcopyrite (CuFeS2) comprising the copper mineralisation. The implications for other prospects in the area are significant. The Magogapahate Belt should be considered a relatively under-explored area of highly prospective geology, apparently associated with the nearby nickel-copper deposits at Selebi Phikwe.

Noteworthy intercepts of Nickel with Copper + PGEs + Gold + Cobalt has been intercepted at Maibele North (on northern boundary of Virgo PL049/2018) (BML Annual Report, 2015):

- **MADD0057**: massive sulphides of 17.81m @ 2.35% Ni (cumulative) from a total sulphide-mineralised section of 26.43m down hole thickness including:
  - 6.74 m @ 2.58 % Ni, 0.90 % Cu, 1,417 ppm Co, 0.1 g/t Au, 1.78 g/t 4PGEs
  - 1.50 m @ 1.83 % Ni, 0.595 % Cu, 1,040 ppm Co, 0.11 g/t Au, 1.38 g/t 4PGEs
  - 9.57 m @ 2.27 % Ni, 0.71 % Cu, 1,169 ppm Co, 0.25 g/t Au, 1.07 g/t 4PGEs
- **MADD0058**: 29.12m @ 0.90% Ni, 0.40% Cu, 526 ppm Co, 0.12g/t Au, 0.63g/t 4PGEs Including:
  - 1.81m @ 2.52% Ni, 1.75% Cu, 1,451 ppm Co, 0.41g/t Au, 1.45g/t 4PGEs
  - 1.15m @ 1.79 % Ni, 0.55% Cu, 1,036 ppm Co, 0.09g/t Au, 2.39g/t 4PGEs
  - 1.40m @ 1.58 % Ni, 0.13% Cu, 904ppm Co, 0.06g/t Au, 0.72g/t 4PGEs
  - 1.43m @ 2.93 % Ni, 0.47% Cu, 1,392ppm Co, 0.07g/t Au, 1.35g/t 4PGEs

Although the above holes were not drilled on PL049/2018, the proximity and similarity in geological setting to the Virgo PL049/2018, geological dip towards the southeast (into the Virgo license) and subtle EM anomalies located within the said PL (on strike with the BML Maibele North drillhole intercepts) provides potential for finding similar styles of mineralisation on the Virgo PL to the south of Maibele North.
Figure 9-9: Virgo PL049/2018 showing Maibele North on the northern boundary where BML have had significant success from drilling into EM conductors. It is noted that this EM conductor (hosting Maibele North) continues along strike to the NE and may extend onto the Virgo license PL049/2018.

9.3.1.2 PL048/2018 (Previously BML PL046/2004 - Sampowane)

Sampowane is only 15 km from the major Selebi Phikwe Ni-Cu mine. Four diamond drill holes were completed in the 1990s by previous explorer Falconbridge at Sampowane, with results showing low grade and narrow width massive sulphide intersections containing Ni + Cu + PGE (these results or drill collar locations are not available to the CP).
**Figure 9-10: EM survey completed by BML over the regional area showing EM target areas on Virgo Resources PL048/2018 (BML 2017 Investor presentation).**

*BML* completed four lines of TDEM surveying at Sampowane in 2008. EM conductive thicknesses are very strong which may be associated with massive sulphide occurrences. There are at least three separate conductors that stretch for a cumulative strike length of over 1 km and are open to the east (an airborne EM anomaly extends for a further ~4km east of Sampowane). The previous four diamond holes drilled by *Falconbridge* at Sampowane all returned massive sulphide intersections containing Ni + Cu + PGE. The modelled TDEM conductors correlate well with the drill intersections, extending the mineralised zones significantly and show that the strongest sections of the conductors haven’t been effectively tested by drilling (BML Half-year report, 2008).

A total of 9 RC holes for a total of 871 m were completed at the Sampowane Prospect during the end of 2009 to early 2010. The program was designed to test encouraging TDEM results generated in 2008.

