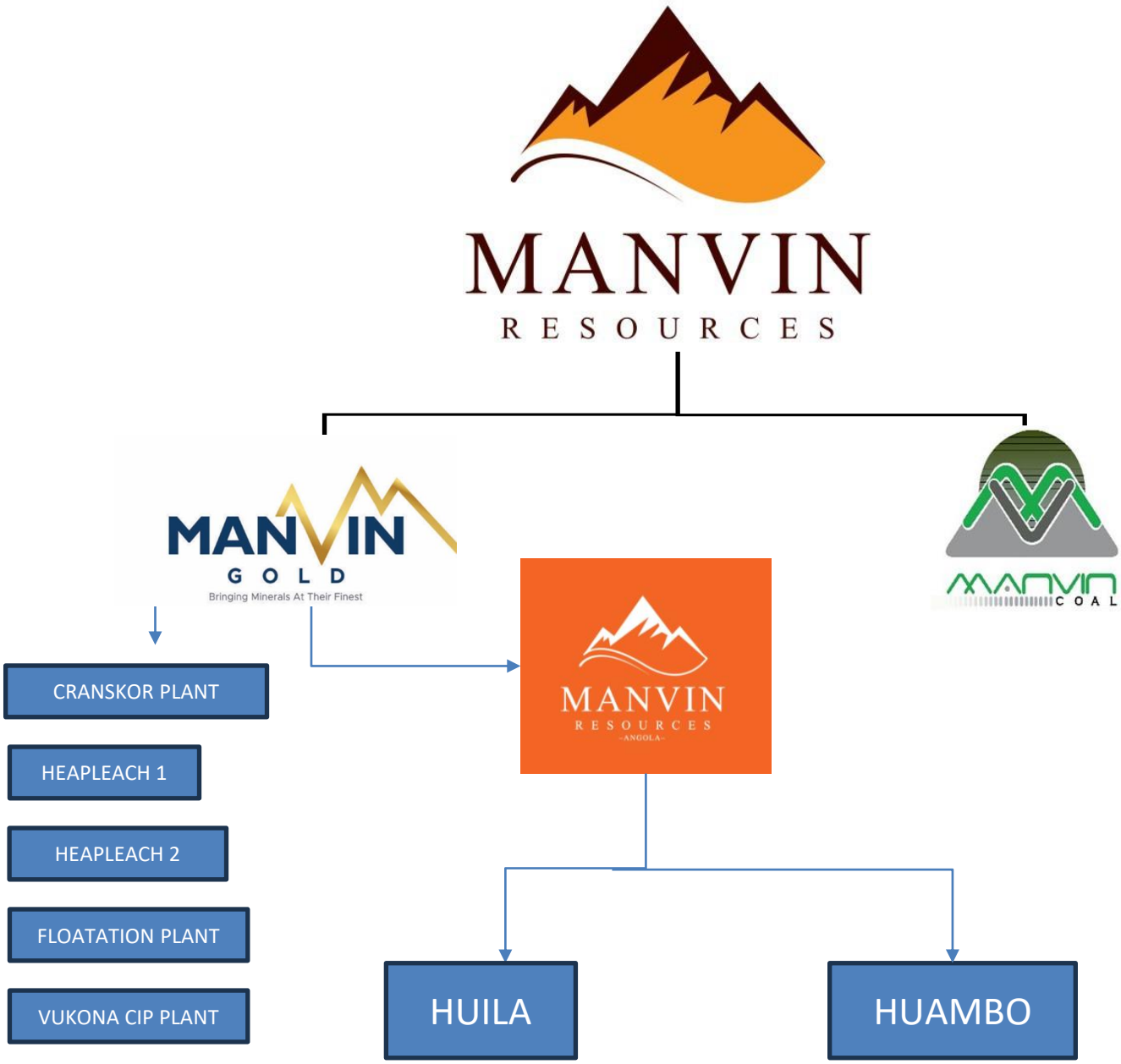
MANVIN

RESOURCES

NewTechnologies in Mineral Exploration & Processing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RESOURCES
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GOLD
Bringing Minerals At Their Finest
MANVIN
COAL
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RESOURCES
ANGOLA
CRANSKOR PLANT
HEAPLEACH 1
HEAPLEACH 2
FLOATATION PLANT
VUKONA CIP PLANT
HUILA
HUAMBO

