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# Minxcon (Pty) Limited

## A Technical Report on the Galaxy Gold Mine, Mpumalanga Province, South Africa

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# DATE AND SIGNATURE PAGE

This Report titled "A Technical Report on the Galaxy Gold Mine, Mpumalanga Province, South Africa" was prepared on behalf of Galaxy Gold Mining Limited. The Report is compliant with National Instrument 43-101 and Form 43-101 F1. The effective date of this Report is 1 September 2015.

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# INFORMATION RISK

This Report was prepared by Minxcon (Pty) Ltd ("Minxcon"). In the preparation of the Report, Minxcon has utilised information relating to operational methods and expectations provided to them by various sources. Where possible, Minxcon has verified this information from independent sources after making due enquiry of all material issues that are required in order to comply with the requirements of the NI 43-101 Code.

# OPERATIONAL RISKS

Mining and mineral and coal exploration, development and production by their nature contain significant operational risks. It therefore depends upon, amongst other things, successful prospecting programmes and competent management. Profitability and asset values can be affected by unforeseen changes in operating circumstances and technical issues.

# POLITICAL AND ECONOMIC RISK

Factors such as political and industrial disruption, currency fluctuation and interest rates could have an impact on future operations, and potential revenue streams can also be affected by these factors. The majority of these factors are beyond the control of any operating entity.

# FORWARD LOOKING STATEMENT

Certain statements in this Report, other than statements of historical fact, contain forward-looking statements regarding the Galaxy Gold Mine, economic performance or financial condition, including, without limitation, those concerning the economic outlook for the mining and gold industry, expectations regarding gold prices, production, cash costs and other operating results, growth prospects and the outlook of operations, including the completion and commencement of commercial operations of specific production projects, its liquidity and capital resources and expenditure, and the outcome and consequences of any pending litigation or enforcement proceedings.

Although Minxcon believes that the expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such expectations will prove to be correct. Accordingly, results may differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic and market conditions, changes in the regulatory environment and other State actions, success of business and operating initiatives, fluctuations in commodity prices and business and operational risk management.

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# UNITS OF MEASUREMENT

The following units were used in this Report:-

| Unit | Description |
|---|---|
| ° | degrees |
| °C | degrees Celsius |
| g/t | grams per tonne |
| ha | hectare |
| km | kilometre |
| ktpm | kilotonnes per month |
| kV | kilovolt |
| kW | kilowatt |
| l | litre |
| m | meter |
| $m^3$ | cubic meters |
| $m^3$/sec | cubic meters per second |
| mm | millimetre |
| Mt | million tonnes |
| MVA | megavolt ampere |
| MWh | megawatt hour |
| t | tonne |
| tpd | tonnes per day |
| tpm | tonnes per month |
| V | volts |
| µm | micrometre |

# LIST OF ABBREVIATIONS

The following abbreviations were used in this Report:-

| Abbreviation | Description |
|---|---|
| amsl | Above Mean Sea Level |
| APM | African Pioneer Mining |
| BEE | Black Economic Empowerment |
| BGB | Barberton Greenstone Belt |
| BIF | Banded Iron Formation |
| BIOX® | Biological Oxidation |
| CCD | Counter Current Decantation |
| CIL | Carbon in Leach |
| CIM | The Canadian Institute of Mining, Metallurgy and Petroleum |
| CPR | Competent Persons' Report |
| DCF | Discounted Cash Flow |
| DMR | Department of Mineral Resources |
| DWA | Department of Water Affairs |
| DWAF | Department of Water Affairs and Forestry |
| EMP | Environmental Management Programme |
| EMPR | Environmental Management Programme Report |
| ETC | Eastern Transvaal Consolidated |
| FCFF | Free Cash Flow to Firm |
| GGR | Galaxy Gold Reefs (Pty) Ltd |
| IUCMA | Inkomathi-Usuthu Catchment Management Agency |
| ID2 | Inverse Distance Squared |
| IWULA | Integrated Water Use Licence Application |
| IWWMP | Integrated Waste Management Plan |
| LHD | Load Haul Dumper |
| LoM | Life of Mine |
| M2M | Mine to Market Limited |
| MPRDA | Minerals and Petroleum Resources Development Act, 2002 (Act No 28 of 2002) |
| NPV | Net Present Value |
| OK | Ordinary Kriging |
| Ptn | Portion |
| RE | Remaining Extent |
| RoM | Run of Mine |
| SK | Simple Kriging |
| SLP | Social and Labour Plan |
| TSF | Tailings Storage Facility |
| UME | Upper Moodies Estates cc |
| USD | United States Dollar |
| VAT | Value Added Tax |
| WUL | Water Use Licence |
| WULA | Water Use Licence Application |
| ZAR | South African Rand |

# ITEM 1 - SUMMARY

Minxcon (Pty) Ltd ("Minxcon") was commissioned by Galaxy Gold Mining Limited ("Galaxy" or "the Client") to compile a compliant National Instrument 43-101 ("NI 43-101") technical report (the "Report") for the Galaxy mineral assets, collectively termed the "Galaxy Gold Mine", the "Mine" or "Project".

In 2011, Minxcon compiled an independent Competent Persons' Report on this Galaxy Gold Mine, compliant reporting requirements of the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2007) ("the SAMREC Code"), as well as the South African Code for the Reporting of Mineral Asset Valuation ("SAMVAL"). Since the issuing of this 2011 CPR, only very limited formal mining has occurred and later on the Mine was placed on care and maintenance. As such, Minxcon relied on the work and information contained within the 2011 CPR for a number of sections within this Report.

## Item 1 (a) - Property Description

The Galaxy Gold Mine is located approximately 8 km west of the town of Barberton and 45 km west of the provincial capital of Nelspruit (Mbombela), in the Mpumalanga Province of South Africa and covers an area of 5,863 ha. The Mine comprises 21 east-west trending gold ore bodies and four prospects at 600 – 2,000 m depth. This Report pertains to the following ore bodies:-

- Woodbine, Giles, Galaxy, Golden Hill, Agnes Top, Pioneer & Tiger Trap and Princeton ore bodies;
- Ivy and Ceska Shaft Pillars; and
- Woodbine (East, North and South), Alpine Pioneer, Hostel (East and West) and Biox North historical dumps.

Historically, gold has been prospected here since the 1880s, with Agnes exploited as an established mine since 1908. Currently, over 75 historical adits exist within the mining area. Owing largely to poor metallurgical recovery processes, the mine became unprofitable and was placed on care and maintenance in 2007.

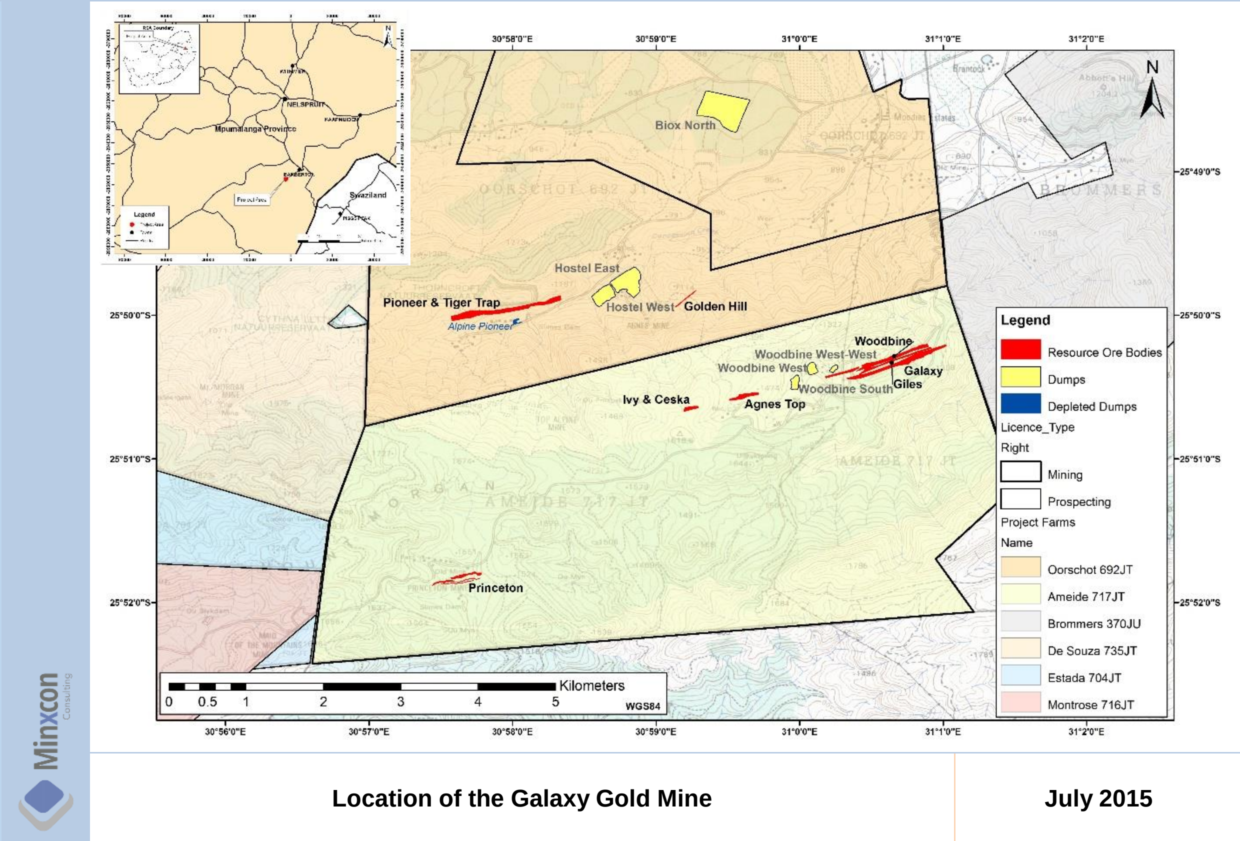
## Item 1 (b) - Ownership of the Property

A converted new order mining right "413 MR" covers the main area of the Galaxy Gold Mine, valid until 4 September 2032. This licence is held by Galaxy Gold Reefs (Pty) Ltd ("GGR"), a wholly-owned subsidiary of Galaxy, who purchased the Galaxy Gold Mine and associated infrastructure from African Pioneer Mining ("APM"; since liquidated) in December 2008. The 413 MR covers the portion ("Ptn") 9 and Ptn 12 of the farm Oorschot 692 JT and the remaining extent ("RE") of the farm Ameide 717 JT.

GGR has additionally applied for prospecting rights over a further four contiguous and adjacent areas. The applications were submitted and formally received by the Department of Mineral Resources ("DMR") in 2011, but have as yet not been granted.

Galaxy has rights to the land in their area of interest, however, a dispute regarding the servitude with Upper Moodies Estate, upon whose properties the slimes dams and expansion plans are located, is ongoing.

*Location of the Galaxy Gold Mine*




## Item 1 (c) - Geology and Mineral Deposit

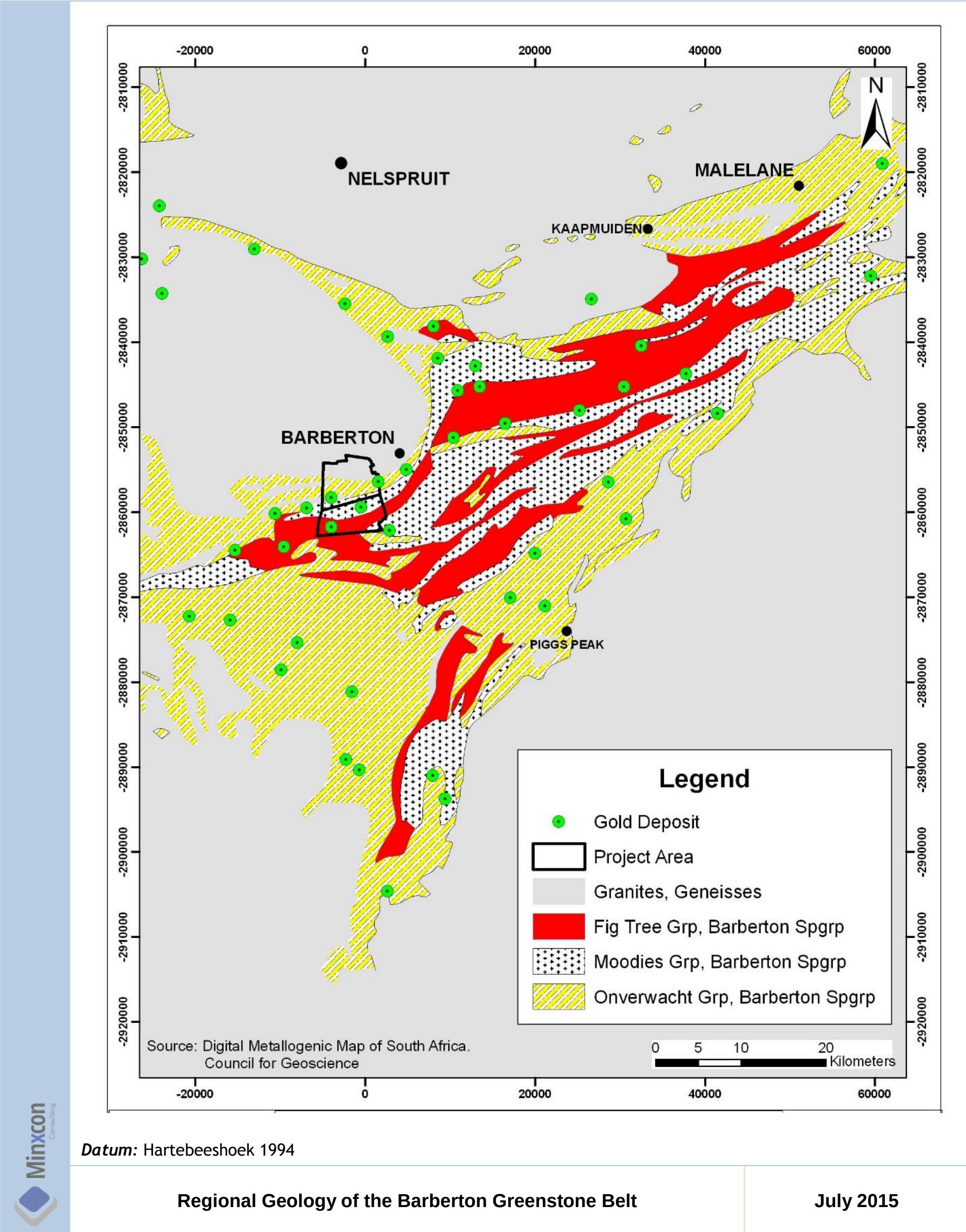
The Project Area is located within the 3.5-3.2 Ga Archaean Barberton Greenstone Belt (“BGB”). The BGB comprises metasedimentary and mafic to ultramafic units with later granitoid intrusions throughout. It is host to a number of economic gold deposits typical of global Archaean lode gold mineralisation

The volcanic and sedimentary units of the BGB have been complexly folded, forming a broad synclinal structure with three litho-stratigraphic units comprising the Barberton Supergroup. The oldest unit is the largely volcanic Onverwacht Group, which is 7 km thick. The Onverwacht Group is overlain by banded ironstones (banded iron formation, “BIF”), which are metamorphosed sandstone, siltstone and mudstone sediments of the Fig Tree Group which is 2.5 km thick. The Fig Tree Group is overlain by the younger Moodies Group, which consists of 2.5 km of arenaceous sediments.

Mineralisation in the BGB is structurally controlled. Mineralisation is associated with all three the above lithological groups along shear zones, thrusts and fractures, but is predominantly associated with the base of the Fig Tree sediments and specifically with the BIF, cherts, greywackes, shales and quartzites. It may also often be found in contact with the altered ultramafic schists.

The regional geology of the Barberton Greenstone Belt, indicating the location of major gold deposits is illustrated below.

*Regional Geology of the Barberton Greenstone Belt*



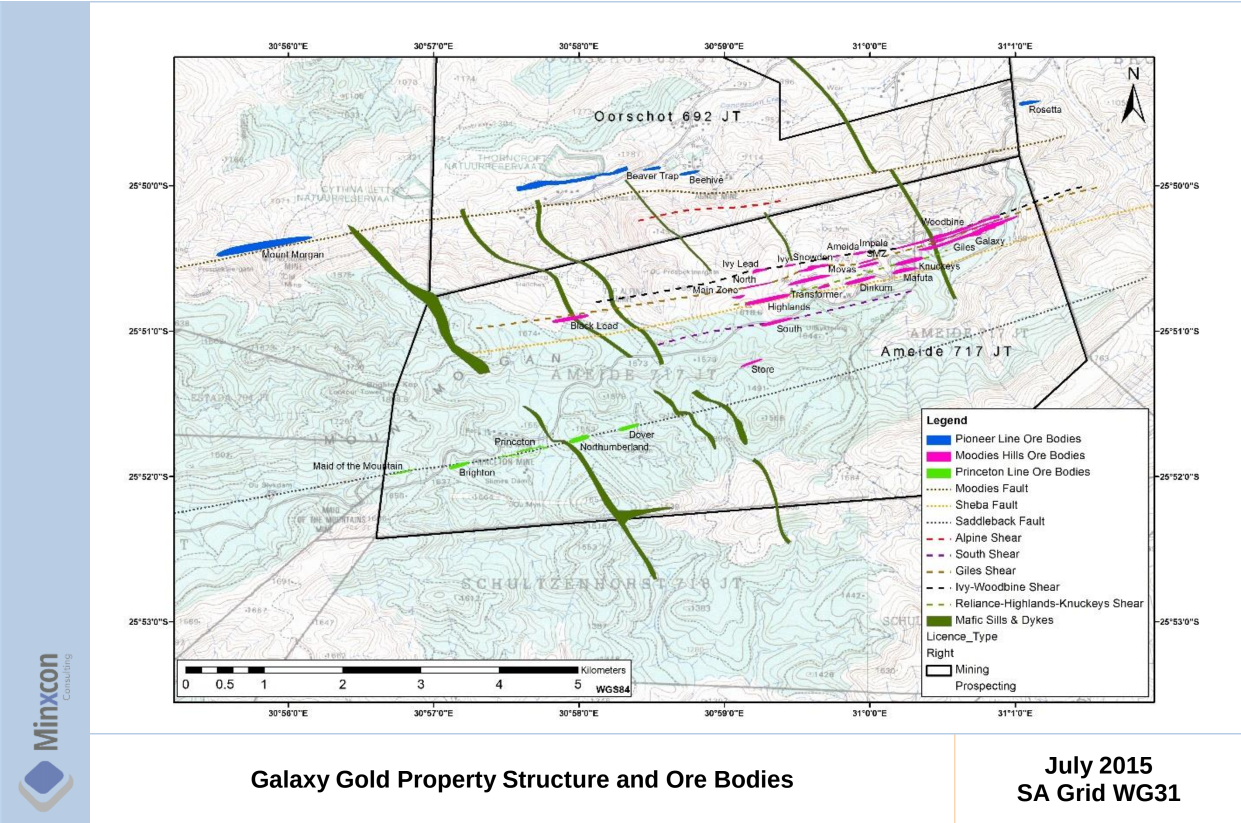

***Datum:*** Hartebeeshoek 1994

| Regional Geology of the Barberton Greenstone Belt | July 2015 |
|---|---|

## Item 1 (d) - OVERVIEW OF THE PROJECT GEOLOGY

The Galaxy Gold Mine overlaps a number of structurally separate stratigraphic units of the Barberton Greenstone Belt. The regional strike of the lithologies in the Project Area is generally in an east to northeast direction, with dips varying between about 60 and 85° south. The area is traversed by a number of pre-2000 Ma (i.e. pre-Transvaal age) diabase dykes trending in a north-westerly direction, which have not as yet been shown to have any major effect on the auriferous structures in the area. The ore bodies at Galaxy are orientated along structural lines that are namely, from north to south:- the Pioneer Line (Pioneer, Tiger Trap, Beaver Trap, Beehive, the BIF type Golden Hill, Mount Morgan, Rosetta ore bodies), Moodies Hills (or Agnes) Line (Galaxy, Woodbine, Giles, SMZ type and Alpine), Princeton Line (New Brighton, Princeton, Cumberland, Northumberland, Dover) and Alpine Line.

*Galaxy Gold Property Structure and Ore Bodies*




**Pioneer Line**

The ultramafic-hosted reefs Pioneer, Tiger Trap, Beaver Trap Hill and Rosetta Ore Bodies lie on the farm Oorschot 692JT in close proximity to the Moodies Fault. Narrow shears of up to 300 m in length are either parallel to the regional strike or are slightly transgressive to bedding.

The Pioneer lode represents the first discovery of gold in the Barberton district and the prospect was extensively worked. In the Pioneer Group, free-milling gold has been recovered from quartz veinlets hosted within sheared fuchsitic carbonated schists.

Golden Hill represents an eastern extension of the Pioneer shear zone, although a banded iron formation provides a lithological control for the mineralising shear over a 225 m strike. The ore is mainly refractory, but thin quartz veins are also developed throughout the ore body and host a minor free gold component.

**Alpine Line**

The Alpine Line is not as distinct as the other three lines, and comprises the following reefs and mines listed from east to west: the Shebang, Reliance, Durham Allans, Alpine Mine including Black Lead, Lydlinch, Poverty and Union Reefs.

The reefs on the Alpine Line tend to be narrow, nuggety and of dark quartz.

**Moodies Hills (Agnes Line)**

The locality of the Agnes Line is often referred to as the Moodies Hills. The area is dominated by sub-vertically dipping east-west to northeast-southwest striking siltstones and shales of the Moodies Group comprising (from oldest to youngest) the Clutha, Joe's Luck and Baviaanskop formations on the southern limb of the Moodies Syncline. The main concentration of the mineralisation in the Agnes Line is confined to a zone roughly 400 m wide, located in the Clutha Formation of the Moodies Group. Gold mineralisation is localised predominantly within sub-parallel shear-fault zones that cross-cut the steeply dipping lithologies at angles that vary between 2 and 10°. In this broad zone, there are a large number of individual horizons, or reefs, which are occasionally interconnected, but more commonly separated by barren country rocks. At present, the major part of the mining activity in the Agnes Line is confined to three main horizons. These are - from north to south - the Woodbine Reef, the Giles Reef and the Galaxy Reefs.

The Woodbine and Giles Reefs consist of zones in which narrow quartz-carbonate-pyrite veins are developed within chloritised and silicified zones of shearing within the siltstones.

The payable mineralisation on the Woodbine and Giles Reefs is not continuously present along strike, but is confined to definite shoots. The Galaxy Reef dips sub-vertically with a plunge of 35° to the east and is adjacent to the Giles Reef.

**Princeton Line**

The Princeton Ore Body is located approximately 4 km southwest of the Agnes Line on the farm Ameide 717JT. The Princeton Line refers to a series of cherty banded iron formations bounded to the north by shales and greywackes of the Fig Tree group, and to the south by fuchsitic-quartz carbonate schists of the Onverwacht Group.

The most important host for the gold mineralisation at Princeton is the banded iron formation at the base of the Fig Tree sediments, while there is sporadic gold mineralisation developed in the surrounding rocks. The Princeton Banded Iron Formation is a banded, sideritic carbonate facies situated between fuchsitic schist hanging wall and shale-greywacke footwall lithologies which all dip steeply at about 80° to the south.

The Princeton Line is an east to west striking anastomosing zone of shearing that links discontinuous fragments or boudins of BIF.

The BIF units vary in thickness from zero to 60 m. Typical Fig Tree greywackes and shales lie in contact with the BIF to the north. The sheared southern contact of the BIF juxtaposes a 20 m thick package of Onverwacht fuchsitic schist. All strata in the mine area dip steeply to the south (80°).

## Item 1 (e) - STATUS OF EXPLORATION

The Galaxy operations and projects are currently under care and maintenance, and thus no exploration work has been carried out subsequent to the 2011 Mineral Resource declaration.

In 2011, exploration work was carried out on the Galaxy properties in the form of structural analysis carried out by Dr R Harris to identify the structural controls of mineralisation in the area. Harris generated exploration targets based on the vergence of D2 and D3 structures, and it is these targets that should become the main focus for future exploration.

Planned future exploration activities by Galaxy includes geophysical surveys focussed on the structural targets generated during the structural analysis carried out by Dr Harris.

## Item 1 (f) - MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

The Mineral Resource classification is a function of the confidence in the whole process from drilling, sampling, geological understanding, data Quality Assurance and Quality Control, as well as geostatistical relationships The summarised Galaxy Gold Mine Mineral Resources are tabulated below and have been classified in accordance with the requirements of the NI 43-101 Code:-

*Summarised Galaxy Gold Mine Mineral Resources as at 31 August 2015*

| Mineral Resource Category | Tonnes | Grade Au | Content Au |
|---|---|---|---|
| | t | g/t | Oz |
| Measured | 1,876,126 | 3.37 | 203,435 |
| Indicated | 4,350,781 | 2.85 | 399,261 |
| **Measured and Indicated** | **6,226,907** | **3.01** | **602,696** |
| Inferred | 8,095,521 | 3.40 | 886,199 |

***Notes:***

1. 2015 Mineral Resource estimation were carried out by Mr P Obermeyer of Minxcon (BSc Hons (Geol.), Pr.Sci.Nat.) under supervision of and verified by Mr U Engelmann, as qualified person of this Report.
2. The Inferred Mineral Resources have a large degree of uncertainty as to their existence and whether they can be mined economically or legally.
3. Only Mineral Resources lying within the legal boundaries are reported.
4. Mineral Resources are inclusive of Mineral Reserves.
5. Mineral Resources are declared at cut-offs: Galaxy, Woodbine, Giles, Golden Hill, Princeton, Pioneer & Tiger Trap, Ivy shaft Pillar, Ivy to Agnes 3-11 Level = 1.8 g/t; Agnes Top = 1.00 g/t; surface dumps = 0.30 g/t.
6. All figures are in metric tonnes.
7. 1 kg = 32.15076 oz.

The Mineral Reserves for Galaxy Gold Mine are illustrated in the table below and have been classified in accordance with the requirements of the NI 43-101 Code:-

*Summarised Galaxy Gold Mine Mineral Reserve Statement as at 31 August 2015*

| Mineral Reserve Category | Tonnes | Grade Au | Content Au |
|---|---|---|---|
| | t | g/t | Oz |
| Probable Mineral Reserves | 1,457,322 | 3.37 | 169,586 |
| **Total Mineral Reserves** | **1,457,322** | **3.37** | **169,586** |

***Notes:***

1. Tonnages refer to tonnes delivered to the metallurgical plant.
2. All figures are in metric tonnes.
3. 1 kg = 32.15076 oz.
4. Different Dilution, Recovery and Mine call factor applied to each ore body and TSF.
5. Pay Limits calculated: USD/oz. = 1,130 and Exchange rate of ZAR11.70/USD.

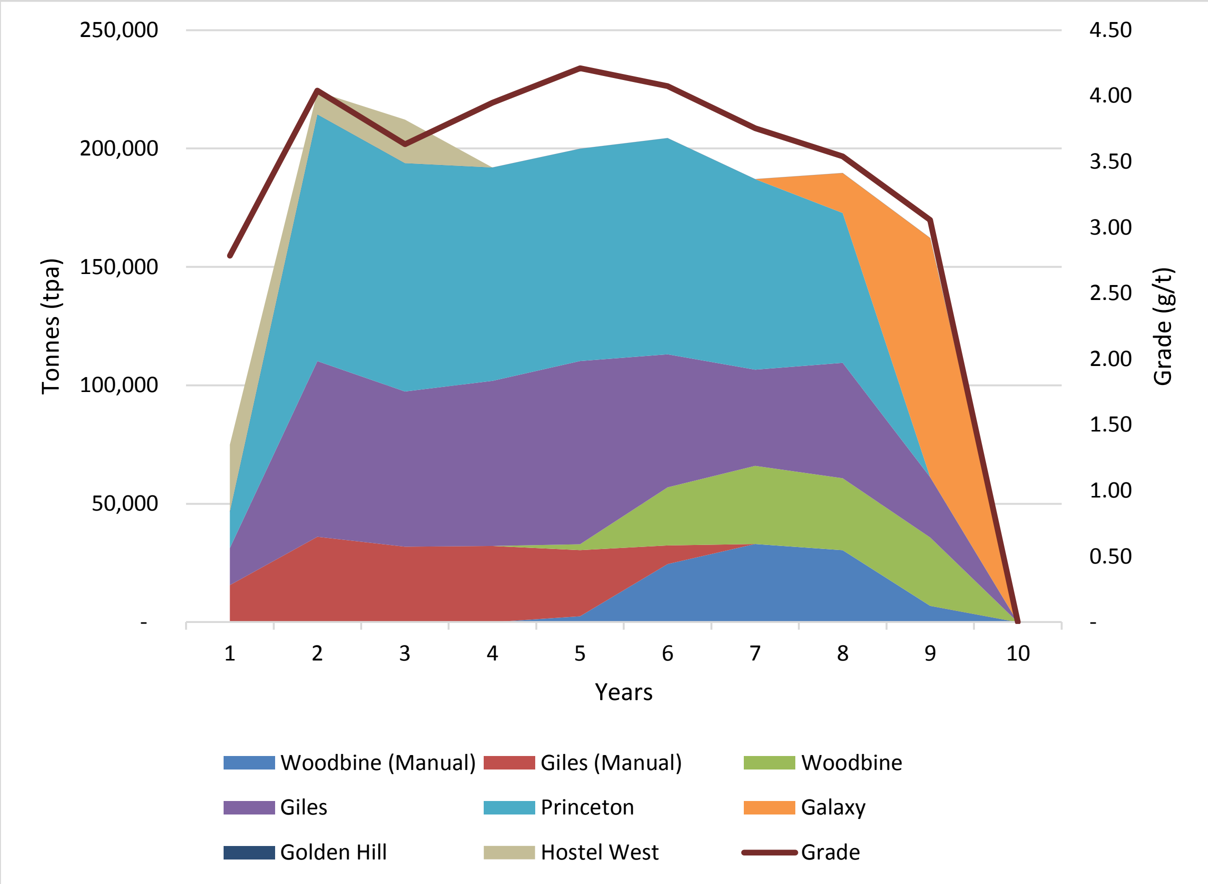
## Item 1 (g) - DEVELOPMENT AND OPERATIONS

### Mining

Two different mining methods will be used at the Galaxy Gold Mines, a fully mechanised cut and fill mining method and a conventional shrinkage stoping mining method. Furthermore the Tailing Storage Facilities will be mined utilising a truck and shovel operation.