Drill holes SARC0007 and SARC0008 were drilled on the very eastern edge of the prospect (Exact location is unknown). Both holes hit a horizon containing narrow
intervals of semi-massive sulphides containing Ni and Cu mineralisation. Both intersections contain about 10% sulphides and are more likely to represent a narrow zone that has been diluted by the 1 m RC sampling interval. Whilst the 1 m samples returned low grades, it is interesting to note that the approximate sulphide tenor (assuming all Ni and Cu mineralisation is contained in the sulphides) is as high as 1.8% Ni and 1.41% Cu.

**Table 9-3: BML Sampowane (Virgo PL048/2018) historical drill results (BML ASX release 22 April 2010).**

<table>
<thead>
<tr>
<th>Hole ID</th>
<th>From, m</th>
<th>Length, m</th>
<th>Cu, %</th>
<th>Ni, %</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARCO001</td>
<td>48</td>
<td>4</td>
<td>0.20</td>
<td>0.47</td>
<td>Semi-mass sulphide 48-51m. Pd 428ppb</td>
</tr>
<tr>
<td>SARCO002</td>
<td>117</td>
<td>1</td>
<td>0.21</td>
<td>0.45</td>
<td>Semi-mass sulphide 117-118m</td>
</tr>
<tr>
<td>SARCO003</td>
<td>56</td>
<td>2</td>
<td>X</td>
<td>0.10</td>
<td>No significant sulphide intersection identified</td>
</tr>
<tr>
<td>SARCO004</td>
<td>64</td>
<td>1</td>
<td>0.20</td>
<td>0.42</td>
<td>Disseminated sulphide from 59-67m</td>
</tr>
<tr>
<td>SARCO005</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>No significant sulphide intersection identified</td>
</tr>
<tr>
<td>SARCO006</td>
<td>94</td>
<td>1</td>
<td>0.07</td>
<td>0.22</td>
<td>Disseminated sulphide from 94-95m</td>
</tr>
<tr>
<td>SARCO007</td>
<td>61</td>
<td>3</td>
<td>0.13</td>
<td>0.15</td>
<td>Disseminated sulphide to ~10%. Sulphide tenor of approximately 1.6% Ni and 1.4% Cu</td>
</tr>
<tr>
<td>SARCO008</td>
<td>81</td>
<td>1</td>
<td>0.03</td>
<td>0.19</td>
<td>Disseminated sulphide to ~10%. Sulphide tenor of approximately 1.8% Ni and 0.3% Cu</td>
</tr>
<tr>
<td>SARCO009</td>
<td>43</td>
<td>8</td>
<td>0.01</td>
<td>0.18</td>
<td>Disseminated sulphide from 42-53m</td>
</tr>
</tbody>
</table>

All but 2 of the 9 RC holes intersected zones of sulphide mineralisation close to the TDEM target. The best result of:

- 2 m @ 0.55% Ni, 0.26% Cu and 0.6ppm Pd (SARCO001 at the western end of the prospect)

The combination of historic (*Falconbridge*) and more modern *BML* drilling coupled with ground geophysics at Sampowane, has defined a Ni-mineralised horizon that extends for over 1 km. *BML* noted that this was an important step in the exploration of the Magogaphate Shear Zone and noted that future exploration at Sampowane should concentrate on determining the potential of the mineralised horizon for hosting nickel and copper mineralisation (*BML* Annual report, 2010).

In addition to the drilling, *BML* also completed some detailed geological mapping surrounding PL111/2011 (wholly within the Sampowane PL). This mapping showed the presence of mafic and ultramafic units in the area where the grab samples in 2018 were retrieved.
Figure 9-11: BML completed some detailed mapping on their PL111/2011 and included mapping their Sampowane PL, as well (BML Half-year report, 2013). Noteworthy that BML mapped a number of ultramafics on PL048/2018 which requires follow up field visits.