REGIONL MAP-MPUMALANGA

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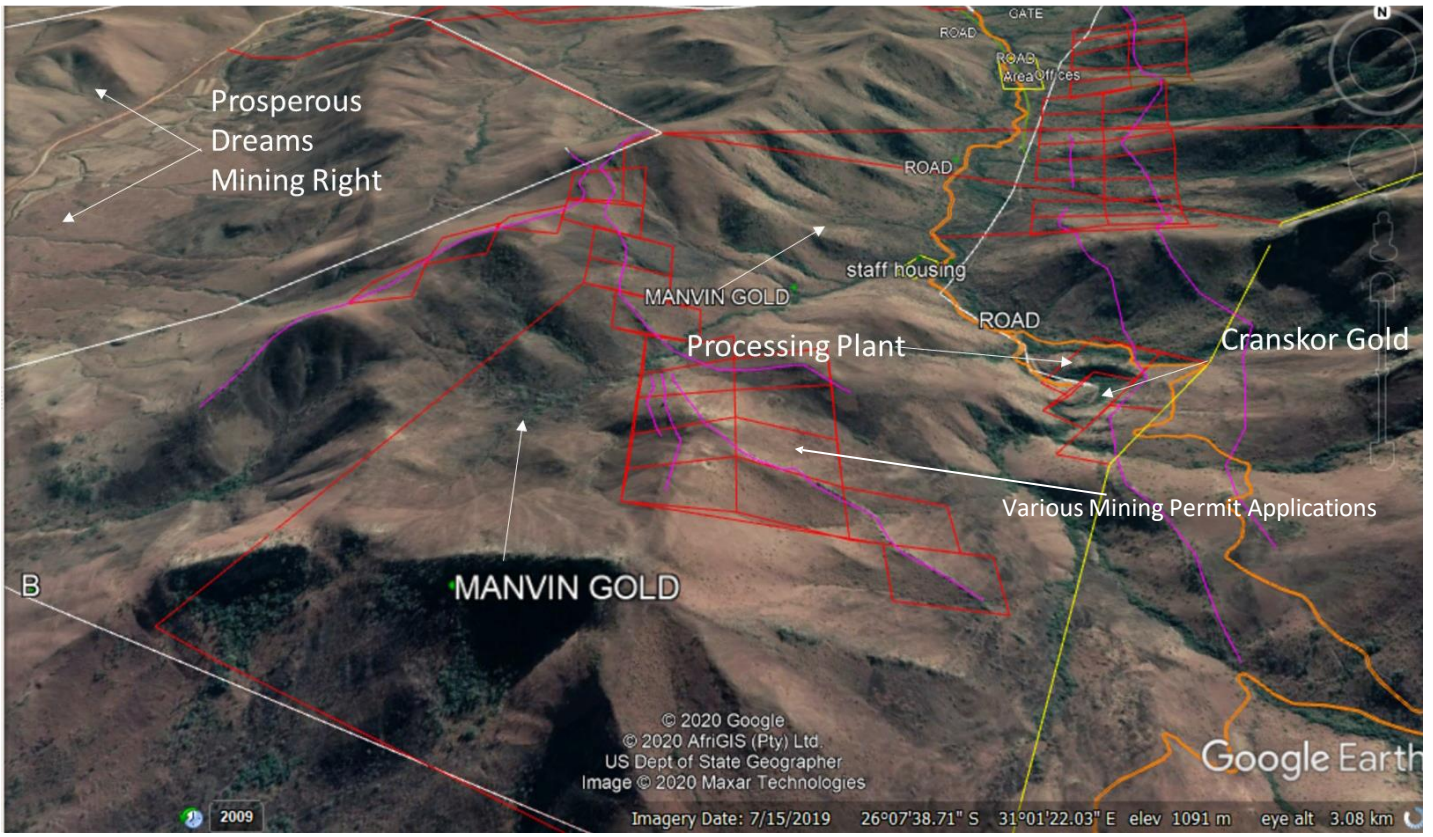
ELUKWATINI –KAALVERSKRAAL FARM- Mining Permit Map



Elukwatini -Geology Background

2. REGIONAL GEOLOGY

The regional geological setting is illustrated in Figure 2 below, with the position of the farm Kaalverkraal marked by the black circle. This map has been adapted from a publication entitled 'Geological Report and Inventory of The Makhonjwa Heritage Site, Mpumalanga', authored by Brandt, Anhaeusser and Heubeck. The area is dominated by rocks of the Onverwacht Group, described below, with a minimal extent of outcrop belonging to the Figtree Group, which lies to the east of the Onverwacht, on the border with Swaziland. The region is located at the southern extremity of the eastern limb of the Barberton Greenstone Belt.