The life of mine plan for Galaxy is based on a production capacity of 15 ktpm constrained by the processing plant capacity. The life of mine production profile is illustrated in the figure below.

*Galaxy Gold Mine Life of Mine Production*




**Processing**

The Galaxy plant has operated intermittently since it was purchased in 2009. Currently the processing facilities are on care and maintenance. The operation consist of two plants, namely the south plant where crushing, milling, flotation, elution and smelting takes place, and the north plant where biological oxidation ("BIOX®") and leaching of flotation concentrate takes place. Galaxy aim to refurbish the south plant only in order to produce and sell a flotation concentrate. The flotation plant has a total RoM capacity of approximately 15 ktpm. With consistent operation, it is expected that a flotation gold recovery of approximately 90% can be achieved.

Capital is required to refurbish and re-commission the Galaxy plant prior to production.

## Item 1 (h) - PROJECT VALUATION

This valuation is based on a free cash flow and measures the economic viability of the Mineral Reserves to demonstrate if the extraction of the Mineral Deposit is viable and justifiable under a defined set of realistically assumed modifying factors. This is illustrated by using the Discounted Cash Flow ("DCF") method on a Free Cash Flow to the Firm ("FCFF") basis, to calculate the nett present value ("NPV") and the intrinsic value (fundamental value based on the technical inputs, and a cash flow projection that creates a NPV) of the Project in real terms. The valuation reflects the full value of the operation and no values attributable to Galaxy's participation in the Mine were calculated. The model was set up in calendar years starting in year 1. The effective date of the valuation is 1 September 2015.

**Operating Costs**

Costs reported for the Mine, which consist of plant, mining and other operating costs, are displayed in the following table. Galaxy Gold Mine has an all-in sustainable cost of ZAR834/milled tonne. When comparing gold mine costs to the gold price in terms of USD/oz, the Mine has an all-in sustainable cost of USD688/oz.

*Opex Summary*

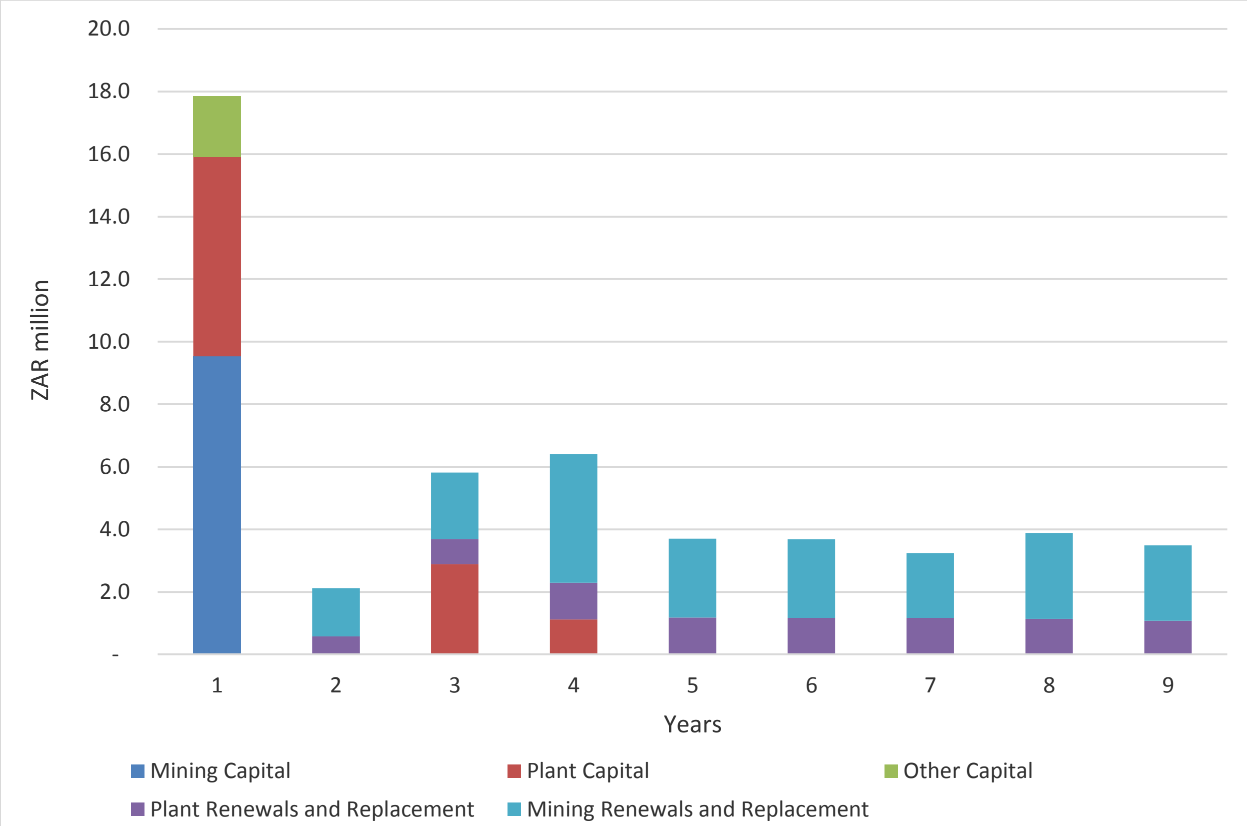
| Item | Unit | Galaxy Gold Mine |
|---|---|---|
| **Net Turnover** | **ZAR/Milled tonne** | **960** |
| Mine Cost | ZAR/Milled tonne | 459 |
| Plant Costs | ZAR/Milled tonne | 190 |
| Other Costs | ZAR/Milled tonne | 138 |
| **Direct Cash Costs (C1)** | **ZAR/Milled tonne** | **787** |
| Capex | ZAR/Milled tonne | 34 |
| **Production Costs (C2)** | **ZAR/Milled tonne** | **822** |
| Royalties | ZAR/Milled tonne | 13 |
| Other Cash Costs | ZAR/Milled tonne | - |
| **All-in Sustaining Cost (C3)** | **ZAR/Milled tonne** | **834** |
| **NCE Margin** | **%** | **13%** |
| EBITDA* | ZAR/Milled tonne | 160 |
| EBITDA Margin | % | 17% |
| Gold Recovered | oz | 151,421 |
| **Net Turnover** | **USD/Gold oz** | **792** |
| Mine Cost | USD/Gold oz | 379 |
| Plant Costs | USD/Gold oz | 157 |
| Other Costs | USD/Gold oz | 114 |
| **Direct Cash Costs (C1)** | **USD/Gold oz** | **649** |
| Capex | USD/Gold oz | 28 |
| **Production Costs (C2)** | **USD/Gold oz** | **678** |
| Royalties | USD/Gold oz | 10 |
| Other Cash Costs | USD/Gold oz | - |
| **All-in Sustaining Cost (C3)** | **USD/Gold oz** | **688** |
| EBITDA* | USD/Gold oz | 132 |

***Notes:***

1. * EBITDA excludes capital expenditure.
2. Numbers may not add up due to rounding.

82% Of the initial capital expenditure to return the mothballed operation to full production gets spent during year 1. The initial capital amounts to ZAR17.9 million. This will mainly be on the plant upgrade and the shaft repairs that has to be done. The renewals and replacement capital for the plant and mine was calculated as 3.5% of the plant and mining operating costs respectively over the LoM and is displayed in the figure below. The total including the initial capital amounts to ZAR50.2 million over the LoM.

*Capital Schedule*




The table below illustrates the Project NPV at various discount rates with a best-estimated value of ZAR138 million at a real discount rate of 9.1%. The IRR was calculated at 226%. This number should be treated with care, as it is skewed by the fact that it is an existing mine. The Mine and plant are on care and maintenance and therefore the capital requirement is not high. The low initial capital requirement of ZAR18 million in year 1 and high cash flow of ZAR110 million in year 2 returns resulted in an IRR that was calculated at 226% which is very high compared to new developed mines. The overall project has an all-in cost margin of 13% which is low compared to other operating mines and makes the Project marginal. That is despite an estimated low all-in sustainable cost of USD688/oz. The reason for this is the current expected turnover of only USD792/oz due to a payablility of only 70% of the price on the metal content in the concentrate sold.

*Project Valuation Summary – Real Terms*

| Item | Unit | Value |
|---|---|---|
| Real NPV @ 0.00% | ZARm | 179 |
| Real NPV @ 5.00% | ZARm | 154 |
| **Real NPV @ 9.07%** | **ZARm** | **138** |
| Real NPV @ 10.00% | ZARm | 134 |
| Real NPV @ 15.00% | ZARm | 119 |
| IRR | % | 226% |

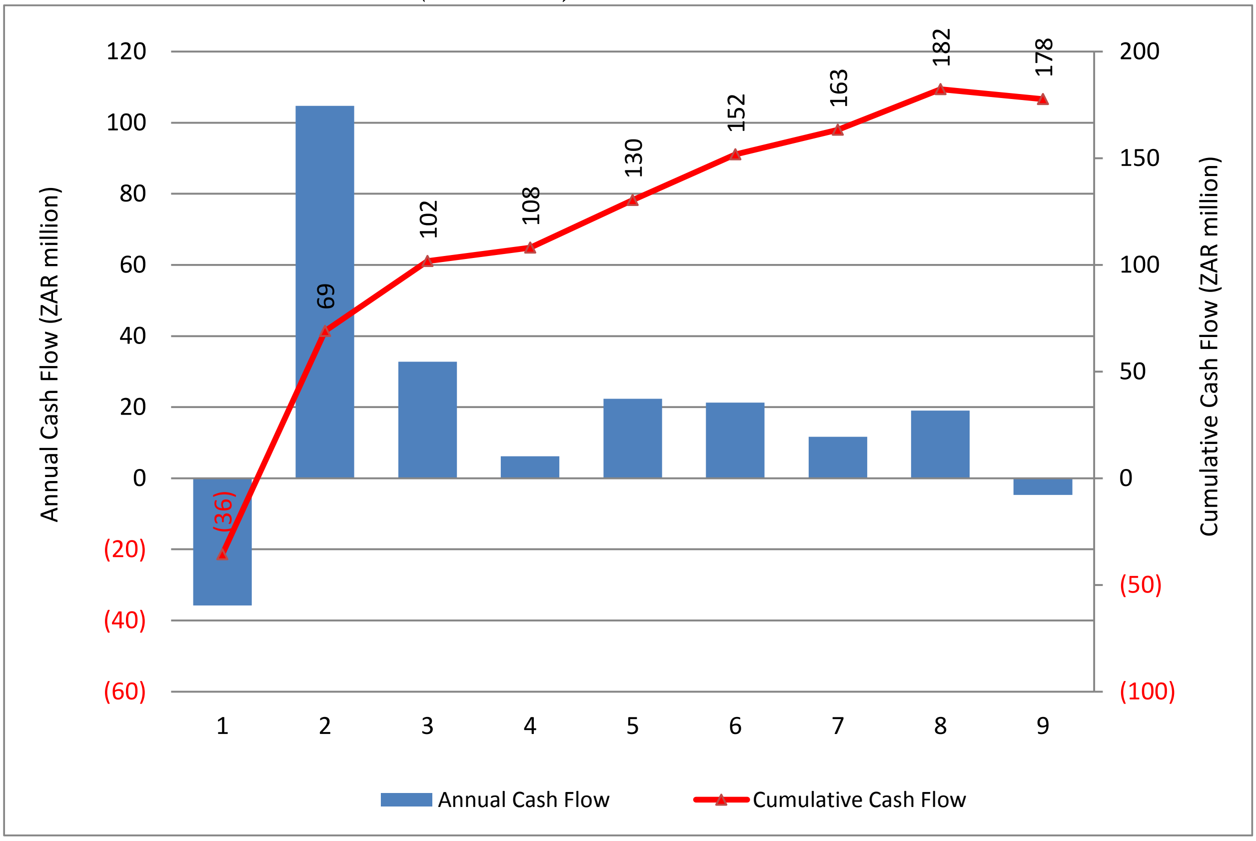
The table below illustrates the Project profitability ratios.

*Profitability Ratios*

| Item | Unit | Profitability Ratios |
|---|---|---|
| Total ounces in Reserve LoM plan | oz. | 169,586 |
| *In-Situ* Mining Inventory Valuation | USD/oz. | 70 |
| Production LoM | Years | 9 |
| Present Value of Income flow | ZARm | 182 |
| Peak Funding Requirement | ZARm | 36 |
| Payback Period | Years | 1 |
| Break Even Milled Grade | g/t | 3.15 |
| Break Even/Incentive Gold Price | USD/oz. | 688 |

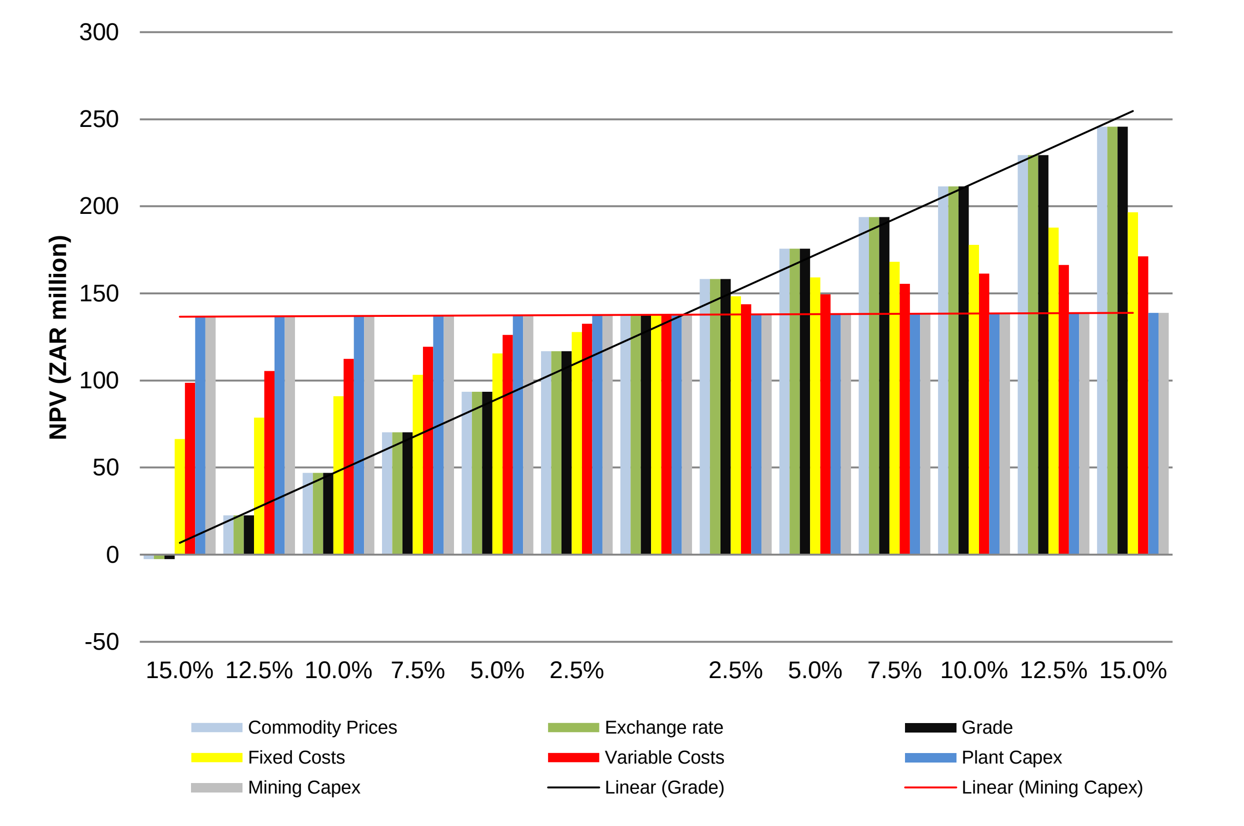
The annual and cumulative cash flow forecast for the LoM is displayed in the following figure. From the figure below it can also be seen that the peak funding requirement amounts to ZAR36 million in year 1.

*Annual and Cumulative Cash Flow (Real Terms)*




For the DCF, the gold price, exchange rate and grade have the most significant impact on the sensitivity of the Project, followed by the operating cost. The Project is not sensitive to the capital.

*Project Sensitivity (NPV9.1%)*




## Item 1 (i) - Qualified Person's Conclusions and Recommendations

**Conclusions**

***Mineral Resources:-***

- The Galaxy Gold Mine Mineral Resources were last estimated in 2011, with little subsequent mining.
- Minxcon reviewed, depleted and updated the Mineral Resources as at 31 August 2015.
- The operations are on care and maintenance, with no resident geological team in place.
- Digital data is not formally archived by Galaxy, however all Mineral Resource estimation data is stored on the Minxcon server and is readily available. Data security thus presents minimal risk.

***Mining:-***

- A portion (25%) of the LoM plan was completed from manual plans. Manual plans are scheduled and depleted from the block values indicated on the plans.
- The remaining portion (75%) of the LoM plan was completed in CAD software. The software produces the values generated from the resource block models.
- Minxcon has completed the LoM plan and schedule under the guidance of the Galaxy management team, who have also signed off the LoM plan.
- The LoM plan for Princeton was change from a cut and fill to a longhole stoping method. This was done to reduce waste development which had an impact on the cost effectiveness of mining.
- The Woodbine-Giles sub-shaft needs refurbishment before it can be fully operational. It was assumed that the shaft is open and had access to 30 Level. The shaft is very important to the LoM plan as is services the Woodbine, Giles and Galaxy ore bodies.
- The mine plan is based on a contractor mining model but the terms of the contract have not yet been determined.
- Limited skilled labour is currently employed at the Mine because the operation is on care and maintenance; skilled labour will need to be sourced well in advance of operation start-up.

***Processing:-***

- Galaxy will not produce dorè but plans to sell a concentrate.
- As a result of the high sulphur content in the concentrate, BIOX® technology is not appropriate at this point.
- Capital of ZAR6.4 million will be required to refurbish and re-commission the Galaxy flotation plant.
- Approximately 4 months will be required for the plant refurbishment and commissioning.
- With a stable plant feed rate of 15 ktpm, it is estimated that the plant can achieve a flotation recovery of 90%.
- No-off-take agreement is currently in place. A payability of 70% contained gold was assumed.

***Reserve Market Evaluation:-***

- There was a significant decrease in the gold price in the past 3 to 4 years which placed immense pressure on gold mine margins.
- Galaxy has a IRR of 226% which is very high compared to new developed mines and the number should be treated with care, as it is skewed by the fact that it is an existing mine.
- The peak funding requirement is ZAR36 million which is reached in the first year of the Project. The Mine and plant are also on care and maintenance and therefore the capital requirement is not high. This together with the low development capital is the reason for the skewed IRR.
- The all-in sustainable cost (which includes capital cost) of Galaxy was calculated as USD688/oz and is well below the current gold price. One of the reasons for the low operating cost is the fact that the mine has already been established and the development needed to access the orebody is limited.
- However, the project has an all-in cost margin of only 13% which is low compared to other operating mines.
- The Project is marginal with small annual cash flows of approximately ZAR20 million from year 2 onwards. The reason for this is the current expected turnover of only USD792/oz due to a payablility of only 70% of the price on the metal content in the concentrate sold.

**Recommendations**

***Legals:-***

- Galaxy should prioritise obtaining all environmental authorisations and get approval for an EMP and Water Use Licence as soon as possible.

***Mineral Resources:-***

- Implement a common datum for all resource models for ease of planning and data management.
- Adjust block sizes post estimation in order to improve accuracy of resource model depletions.

***Mining:-***

- Mining contract agreement should be put in place.
- The mine design is currently at a PFS level of accuracy and should be improved to an operational level of accuracy prior to implementation.
- The technical aspects of the LoM plan should be improved which include ventilation, rock engineering, equipment and safety.
- Given the current status of being on care and maintenance, a detailed re-opening plan would assist in bringing the mine back into operation successfully.

***Processing:-***

- Ensure that critical spares and equipment items are identified and ordered before plant start-up.
- The tailings dam capacity should be confirmed by tailings experts.
- A flotation concentrate off-take agreement should be secured as soon as possible.

***Market Evaluation:-***

- An expected 30% discount on the price due to selling concentrate has a significant impact on the margin. Galaxy should investigate alternative processing options to be able to upgrade the final product to a dorè instead of receiving a 70% payability on the concentrate.

# ITEM 2 - INTRODUCTION

## Item 2 (a) - ISSUER RECEIVING THE REPORT

Minxcon (Pty) Ltd ("Minxcon") was commissioned by Galaxy Gold Mining Limited ("Galaxy" or "the Client") to compile a compliant National Instrument 43-101 ("NI 43-101") technical report (the "Report") for transactional purposes with Galane Gold Limited ("Galane").

## Item 2 (b) - TERMS OF REFERENCE AND PURPOSE OF THE REPORT

Minxcon was commissioned by the Client to compile a technical report for the Galaxy mineral assets near the town of Barberton in Mpumalanga Province, collectively termed the "Galaxy Gold Mine", the "Mine" or "Project". The Mine is has been on care and maintenance since 2007.

This technical report, entitled A Technical Report on the Galaxy Gold Mine, Mpumalanga Province, South Africa (the "Report"), was compiled in compliance with the specifications embodied in the Standards of Disclosure for Mineral Projects as set out by the Canadian Code for reporting of Mineral Resources and Mineral Reserves - National Instrument 43-101 (Standards of Disclosure for Mineral Projects), Form 43-101F1 and the Companion Policy Document 43-101CP ("NI 43-101"). Only terms as defined by The Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") have been utilised in this Report.

In 2011, Minxcon was commissioned by Galaxy Gold to compile an independent Competent Persons' Report on this Galaxy Gold Mine, compliant reporting requirements of the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2007) ("the SAMREC Code"), as well as the South African Code for the Reporting of Mineral Asset Valuation ("SAMVAL"). This commission produced a document entitled *An Independent Competent Persons' Report on the Galaxy Gold Mineral Assets, Mpumalanga Province, South Africa*, effective date 30 August 2011 and was issued as a final report on 5 April 2012 ("2011 CPR"). Since the issuing of this 2011 CPR, only very limited mining has occurred and the Mine placed care and maintenance. As such, Minxcon has relied on the work and information contained within the 2011 CPR for a number of sections within this Report, as introduced in the relevant item numbers.

Minxcon carried out the following scope of work for this Technical Report:-

- Review Project History;
- Produce Key Plans and Maps for Report;
- Describe Topography and Climate;
- Review Legal Aspects and Security of Tenure;
- Review Project Data, including:-
    - Sampling Governance;
    - Sample Method, Collection, Validation, Preparation & Storage;
- Review the Geological Modelling, Interpretation And Estimation;
- Undertake Mineral Resource Depletions;
- Review Mining Plans and Scheduling;
- Review Mineral Processing and Metallurgical Testing;
- Review Mineral Resource and Mineral Reserve Classification;
- Review Cost and Capital Associated with the Operation; including:-
    - Operational;
    - Governmental;
    - Environmental Aspects;
    - Social Obligations; and
- Complete a Valuation based on a discounted cash flow ("DCF").

## Item 2 (c) – SOURCES OF INFORMATION AND DATA CONTAINED IN THE REPORT

The following sources of information were used to compile this Report:-

- An Independent Competent Persons' Report on the Galaxy Gold Mineral Assets, Mpumalanga Province, South Africa, Minxcon, Effective Date 30 August 2011, and sources therein.
- Technical information supplied by Galaxy Gold.
- Market research information from various websites, literature and other published articles.
- Personal Communication with the Business Development Manager of Galane, Mr Kevin Crossling.
- Personal Communication with the legal officer of Galaxy Gold, Mr Dwaine Koch.
- Technical information supplied by Deswik Mining Consultants ("Deswik") on behalf of Galaxy.

Minxcon has accepted the information supplied by Galaxy Gold as valid and complete, and has as far as possible verified the data. The information applies, but is not limited to, the drill hole information, environmental issues and licences. Minxcon scrutinised this information, together with other sources of information as above, and found it fit for use in the estimation of the Gold Mineral Resources and Gold Mineral Reserves (that were used in the economic evaluation of the Mine).

Minxcon is not qualified to sign off on legal aspects and did not seek an independent legal opinion on the shareholding, effective rights and obligations of Galaxy, and relied on existing available information. A due diligence report on the environmental standing of the Mine was compiled in August 2015 by Digby Wells Environmental Consultants; this was used to cross reference environmental information as received and understood by Minxcon from Galaxy.

For further details on references, please refer to Item 27.

## Item 2 (d) – QUALIFIED PERSONS' PERSONAL INSPECTION OF THE PROPERTY

A site visit of Galaxy Gold Mine was conducted on 19 June 2015 by Mr Daniel van Heerden and Mr Dario Clemente, each of whom is a director of Minxcon and a Qualified Person (as that term is defined in NI 43-101) for this Report. During this visit, Mr van Heerden and Mr Clemente visited the mine site and infrastructure, the treatment plant and the waste dumps. An underground mine visit was not conducted as the Mine is currently on care and maintenance. A site visit to inspect exploration and resource components was not conducted, as no further work of this nature has been conducted since the 2011 CPR compilation.

# ITEM 3 – RELIANCE ON OTHER EXPERTS

Mineral Resources for the Galaxy Gold Mine were independently estimated by Deswik during 2011 and reviewed by Minxcon in the same year. For this Report, the 2011 database was received from Deswik and Minxcon relied upon this information as being true and correct, as previously audited by Minxcon. As part of the 2015 Mineral Resource update, Minxcon reviewed the Mineral Resource estimation of 2011 for a second time and made appropriate depletions to the Deswik Mineral Resource estimates. Minxcon is signing off on the 2015 Mineral Resource update.

# ITEM 4 - PROPERTY DESCRIPTION AND LOCATION

## Item 4 (a) - AREA OF THE PROPERTY

The Galaxy Gold Mine comprises several gold ore bodies of the BGB trending east-west comprising 21 ore bodies and four prospects at 600 – 2,000 m depth. This Report pertains to the following ore bodies:-

- Woodbine, Giles, Galaxy, Golden Hill, Agnes Top, Pioneer & Tiger Trap and Princeton ore bodies;
- Ivy and Ceska Shaft Pillars; and
- Woodbine (East, North and South), Alpine Pioneer, Hostel (East and West) and Biox North historical dumps (or tailings storage facilities, "TSFs").

The Galaxy Gold Mine covers a total area of 5,863 ha. The contiguous areas that comprise the total claims area are detailed in Item 4 (c).

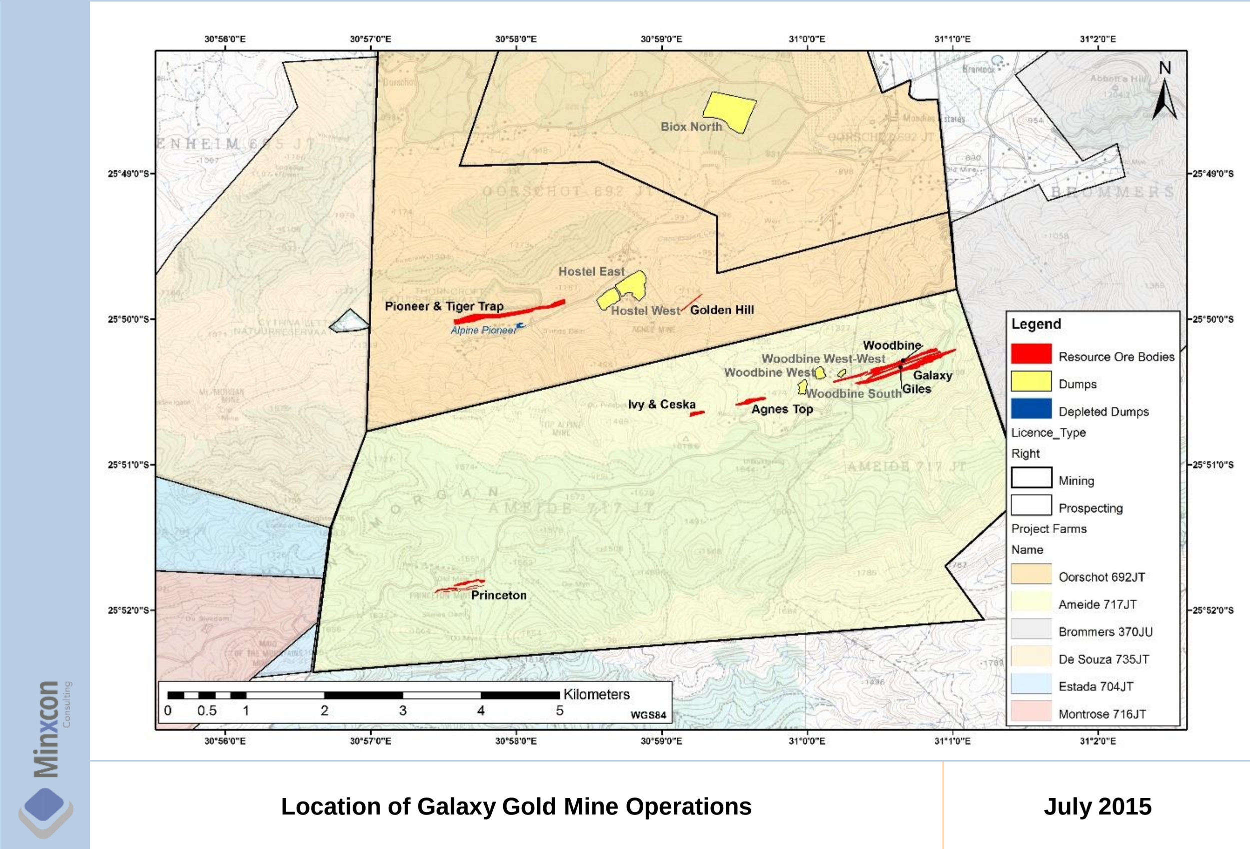
## Item 4 (b) - LOCATION OF THE PROPERTY

The Galaxy Gold Mine is located approximately 8 km west of the town of Barberton and 45 km west of the provincial capital of Nelspruit (Mbombela), in the Mpumalanga Province of South Africa, as shown in Figure 1. The location of the ore bodies as identified in Item 4 (a) are graphically portrayed in Figure 2.