9.4 Field visits

Field visits were completed in November 2018 with the following aims:

- Grab sampling and geological setting reconnaissance
- Investigate general access conditions

9.4.1 Geological setting

Significant outcrop was encountered during the field investigations on the Virgo licenses. Some of the outcrop (amphibolite and gossan) corresponds to historical work conducted by BML (EM anomalies) and provides the exceptional potential for follow up field visits.
9.4.2 Access and infrastructure

The project areas are easily accessible from the nearby town of Selebi Phikwe along well-maintained gravel roads. Accommodation is readily available in this town.
9.4.3 Grab sampling

Table 9-4: Grab sampling (4 samples) within the project area.

<table>
<thead>
<tr>
<th>Sample no</th>
<th>Location</th>
<th>Cu (ppm)</th>
<th>Ni (ppm)</th>
<th>Au (ppm)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2282 (#1)</td>
<td>PL048/2018</td>
<td>18</td>
<td>19</td>
<td>0.03</td>
<td>Quartz vein</td>
</tr>
<tr>
<td>B2283 (#2)</td>
<td>PL048/2018</td>
<td>153</td>
<td>25</td>
<td>0.03</td>
<td>Gossan</td>
</tr>
<tr>
<td>B2284 (#3)</td>
<td>PL048/2018</td>
<td>543</td>
<td>28</td>
<td>0.06</td>
<td>Gossan</td>
</tr>
<tr>
<td>B2285 (#4)</td>
<td>PL049/2018</td>
<td>227</td>
<td>188</td>
<td>0.04</td>
<td>Ultramafic</td>
</tr>
</tbody>
</table>

Figure 9-14: Location of grab samples taken in 2018 on the Virgo licenses in eastern Botswana.

Some noteworthy copper and nickel values were obtained from the 2018 field visit in gossan and ultramafic grab samples. The gold values (albeit low) together with the copper and nickel values are regarded as noteworthy due to surface leaching in gossanous material.
9.4.4 Sample preparation, analyses and security

9.4.4.1 Sampling process summary
Grab samples of approx. 2kg each were taken from outcrop where possible across the project area.

9.4.4.2 Geological logging
Grab samples were described lithologically.

9.4.4.3 Sample security
The CP delivered the samples to the preparation lab (Analytical Laboratory) in Windhoek, Namibia, who completed sample preparation as follows:

- Sample dried and weighed
- Entire sample crushed and pulverized to 75 µm
- 75 µm mesh size used for pulverized material of which more than 85 % of pulverized material passed through the mesh size

9.4.4.4 Testing laboratory
Sample analyses by SGS South Africa involved the following:

- Sodium peroxide fusion with ICP-MS finish (ICM90A)
- Gold by lead fusion followed by AAS finish (FAA303)

9.4.4.5 QAQC
Two reference material samples were added to the sample batch to SGS which assayed within acceptable levels. SGS also performed their own sample assay quality control checks on industry standards (Table 9-5).

Table 9-5: Reference material results added to the sample batch.

<table>
<thead>
<tr>
<th>Reference material ID</th>
<th>SGS value (Cu ppm)</th>
<th>SGS value (Au ppm)</th>
<th>Reference material value (Cu ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBM-302-9</td>
<td>12,500</td>
<td>-</td>
<td>12,720 +469</td>
</tr>
<tr>
<td>G901-11</td>
<td>-</td>
<td>1.3</td>
<td>1.34 +0.06</td>
</tr>
</tbody>
</table>

9.5 Production
The project has had no production.
9.6 Exploration potential

9.6.1 Base Metals
The setting of the Virgo licenses along the prominent North Limpopo Thrust Zone, as well as historical work and targets, generated results in significant potential for further exploration on the project areas.

9.6.2 LCT pegmatites
In addition to the base metal potential, BML made note of tantalum in soil anomalies associated with outcropping pegmatite. The tantalum in soil values are noteworthy and the area requires follow up field visits.

Figure 9-15: Tantalum in soil anomalies that may be associated with LCT pegmatite development on PL049/2018 (BML 2017 Investor presentation).