For the most part the surface geology consists of the upper part of the Komati Formation, all of the Hooggenoeg Formation, and portions of the Swartkopje Formation, all of which are subdivisions of the Onverwacht Group. Structurally the region around Kaalverskraal 8IU is dominated by the north-south trending Steynsburg Anticline.

Figure 4 shows a portion of the published 1:250000 geological map (Mbabane sheet, published 1986), on which the general attributes of the Steynsburg Anticline can be seen, manifested in the northward thinning outcrop of the lower portion of the Onverwacht Group (coloured green). The axis runs approximately north-south and is indicated by a thin

black line identified by a double-headed arrow at its southern extremity. To the east of the axis the lithological units dip steeply to the east, with the successively younger Figtree and Moodies Groups outcropping progressively eastward. This sets the pattern for the general geology on the farm Kaalverskraal 8IU.

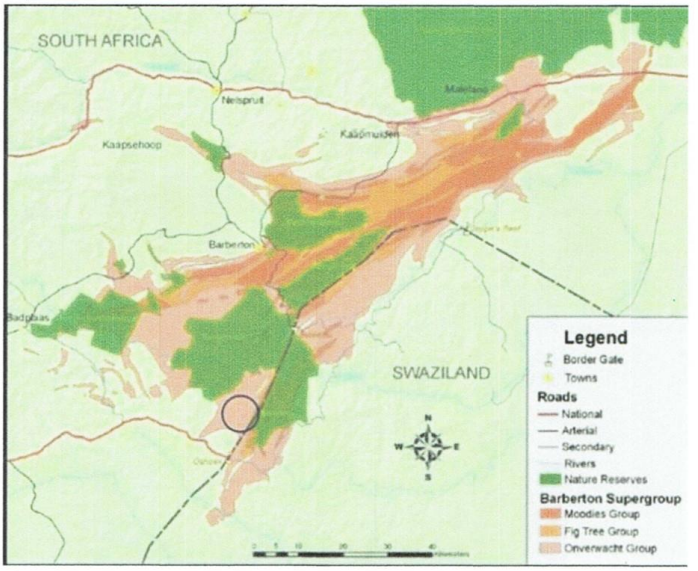


Figure 4 : Regional Geological Setting of Kaalverskraal 8IU

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Minor structural features generally parallel the approximately north-south trend of the lithological units on the east side of anticline, but some cross-cutting intrusive features such as quartz reefs and dolerite dykes are present, generally trending between north south and northwest-southeast.

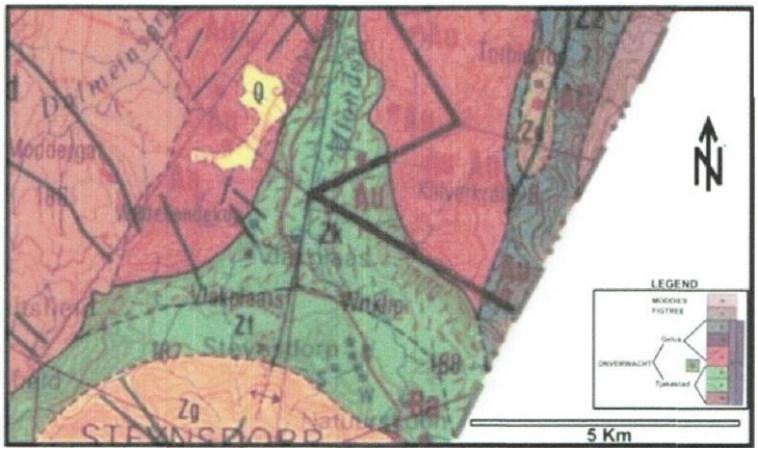

Figure 5. Local Geological Setting of Kaalverskraal (adapted from the published 1:250000 scah Geological Map)

2.1 ONVERWACHT GROUP

The Onverwacht Group consists predominantly of ultramafic and mafic volcanic rocks such as komatiites, komatiitic basalts, and basalts, with minor felsic volcanic and sedimentary units. These rocks formed in a predominantly marine environment. Ultramafic and mafic igneous complexes also occur within this Group.