The Project is centred on the geographic co-ordinates Latitude 25°49' 50.61" S and Longitude 30°58' 55.00" E.

*Figure 1: Location of Project Area*

*Figure 2: Location of Galaxy Gold Mine Operations*




## Item 4 (c) – Mineral Deposit Tenure

The mineral rights pertaining to the Galaxy Gold Mine were issued by the Department of Mineral Resources ("DMR") in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act No 28 of 2002) ("MPRDA"). The mineral rights are portrayed in Figure 3.

Galaxy Gold Reefs (Pty) Ltd ("GGR") (previously Agnes Gold Mining (Pty) Limited, previously Tyax Trading (Pty) Ltd), a wholly-owned subsidiary of Galaxy Gold Mining Limited, purchased the Galaxy Gold Mine and associated infrastructure from African Pioneer Mining ("APM"; since liquidated) in December 2008. All movable and immovable assets were transferred to GGR in 2009, with the exception of the surface rights as discussed in Item 4 (g).

#### Mining Rights

A single mining right, MP 30/5/1/2/2/413(MRC) ("413 MR"), covers the main area of the Galaxy Gold Mine, valid for a period of 20 years until 4 September 2032. This licence represents the new order conversion of an old order mining licence (ML 16/2000) which was granted to APM and granted over portion ("Ptn") 9 and Ptn 12 of the farm Oorschot 692 JT and the remaining extent ("RE") of the farm Ameide 717 JT. The converted mining right was transferred into the name of GGR in terms of Section 11 of the MPRDA by notarial cession on 8 November 2013.

The table below details the current mining licence pertaining to the Galaxy Gold Mine:-

*Table 1: Galaxy Mining Right*

<table>
<tr><th>Farm Name</th><th>Farm Portions</th><th>Mining RIght No.</th><th>Company</th><th>Commodity</th><th>Area (ha)</th><th>Valid From</th><th>Valid To</th><th>Comment</th></tr>
<tr><td>Oorschot 692 JT</td><td>Ptns 10, 13, 14 15, 21, 22, RE of Ptn 9, a Ptn of RE of Ptn 12</td><td rowspan="2">413 MR</td><td rowspan="2">Galaxy Gold Reefs (Pty) Ltd</td><td rowspan="2">Gold</td><td rowspan="2">5,862.8</td><td rowspan="2">5 September 2012</td><td rowspan="2">4 September 2032</td><td>Previously Ptn 9, Ptn 12</td></tr>
<tr><td>Ameide 717 JT</td><td>RE</td><td>-</td></tr>
</table>

For clarity on the farm portions, the following pertains to the portions of the farm Oorschot (Stevens, 2010):-

- Former Ptn 9 (1,690.4420 ha) has been subdivided into RE of Ptn 9 (669.9175 ha), Ptn 10 (116.4858 ha) and Ptn 22 (933.0191 ha); and
- Ptn 14, Ptn 23, Ptn 24 (formerly portions of Ptn 12) were consolidated into Ptn 26. Ptn 15 is Ptn of the original Ptn 12.

### PROSPECTING RIGHTS

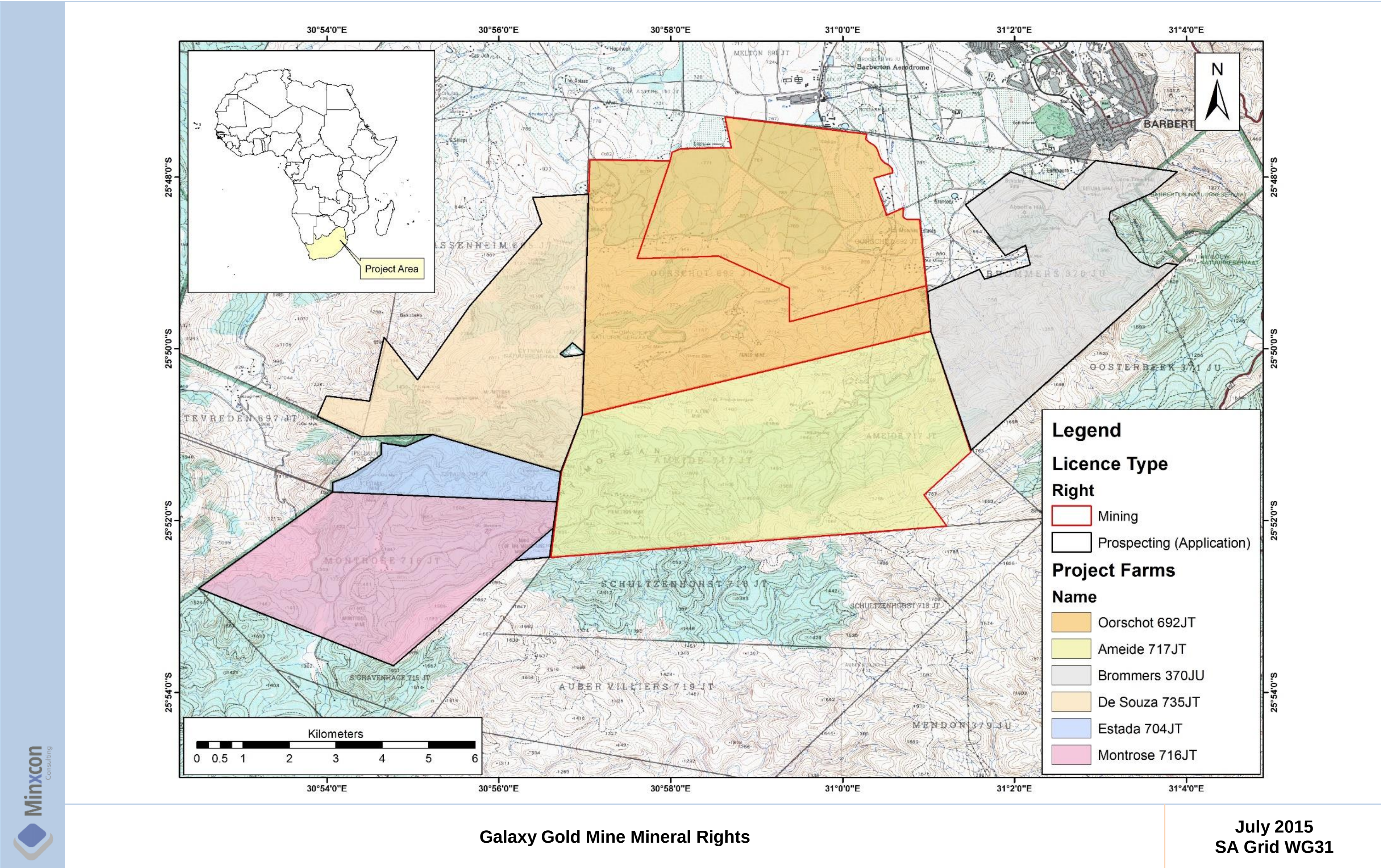
In addition to the mining right as described above, Galaxy Gold under GGR has applied for a further four contiguous areas for prospecting rights. All farm areas are located in the magisterial district of Barberton, Mpumalanga. The applications were submitted and formally received by the DMR in 2011, but have as yet not been granted. No further communication regarding these applications has been received by GGR from the DMR.

The details of prospecting right applications are given in Table 2.

*Table 2: Galaxy Prospecting Right Applications*

| Farm Name and No. | Prospecting Right Application No. | Company | Commodity | Area (ha) | Comment |
|---|---|---|---|---|---|
| Ptn 22 Brommers 370 JU | 10172 PR | Galaxy Gold Reefs (Pty) Ltd | Gold Ore Silver Ore | 2,406.027 | Application received by DMR on 13 October 2011. |
| De Souza 735 JT | 10174 PR | Galaxy Gold Reefs (Pty) Ltd | Gold Ore Silver Ore | 1,452 | Application received by DMR on 13 October 2011. |
| Montrose 716 JT | 10176 PR | Galaxy Gold Reefs (Pty) Ltd | Gold Ore Silver Ore | 1,487.924 | Application received by DMR on 13 October 2011. |
| Estada 704 JT | 10177 PR | Galaxy Gold Reefs (Pty) Ltd | Gold Ore Silver Ore | 407.601 | Application received by DMR on 13 October 2011. |

*Figure 3: Galaxy Gold Mine Mineral Rights*



## Item 4 (d) - ISSUER'S TITLE TO/INTEREST IN THE PROPERTY

Details of the mineral licences pertinent to Galaxy Gold Mine are provided in the previous section.

### SURFACE RIGHTS

The rights of Galaxy to surface use of the farm portions covered in their mining right are subject to numerous matters resulting from transfers of licences between a number of licence owners through the past 16 years (the prior ownership of the mine is outlined in Item 6).

The following Table 3 provides an overview of the land owners over the areas encompassed in the Mine's area of interest.

*Table 3: Land Owners of the Mine Area*

| Farm Name | Farm Portions | Owner |
|---|---|---|
| Oorschot 692 JT | RE of Ptn 9 | Sappi Manufacturing (Pty) Ltd |
| | Ptn 10 | Republic of South Africa |
| | RE of Ptn 12 | Upper Moodies Estate CC |
| | Ptn 13 | Eskom |
| | Ptn 15 | Madikwe Communal Property Association |
| | Ptn 22 | APM |
| | Ptn 26 | Danroc (Pty) Ltd |
| Ameide 717 JT | RE | Sappi Manufacturing (Pty) Ltd |

***Source:*** Stevens, 2010

On 26 April 2006, a notarial deed of servitude K005569/06 was granted in favour of APM over the RE of Ptn 12 of the farm Oorschot 692 JT. As per the 2001 EMPR, the farm is directly affected by operations of the Mine, particularly changes in water chemistry. The 22 Level adit, a tailings dam and explosives depot occur on this property. In terms of the servitude agreement, APM paid a monthly option fee to the land owner, Upper Moodies Estates CC ("UME"). Last payment was made in October 2012 and the agreement expired in December 2012. An agreement for sale of the land was drafted but has not been signed and finalised. A legal dispute, including threat of eviction in early 2014, has since been entered between GGR and UME regarding outstanding option fee payments and access to the property including the servitudes and explosive depot located on that portion.

The above was a personal servitude which could not, in terms of the servitude agreement, be ceded without consent of UME. Following the sale of the Mine from APM to Galaxy, UME provided no consent and the servitude was thus effectively ended. Although Galaxy still has the right to access this land in terms of Section 5(3) of the MPRDA, the author of this Report recommends that a new agreement be entered into with UME that can be sustained over the long term.

In addition, on 3 May 2004, APM acquired the surface rights to portion 22 (a portion of portion 9) of the Oorschot Farm on which Galaxy Gold Mine is located. This area, covering 933.0191 ha, contains the mine footprint, various smaller mines and the Alpine, Agnes and Ben Lomond residential villages, the office buildings at Ben Lomond Adit, the milling, flotation and elution plant, the mine workshops and the tailings facilities and CIL plant. In addition, the property is subject to an Eskom power line servitude 408/1971S. This surface right has been transferred to GGR as part of the purchase of the Galaxy Gold Mine and associated assets.

Regarding Ptn 9 of Oorschot 69 JT and the RE Ameide 717 JT, both owned by Sappi, numerous surface use rights were held by historical owners ETCM in terms of a deed of transfer. There is doubt as to the effective transfer of these rights from ETCM to APM and later to Agnes Gold Mining and Galaxy, as described by Stevens (2010). Similar issues arise for Oorschot Ptn 10, Ptn 13 and Ptn 15 relating to ETCM. However, Section 5(3) of the MPRDA again allows Galaxy, as holders of the current mining right, extensive surface use regarding mining operations.

The remainder of mining activities will occur on the Sappi-leased farm area.

#### OWNERSHIP STRUCTURE

Galaxy is a South African gold mining and exploration company, established in 2008. The company is focused on the exploitation of the BGB. GGR is currently 100% owned by Galaxy. Currently Galaxy does not comply with the Black Economic Empowerment ("BEE") requirement as per the government regulations, whereby a mining company should hold an initial 26% BEE. Such will have to be implemented in order to progress operations.

The following lists detail the board and senior management of Galaxy:-

**Board**

- Mr John W.E. Gibbon (Executive Director);
- Mr Sean B. Meadon (Independent Non-executive Director);
- Mr Dale Richards (Independent Non-executive Director); and
- Mr Peter E. Skeat (Independent Non-executive Director).

**Senior Management**

The Mine is currently on care and maintenance. As such, only the following is applicable:-

- Mr Dwaine Koch (Legal Officer).

### Item 4 (e) - ROYALTIES, PAYMENTS AND AGREEMENTS

#### ROYALTIES

The current Mineral and Petroleum Resources Royalty Act came into effect on 1 March 2010. The law requires all companies extracting minerals in South Africa to pay royalties at a rate of between 0.5% and 7% based on gross sales. Companies are taxed on either the refined or unrefined formula. The refined mineral formula was used for this Project (Equation 1). Owing to the high unredeemed capital and assessed losses of GGR, the minimum royalty rate applied for most part of the mine life.

*Equation 1: Refined Mineral Tax Formula*

$$0.5 + [\text{EBIT/Gross sales} \times 12.5] \times 100$$

#### AGREEMENTS

A concentrate off-take agreement was in place between GGR and independent tailings treatment company Mine2Market Limited ("M2M") with regards to gold production at the Mine to retreat the tailings dam as well as high-grade material located in the emergency dam. In terms of this agreement, GGR would allow M2M to process the Galaxy Gold Mine gold dumps on its behalf. The flotation plant and auxiliary equipment had been installed and commissioned. The concentrate would have a grade of between 50 and 60 g/t of gold and would be exported to smelters oversees. M2M would deduct direct costs of USD14.50 per tonne treated and delivered ex-gate.

The agreement stipulated that GGR would sell an aggregate of an anticipated 60,000 tonnes of concentrate over a 36-month period, or such longer period as circumstances may require. In addition, GGR would ensure that the concentrate sold pursuant to the agreement satisfied the following specifications:-

- Gold content shall be at least 50 grams per tonne;

- Moisture content shall not exceed 12%; and
- Failing the above, the parties will agree on terms by mutual agreement.

This agreement has since been cancelled and M2M no longer have a presence in the Project Area.

## Item 4 (f) – ENVIRONMENTAL LIABILITIES

Mining companies are required to make financial provision for mining-related environmental rehabilitation. Upon closure, the Mine area will need to be monitored and rehabilitated as per the EMPRs, including revegetation of the TSFs. In 2005, Synergistics Environmental Services (Pty) Ltd ("Synergistics") was responsible for the calculation of the quantum of the financial provision of ZAR7.310 million (excluding VAT) required for the rehabilitation of the Mine. Synergistics confirmed that the calculation presents a true reflection of the costs as calculated in accordance with Regulation 54(1) the Minerals and Petroleum Resources Development Regulations published under the MPRDA for the rehabilitation of surface disturbance as on 20 May 2011.

It should be noted that the Synergistics calculations are based on the following assumptions:-

- Alpine and Agnes Village as well as the hostel and supporting infrastructure will remain for future use after the closure of the mine, although there is no agreement in place with future users.
- There will be no requirement for water treatment from decant points and that the water quality will be acceptable to the Department of Water Affairs ("DWA").
- Preliminary and general costs will amount to 12% of the total costs, based on the Guideline Document for the Evaluation of the Quantum of Closure-Related Financial Provision Provided by a Mine (DME, 2005).

In October 2014, Joan Construction and Projects (Pty) Ltd ("Joan Construction") recalculated the environmental liability cost for the Mine at ZAR13.427 million to include rehabilitation of the environment. The difference between this estimate and that of Synergistics is attributed to the following (as extracted from Mugovhani, 2014):-

- "Master rates used: the current estimation use the master rates provided by the DMR while Synergistics used different master rates;
- Weighing factors: the DMR guideline requires that weighing factor 1 and 2 be applied in the calculation table. Synergistics did not apply any of the weighing factors; and
- VAT: the current calculation included VAT as required while the Synergistics calculation did not include VAT."

In the Digby Wells legal due diligence report issued in August 2015, Solomi *et al.* quoted a revised and updated rehabilitation cost figure of ZAR12.284 million (excluding VAT). This figure has been used in the financial model provided in this Report. It is noted that Galaxy currently do not have any financial guarantees for rehabilitation in place.

## Item 4 (g) – PERMITS TO CONDUCT WORK

### SOCIAL OBLIGATIONS

In terms of the MPRDA, mining companies require the approval and implementation of a social and labour plan ("SLP"), submitted at the time of application for a mining right. A SLP sets out the social and labour programmes to be put in place for the life of every mining right.

The objectives of the SLP (Section 41 of the Regulations) are to:-

1. Promote employment and advance the social and economic welfare of all South Africans;
2. Contribute to the transformation of the mining industry; and

3. Ensure that the holders of mining rights contribute towards the socio-economic development of the areas in which they operate.

An updated social and labour plan ("SLP") was resubmitted by Agnes Gold Mine to the DMR in October 2010 in fulfilment of one of the requirements for the application for the conversion of the old order mining licence (ML 16/2000) in terms of the requirements of the MRPDA, and subsequently approved. An overview of the contents of this SLP are provided in Item 20 (d). This 2010 SLP, however, only details activities for a five year period ending 2015. The document requires updating.

#### Government Requirements – Environmental Management Programme

In order to conduct mining activities, the Mine requires an approved environmental management programme ("EMP") for the Project as per government regulations. The last approved EMP for the Mine was dated 2001. Activities have significantly changed since this last approved EMP of 2001, thus rendering this EMP invalid and the mitigation and management measures irrelevant (Solomi *et al.*, 2015). In order to conduct operations at the Project Areas, Galaxy are legally required to have in place approved environmental authorisations and management measures. Minxcon emphasises the need for Galaxy to obtain an approved EMP and set in order all environmental requirements as per governing laws.

#### Government Requirements – Water Use Licence

An Integrated Water Use Licence Application ("IWULA") was approved as water use licence (No. 24060427) ("WUL") dated 20 December 2002, issued to Cluff Mining SA for the Galaxy Gold Mine by the ex-Department of Water Affairs and Forestry ("DWAF", now DWA) in terms in the National Water Act, 1998 (Act No 36 of 1998). The IWULA pertains to the remaining extent of portion 12 of the farm Oorschot 69 JT, and is valid for a period of 20 years from the date of issuance.

The WUL authorises the licensee to:-

- Establish and operate a Geobiotics reactor process plant in order to heap leach an annual throughput of 100,000 tonnes per annum (an average of 466 tonnes per day) of low-grade ore;
- Construct a solution pond with a capacity of 4,160 $m^3$ to accommodate the elution from the heap leach as well as any run-off from the plant area; and
- Dispose of 144.5 tonnes per day of tailings from the carbon in leach process onto the existing flotation dam.

With the integration of new and planned activities, Galaxy require revised WUL. Documents for an updated IWULA and Waste Management Plan ("IWWMP") are currently under preparation in order to ensure that all water uses undertaken at the Mine are included and addressed. A proposed TSF expansion will be included in this application. Under a letter in support of a directive issued by Inkomati-Usuthu Catchment Management Agency ("IUCMA") on behalf of DWA in June 2019 regarding mine spillage and tailings discharge, a deadline of 30 July 2015 was implemented for the submission of this IWULA. Galaxy will not be able to recommence operations without approved and valid WUL for all their planned activities.

## Item 4 (h) – Other Significant Factors and Risks

Government directives have been issued to Galaxy regarding a number of areas of concern. These include discharge of tailings into the Concession Creek drainage system (June 2013) and failure to take reasonable measures to prevent pollution (October 2014). In each case, implications including monetary repayments or imprisonment, are cited should the Company fail to meet the directives as indicated. Thus far, Galaxy has not been subjected to these implications.

In addition to the above, penalties, and licencing or operational restrictions may be implemented against the Mine should Galaxy fail to comply with government regulations. Minxcon recommends that Galaxy rectify outstanding matters regarding environment and water use, amongst others, soonest to avoid such implications.

Going forward, Minxcon recommends that Galaxy fulfil all government or licensing requirements in a timely manner.

# ITEM 5 - ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## Item 5 (a) – TOPOGRAPHY, ELEVATION AND VEGETATION

The Project Area is located within the Barberton Mountains. As such, elevations rise and fall within the landscape to create steeply hilly mountains and valleys with a number of incised catchments. In the south, the Project Area is mountainous while in the north, topography is relatively flat, creating a general down-slope profile towards the north. The Agnes Adit itself extends into a mountain scarp and a waterfall flows down the mountain to directly over the site of the adit, as seen in Figure 4. In the northeast, the Project Area lies at about 726 m above mean sea level ("amsl") and rises to about 1,800 m amsl in the southwest. The elevation of the servitude area where the possible TSF expansion will take place, increases from 770 m amsl in the northeast to 885 m amsl in the southwest with slopes of 0% to 9.5% over the majority of the TSF servitude area (Koch, 2013).

*Figure 4: View of the Agnes (Ben Lomond) Adit with Agnes Waterfall*

| View of the Agnes (Ben Lomond) Adit with Agnes Waterfall | July 2015 |
|---|---|

The majority of the Mine area falls within the catchment of Concession Creek, which flows eventually into the Crocodile River. The Princeton Section falls within the Mtsoli River catchment as part of the greater

Komati River catchment, also perpetuating into the Crocodile River. The stream flows past the Mine, down-slope surface of infrastructure, below the old grassed slimes dam and into the valley to the east (Walmsley, 2001).

Forestry occupies a large regional surface area with several sawmills operating near Barberton. More locally, vegetation is characterised by lush subtropical flora. An abundance of floral species occur representing a variety of habitats from riverine indigenous bush due to the great variation in elevation across the Project Area. These include lowveld sour bushveld, to grassy mountain sourveld on the hills, escarpment fynbos relics and small pockets of afromontane forest at higher altitudes (Walmsley, 2001). Alien vegetation along Concession Creek has been cleared since 2002 by the "Working for Water" project. Mining activities, exotic tree plantations and agricultural features have altered the landscape such that divisions are obviously noticeable.

As per Walmsley (2001), the majority of the land is classified as Wilderness (i.e. not qualifying as wetland, grazing land or arable land). Vulnerable or rare species were identified on farm Oorschot 692 JT, including *Aloe albida, Aloe thorncroftii, Encephalartos paudidentatus* and *Protea comptonii*. Alien vegetation species were found abundant along roads, rivers and villages. Sappi regularly clears riverine areas of these. The endemic and threatened Yellowstriped Reed Frog, *Hyperolius semidiscus*, may be found in marginal stream vegetation.

## Item 5 (b) – ACCESS TO THE PROPERTY

Road access to the property is via a 7 km dual-lane tar road from Barberton to within 3 km of the site. Thereafter, the road becomes a well-maintained wide gravel road that provides access directly into the Project Area. The road also services the timber and local agricultural industries. Dirt roads at the mine run along the mountain side, linking the access gate to the mine offices, staff complexes and residential and recreational areas.

As per Koch (2013), underground operations are mainly accessed via the Ben Lomond Adit (17 Level) to a sub-vertical shaft and a trackless spiral ramp. Access is also provided via the Tiger Trap and 22 Level adits. An escape way is maintained from the underground workings to the surface via abandoned workings in the Woodbine Section, Tiger Trap Adit and a raised borehole in the Princeton Section.

## Item 5 (c) – PROXIMITY TO POPULATION CENTRES AND NATURE OF TRANSPORT

The town of Barberton lies approximately 45 km south of Nelspruit, the regional capital. Suppliers of all mining commodities are well represented in Barberton and readily deliver stock to site. Major plant items can be railed to within 7 km of the mine site in Barberton.

There are sufficient services in the area such as health and social welfare facilities, schools, hotels and recreation facilities. Skilled labour is available within the region.

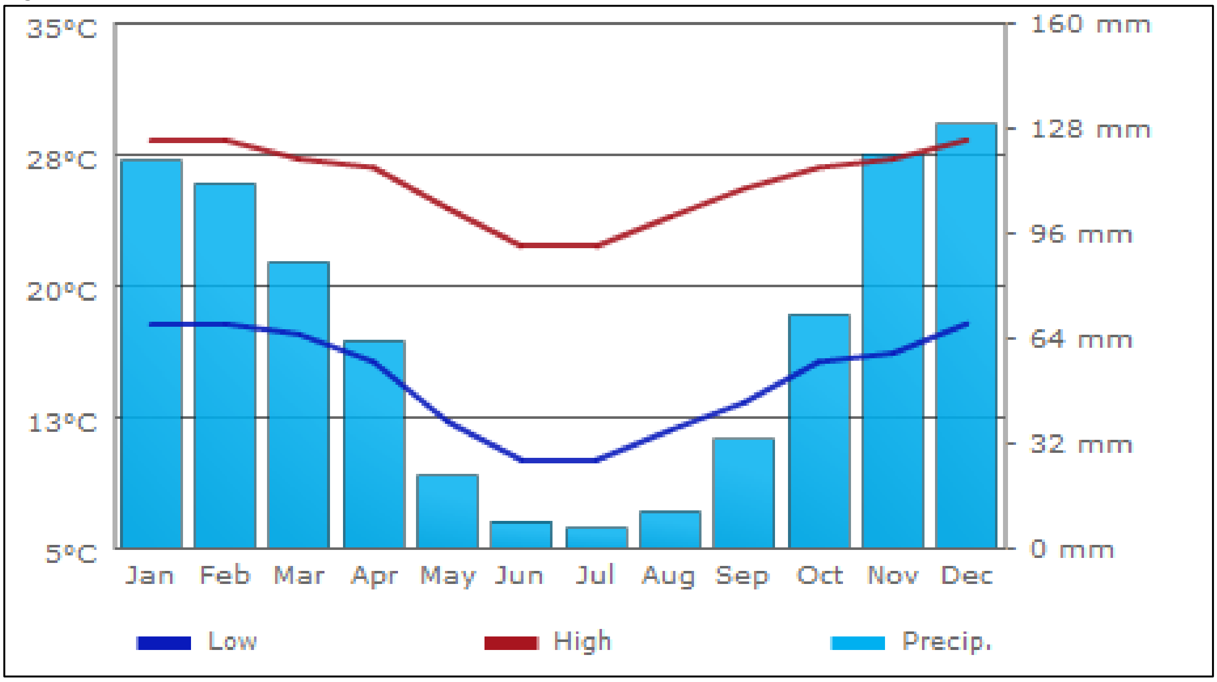
## Item 5 (d) – CLIMATE AND LENGTH OF OPERATING SEASON

The Galaxy Gold Mine is located in the Lowveld area of South Africa, which has a subtropical climate. The average summer temperature is 30°C, but can reach up to 43°C. Winter temperatures are generally mild (average of 8°C), but can be as low as -2°C. Sunshine is plentiful, varying from 7.5 to 9.5 hours daily. Annual rainfall, mainly during the summer months of November to March, ranges from 500 to 700 mm in the low-lying areas to 2,000 mm in the higher altitudes of the mine area.

A chart depicting the average annual temperatures and precipitation for Barberton is given in Figure 5.

No appreciable mine production downtime is expected owing to unfavourable climatic conditions.