Near the middle of this sequence of mainly volcanic rocks is a thin (10 to 30 metre) unit comprising bedded cherts and carbonatised luffs. This unit is known as the Middle Marker, and is significant in that it divides the Onverwacht Group into a lower sub-unit composed of sheared and metamorphosed komatiitic lavas, and an upper unit (the Hooggenoeg) comprising intermediate to acid lavas, cherts, shales and banded ironstones.

The Middle Marker is charactensed by numerous outcrops displaying complex folding. It occurs on Kaalverskraal 8IU but was not mapped in detail dunng this exploration programme undertaken by Antrobus et.al.

2.2 FIGTREE GROUP

The Figtree Group consists of both deep and shallow manne sandstones, fine grained shales and greywackes interspersed with minor jaspilitic banded ironstones, grits and felsic volcanics.

2.3 MOODIES GROUP

The Moodies Group outcrops adjacent to Swaziland border and is only minimally represented on the south African side of the border. It comprises shallow marine to fiuvial sandstones (now quartzite), subordinate shales, and minor honzons of banded ironstone Gasper) and lava. It is characterised by a Basal Conglomerate resting unconformably on the Figtree Group rocks.

2.4 STRUCTURE

The dominant structural feature of the area is the isoclinally folded Steynsburg Anticline, described in Section 2. The axis of this anticline runs N-S through farm Steynsburg, parallel to Londozi River. The strike of the bedding on the eastern side of this axis is generally approximately north-south, with steep dips to the east, with the trends of the bedding converging northward towards the nose of the anticline.

Numerous intrusives, in the fonm of quartz porphyry dykes and plugs, gabbroic dykes (with a general north-west to south-east trend), gabbroic plugs, serpentinised dunite pipes, and younger granites occur in the vicinity of Kaalverskraal 8IU.

2.5 OVERVIEW OF GOLD MINERALISATION IN THE BARBETON GREENSTONE BELT

The most significant gold mineralisation in the Banberton Greenslone Belt is concentrated in an arcuate zone in the Sheba Hills northeast of Banberton. It occurs within the Onverwacht,

Figtree and Moodies Groups, mainly associated with Banded Iron Formation (BIF), chert, greywacke, shale and quartzite. The setting is mesothermal, displaying alteration halos, with the mineralisation generally structurally controlled by shear zones situated near thrust faults. These thrust faults provided zones of weakness for the flow of mineralizing fluids. The Middle Marker mentioned in Section 2.1, above, is a locus of shearing, making it a potential target in the search for mineralisation.

3. EXPLORATION HISTORY

Exploration work was undertaken by Antrobus and Associates (1987) for Mariana Mining Ply Ltd during the period 1985 to 1987. Mapping, at a scale of 1:5000, sampling of known gold occurrences, and regional reconnaissance mapping was earned out. It was found during this field work that the geology was significantly more complex than older mapping showed. The Antrobus report stated at the time that considerable further mapping would need to be done.

Summary results from this work showed that the gold mineralisation is generally related to transgressive quartz veins cutting the Middle Marker, as well as shears in the komatiitic lavas, and intrusive porphyry dykes and plugs. No economically viable gold occurrences were identified on Kaalverskraal 8IU, but the wide distribution of marginally payable showings strongly suggested that further work was justified.

The sampling carried out in conjunction with the mapping of the region focused on the old workings and more prominent outcrops but was not in any way systematic. Two hundred and-five (205) samples were collected, mainly in the fonm of rock-chip samples taken from rock dumps, and outcrops. Slimes dams were also samples, presumably in the form of loose sand, although this is not stated. No fonmal channel sampling was earned out since the object was simply to target areas of interest and to assess the potential of the various rock types present in the area.

Only a handful of samples produced any noteworthy results. These included 3.0 g*it* in rock chips from the Gypsey Queen waste dump, 3.7g*it* from the Comstock sand dump, 3.2 g*it* from Comstock Reef material, 2.2 g*it* from the sidewall of a minor vein at the Comstock Mine, and an impressive 17.1 *g/t* in sulphidic ore from the 'Mother of All' dump.

The sampling in general showed that gold is present in quartz veins exposed in adits and trenches at the Comstock, Mother of All and Boars Head Mines. In addition, it showed that gold is present in quartz porphyry dykes and intrusives at the Gypsey Queen Mine. Gold was also found to be present within the komatiitic lavas at three individual sites.

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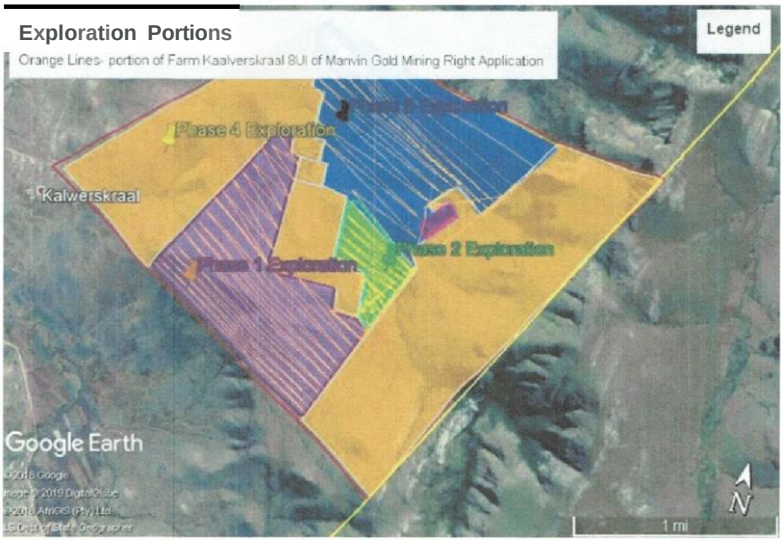
4. DETAILS OF THE CURRENT **MANVIN** OPERATION

Manvin Gold is currently pending a mining right Application with the Department of Mineral Resources (DMR).

Manvin Gold is owner Kranskor Gold cc, which has been granted a Mining Permit to Mine Gold on the same Farm, Kaalverkraal. Kranskor has developed a Mineral processing Plant on its permit.

Manvin Gold has entered into Processing-Toll Agreement with various other permit applicants on the farm.

Various Exploration programs have are currently underway on the Kranskor Permit. Figure 10, below Shows Kranskor Gold as small Purple block is Highlighted as follows on the Map.



5.6 CORE DRILL SET 1&2 ANALYSIS

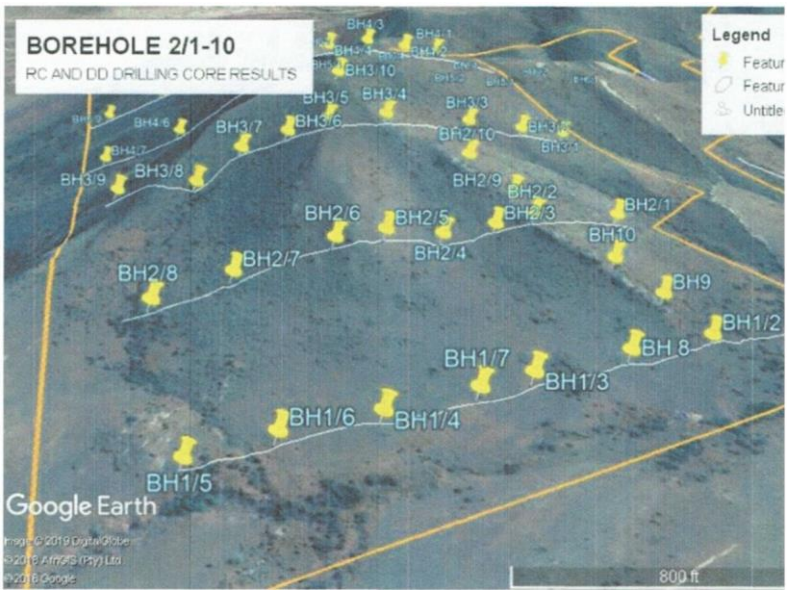
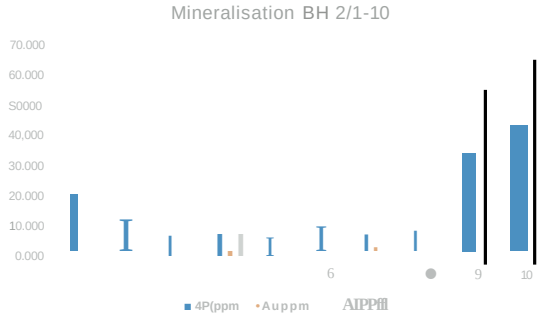


Figure 14. Oiamond Drilling Bore Hole Allocation Set1(BH1/1-10) and Set 2(BH2/1-10)



T1bl• 4. Anllytll report on BH2/1e10

Table 4 above indicated that BH2/1 BH2/2, BH2/9 and BH2/10 were the most promising core results for mlnerallsallon, with BH2/2, BH1/9, BH1/10 being the highest.