*Figure 5: Barberton Climate Chart*




***Source:*** www.climatedata.eu

## Item 5 (e) - INFRASTRUCTURE

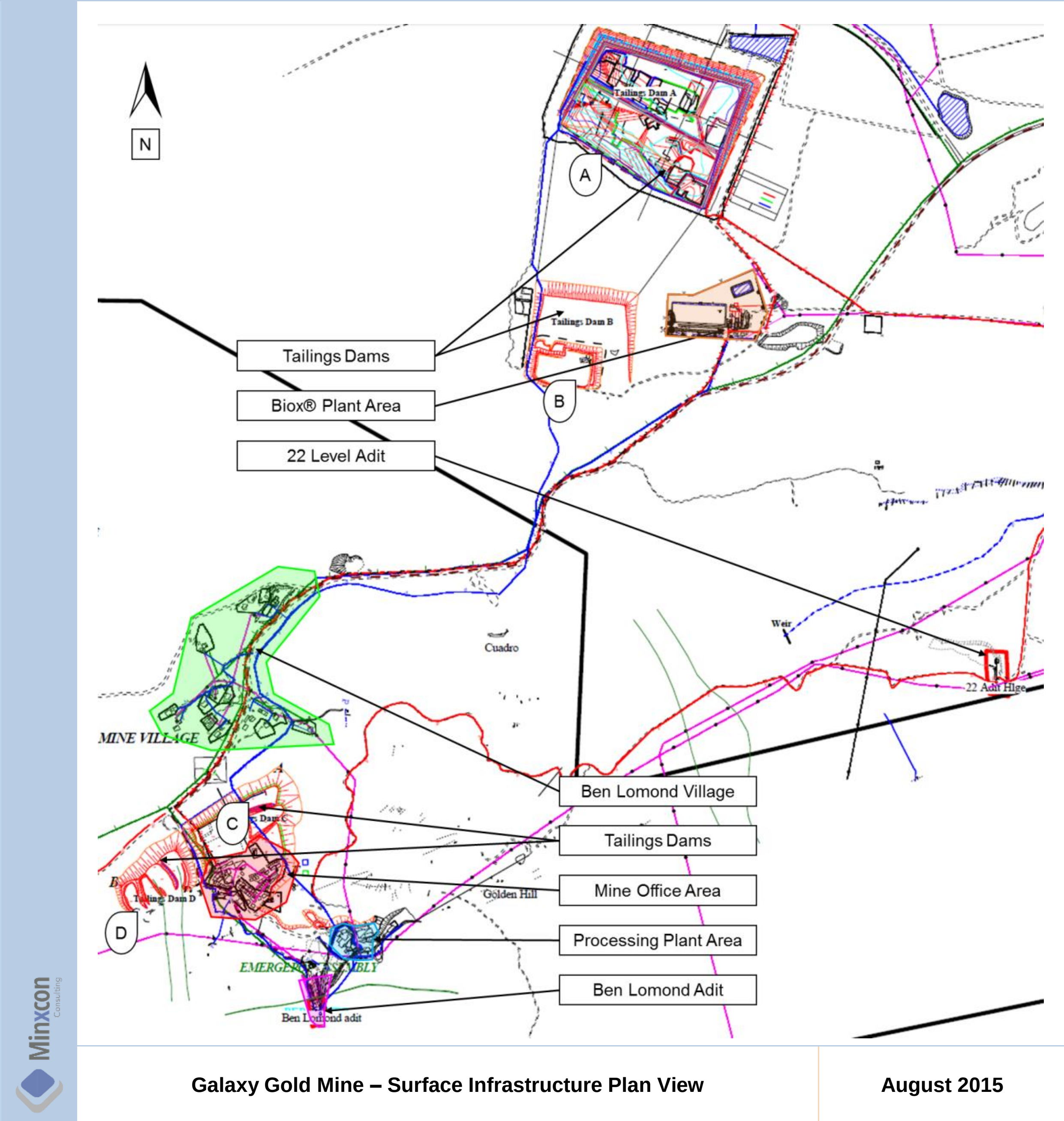
### SURFACE INFRASTRUCTURE

As illustrated in Figure 6, the surface infrastructure includes, but is not limited to, the following:-

- Process facilities consisting of:-
    - A flotation concentrator plant (to the south of the project operations near the Ben Lombard adit);
    - BIOX®, Carbon in Leach ("CIL") plant (to the north of the Ben Lombard Adit); and
    - An assay laboratory.
- Tailings storage facilities;
- Buildings consisting of:-
    - Offices;
    - Workshops;
    - Lamp house; and
    - Change rooms.
- Surface ventilation infrastructure;
- Surface headgears and winding systems;
- A recreation club;
- The Alpine, Agnes and Ben Lomond residential villages;
- A hostel; and
- Mine Houses.

Apart from the possible expansion of tailings dam B, no additional surface infrastructure will be required.

*Figure 6: Galaxy Gold Mine – Surface Infrastructure Plan View*




**SERVICES - ELECTRICITY**

Eskom supplies power to the consumer sub-station of the Mine located near the 22 Level adit from which two 2.5 MVA transformers (one is a standby) from 11 kV lines. The transformers have a low power factor (between 0.77 and 0.78) and will be replaced.

**SERVICES - WATER**

An underground dam situated 1 km into the Ben Lomond adit supplies potable water for the Mine and the surrounding villages. The water from the Princeton Section flows from an aquifer within the Mine. This water is used for processing and stored in two six-metre diameter reservoirs. Excess water is dumped on the slime dams and into the nearby stream. Additional water for mining purposes is obtained from surface floodwater.

Old open surface mines serve as rain water catchment and the existing mining excavations serve as water flow channels to the working areas.

**MINING PERSONNEL**

The Mine is currently on care and maintenance and only comprises skeleton staff. Once operations re-start mining will be completed by contractors who will be responsible for their own employment.

# ITEM 6 – HISTORY

## Item 6 (a) – Prior Ownership and Ownership Changes

The first traces of alluvial gold in the Barberton Mountainland was discovered in the 1880s. Following the discovery of gold at Concession Creek, the town of Barberton was proclaimed in 1885. Since then, the area has been explored by numerous prospectors for the precious metal. A vast number of operations were started between 1890 and 1920. As is normal with a new goldfield, consolidation of operations took place and smaller non-viable operations were closed. Up to 130 different mines have operated at various times in the area.

The majority of mineral rights were consolidated by Eastern Transvaal Consolidated ("ETC"), in the 1950s and 1960s. The majority of mining rights in this area are currently owned by three companies: GGR, Pan African Resources PLC and Vantage Goldfields Limited.

The Agnes Mine was previously owned by Anglovaal Mining and sold to Cluff Mining (SA) (Pty) Ltd in 1999, and again later sold to Metallon Corporation under their subsidiary APM (renamed from Cluff Mining (SA) (Pty) Ltd). The Mine was acquired by Tyax Trading Nelspruit (Pty) Ltd in 2008, which was renamed to Agnes Gold Mining (Pty) Ltd in 2009 and later to GGR in 2010.

The historical ownership of the Galaxy Gold Mine is summarised in the following Item 6 (b), Table 4.

## Item 6 (b) – Historical Exploration and Development

The Agnes deposits were discovered by Auguste Robert in 1882 in the Moodies, Saddleback and Sheba faults (www.miningweekly.com) and the Agnes Mine was established in 1908 initially as surface prospects. The mine since developed as an underground operation down to 28 Level at 852 m depth. Currently, over 75 historical adits exist within the mining area (Koch, 2013). Owing largely to poor metallurgical recovery processes, the mine became unprofitable and was placed on care and maintenance in 2007.

The following table summarises the prior ownership, historical exploration and development of the Galaxy Gold Mine.

*Table 4: Summarised History of the Galaxy Gold Mine*

| Year | Event |
|---|---|
| 1882 | Discovery of the Pioneer Reef in the Barberton Greenstone Belt. |
| 1864 | The Moodies Gold Mining Syndicate formed a number of larger companies to operate various workings. |
| 1908 | The Agnes Mine was started by Mr A.J. Knuckey. From this period onwards, all the smaller properties were absorbed into the Agnes Gold Mining Company. |
| 1951 | The Agnes Mine was taken over by ETCM subsequent to the extension of the Ben Lombard Adit. |
| 1999 | ETCM declared final closure of the Agnes Mine. |
| 1999 | The Agnes Mine and surrounding mineral rights were acquired by Cluff Mining (UK) (Pty) Ltd, where after all assets were transferred over to Cluff Mining (SA) (Pty) Ltd. |
| 2002 | Metallon Gold (Pty) Ltd purchased Cluff Mining (SA) (Pty) Ltd. |
| 2002 | Cluff Mining (SA) (Pty) Ltd renamed to African Pioneer Mining ("APM"). |
| 2007 | The Agnes Mine ceased operations and was placed on care and maintenance. |
| 2008 | The Agnes Mine was acquired by Tyax Trading Nelspruit (Pty) Ltd. |
| 2009 | Tyax Trading Nelspruit (Pty) Ltd was renamed Agnes Gold Mining (Pty) Limited. |
| 2010 | Agnes Gold Mining (Pty) Limited was renamed Galaxy Gold Reefs Mining (Proprietary) Limited. |

## Item 6 (c) – Historical Mineral Resource Estimates

In 2010, P. Camden-Smith (Camden Geoserve cc) compiled a Competent Persons Report ("CPR") on Anges Gold Mining (Pty) Ltd's mineral assets. The previous estimations of the Agnes Mine Mineral Resource as stated in the CPR by Camden-Smith (May 2010) are tabulated below in Table 5. This is the most complete, recent and relevant historical Mineral Resource estimate available. This Mineral Resource estimate falls within the current Galaxy Project Area and does not include any work or Mineral Resources outside the current Project Area.

The historical estimate is believed to be reliable as it is an extract of the CPR compiled by a competent person as defined by the SAMREC Code, Mr P. Camden-Smith, and includes previous work completed by SRK Consulting.

The key assumptions made in this historical estimate, namely cut-off grades and specific gravities ("SGs"), are indicated in Table 5. The Mineral Resource estimate was generated utilising digital kriged models as well as manual block plans and drilling information. The Galaxy and Princeton Mineral Resources represent the two orebodies that were based upon digital kriged models.

The Mineral Resource categories for the historical estimate were based on the SAMREC Code definitions.

Minxcon has not relied on the historical Mineral Resource estimates and have restated the Mineral Resource in this Report from first principles. The historical 2010 estimate is not utilised as current Mineral Resources or Mineral Reserves and is therefore not treated as current Mineral Resources or Mineral Reserves.

*Table 5: Camden-Smith Mineral Resource Estimate (May 2010)*

| Area | Cut-off Au | SG | Measured Mineral Resource | | | | Indicated Mineral Resource | | | | Inferred Mineral Resource | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Volume | Tonnes | Grade Au | Content | Volume | Tonnes | Grade Au | Content | Volume | Tonnes | Grade Au | Content |
| | g/t | t/m³ | m³ | t | g/t | oz | m³ | t | g/t | oz | m³ | t | g/t | oz |
| Galaxy 17-Level-Up | 2.50 | 2.85 | - | - | - | - | - | - | - | - | 28,772 | 82,000 | 2.43 | 6,406.4 |
| Galaxy Gap 17-24 Level | 2.50 | 2.85 | 40,702 | 116,000 | 2.24 | 8,354.1 | 16,842 | 48,000 | 2.43 | 3,750.1 | 40,351 | 115,000 | 2.43 | 8,984.5 |
| Galaxy 24-Level-Down | 2.50 | 2.85 | 268,421 | 765,000 | 2.67 | 65,767.9 | 130,175 | 371,000 | 2.10 | 25,048.7 | 869,474 | 2,478,000 | 2.22 | 176,866.5 |
| Woodbine Surface - 22 Level | 2.50 | 2.85 | - | - | - | - | | | | | 76,491 | 218,000 | 5.09 | 35,675.1 |
| Woodbine 24-Level-Down | 2.50 | 2.85 | - | - | - | - | | | | | 84,211 | 240,000 | 5.40 | 41,667.4 |
| Giles Surface - 23 Level | 2.50 | 2.85 | - | - | - | - | | | | | 94,807 | 270,200 | 7.01 | 60,896.8 |
| Giles 23 Level Down | 2.50 | 2.85 | - | - | - | - | | | | | 20,351 | 58,000 | 7.30 | 13,612.6 |
| Golden Hill | 2.50 | 2.80 | - | - | - | - | | | | | 193,929 | 543,000 | 7.44 | 129,886.5 |
| Agnes Top | 1.00 | 2.80 | - | - | - | - | | | | | 728,929 | 2,041,000 | 2.01 | 131,895.6 |
| Princeton 6/PS7 | 2.50 | 3.22 | - | - | - | - | 134,472 | 433,000 | 5.41 | 75,314.1 | 64,596 | 208,000 | 5.59 | 37,382.3 |
| Princeton 5 | 2.50 | 3.22 | - | - | - | - | 131,677 | 424,000 | 7.49 | 102,157.6 | 101,553 | 327,000 | 5.09 | 53,512.7 |
| Princeton 19 | 2.50 | 3.22 | - | - | - | - | 84,783 | 273,000 | 5.51 | 48,362.1 | 89,130 | 287,000 | 5.59 | 51,580.4 |
| Pioneer & Tiger Trap | 2.50 | 2.80 | - | - | - | - | 21,654 | 60,630 | 6.83 | 13,313.7 | - | - | - | - |
| Agnes Dump | 0.00 | 1.41 | | | | | - | - | - | - | 1,100,709 | 1,552,000 | 0.79 | 39,419.4 |
| **Total** | | | **309,123** | **881,000** | **2.62** | **74,122.0** | **519,603** | **1,609,630** | **5.18** | **267,946.3** | **2,392,593** | **6,867,200** | **3.39** | **748,366.9** |

## Item 6 (d) - Historical Mineral Reserve Estimates

In 2010, the CPR of Mr Camden-Smith included a life of mine ("LoM") plan. This LoM plan was not reported as a compliant Mineral Reserve. Minxcon has not utilised the historical LoM plan and have restated the Mineral Reserve in this Report from first principles.

## Item 6 (e) - Historical Production

Historical gold production for the mine is reported at 1.2 Moz (24hgold.com). For the period 1983 to 2001, production totalled about 351,590 oz gold for the sections Woodbine/Giles, Princeton, Pioneer and Golden Hill (Table 6).

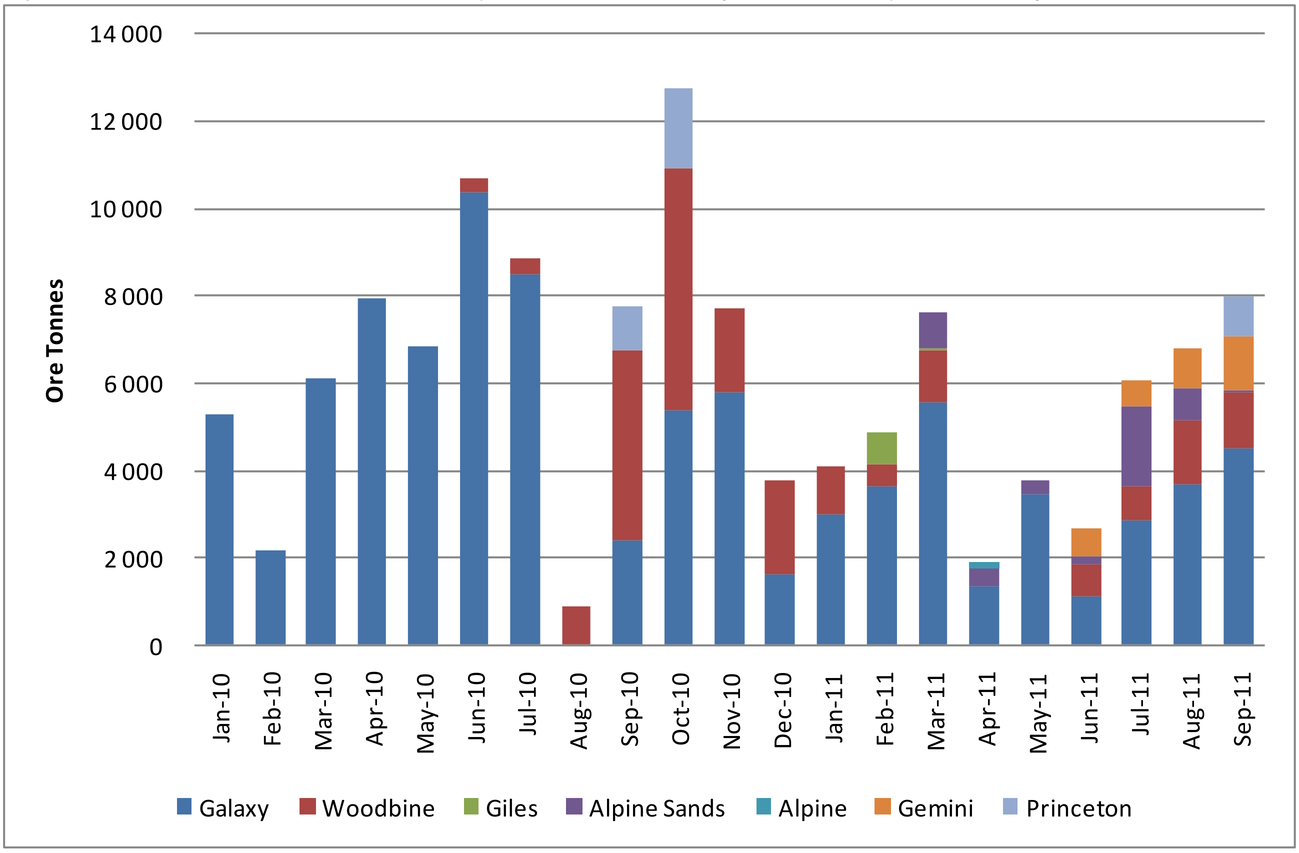
*Table 6: Historical Production for the Period 1983 to 2001*

| Section | Tonnes | Grade | Contained Gold | |
|---|---|---|---|---|
| | t | g/t | Au g | Au oz |
| Woodbine/Giles | 1,379,156 | 4.13 | 5,698,287 | 201,001 |
| Princeton | 925,644 | 4.35 | 4,022,451 | 141,888 |
| Pioneer | 27,801 | 7.32 | 203,434 | 7176 |
| Golden Hill | 15,282 | 2.83 | 43,216 | 1524 |
| **TOTAL** | **2,347,883** | | **9,967,388** | **351,590** |

***Source:*** Cluff Mining (2001)

The historical production figures for the Galaxy Gold Mine over the period January 2010 to September 2011 are detailed in Figure 7. This production history only dates back to January 2010 when Galaxy Gold Mine started production.

*Figure 7: Historical Production of Galaxy Gold Mine for the period January 2010 to September 2011*



# ITEM 7 - GEOLOGICAL SETTING AND MINERALISATION

## Item 7 (a) - REGIONAL GEOLOGY

The Project Area is located within the 3.5-3.2 Ga Barberton Greenstone Belt ("BGB"). Situated on the eastern edge of the Kaapvaal Craton, the BGB comprises metasedimentary and mafic to ultramafic units with later granitoid intrusions throughout. It is host to a number of economic gold deposits typical of global Archaean lode gold mineralisation such as found in Western Australia and Canadian Archaean terrains.

Although originally horizontal, the volcanic and sedimentary units in the BGB have been complexly folded, forming a broad synclinal structure with three litho-stratigraphic units collectively comprising the Barberton (previously Swaziland) Supergroup. The oldest unit is the largely volcanic Onverwacht Group, which is 7 km thick and forms the outer part of the BGB. The Onverwacht Group is overlain by banded ironstones, which are metamorphosed sandstone, siltstone and mudstone sediments of the Fig Tree Group, a 2.5 km thick unit, which is, in turn, overlain by the youngest Moodies Group, a unit consisting of 2.5 km thick arenaceous sediments which lie in the centre of the synclinal fold structure.

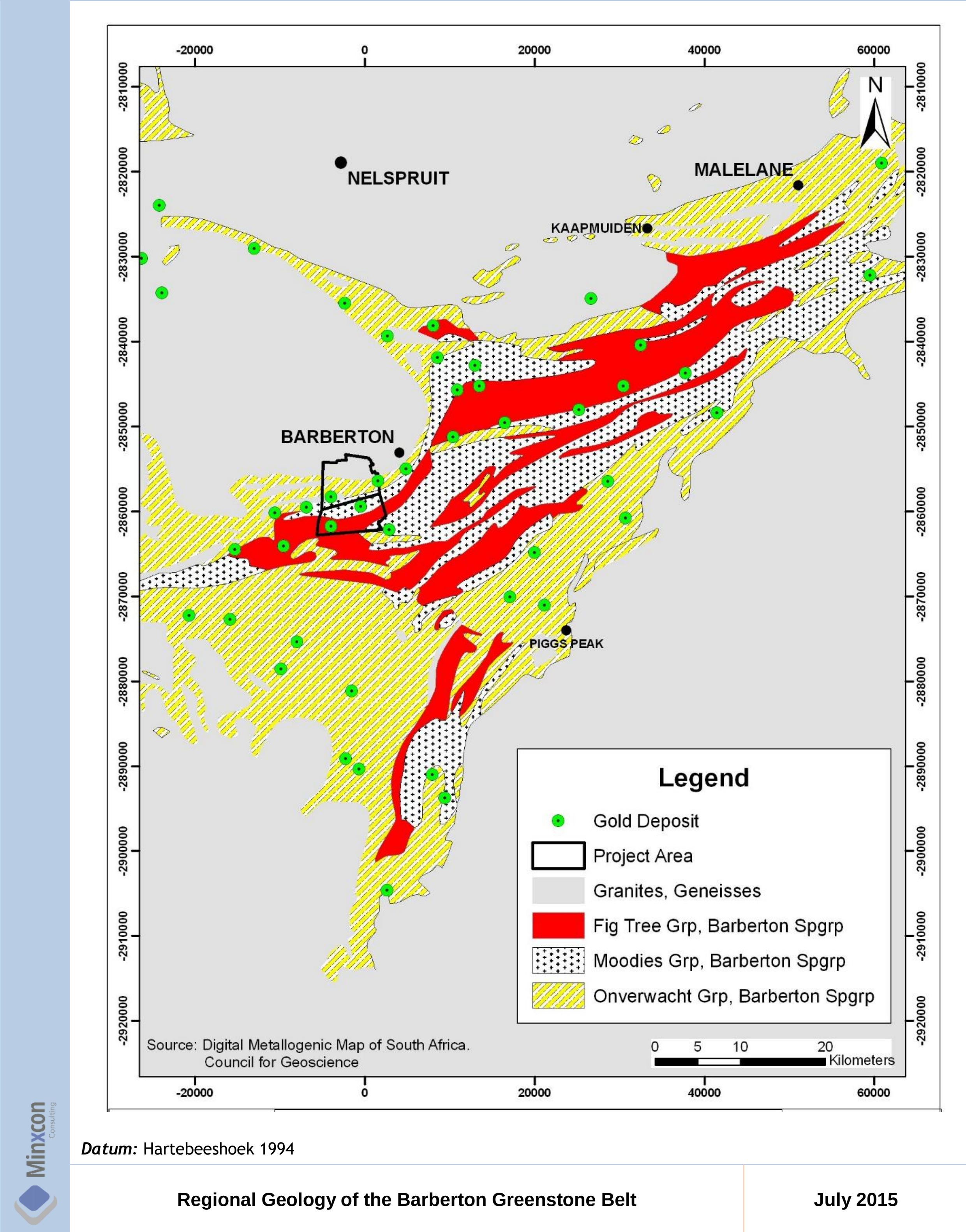
The lithologies of these groups are described as follows:-

- Onverwacht Group – comprises two main units separated by a layer of chemical sediments consisting of iron oxide and silica:-
    - Upper unit of mafic and felsic rocks which comprise talc carbonate schists, chlorite schists, dolomites, dolomitic serpentinites, banded cherts and talc-chlorite phyllites; and
    - Lower unit of ultramafic and mafic volcanic rocks which consist largely of basalts of tholeiitic composition and komatiites.
- Fig Tree Group - banded cherts, shales, greywackes, green schists, grey schists and banded ironstone formation ("BIF").
- Moodies Group - conglomerates, quartzites, shales, magnetic shales and jaspilites.

Mineralisation is associated with all three these lithological groups along shear zones, thrusts and fractures, but is predominantly associated with the base of the Fig Tree sediments and specifically with the BIF, cherts, greywackes, shales and quartzites. It may also often be found in contact with the altered ultramafic schists.

The regional geological map with major gold deposits is illustrated in Figure 8.

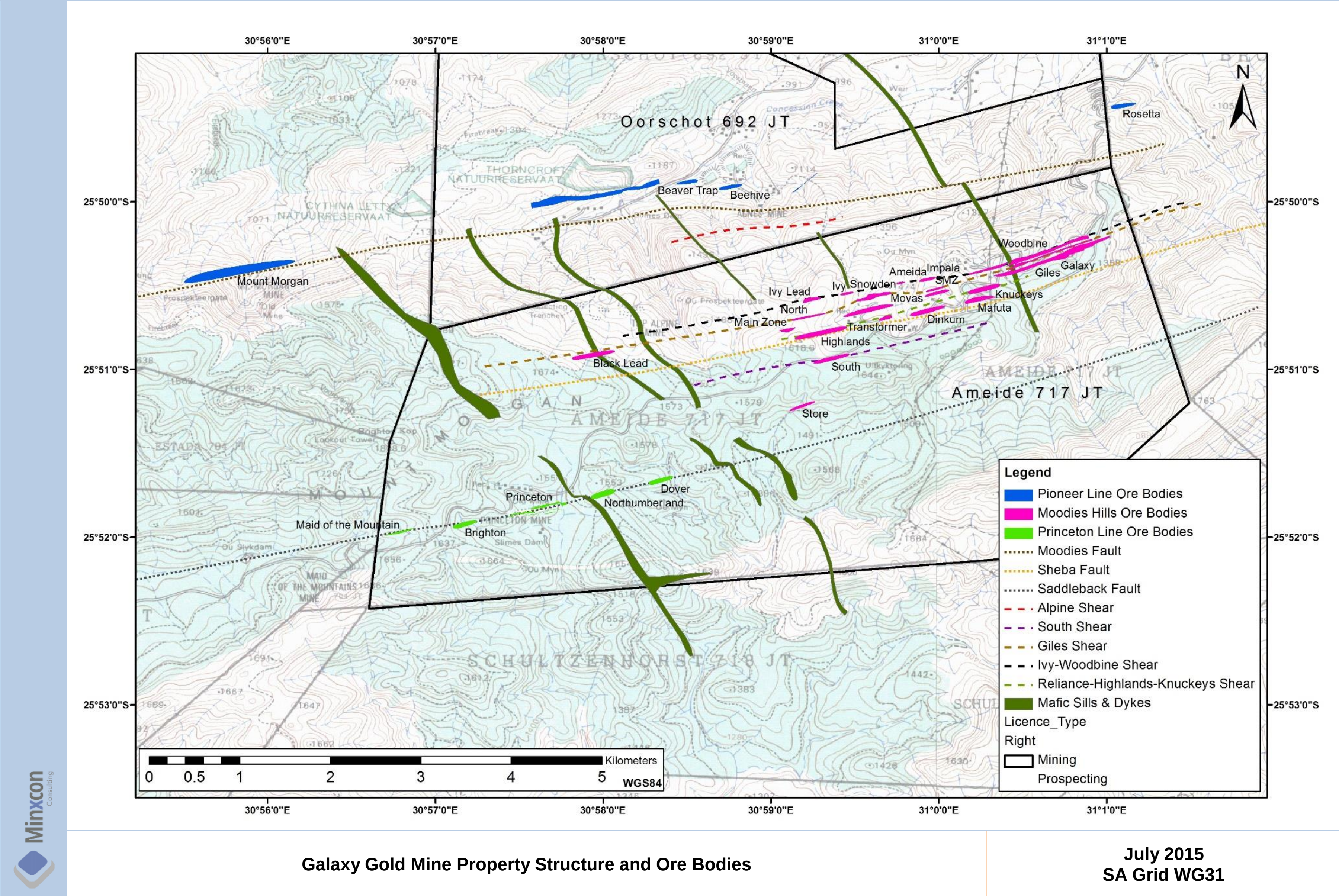
*Figure 8: Regional Geology of the Barberton Greenstone Belt*




## Item 7 (b) - LOCAL AND PROPERTY GEOLOGY

The Galaxy Gold Mine overlaps a number of structurally separate stratigraphic units of the Barberton Greenstone Belt. The regional strike of the lithologies in the Project Area is generally in an east to northeast direction, with dips varying between about 60 and 85° south. The area is traversed by a number of pre-2000 Ma (i.e. pre Transvaal age) diabase dykes trending in a north-westerly direction (Figure 9), which have not as yet been shown to have any major effect on the auriferous structures in the area.

*Figure 9: Galaxy Gold Mine Property Structure and Ore Bodies*



The ore bodies at Galaxy are orientated along structural lines that are namely, from north to south, the Pioneer Line (Pioneer, Tiger Trap, Beaver Trap, Beehive, the BIF type Golden Hill, Mount Morgan, Rosetta ore bodies), Moodies Hills (or Agnes) Line (Galaxy, Woodbine, Giles, SMZ type and Alpine), Princeton Line (New Brighton, Princeton, Cumberland, Northumberland, Dover) and Alpine Line. These are described in more detail to follow and are illustrated in Figure 9.

**Pioneer Line**

The ultramafic-hosted reefs Pioneer, Tiger Trap, Beaver Trap Hill and Rosetta Ore Bodies lie on the farm Oorschot 692JT in close proximity to the Moodies Fault, as does the Mount Morgan Mine, but which occurs in Fig Tree sediments on the farm Sassenheim 695JT. Narrow shears of up to 300 m in length are either parallel to the regional strike or are slightly transgressive to bedding. Also occurring on the Pioneer Line are the Cuadro, Beehive and Home-stake workings.

The Pioneer lode was the first discovery of gold in the Barberton district and the prospect was extensively worked. In the Pioneer Group, free-milling gold has been recovered from quartz veinlets hosted within sheared fuchsitic carbonated schists. The main Pioneer Reef has been worked along a strike length of 500 m down to 6 Level.

Golden Hill represents an eastern extension of the Pioneer shear zone, although a banded iron formation provides a lithological control for the mineralising shear over a 225 m strike. The ore is mainly refractory, but thin quartz veins are also developed throughout the ore body and host a minor free gold component.

Mount Morgan is situated approximately 14 km southwest of the town of Barberton and has exploited auriferous shear zones located on the contacts of chert and banded chert-shale units in the Fig Tree Group, immediately adjacent to the faulted contact with Moodies Group quartzites.

The Rosetta Ore Body is located about 3 km east of Golden Hill and hosts impregnations of gold and sulphides within brecciated chert units hosted within ultramafic schists.

**Alpine Line**

The Alpine Line is not as distinct as the other three, and comprises the following reefs and mines listed from east to west: the Shebang, Reliance, Durham Allans, Alpine Mine including Black Lead, Lydlinch, Poverty and Union Reefs.

The reefs on the Alpine Line tend to be narrow, nuggety and of dark quartz.