TOP 3 **BH2** records

1. BH2l2 Registered An average of 18.Sglt Au, 11,0glt 4PE and 6.5glt Ag
2. BH2/9 Registered An average of 24,67glt Au, 34,78g/t 4PE and 56,6g/t Ag
3. BH2/10 Registered An average of 35,45gll Au, 44,33g/t 4PE and 65,669/1Ag

WORST 3 BH2 records

1. BH2/3 Registered An average of 0.54glt Au, 5.26glt 4PE and 0.07g/t Ag
2. BH2/6 Registered An average of 0.67glt Au, 7.68glt 4PE and 0.76g/l Ag
3. BH2n Registered An average of 0,34g/t Au, 5.74g/t 4PE and 1.4g/t Ag

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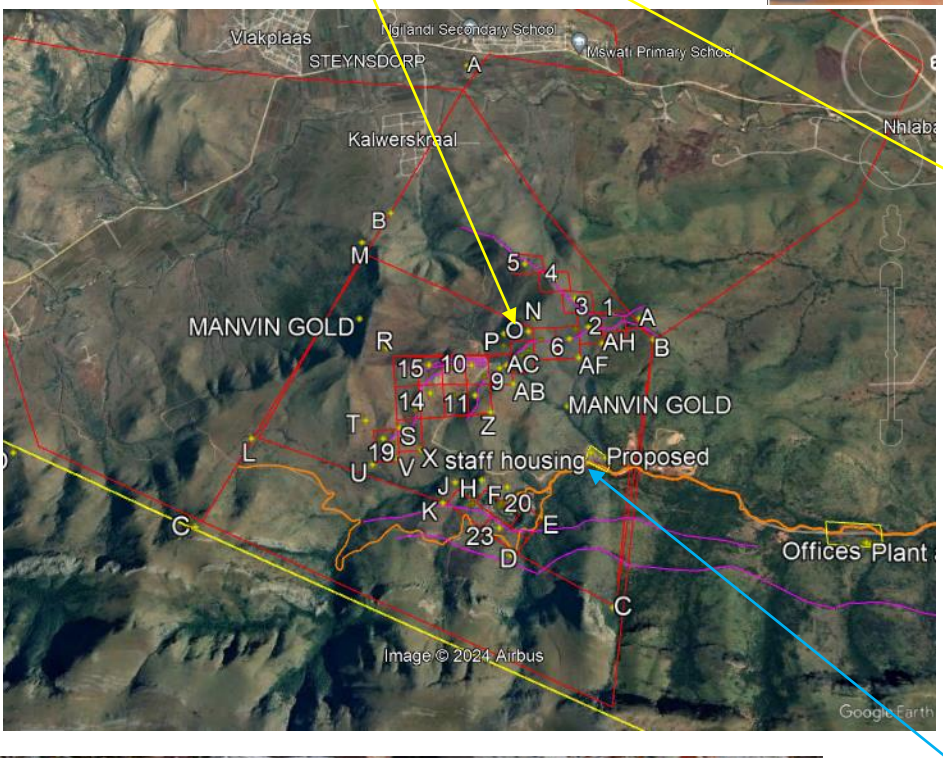
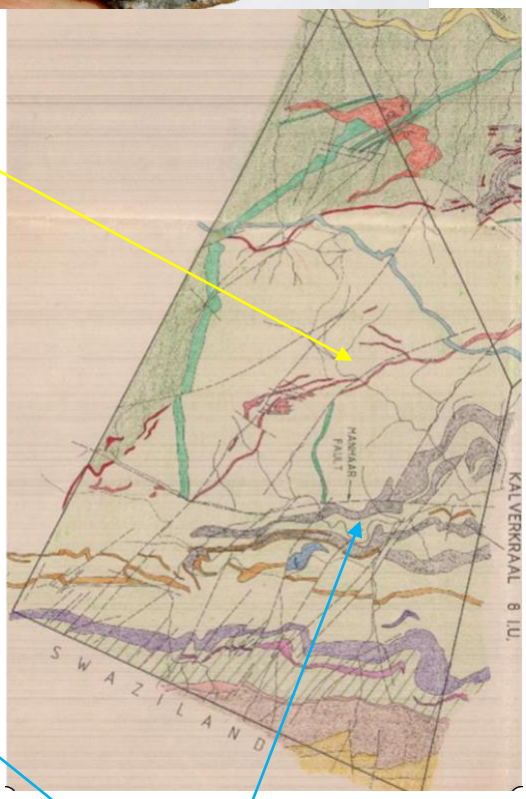
MINERALISED GEOLOGICAL MAP OF THE MINE AREA-KAALVERSKRAAL

OXIDISED GOLD STRIKE





SULPHADISED GOLD STRIKE

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MINERAL EXPLORATION STRATEGY

- INTRODUCTION

1. We have the unique challenge of having three predominant gold bodies in our resource mining area. Namely;

- Sulphide Gold-67%
- Oxidised Gold-23%
- Alluvial Gold-10%

2. We have had to find multiple methods to deal with each type of Gold Ore. We developed three Operational plants that can process each type of Mineral Type mine, namely;

CRANSKOR PLANT	-Gravity and CIL Plant-Can treat High-grade Oxidised and Alluvial Ores
VUKONA CIP PLANT	- High Volume Oxidised Ores
FLOATATION PLANT	Low-High grade Sulphide and PGM Ores
HEAPLEACH 1	Heapleach 1&2-Low grade Oxidised Ores

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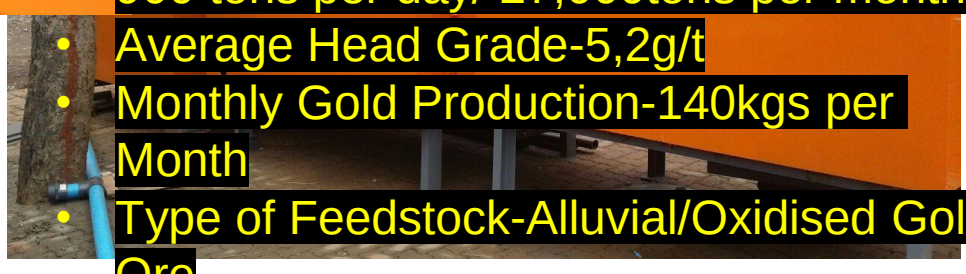
CRANSKOR PLANT

Plant Statistics

- 900 tons per day/ 27,000tons per month
- Average Head Grade-5,2g/t
- Monthly Gold Production-140kgs per Month
- Type of Feedstock-Alluvial/Oxidised Gold Ore



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VUKONA CIP PLANT

Plant Statistics

- 4500 tons per day/ 135,000tons per month
- Average Head Grade-3,15g/t
- Monthly Gold Production-425kgs per Month
- Type of Feedstock-Oxidised Gold Ore

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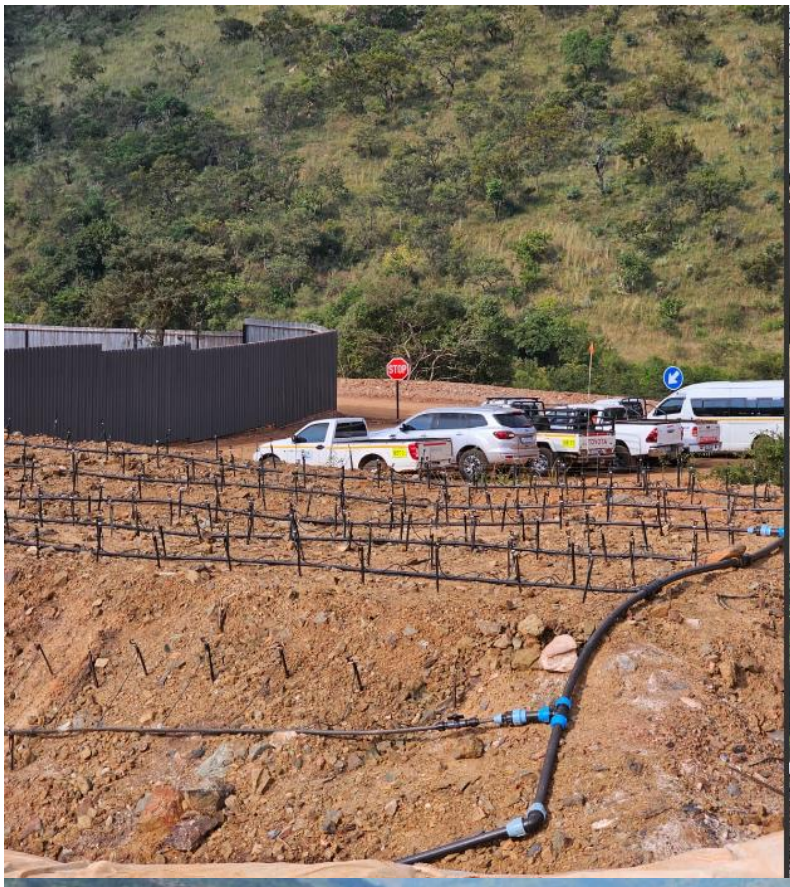
HEAPLEACH 1&2 PLANT