**Moodies Hills (Agnes Line)**

The locality of the Agnes Line is often referred to as the Moodies Hills. The area is dominated by sub-vertically dipping east-west to northeast-southwest striking siltstones and shales of the Moodies Group comprising (from oldest to youngest) the Clutha, Joe's Luck and Baviaanskop formations on the southern limb of the Moodies Syncline. The main concentration of the mineralisation in the Agnes Line is confined to a zone roughly 400 m wide, located in the Clutha Formation of the Moodies Group. Gold mineralisation is localised predominantly within sub-parallel shear-fault zones that cross-cut the steeply dipping lithologies at angles that vary between 2 and 10°. In this broad zone, there are a large number of individual horizons, or reefs, which are occasionally interconnected, but more commonly separated by barren country rocks.

The majority of these reefs have been worked only sporadically, and have never been followed to any great depth. At present, the major part of the mining activity in the Agnes Line is confined to three main horizons. These are - from north to south - the Woodbine Reef, the Giles Reef and the Galaxy Reefs.

The Woodbine and Giles Reefs consist of zones in which narrow quartz-carbonate-pyrite veins are developed within chloritised and silicified zones of shearing within the siltstones.

Like the extensively mined Ivy and Agnes Reefs, the payable mineralisation on the Woodbine and Giles Reefs is not continuously present along strike, but is confined to definite shoots, all of which pitch to the east at angles varying between 45 and 60°. The Galaxy Reef dips sub-vertically with a plunge of 35° to the east and is adjacent to the Giles Reef.

The Moodies Hills include the following reefs and deposits (east to west): Nottingham Claims, Great De Kaap Tunnel, Galaxy Ore Body, Woodbine Reef, Giles Reef, Knuckey's Pit, South Mineralised Zone, Mafuta Zone, Impala Reef, Dinkum Zone, Ameida Reef, Agnes Reef, Highlands Reef, Movas Reef, Transformer Reef, Snowden Reef, South Reef, Store Reef, Main Zone, Ivy Reef and Ivy Pioneer Reef.

**Princeton Line**

The Princeton Ore Body is located approximately 4 km southwest of the Agnes Line on the farm Ameide 717JT. The Princeton Line refers to a series of cherty banded iron formations bounded to the north by shales and greywackes of the Fig Tree group, and to the south by fuchsitic-quartz carbonate schists of the Onverwacht Group.

The most important host for the gold mineralisation at Princeton is the banded iron formation at the base of the Fig Tree sediments, while there is sporadic gold mineralisation developed in the surrounding rocks. The Princeton Banded Iron Formation is a banded, sideritic carbonate facies situated between fuchsitic schist hanging wall and shale-greywacke footwall lithologies which all dip steeply at about 80° to the south.

The Princeton Line is an east to west striking anastomosing zone of shearing that links discontinuous fragments or boudins of banded iron formations ("BIFs") and includes all the mines associated with the Princeton mineralisation, namely, from west to east: Dover, Cumberland, Northumberland, Princess and New Brighton. The Princess Mine is the surface expression of the Princeton Ore Body.

The BIF units vary in thickness from zero to 60 m. Typical Fig Tree greywackes and shales lie in contact with the BIF to the north. The sheared southern contact of the BIF juxtaposes a 20 m thick package of Onverwacht fuchsitic schist. All strata in the mine area dip steeply to the south (80°).

Historical mining on Princeton was mainly to provide sulphur to the roaster.

## Item 7 (c) - MINERALISATION

Mineralisation in the area is structurally controlled, with gold mineralisation at Galaxy appearing to be controlled by subtle secondary structures associated with the Giles Shear. Gold and pyrite are generally dispersed throughout the laminated siltstones, with higher grades being found in quartz carbonate veins cutting the laminated siltstones at a high angle. Mineralisation is also found within an Archaean Banded Iron Formation (BIF) of the BGB, which forms the non-continuous base of the Fig Tree Group. BIF boundinages are separated by fuchsitically altered ultramafic rocks in the south and in the north by younging interbedded greywackes and shales of the Fig Tree group (Meadon, 2010).

The Mine comprises several gold ore bodies of the BGB located on four main structural lines, as described in Item 7 (b), in which section a discussion of the local mineralisation is given. The Woodbine, Giles, Galaxy, Golden Hill, Agnes Top, Pioneer & Tiger Trap, Ivy and Princeton ore bodies form the high-priority focus of this report. Galaxy is also targeting the Ivy and Ceska Shaft Pillars, as well as gold mineralisation in the historical TSFs of the area, including Biox North TSF, Alpine Pioneer TSF, Woodbine East TSF, Woodbine North TSF, Woodbine South TSF, Hostel East TSF and Hostel West TSF.

**Depth below Surface**

The ore bodies occur from surface; however, some have been mined and are accessible lower down. The depths to which the estimated Mineral Resources extend vary, as shown in Table 7.

*Table 7: Ore Body Depth below Surface*

| Ore Body | Depth (m) |
|---|---|
| Agnes Top | 90 |
| Golden Hill | 530 |
| Princeton Lev6/PS7 | 330 |
| Princeton 5 | 360 |
| Princeton 19 | 300 |
| Galaxy Surface to Dyke | 165 |
| Galaxy 17-Level-Up | 140 |
| Galaxy Gap 17-24 Level | 400 |
| Galaxy 24-Level-Down | 290 |
| Woodbine W & E Surface - 22 Level | 620 |
| Woodbine 24-Level-Down | 520 |
| Giles Surface - 23 Level | 620 |
| Giles 25 Level Down | 490 |
| Pioneer & Tiger Trap | 500 |
| Ivy Shaft Pillar | 450 |
| Ivy to Agnes 3-11 Level | 450 |
| Ceska Shaft Pillar | 480 |

# ITEM 8 - DEPOSIT TYPES

## Item 8 (a) - Mineral Deposits being Investigated

The Galaxy Gold Mine targets gold mineralisation of the Archaean BGB, which is world-renowned for its gold content. Gold mineralisation generally occurs as shear-hosted, mesothermal deposits hosted within various lithologies of the Barberton Supergroup, with mines largely located in close proximity to major regional faults, such as the Sheba, Lily and Barbrook faults (Anhaeusser, 2012).

As per Anhaeusser (2012), the gold deposits of the BGB can be subdivided into three main types:-

1. Sulphide ore that is unoxidized and complex. This ore accounts for the majority of production in the area to date;
2. Gold-bearing quartz veins and shears. These ores contain negligible amounts of sulphides minerals, but are common throughout the area; and
3. Weathered ore that occurs in oxidized zones. This ore historically represented the main gold source.

The deposits are associated with multi-episodic structural influences amplified by granite emplacement, causing greenschist to amphibolite grade metamorphism. Auriferous fluids migrated into brittle-ductile fractures and shear zones, pronounced in deformed Fig Tree and Moodies sediments along the north-western flank of the BGB associated with the Ulundi and Eureka synclines (Anhaeusser, 2012).

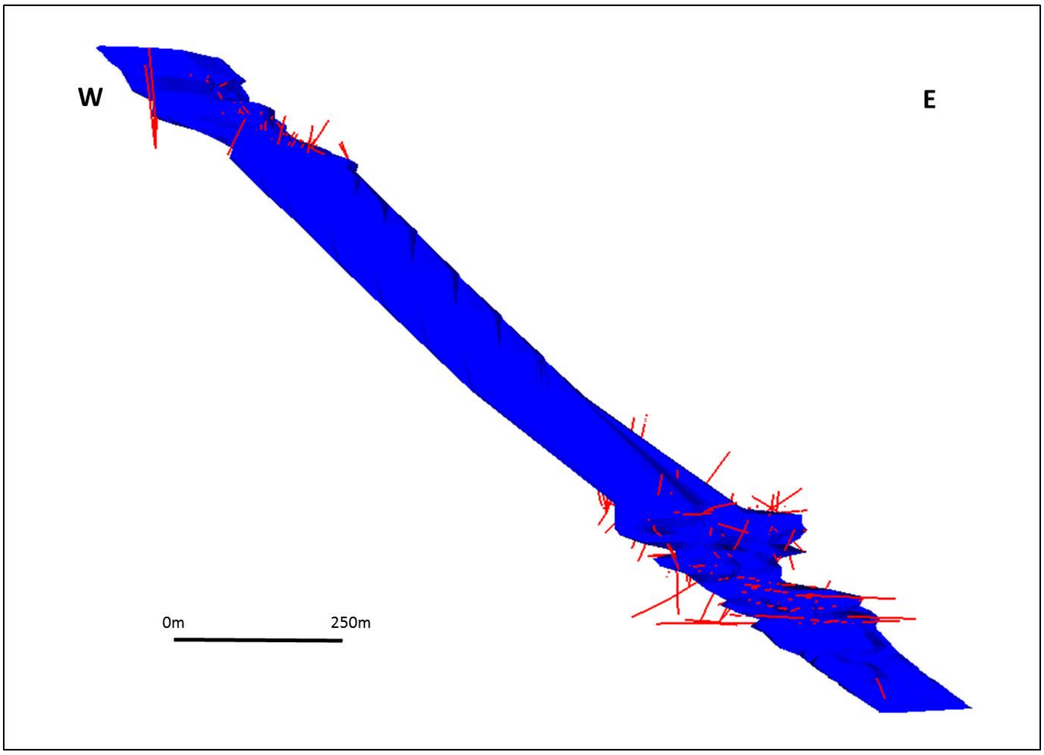
## Item 8 (b) - Geological Models

All geological modelling for the underground operations, as well as the surface TSFs, was conducted by Deswik. Deswik utilised drill holes as well as physical survey data to construct the geological wireframes which were used to constrain the Mineral Resource block models utilised in the Mineral Resource declaration of 27 June 2011. Where mining strings were available, Deswik utilised these in the modelling of the individual ore bodies.

**Galaxy**

Deswik created two sets of wireframes for the delineation of the Galaxy ore body. The first set of wireframes was restricted to historical production areas and was interpreted as a combination of a lithological and grade wireframe based on borehole and sampling information for the data 23 Level and lower and for similar data for 17 level upwards. These two wireframes were then joined to form the final wireframe delineating the total Galaxy Ore Body (Figure 10) that was later used for the estimation process. The geometry of the "gap area" was extrapolated from the basal mining expression as exhibited on 17 Level, by being projected at regular intervals on trend and down on plunge.

*Figure 10: The Modelled Galaxy Ore Body Looking North with Defining Drill Holes*

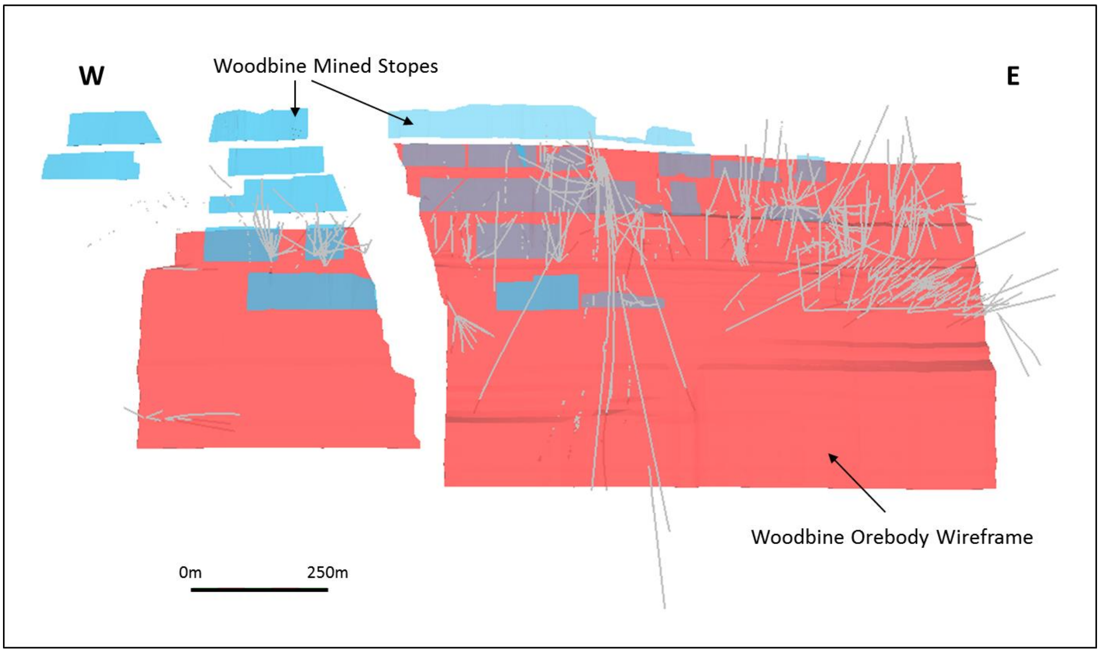



| The Modelled Galaxy Ore Body Looking North with Defining Drill Holes | 2015 |
|---|---|

**Woodbine**

The Woodbine Ore Body wireframes were created using a combination of lithology from the drill holes and the strings for the mined out areas. The average thickness of the sampling data was used to generate the width of the wireframe. Where the drilling info was available it was used, however in the mined out areas, the mining strings were used in preference to the drilling for the purposes of ore body delineation. The resultant ore body wireframe model may be viewed in Figure 11 below.

*Figure 11: The Modelled Woodbine Ore Body Looking North with Modelled Mined Stopes and Defining Drill Holes*

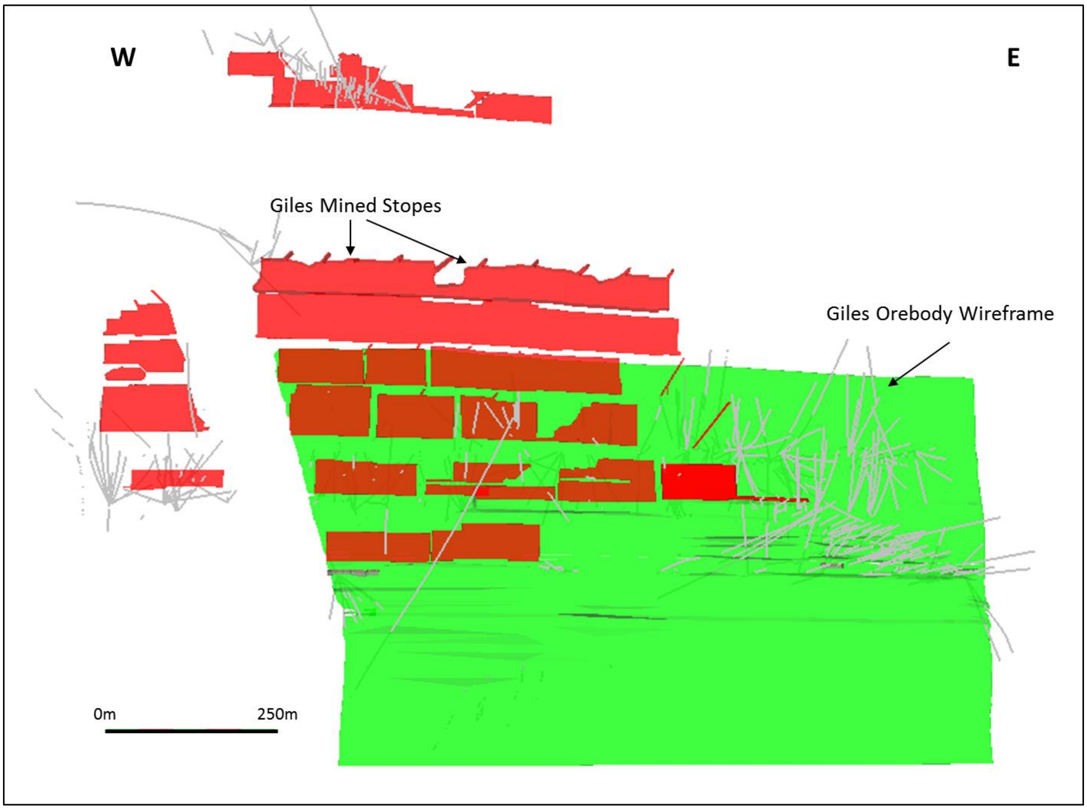



| | |
|---|---|
| **The Modelled Woodbine Ore Body Looking North with Modelled Mined Stopes and Defining Drill Holes** | **2015** |

### Giles

The Giles Ore Body wireframes were generated utilising the same methodology that Deswik utilised in the generation of the Woodbine ore body wireframes. The resultant ore body wireframe model may be viewed below in Figure 12.

*Figure 12: The Modelled Giles Ore Body Looking North with Modelled Mined Stopes and Defining Drill Holes*

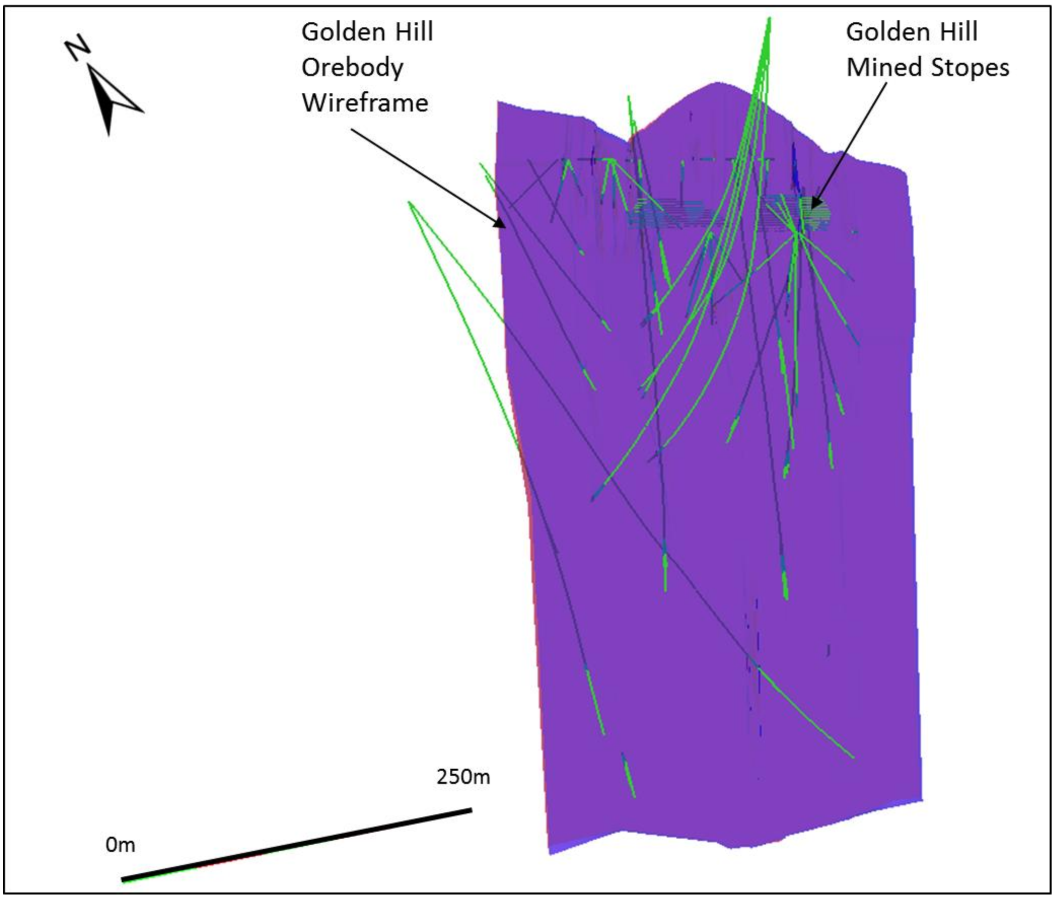



| The Modelled Giles Ore Body Looking North with Modelled Mined Stopes and Defining Drill Holes | 2015 |
|---|---|

**Golden Hill**

The Golden Ore Body wireframes were generated utilising the same methodology that Deswik utilised in the generation of the Woodbine Ore Body wireframes by utilising sections, stoping outlines and drill hole intercepts. The resultant ore body wireframe model may be viewed below in Figure 13.

*Figure 13: The Modelled Golden Hill Ore Body Looking Northwest with Modelled Mined Stopes and Defining Drill Holes*



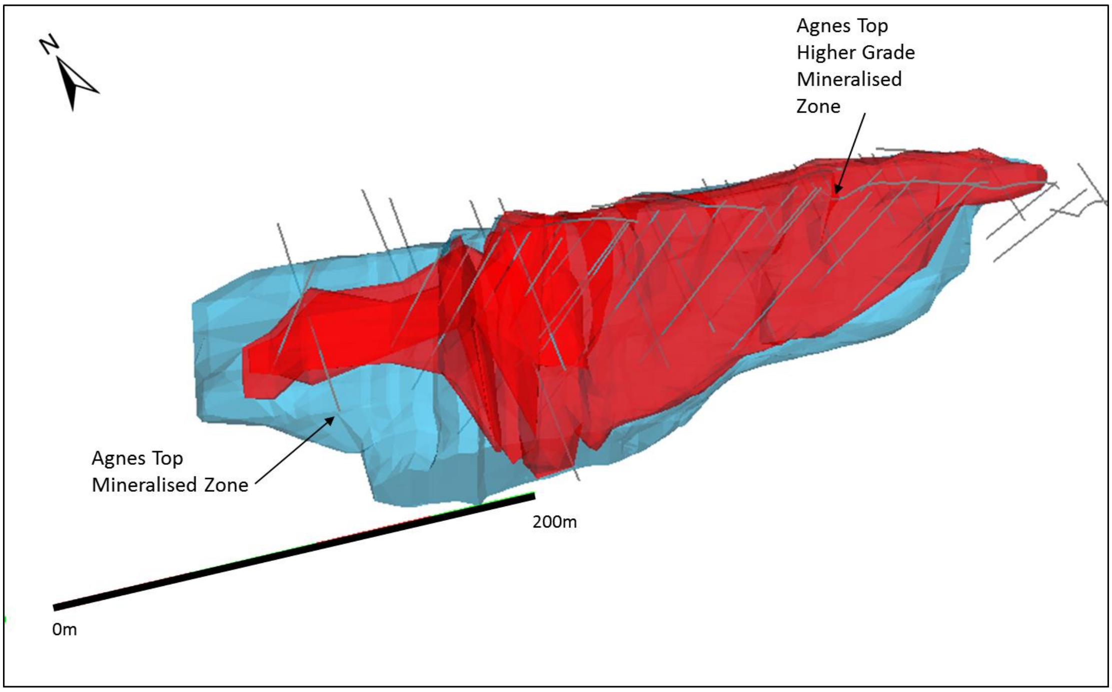

| The Modelled Golden Hill Ore Body Looking Northwest with Modelled Mined Stopes and Defining Drill Holes | 2015 |
|---|---|

### Agnes Top

Of the 25 reverse circulation ("RC") and two diamond drilling ("DD") holes drilled,  and 11 trenches dug on the Agnes Top Ore Body, 38 RC holes, two DD holes and seven trenches intersected the ore body as shown below in Figure 14.

The drilling on the Agnes Top does not conclusively close the ore body along strike, giving room for along strike reef extensions. Extrapolation was limited to 25 m beyond the last drill line along strike, and to the depth of the deepest intersection.

*Figure 14: The Modelled Agnes Top Ore Body Looking North with Defining Drill Holes*



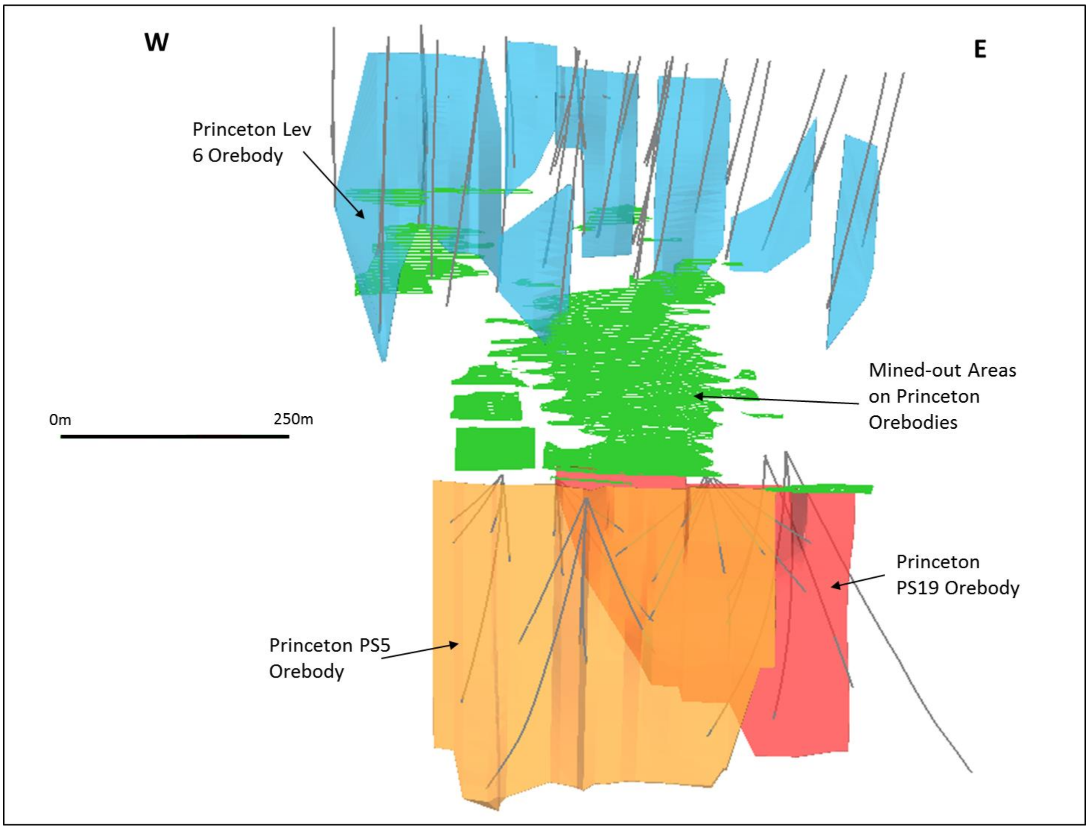

| The Modelled Agnes Top Ore Body Looking North with Defining Drill Holes | 2015 |
|---|---|

### Princeton

The Princeton Ore Body wireframes were created using a combination of lithology from the drill holes and the strings for the mined out areas. The average thickness of the sampling data was used to generate the width of the wireframe.

The resultant ore body wireframe models for the Lev 6, PS5 and PS19 orebodies may be viewed in Figure 15 below.

*Figure 15: The Modelled Princeton Ore Bodies Looking North with Defining Drill Holes*

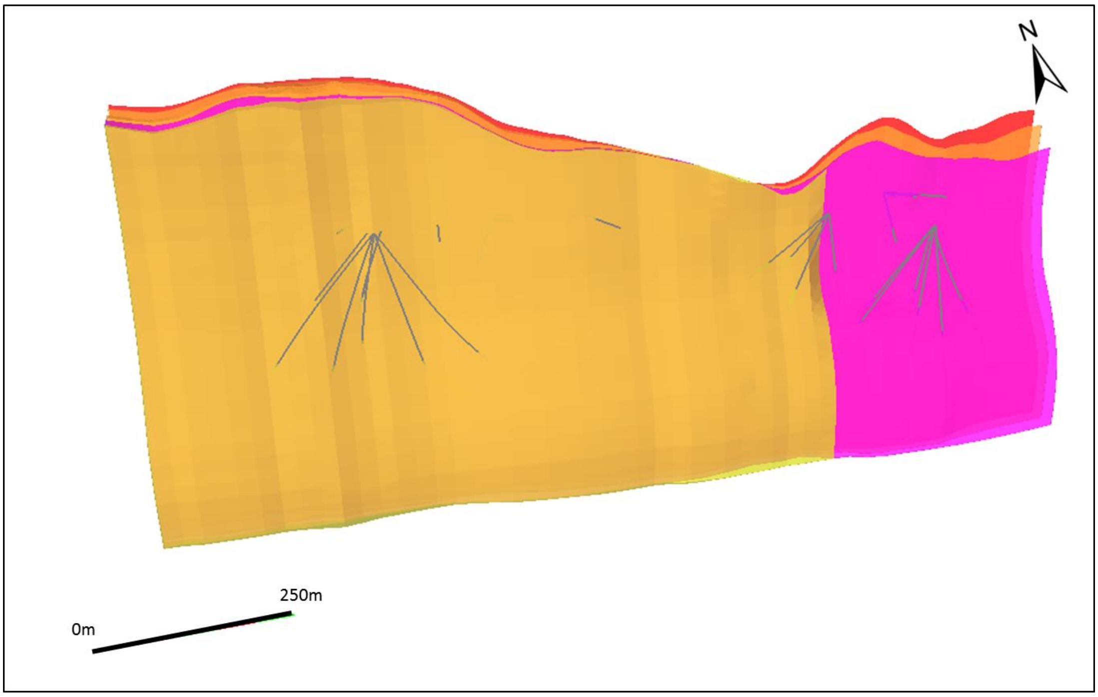



| The Modelled Princeton Ore Bodies Looking North with Defining Drill Holes | 2015 |
|---|---|

**Pioneer-Tiger Trap**

The Pioneer-Tiger Trap Ore Body wireframes were created using a combination of lithology from the drill holes, surface mapping and topography. The resultant geological model for Pioneer-Tiger Trap may be viewed in Figure 16.

*Figure 16: An Oblique View of the Modelled Pioneer-Tiger Trap Ore Bodies Looking Northwards with Defining Drill Holes*

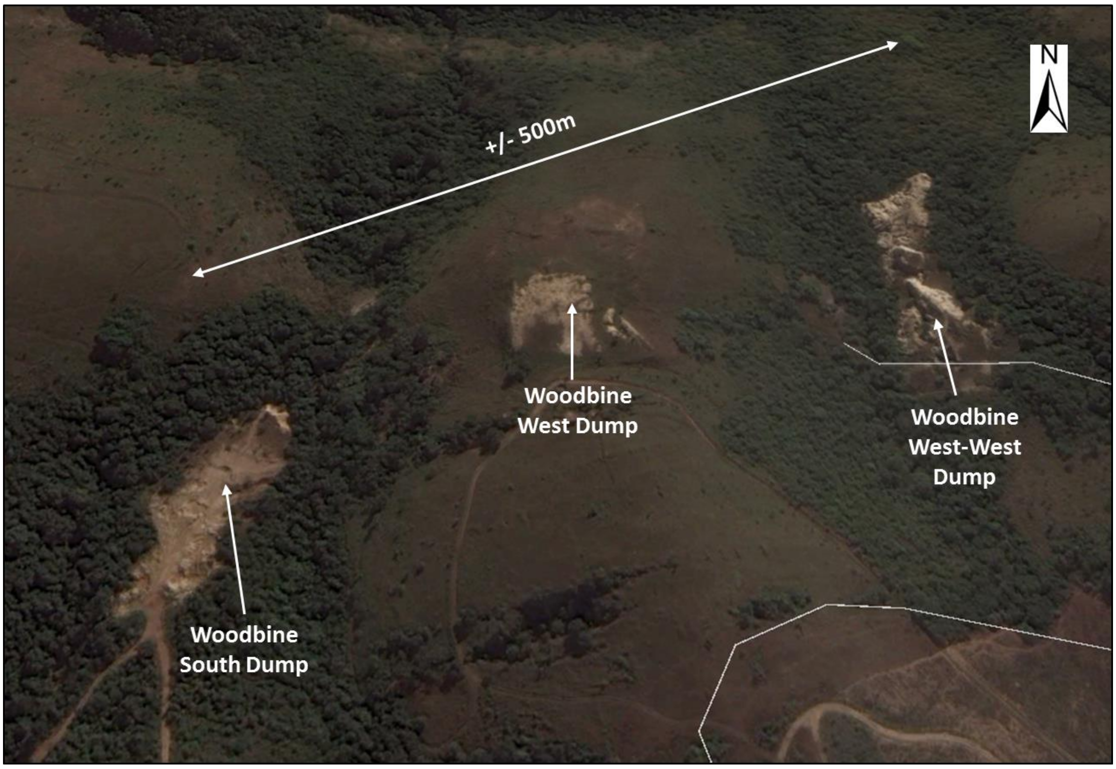



An Oblique View of the Modelled Pioneer-Tiger Trap Ore Bodies Looking Northwards with Defining Drill Holes | 2015

### Woodbine Dumps

As part of the 2015 geological model review, Minxcon reviewed the global positioning of all the surface dumps that were estimated in 2011. Minxcon found that the Woodbine Dumps were incorrectly positioned relative to each other in the 2011 estimation. The Google Earth image that indicated the correct relative positioning of the individual dumps may be reviewed in Figure 17.

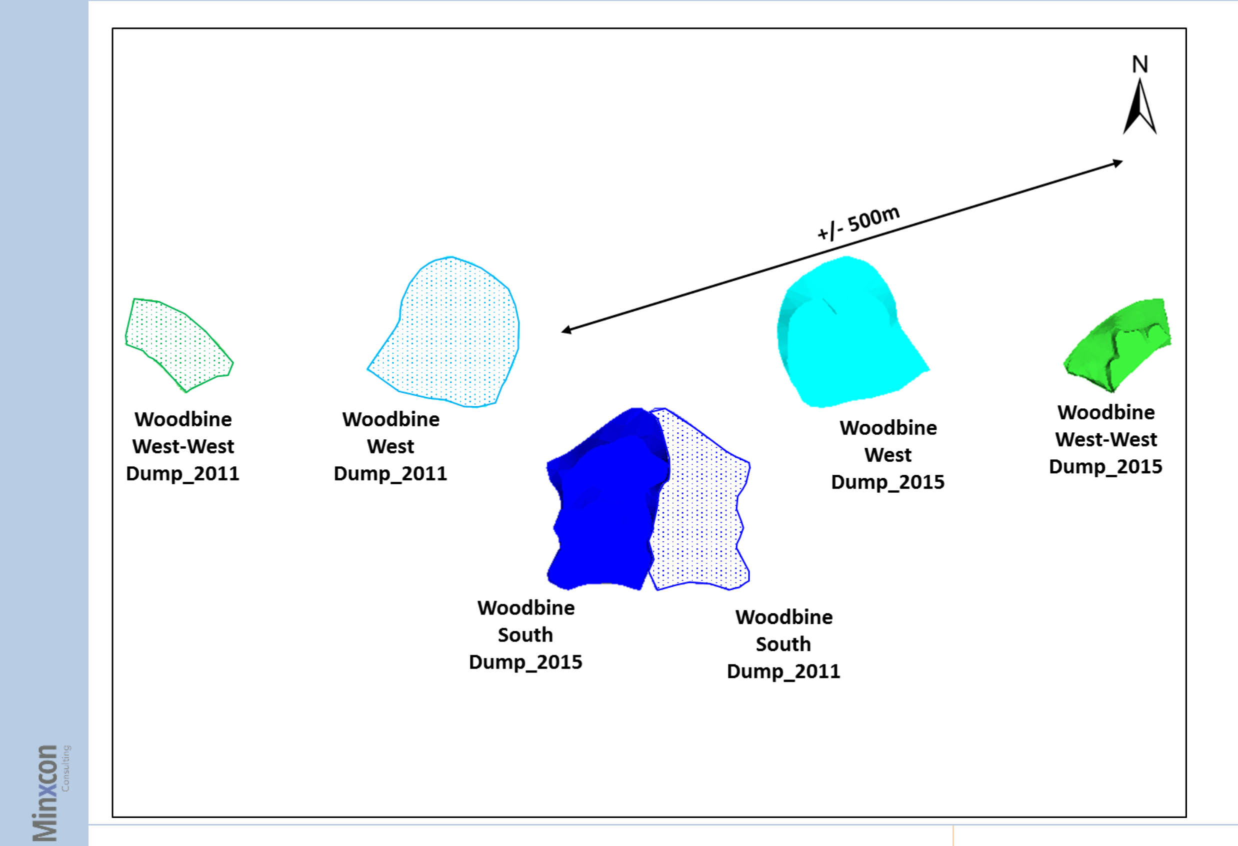
*Figure 17: Google Earth Image Indicating the Correct Locations of the Individual Woodbine Dumps*




| Google Earth Image Indicating the Correct Locations of the Individual Woodbine Dumps | August 2015 |
|---|---|

Minxcon found that a mirror image positioning of the 2011 wireframes relative to the corresponding satellite photography as may be viewed in Google Earth was generated. As a result, in 2015 Minxcon conducted a mirror inversion of all the relevant 2011 data and block models for all three of the Woodbine Dumps in order for all data to be relocated correctly relative to each other.

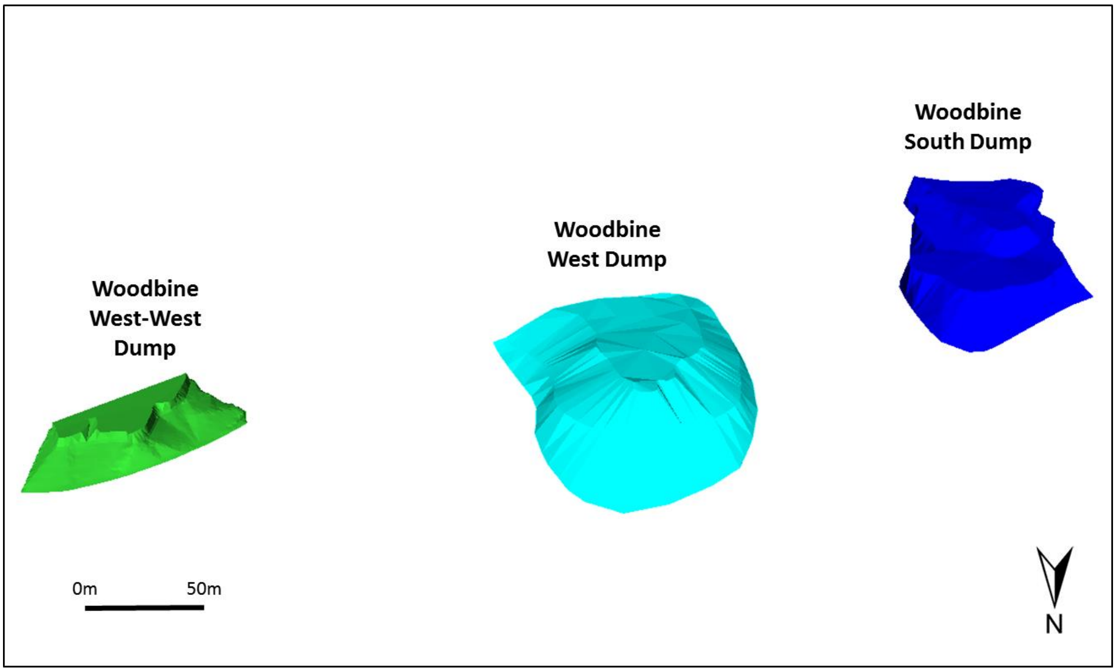
*Figure 18: A Plan View of the 2015 Woodbine Dump Positions versus the 2011 Mirrored Positions*




| A Plan View of the 2015 Woodbine Dump Positions vs. the 2011 Mirrored Positions | August 2015 |
|---|---|

The 2011 wireframes for the Woodbine South, West and West-west Dumps were constructed from a combination of survey information and auger drilling data through the dumps. The new corrected and inverted 2015 wireframe geological models for the three Woodbine Dumps may be viewed below in Figure 19.

*Figure 19: An Oblique View of the 2015 Woodbine Dump Positions Looking Towards the South*



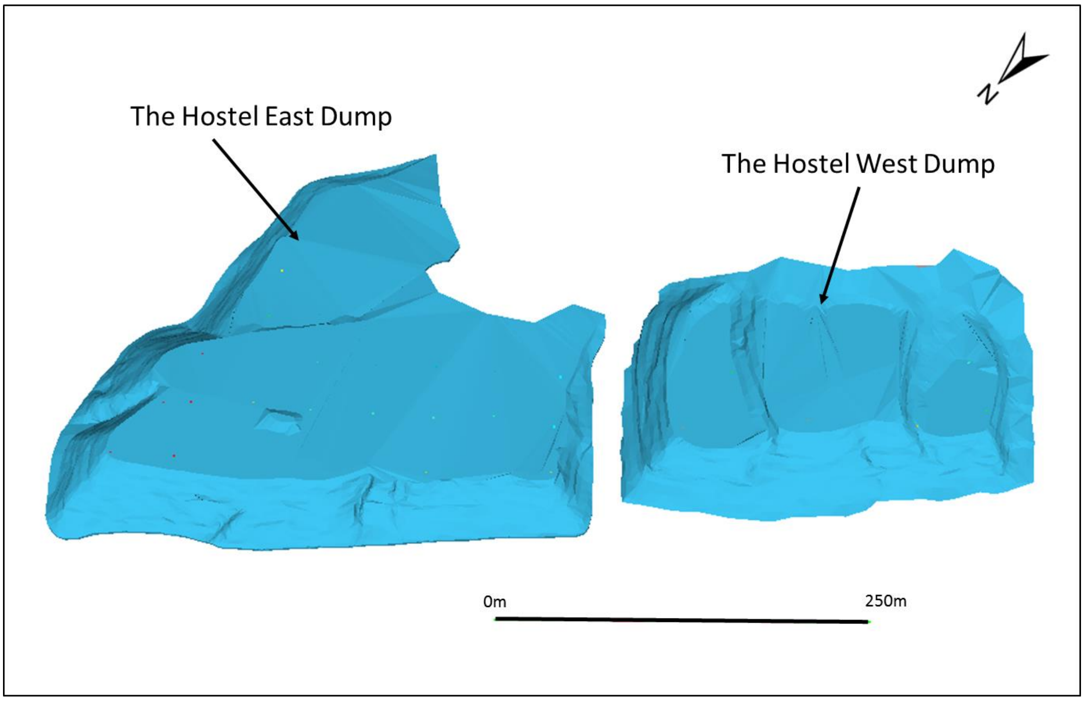

**An Oblique View of the 2015 Woodbine Dump Positions Looking Towards the South**

**August 2015**

### Hostel Dumps

The wireframes for the Hostel East and West Dumps were constructed from a combination of survey information and auger drilling data through the dumps. The wireframe geological model for the Hostel East and West Dumps may be viewed below in Figure 20.

*Figure 20: An Oblique View of the Modelled Hostel East and West Dumps Looking Southeast*

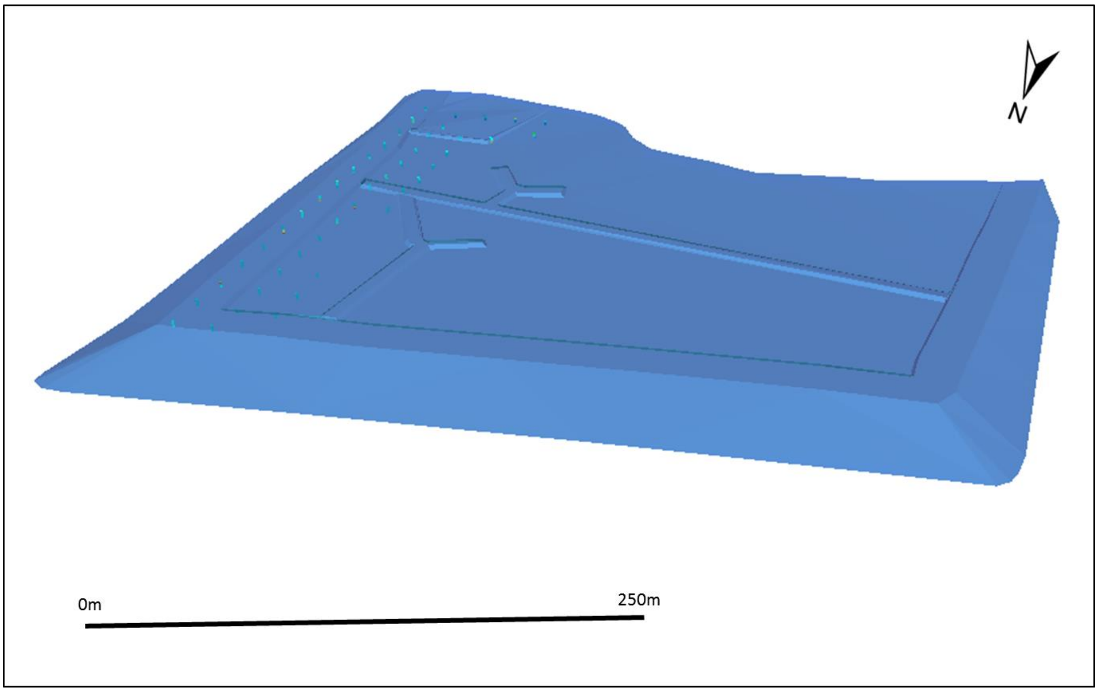



| An Oblique View of the Modelled Hostel East and West Dumps Looking Southeast | 2013 |
|---|---|

**Biox North Dump**

The wireframes for the Biox North Dump were constructed from a combination of survey information and auger drilling data through the dumps. The wireframe geological model for the Hostel East and West Dumps may be viewed below in Figure 21.

*Figure 21: An Oblique View of the Modelled Biox North Dump Looking South with Defining Drill Holes*




| An Oblique View of the Modelled Biox North Dump Looking South with Defining Drill Holes | 2013 |
|---|---|

# ITEM 9 - EXPLORATION

The Galaxy operations and projects are currently under care and maintenance, and thus no exploration work has been carried out subsequent to the 2011 Mineral Resource declaration.

In 2001, exploration work was carried out on the Galaxy properties in the form of structural analysis carried out by Dr R Harris to identify the structural controls of mineralisation in the area. Harris generated exploration targets based on the vergence of D2 and D3 structures, and it is these targets that should become the main focus for future exploration.

Planned future exploration activities by Galaxy includes geophysical surveys focussed on the structural targets generated during the structural analysis carried out by Dr Harris.

## Item 9 (a) - SURVEY PROCEDURES AND PARAMETERS

During 2010, Camden Geoserve generated a CPR wherein it states that the mine at that time had functioning Survey and Geology departments.

The Agnes Mine underground mine survey and sampling systems were inherited from ETC. On surface, survey beacons were erected in various positions on the property. Underground at the time, a standard peg system was in use and was regularly updated. Exploration activity other than drilling, historically took the form of underground chip sampling or surface trenching.

Underground sampling procedures are detailed in Item 11 (a).

**Trenching**

It is evident that a number of trenches were historically dug and sampled at Agnes Top. Eleven trenches with start co-ordinates and a surveyed direction were captured and utilised for Mineral Resource estimation. Trench sampling was conducted at 2 m intervals along the full length of the trench. This is apparent when reviewing the sampling file. Evidence of the trenching is available on workings plans and the remnants thereof may also be viewed on aerial photographs. The actual trenching procedures were however never reviewed by any auditor nor has any documentation been found which outlines the actual trenching procedure as historically employed at Agnes Top.

## Item 9 (b) - SAMPLING METHODS AND SAMPLE QUALITY

According to Camden Geoserve, survey and sampling data was transferred into digital format using Stope Cad software. Despite a long period of closure the paper based storage of information indicated that due diligence was practiced in the collation of data. The long history of the Agnes Mine resulted in numerous sampling exercises with changes in the methods and styles of sampling.

**Underground Sampling**

Early sampling within the Giles and Woodbine sections would have been underground channel sampling using hammer and chisel to cut grooves perpendicular to the mineralised lodes. In September 2009, a sampling team was assembled and trained to undertake sampling. The underground sampling process was audited by Camden Geoserve cc and deemed to be acceptable in terms of marking off from a survey peg, having the correct equipment, (i.e. hammer-sharpened chisel-good sample pan, tape, notebook etc) chipping a representative sample in half meter sections and the recording, logging and tagging of the samples across the Giles and Woodbine ore bodies.

Camden Geoserve noted that samples were taken perpendicular to the dip of the ore body within the footwall – reef – hangingwall of the mineralised zones. It is evident from the Camden Geoserve CPR that underground diamond saws were used in the past. The underground sampling processes were audited in 2010 by industry-recognised consultant geologist P. Camden-Smith of Camden Geoserve cc, who deemed the processes to be acceptable. Due to the Galaxy operations being care and maintenance, Minxcon was unable to review the underground sampling procedures.

**Trenching**

Minxcon was unable to review the trenching procedures utilised during the prospecting phase of the Agnes Top Ore Body.

Due to the subsequent closure of the Galaxy operations, Minxcon was not able to audit the trench sampling or trenching procedures utilised on the operations. The quality of the trenching was assumed to be acceptable for the purposes of Mineral Resource estimation by Deswik due to the proven integrity of other sampling information conducted by historical operators. Minxcon concurs with this decision as sufficient evidence exists in the form of surface plans and aerial photography with respect to the actual existence of the trenches.

## Item 9 (c) – SAMPLE DATA

During the historical exploration of the Galaxy ore bodies, a combination of DD holes, RC holes, trenches, underground samples and auger holes were generated. Only validated data was however used for the Mineral Resource estimation.

The only data utilised for Mineral Resource estimation, other than drilling however, consisted of underground chip sampling and surface trenches. In both cases, these were treated as drill holes for the purposes of Mineral Resource estimation.

Table 8 summarises the available volume and type of data (other than drilling) that was used for the geological modelling and gold estimation for the various ore bodies.

*Table 8: Summary of Sample Data Used for Estimation*

| Ore Body | No. of Underground Samples | Trenches |
|---|---|---|
| Agnes Top | - | 11 |
| Golden Hill | - | - |
| Princeton | - | - |
| Galaxy | 12 | - |
| Woodbine | 2,339 | - |
| Giles | 2,982 | - |
| Pioneer-Tiger Trap | | - |
| Alpine Pioneer Dump | - | - |
| Hostel East Dump | - | - |
| Hostel West Dump | - | - |
| Biox North Dump | - | - |
| Woodbine Dumps | - | - |

## Item 9 (d) – RESULTS AND INTERPRETATION OF EXPLORATION INFORMATION

All the Galaxy ore bodies no longer constitute pure exploration properties as they have undergone recent mining to various degrees, thus this point is of no pertinence to this Report.

# ITEM 10 – DRILLING

Exploration drilling is currently on hold as the Mine is under care and maintenance. All available and verifiable drilling data was utilised by Deswik for the purposes of Mineral Resource estimation. Minxcon, as part of the Mineral Resource update, also reviewed the dataset utilised by Deswik and approves of the validation procedures utilised by Deswik.

## Item 10 (a) – Type and Extent of Drilling

A combination of DD holes, RC holes, trenches, underground samples and auger holes comprise the Galaxy Gold Mine Mineral Resource estimation database as utilised by Deswik. Only validated data was however used for the Mineral Resource estimation.

Table 9 summarises the available volume and type of drilling data that was used for the geological modelling and gold estimation for the various ore bodies listed in Galaxy's Mineral Resource statement.

*Table 9: Summary of Drilling Data Used for Estimation*

| Ore Body | DD Drill Holes | RC Holes | Auger | Ave Data Spacing |
|---|---|---|---|---|
| | No. | No. | No. | m |
| **Underground** | | | | |
| Agnes Top | 2 | 25 | - | 20 |
| Golden Hill | 61 | - | - | 25 - 50 |
| Princeton | 69 | - | - | 30 - 100 |
| Galaxy | 217 | - | - | 10 - 150 |
| Woodbine | 83 | - | - | 30 - 150 |
| Giles | 82 | - | - | 30 - 150 |
| Pioneer-Tiger Trap | 30 | - | - | 100 - 250 |
| **Surface** | | | | |
| Hostel East Dump | - | - | 27 | 40 |
| Hostel West Dump | - | - | 12 | 40 |
| Biox North Dump | - | - | 44 | 25 |
| Woodbine Dumps | - | - | 30 | 15 - 50 |

Auger drilling was utilised for the evaluation of the surface dump material only.

## Item 10 (b) – Factors Influencing the Accuracy of Results

Most of the drill holes drilled by both Cluff and ETC were located in surveyed excavations, resulting in good collar accuracy. It has been reported by Robertson (2001) that most of the holes drilled by ETC and the longer holes drilled by Cluff have been surveyed using the downhole survey instrument. Most survey logs, drill hole logs and assay recordings are available for inspection at the Agnes Mine.

Owing to the inherent historical nature of most of the assays, no standards or blanks were inserted into the sample stream. However, the samples were taken to Super Laboratory Services (Pty) Ltd ("SLS") in Barberton, based on Agnes Gold Mine Premises (Barberton facility not SANAS accredited) for a 100 g fire assay. SLS utilised standard laboratory quality assurance and quality control ("QAQC") methods with internal laboratory standards and blanks being inserted into the assay stream.

Galaxy's sample collection, preparation, analysis and capture techniques were viewed in 2011 to be in line with industry standards. In 2010, SRK, an industry-recognised consulting company, audited the QAQC process run by the then Agnes Mine through SLS and noted the non-use of blanks and the non-availability of standards reference material by the operation. Other than that, their findings on the round robins carried out between SLS which is utilised for the Galaxy projects, and Performance Laboratories (Pty) Ltd ("Performance") in Barberton which is SANAS accredited (SANAS Number: T0565), showed good correlation. Performance was utilised for umpire testing by SRK in order to assess the repeatability of the assay results received from SLS.

Minxcon thus relies upon these previous findings as no subsequent drilling activity has taken place. In addition to this, it is Minxcon's opinion that the Mineral Resource classification reflects the confidence in the estimates. SRK (2010) compared original and repeat assays of 266 duplicate samples that were reassayed at Performance Laboratory and concluded that the analyses differed by approximately 2% with a high correlation coefficient of 0,998. This showed the datasets having very similar statistics and indicating good repeatability. Likewise, a total of 1,213 samples were sent to both Performance Laboratory and SLS by SRK. The mean of the analysis differed by only 3% and a high correlation coefficient of 0,933 exhibited good repeatability.

## Item 10 (c) – EXPLORATION PROPERTIES – DRILL HOLE DETAILS

All the Galaxy ore bodies no longer constitute pure exploration properties as they have undergone recent mining to various degrees, thus this point is of no pertinence to this Report.

# ITEM 11 – SAMPLE PREPARATION, ANALYSES AND SECURITY

The preparation, analyses and security of sampling was investigated by Ms Linert Mavengere of Minxcon for the purposes of the 2011 CPR. The details are given in the subsections to follow.

## Item 11 (a) – Sample Handling Prior to Dispatch

APM's standard practice with 40 mm core (ETC employed 42 mm core) was to mark the core and then split it using a diamond saw core splitter along a line, ensuring that no potential to bias either half of the core is present. The core was sampled at 50 cm intervals down its entire length. Tickets were allocated to each sample from a ticket book to avoid any confusion. The samples were then taken to SLS for a 100 g fire assay.

**Underground Sampling**

Underground samples were in the form of chip samples, which were collected using hammer-sharpened chisels (APM and ETC utilised pneumatic diamond saws). The chip sample positions were measured from recorded survey pegs underground and co-ordinates, then re-calculated accordingly by applying offsets and sampling direction. All chip samples were taken over 0.5 m intervals between two parallel continuous lines and cut by a pneumatic diamond saw 4 m apart. The samples were immediately tagged and the sample details of location, sample number and logging were recorded in an underground notebook. All ticket books and assay sheets were filed and stored. Copies were made of the sampler's notebook; these were filed so that any sample number could be readily identified. Samples were taken perpendicular to the dip of the ore body.

## Item 11 (b) – Sample Preparation and Analysis Procedures

Samples arrived in batches at the on-site laboratory in plastic bags weighing between 1.5 and 3 kg each. Each sample was then crushed to minus 1 mm in a disc pulveriser that was "cleaned" with clean quartz and compressed air before starting each batch. The resulting fines were split twice through a riffle splitter to quarter the sample (±500 g). The excess for underground chip samples was sent to the mill feed, while the reverse circulation chip and diamond core discards were re-bagged and sent back to the samplers for back-up storage in case check assaying was required. The pulverised samples were further milled in a swing mill to minus 200 mesh (25 µ). From this fraction, a 50 gram aliquot was taken for analysis by conventional fire assay. The remaining powder was retained for six weeks at the laboratory, before being discarded.

Samples were assayed at the on-site mine laboratory using a lead-collector fire assay technique with a gravimetric finish. This laboratory was a satellite of SLS, an independent commercial laboratory based in the town of Springs. SLS was at the time not ISO certified. Drill hole samples were assayed using a 100 g aliquot, while underground channel samples were analysed using a 50 g aliquot.

## Item 11 (c) – Quality Assurance and Quality Control

Over the years, the laboratory employed standard controls and checks. All samples carried duplicate ticket numbers. On average, every fifteenth sample was repeated as an inline duplicate, which also checked for errors and gaps in the sample sequence. The layout of pots and cupells in the furnace was marked with a copper pattern key to avoid errors in orientation. Should an error arise in this procedure, the entire batch was re-assayed.

## Item 11 (d) – Adequacy of Sample Preparation

Galaxy's sample collection, preparation, analysis and capture techniques were found to be in line with industry standards. In 2010, SRK, an industry-recognised consulting company, audited the QAQC process run by the then Agnes Mine and noted the non-use of blanks and the non-availability of standards reference material. Apart from this, their findings on the round robins carried out between SLS which was utilised for the Galaxy projects, and Performance Labs which is ISO certified, showed good correlation. Minxcon thus relied upon these previous findings. In addition, the Mineral Resource classification will reflect the confidence in the estimates.

The Galaxy underground survey and sampling systems were inherited from ETC. On surface, survey beacons were erected in various positions on the property. A standard peg system was in use underground and was regularly updated.

The Galaxy Gold Mine was historically run by mining operators with good sampling practices. APM, which ran mining operations between 2002 and 2007, had applied stringent control on both sampling and analytical practices, as did ETC, as evidenced in mine communications, reports and previous audit reports.

The underground sampling processes were audited in 2010 by industry-recognised consultant geologist P. Camden-Smith of Camden Geoserve cc, who deemed the processes to be acceptable.

The sample preparation, security and analytical procedures as per the audits and reviews described have been deemed adequate. Minxcon thus relies on the opinions of these auditors/reviewers regarding sample preparation, security and analytical procedures and deems these to have been in line with industry standards and adequate for the purposes of Mineral Resource estimation and declaration.

# ITEM 12 – DATA VERIFICATION

## Item 12 (a) - DATA VERIFICATION PROCEDURES

For the purposes of the 2015 Mineral Resource update, Minxcon reviewed and verified the following data types relative to historical files and records (digital and manual):-

- Drill hole collars, surveys and assays;
- Volumes of ore body wireframes;
- Volumes of mining void wireframes;
- Mineral Resource models reconciliation relative to the 2011 Mineral Resource declaration;
- Historical depletion of the ore bodies due to pre-2011 mining;
- Mineral Resource Model version control;
- Visual drill hole versus Model Correlation; and
- Review of the manual block listings.

**Drill Hole Collars, Surveys and Assays**

In 2011 Minxcon reviewed the captured data. In 2015 Minxcon conducted random checks of collar locations, checked the desurveyed 2011 Datamine™ drill holes versus the MS Excel downhole surveys to check for consistency. Minxcon also checked the assay for all the hole for gaps and overlaps.