Plant Statistics

- 135,000 tons per 3 month cycle
- Average Head Grade- 1,22g/t
- Monthly Gold Production- 54kgs per Monthly PGM
- Type of Feedstock- Lowgrade OxidisedOre

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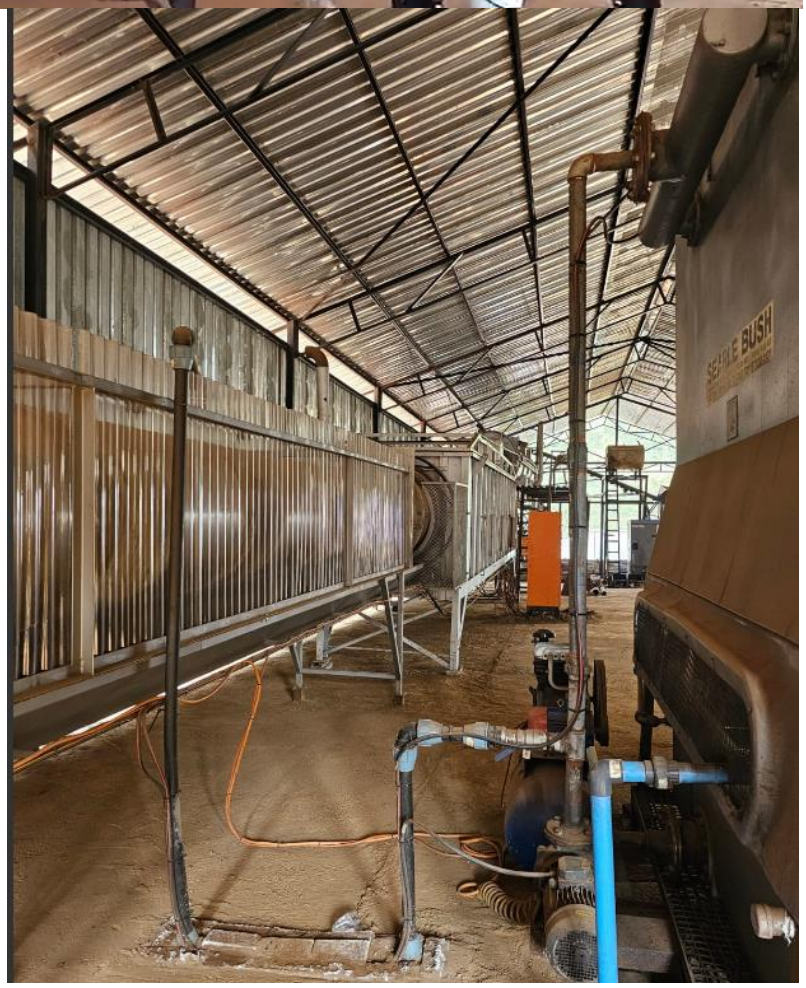
FLOATATION PLANT

Plant Statistics

- 1800 tons per day/ 54,000tons per month
- Average Head Grade- 4,35g/t
- Monthly Gold Production- 234kgs per Monthly PGM
- Type of Feedstock- Sulphised PGM Ore



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Chemical Composition of the Mineralised Ore

Typical Composition of Daily Production

Gold Production

PGM Production

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Hiula –Gravity concentrate Plant

THANK YOU

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