**Ore Body Volumes**

During the current verification process Minxcon filled the ore body wireframes with blank cells to check the volume. Check cell volume was selected based upon ore body width and dip to ensure an optimum fill. In addition Minxcon also queried the volume directly in CAE Datamine™ to check how the calculated volume compared to the small cell size block model. Then the volume and tonnage were cross validated against the Mineral Resource stated volumes and tonnages in order check for unacceptable wireframe fills at a 0.0 g/t cut-off.

**Mining Void Volumes**

During the current verification process Minxcon filled the existing as well as the new mining void wireframes with blank cells to check the volume. Check cell volume was selected based upon mining width and height dimension as well as development and stope dip to ensure an optimum fill. In addition also queried the volume directly in CAE Datamine™ to check how the calculated volume compared to the small cell size block model. Then the volume and tonnage were cross validated against the Mineral Resource original 2011 pre-depletion block models stated volumes and tonnages in order check for unacceptable wireframe fills.

**Mineral Resource Models Reconciliation Relative to the 2011 Mineral Resource Declaration**

During the current Mineral Resource update process, Minxcon utilised CAE Datamine Studio™ to evaluate the existent block models in order to ensure Mineral Resources were originally reported correctly from the 2011 Mineral Resource Statement.

**Mineral Resource Model Version Control**

In the event that the block model evaluation did not correspond to the 2011 Mineral Resource estimate with the correct Mineral Resource categories, grades and tonnages, Minxcon searched the 2011 data archives to find the correct model whose results corresponded to declared 2011 Mineral Resource.

**Visual Drill Hole versus Model Correlation**

Minxcon also conducted visual checks on block models versus drilled grades by means of stepping through block models along with the existent drill holes or sampling for used in the grade estimation in order to ensure that the estimated block models honoured the grade distribution as exhibited by the intersected drill holes.

Minxcon also conducted checks on the block listings for the manual Mineral Resources by doing spot checks on the available section block plans to check the correlation with the actual block listing values and backing data.

## Item 12 (b) – Limitations On/Failure to Conduct Data Verification

Minxcon was not able to review the sampling, drilling, core sampling or QAQC practices utilised on the mine by the sampling and geology crews as the operations are currently on care and maintenance with no dedicated geology or sampling teams being in place. Minxcon had to utilise the findings of historical Mineral Resource estimations, reviews or due diligences in order to achieve a well-rounded view of the quality of historical data collection methods.

## Item 12 (c) – Adequacy of Data

In 2015 Minxcon reviewed the data in conjunction with the block model estimation, versus the Mineral Resource classification. Minxcon also reviewed the kriging efficiencies and the Slopes of regression and variogram ranges or estimation volumes utilised in 2011 and is of the opinion that the Mineral Resource classification presented in the block models and therefore the 2011 Mineral Resource statement is a fair reflection of, and is appropriate for the declaration of relevant Mineral Resources as originally stated in 2011, and is still relevant to current accepted technical practice.

# ITEM 13 – MINERAL PROCESSING AND METALLURGICAL TESTING

## Item 13 (a) – Nature and Extent of Testing and Analytical Procedures

BIOX® batch amenability testwork on a flotation concentrate was conducted at Gencor Process Research in 1997. The results from the testwork achieved flotation recoveries 90.4% on average. Table 10 summarises the results for the various ore bodies.

*Table 10: Estimated Float Recoveries*

| Item | Unit | Galaxy | Woodbine | Giles | Princeton | Golden Hill |
|---|---|---|---|---|---|---|
| Float Recovery | % | 92.5 | 92.5 | 92.5 | 90.0 | 90.0 |

The Galaxy BIOX® plant was commissioned in 2010 and operated up until late 2011 when mining stopped. The historic production data is summarised in Table 11. Flotation recoveries of approximately 87% were achieved for the period of January to August 2011.

*Table 11: Historic Galaxy Production Data (January 2011 to August 2011)*

| Item | Unit | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 | Total/ Average |
|---|---|---|---|---|---|---|---|---|---|---|
| RoM milled | ktpm | 5.82 | 3.67 | 5.04 | 3.06 | 2.14 | 4.99 | 5.54 | 4.80 | **35.05** |
| RoM head grade | g/t | 2.66 | 2.60 | 2.68 | 2.26 | 2.67 | 2.55 | 2.19 | 2.36 | **2.49** |
| RoM head content | kg | 15.50 | 9.53 | 13.53 | 6.92 | 5.72 | 12.73 | 12.14 | 11.32 | **87.39** |
| Flotation recovery | % | 88.5% | 87.0% | 84.0% | 87.2% | 80.7% | 87.5% | 86.5% | 88.7% | **86.6%** |
| BIOX-CIL recovery | % | 83.5% | 86.8% | 87.0% | 90.6% | 91.3% | 86.8% | 81.0% | 89.2% | **86.3%** |
| Overall recovery | % | 90.2% | 74.4% | 63.6% | 91.6% | 75.3% | 58.0% | 64.9% | 73.6% | **73.1%** |

The plant also treated RoM material between early 2012 to early 2013 at an average rate of 4,100 ktpm and a RoM head grade of 1.96 g/t. The plant was only able to achieve flotation recoveries of about 84% during this period. During both the 2011 and 2012-2013 periods of operation, the plant operated under unfavourable conditions mainly due to a short supply of ore resulting in and stop-start conditions. This affected flotation and BIOX® stability which resulted in below-expected recoveries.

## Item 13 (b) – Basis of Assumptions Regarding Recovery Estimates

Metallurgical recoveries are based on historic test work and historic production. During 2011, RoM feed to the plant was sporadic which affected the plant stability resulting in poor flotation. With stable plant operation it is expected that the historic flotation recoveries of 87% can be improved to approximately 90% as per the BIOX® amenability tests.

## Item 13 (c) – Representativeness of Samples

Recoveries are based on historic production as well as test work conducted on the various ore bodies at Galaxy. Galaxy will be mining the same ore bodies that were mined prior to 2012. Therefore, the historic production results are considered representative of the Galaxy Gold Mine ore bodies. As a result, both historic tests and production results can be used to estimate future performance.

## Item 13 (d) – Deleterious Elements for Extraction

Deleterious elements should not pose a risk to economic extraction and tailings deposition. However, elements such as arsenic, iron and sulphur in the flotation concentrates may be limited by the off take agreement and buyer specifications.

# ITEM 14 – MINERAL RESOURCE ESTIMATES

## Item 14 (a) – ASSUMPTIONS, PARAMETERS AND METHODS USED FOR MINERAL RESOURCE ESTIMATES

### STATISTICAL ANALYSIS

Exploratory data analysis involves performing statistical analyses to develop an understanding of the statistical characteristics and sample population distribution relationships. This helps identify statistical populations which may require separation into domains during estimation. The application of separate domains prevents mixing of data and the resulting grade model will better reflect the unique properties of the deposit.

Domain boundaries are defined based on two basic factors namely, geology and grade. A domain boundary, which segregates the data during interpolation, is typically applied to separate geological units, which are then sub-domained further in the event that the average grade in one domain is significantly different from that of another domain within the same geological unit.

### ESTIMATION METHODOLOGY

Deswik conducted the Mineral Resource Modelling using Datamine Studio™ software. The individual samples were composited to lengths related to the average sampled length. Ordinary ("OK") and simple kriging ("SK") were used for the estimation of the grades for the ore bodies on the Project Area, with the OK being utilised in more informed areas, while SK was utilised in lesser informed areas. Inverse distance squared ("ID2") was utilised by Deswik for estimating the Galaxy Gold Mine dumps. Kriging was preferred methodology utilised as the accuracy and efficiency of the kriged estimates could be tested, unlike other conventional estimation techniques such as nearest neighbour which have limited verification parameters. Kriging is based on the principal of modelling the spatial variances within an ore body. Within the kriging process, the number of, and distance between samples included in an estimate can be controlled to a greater degree than the more conventional estimation techniques.

Minxcon audited the Mineral Resource estimation process and its results in 2011 concurrent with the Deswik Mineral Resource estimation. As part of the 2015 Mineral Resource update, Minxcon conducted a due diligence on the models and data again. It is the opinion of Minxcon that kriging renders more accurate and reliable estimates than other methods. Modelling was conducted on gold grade in g/t. Minxcon also recommends the utilisation of ID2 in the case of the estimation of the dumps, due to the data volume and distribution.

As part of the current due diligence activities, Minxcon validated existing models against the 2011 stated Mineral Resources in order to prevent any problems with respect to version control. Once all the correct block models were located, Minxcon conducted digital depletions in the form of void shells on the areas with digital block models, by means of utilising survey strings and void triangulations provided by Galaxy, in order to account for the reduction in Mineral Resource due to mining. This will discussed in detail below.

### COMPOSITING STRATEGY

Compositing was conducted by Deswik in order to minimise the error due to the support effect during geostatistical evaluation. In order to retain the original data characteristics, the composite lengths selected equated to the average sample lengths for the sampled drill hole lengths.

For the estimation of the Galaxy Gold Mine Mineral Resource which was conducted in three dimensions ("3D"), the following compositing strategy was applied by Deswik as shown in Table 12.

*Table 12: Composite Lengths Employed*

| Ore Body/Dump | Composite Length m |
|---|---|
| **Underground** | |
| Agnes Top | 1.0 |
| Golden Hill | 0.3 |
| Princeton Ore Body | 0.5 |
| Galaxy, Woodbine and Giles | 0.5 |
| Pioneer-Tiger Trap | 0.5 |
| **Surface** | |
| Alpine Pioneer Dump | 1.5 |
| Hostel Dumps | 1.5 |
| Biox North Dump | 1.0 |
| Woodbine Dumps | 3.0 |

After checking the composite lengths, and upon noting that the contacts of the mineralised zone were honoured during drill-hole compositing, Minxcon is of the opinion that the composite lengths utilised by Deswik are appropriate for the purposes of Mineral Resource estimation.

#### DRILL HOLES

A combination of DD holes, RC holes, trenches, underground samples and auger holes comprise the Galaxy Gold Mine Mineral Resource estimation database as utilised by Deswik. Only validated data was however used for the Mineral Resource estimation.

Table 13 summarises the available volume and type of data that was used for the geological modelling and gold estimation for the various ore bodies.

*Table 13: Summary of Data Used for Estimation*

| Ore Body | DD Drill Holes | RC Holes | Underground Samples | Trenches | Auger |
|---|---|---|---|---|---|
| **Underground** | | | | | |
| Agnes Top | 2 | 25 | - | 11 | - |
| Golden Hill | 61 | - | - | - | - |
| Princeton | 69 | - | - | - | - |
| Galaxy | 217 | - | 12 | - | - |
| Woodbine | 83 | - | 2,339 | - | - |
| Giles | 82 | - | 2,982 | - | - |
| Pioneer-Tiger Trap | 30 | - | | - | - |
| **Surface** | | | | | |
| Alpine Pioneer Dump | - | - | - | - | 8 |
| Hostel East Dump | - | - | - | - | 27 |
| Hostel West Dump | - | - | - | - | 12 |
| Biox North Dump | - | - | - | - | 44 |
| Woodbine Dumps | - | - | - | - | 30 |

#### DATA DE-CLUSTERING STRATEGY

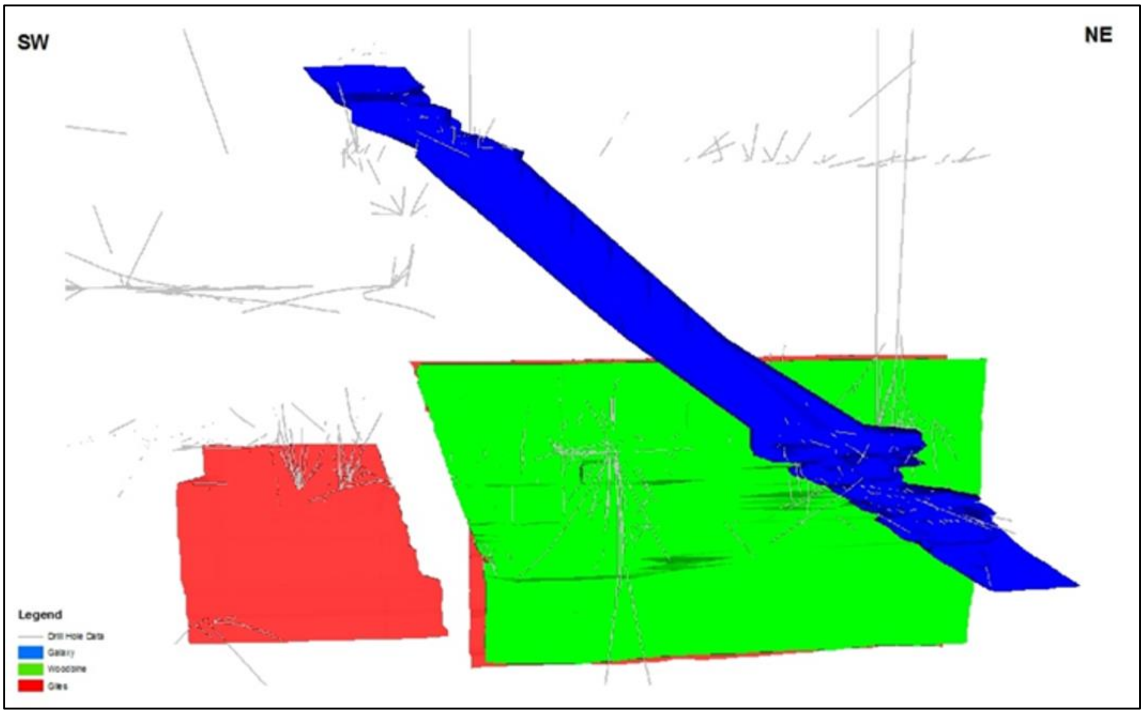
It is common practice to take more samples in high-grade areas in order to improve the level of confidence in the estimation. This practice however introduces a biased estimate of the mean, variance and histogram. De-clustering is the process utilised in adjusting the full data set to render a regular representative grid or set of values in order to counter the effect of clustered data. However, given the sampling intervals used in relation to the style of mineralisation, minimal clustering was observed and, thus, de-clustering was not employed. Minxcon reviewed the data distribution and concurred with the approach undertaken by Deswik.

## Drill Hole Data Plots

### Galaxy-Woodbine-Giles Data

A myriad of surface and underground holes were drilled on the Galaxy, Woodbine and Giles Complex, as indicated in Figure 22.

*Figure 22: Galaxy, Woodbine and Giles Ore Bodies in Relation to Data in 3D*

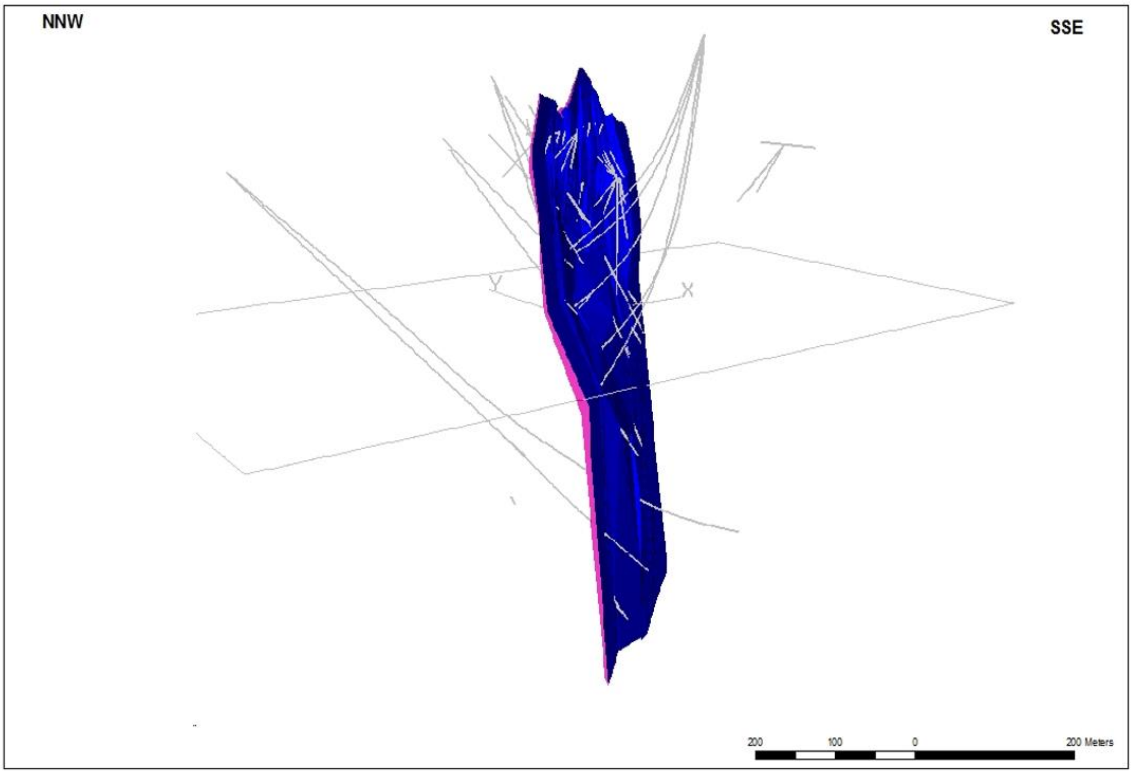



| | |
|---|---|
| **Galaxy, Woodbine and Giles Ore Bodies in Relation to Data in 3D** | **August 2015** |

**Golden Hill Data**

A total of 66 DD holes were drilled into the Golden Hill Ore Body (Figure 23). Twenty-three were drilled from surface while 43 were drilled from underground.

*Figure 23: Golden Hill Ore Body in Relation to the Data in 3D*



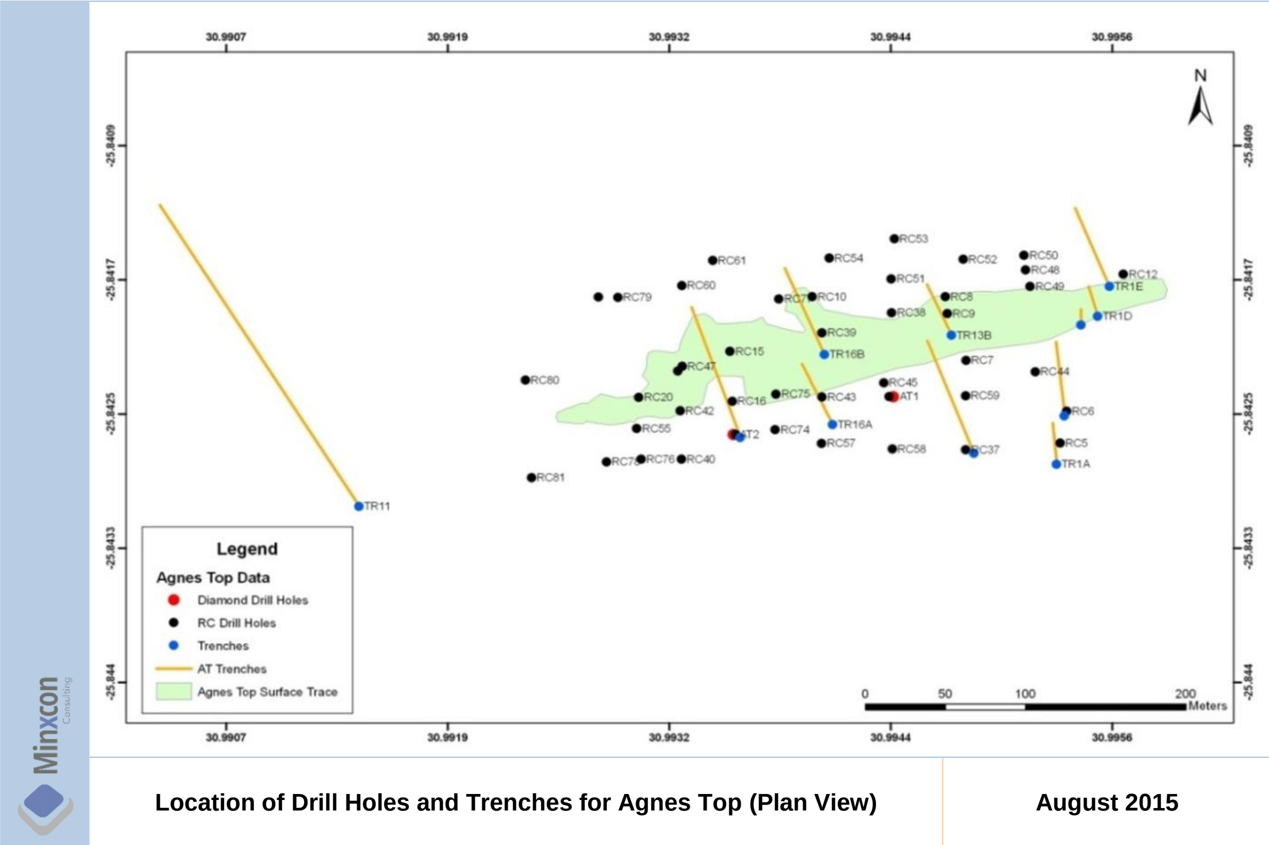

**Golden Hill Ore Body in Relation to the Data in 3D** | **August 2015**

Five of the 66 drill holes were not captured, not validated or were failed during the data validation process, and were thus excluded from the estimation database by Deswik. These were GH1, GH6, GH12, GHU24 and GHU32. Minxcon is in agreement with the decision taken by Deswik with respect to not utilising these 5 holes during Mineral Resource estimation.

**Agnes Top Data**

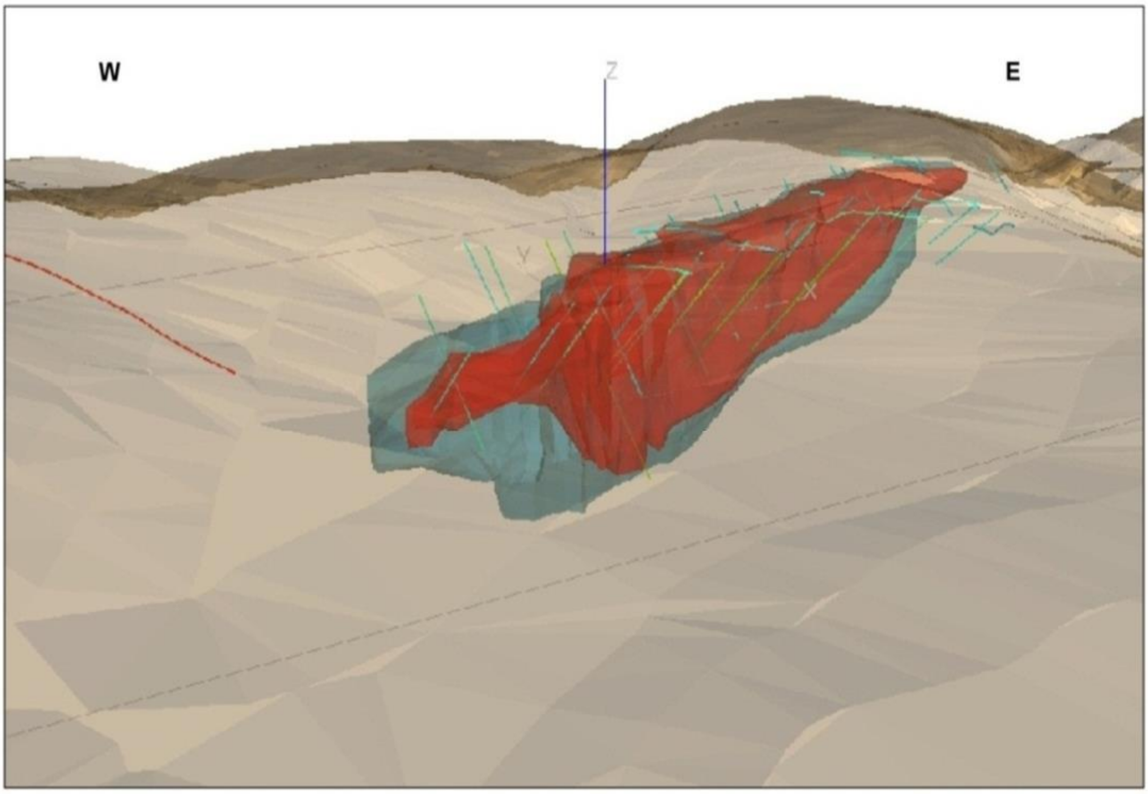
Twenty-five RC and two DD holes were drilled, and 11 trenches were dug on the Agnes Top Ore Body. The distribution of the Agnes Top dataset may be view in Figure 24 below.

*Figure 24: Location of Drill Holes and Trenches for Agnes Top (Plan View)*




Of the 25 RC and two DD holes drilled and 11 trenches dug on the Agnes Top Ore Body, 38 RC holes, two DD holes and seven trenches intersected the ore body as shown below in Figure 25.

*Figure 25: Agnes Top Ore Body in Relation to the Data in 3D (Not to Scale)*



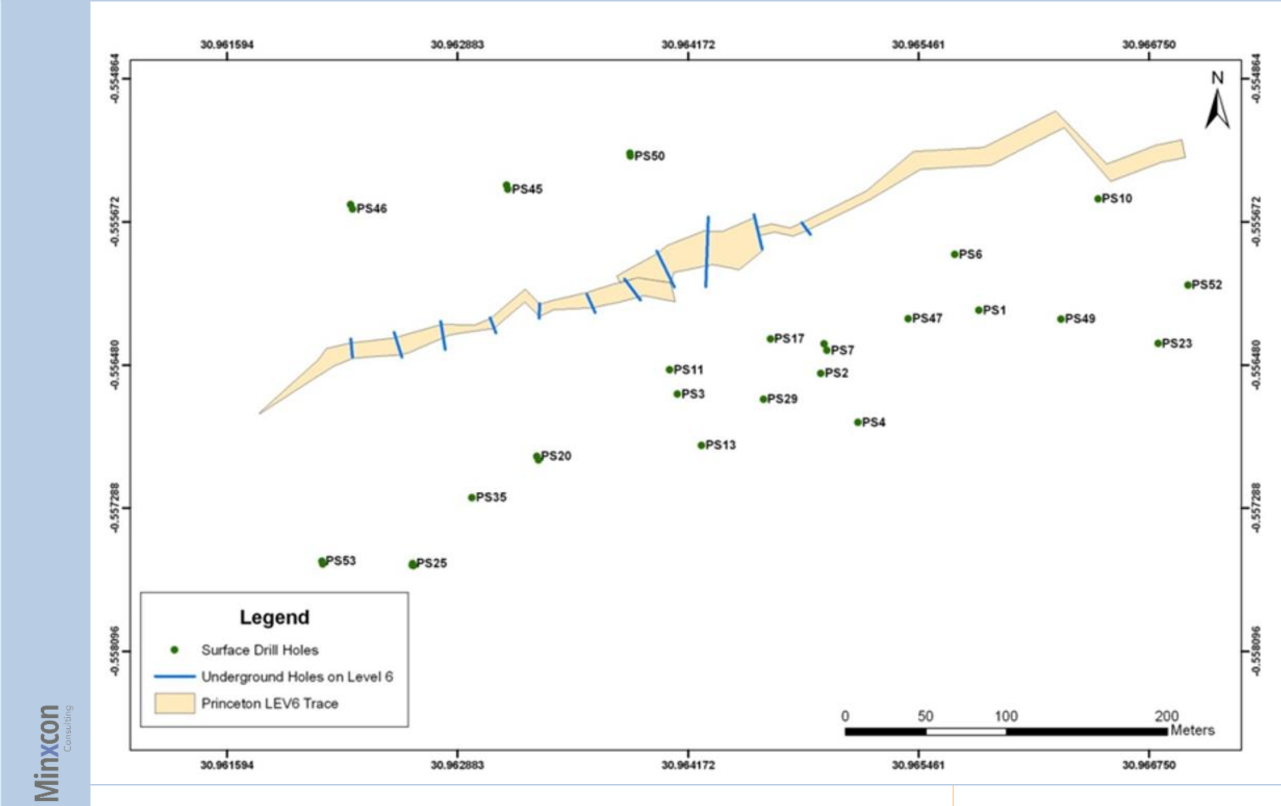

| Agnes Top Ore Body in Relation to the Data in 3D (Not to Scale) | Aug 2015 |
|---|---|

The drilling on the Agnes Top does not conclusively close the ore body along strike, allowing for the possibility of strike reef extensions. Extrapolation was however limited to 25 m beyond the last drill line along strike, and to the depth of the deepest intersection.

**Princeton Data**

Thirty surface holes were drilled on the Princeton LEV6 Ore Body on drill lines spaced at an average of 50 m apart. At -353 m amsl., 11 horizontal underground holes were drilled. A plan view of the collar locations of the drill holes with respect to the ore body may be viewed below in Figure 26.

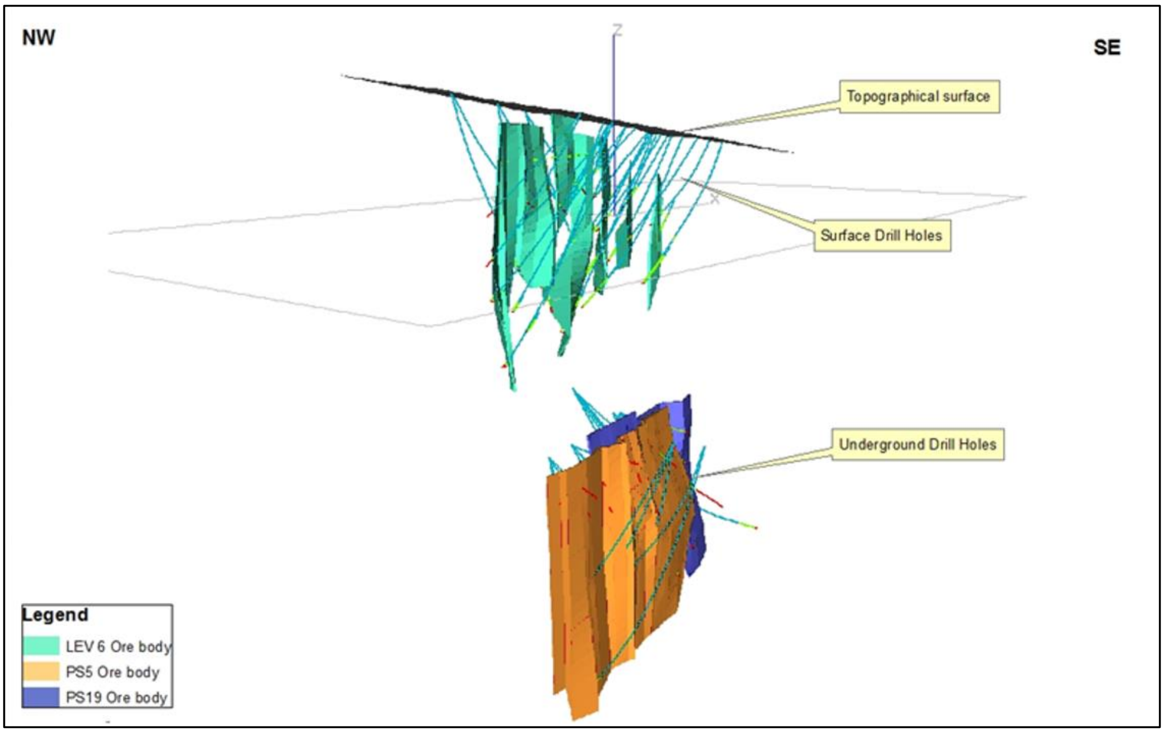
*Figure 26: Location of the Princeton Surface and Underground Drill Holes on 6 Level (Plan View)*




**Location of the Princeton Surface and Underground Drill Holes on 6 Level (Plan View)** | **August 2015**

An additional 28 holes were drilled on 19 Level to intersect the PS5 and PS19 pay shoots, as illustrated below in Figure 27.

*Figure 27: Location of the Princeton Drill Holes in 3D (Not to Scale)*



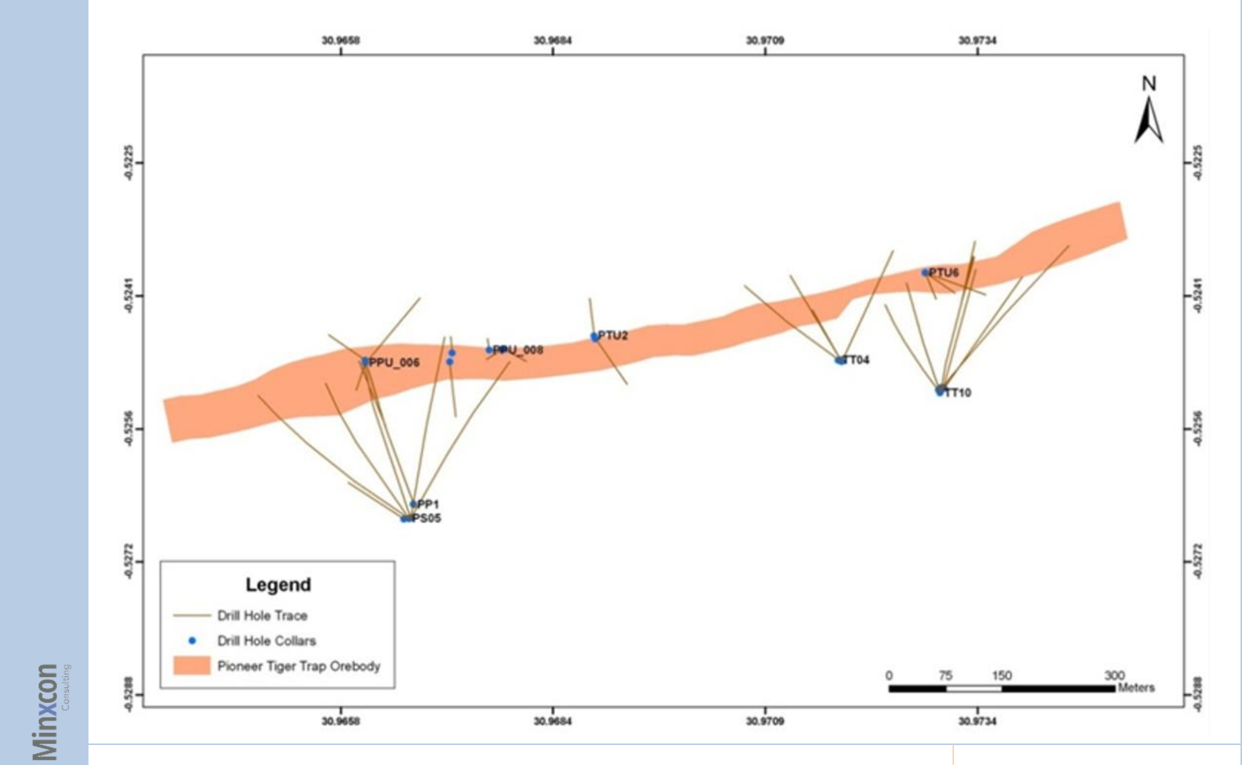

| Location of the Princeton Drill Holes in 3D (Not to Scale) | August 2015 |
|---|---|

In addition to the drill holes, 1,874 underground samples were included in the Princeton Database of which 1,768 and 106 were samples for the LEV6 and PS19 ore bodies respectively. The Princeton drill holes were also sampled for sulphur, but only gold was estimated as too few sulphur assays were available.

**Pioneer-Tiger Trap Data**

Thirty underground holes (plus six deflections) were drilled on the Pioneer-Tiger Trap Ore Body. The majority of these holes fanned out from three main collars, as shown in Figure 28.

*Figure 28: Location of Data on the Pioneer-Tiger Trap Ore Body*



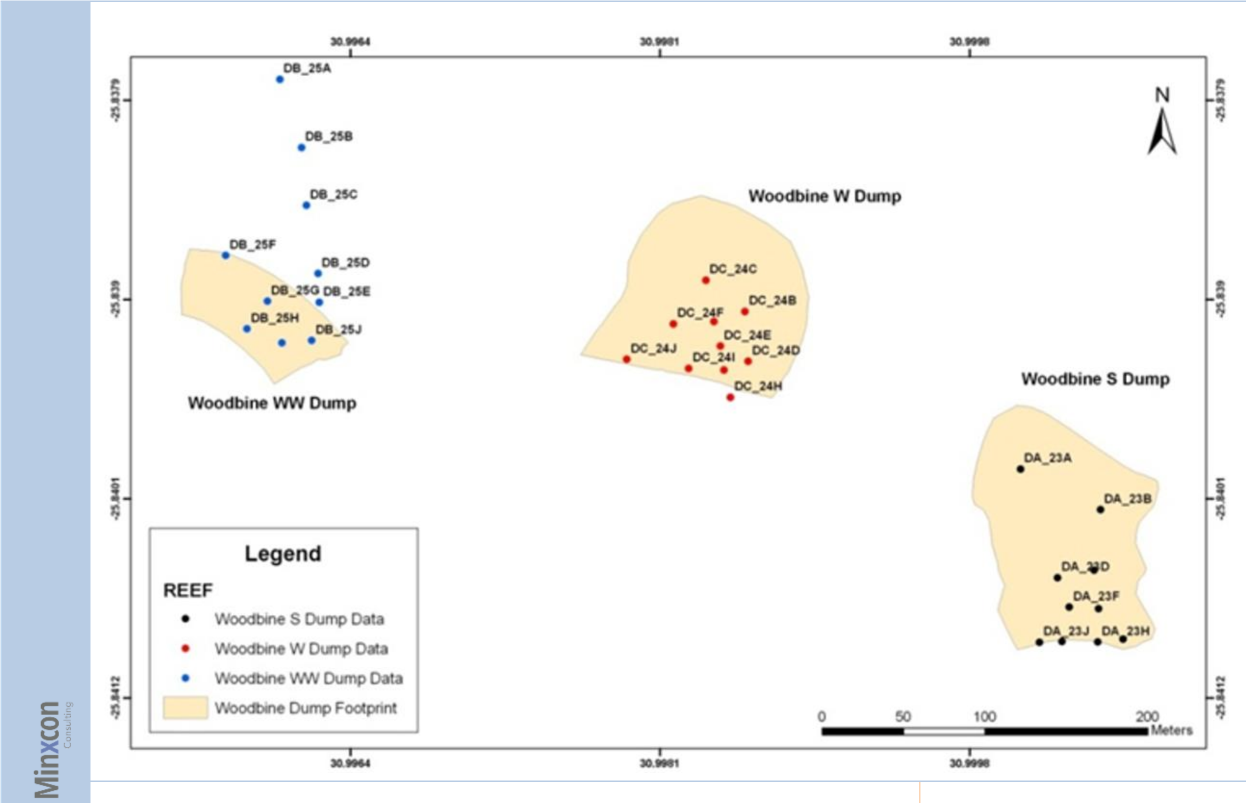

Location of Data on the Pioneer-Tiger Trap Ore Body | August 2015

The ore body outline is the section at 923 m amsl and the drill hole traces are plan projections. All the drill holes are historical drill holes with no verifiable QAQC.

**Woodbine Dumps Data**

Thirty auger holes were drilled into the three Woodbine dumps; ten for each dump. These are illustrated in Figure 29.

*Figure 29: Location of the Woodbine Dumps in Relation to Their Data (Plan View)*



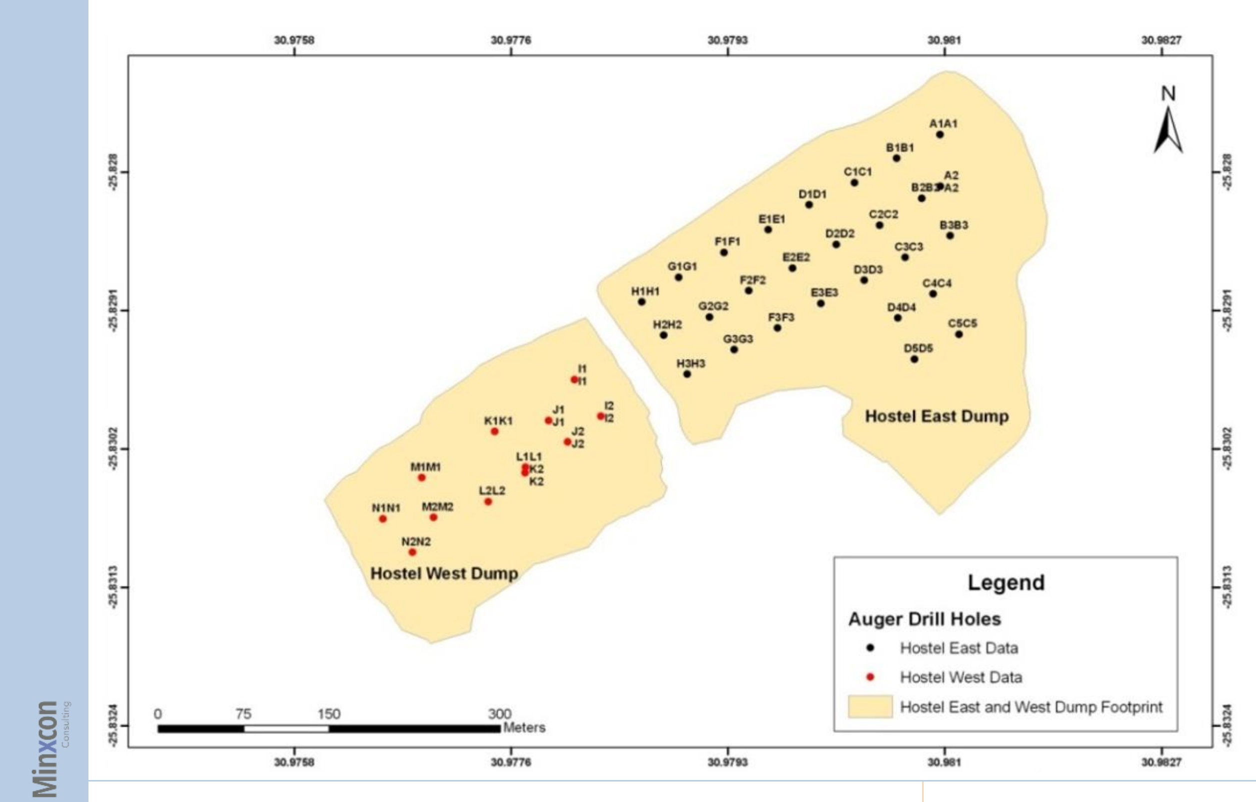

**Location of the Woodbine Dumps in Relation to Their Data (Plan View)** | **August 2015**

The Woodbine WW, West and South Dumps cover surface areas of approximately 4,000 m$^2$, 10,200 m$^2$ and 11,100 m$^2$ respectively. Ten holes were drilled on each dump.

**Hostel East and Hostel West Dump Data**

Twelve and 27 auger holes were drilled into the Hostel West and Hostel East Dumps respectively, as shown in Figure 30.

*Figure 30: Location of the Hostel East and West Dumps Data (Plan View)*



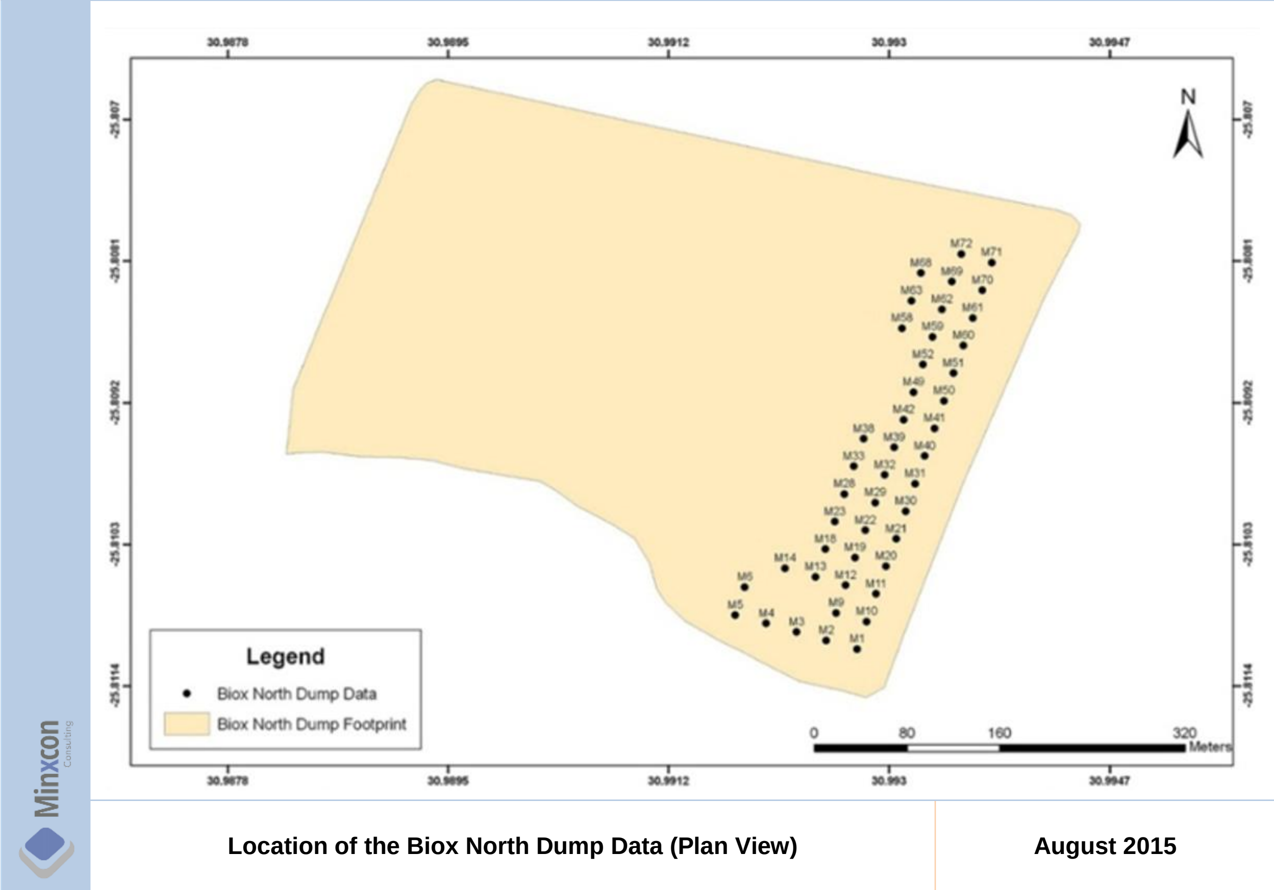

**Location of the Hostel East and West Dumps Data (Plan View)** | **August 2015**

The footprints of the Hostel East and Hostel West Dumps cover areas of approximately 80,500 m$^2$ and 43,300 m$^2$ respectively.

**Biox North Dump Data**

Forty-four holes were augered into the Biox North Dump, as shown in Figure 31.

*Figure 31: Location of the Biox North Dump Data (Plan View)*

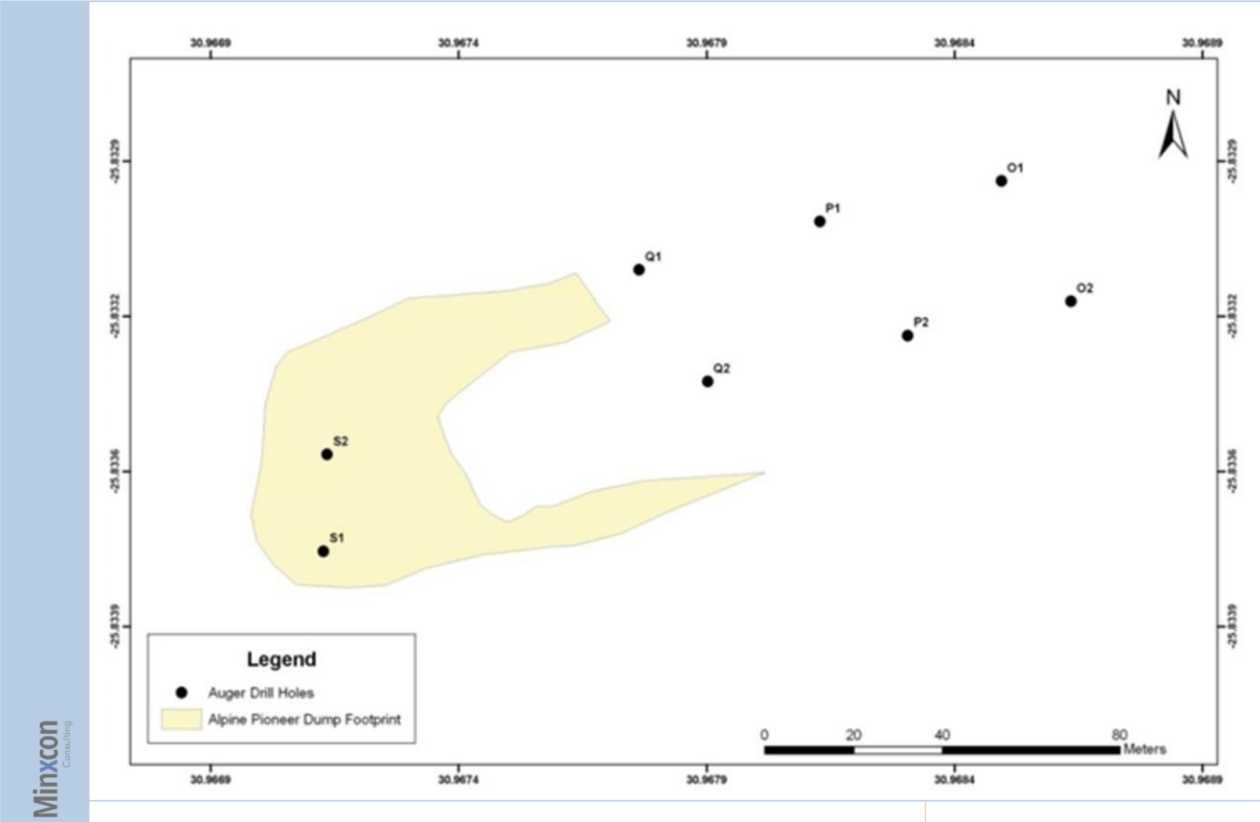



Drilling was carried out only to the east of the Biox North Dump, whose footprint covers an area of approximately 192,250 m$^2$.

**Alpine Pioneer Dump Data**

Eight auger holes were drilled into the Alpine Pioneer Dump. However, because a significant portion of the Dump was recently mined, only an area with two holes still has dump material, as shown in Figure 32.

*Figure 32: Location of the Alpine Pioneer Dump Data (Plan View)*




**Location of the Alpine Pioneer Dump Data (Plan View)** | **August 2015**

The footprint of the Alpine Pioneer Dump covers an area of approximately 3,150 m$^2$.

#### DOMAINING METHODOLOGY

Good practice in Mineral Resource estimation consists of partitioning the ore body into several domains defined by lithology, mineralogy or grade distribution prior to geostatistical modelling and estimation at un-sampled locations. This is done to derive stable population distributions.

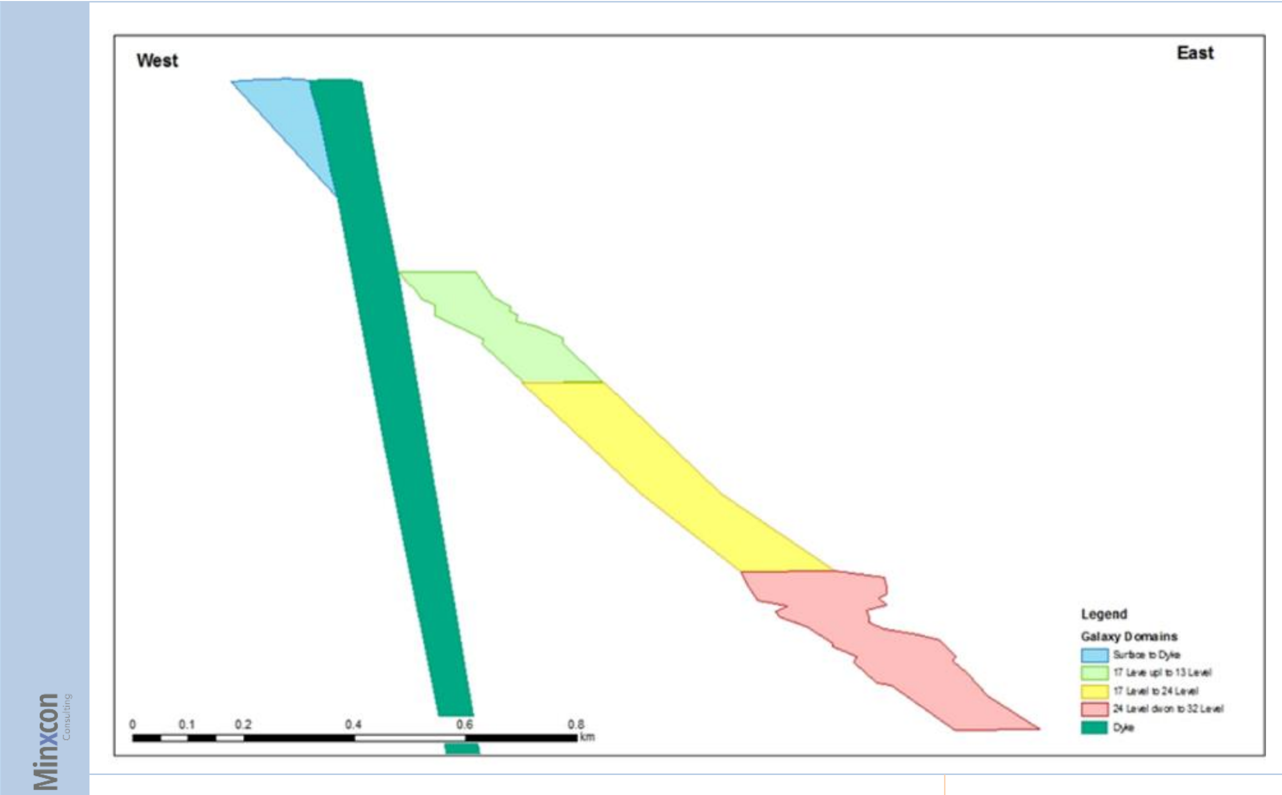
Typically, mineralisation and lithological aspects are considered by modelling the different facies separately, and then within each facies, domaining is achieved by contouring the grades into statistically homogeneous zones.

#### Galaxy Domains

The Galaxy Ore Body was divided into four domains based on the estimation method employed. The first domain was manually estimated and represents the remnant Mineral Resources occurring from surface to the Dyke at about 11 Level. The second domain was estimated using Datamine™ and represents the Mineral Resources from 13 Level down to 17 Level. The third domain was manually estimated by taking the global averages of the sampled Mineral Resources above and below. This was for 17 Level to 24 Level. The fourth domain was estimated using Datamine™ and represents the Mineral Resources from 24-Level-Down to 32 Level.

The Mineral Resources estimated for the Galaxy Ore Body using Datamine™ were partly mined from 24 Level to 28 Level and depletion of the declared Mineral Resources was carried out accordingly.

*Figure 33: Schematic Section of the Galaxy Ore Body Domains in Relation to Each Other*



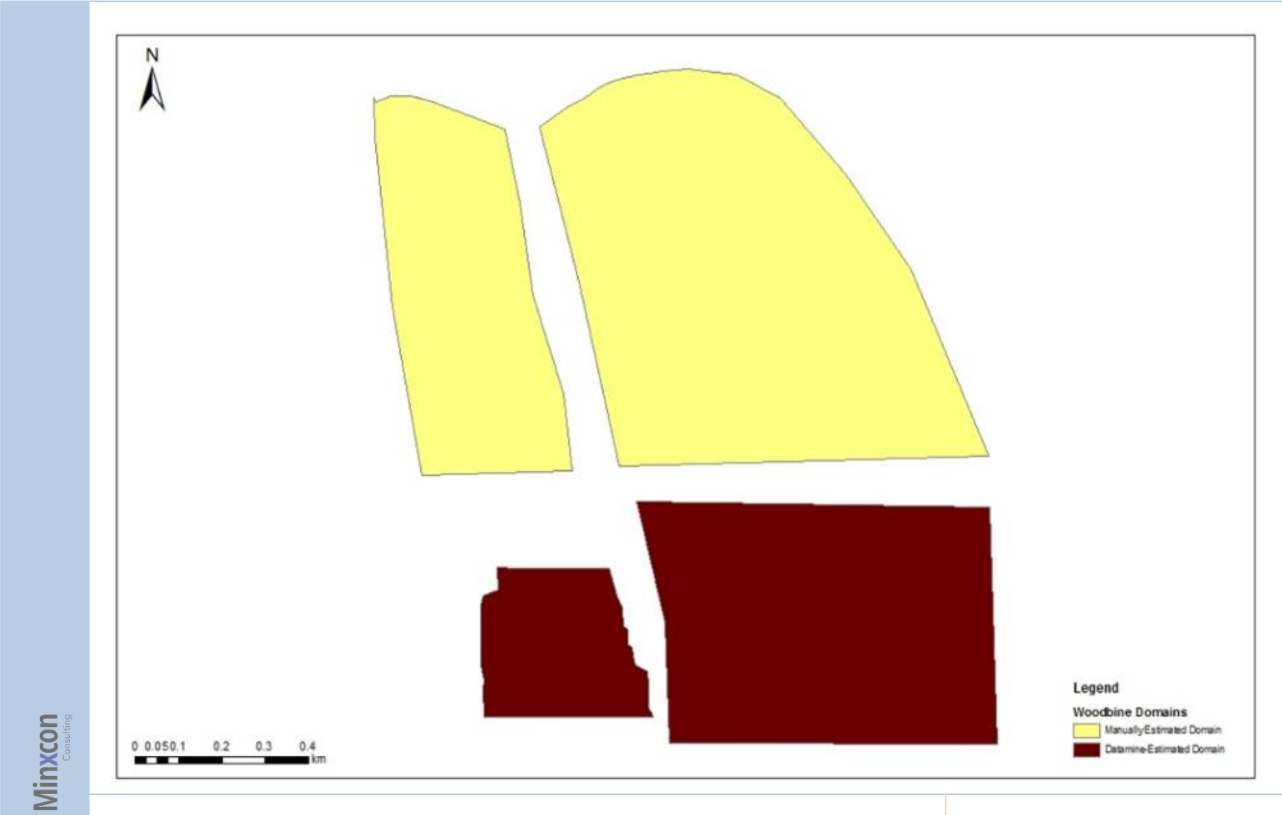

| Schematic Section of the Galaxy Ore Body Domains in Relation to Each Other | August 2015 |
|---|---|

**Woodbine Domains**

The Woodbine Ore Body was divided into two domains according to the estimation method employed. The first domain was manually estimated and represents the remnant Mineral Resources occurring from surface to 22 Level. The second domain was estimated using Datamine™ and represents the Mineral Resources from 24 Level-Down to 34 Level.

The Mineral Resources estimated for the Woodbine Ore Body using Datamine™ were partly mined down to 28 Level and depletion of the Mineral Resources was carried out accordingly.

*Figure 34: Schematic Section of the Woodbine Domains*




| Schematic Section of the Woodbine Domains | August 2015 |
|---|---|

No Mineral Resources were declared between 22 Level and 24 Level.

### Giles Domains

The Giles Ore Body was divided into two domains according to the estimation method employed. The first domain was manually estimated and represents the remnant Mineral Resources occurring from surface to 23 Level. The second domain was estimated using Datamine™ and represents the Mineral Resources from 23 Level down to 34 Level.

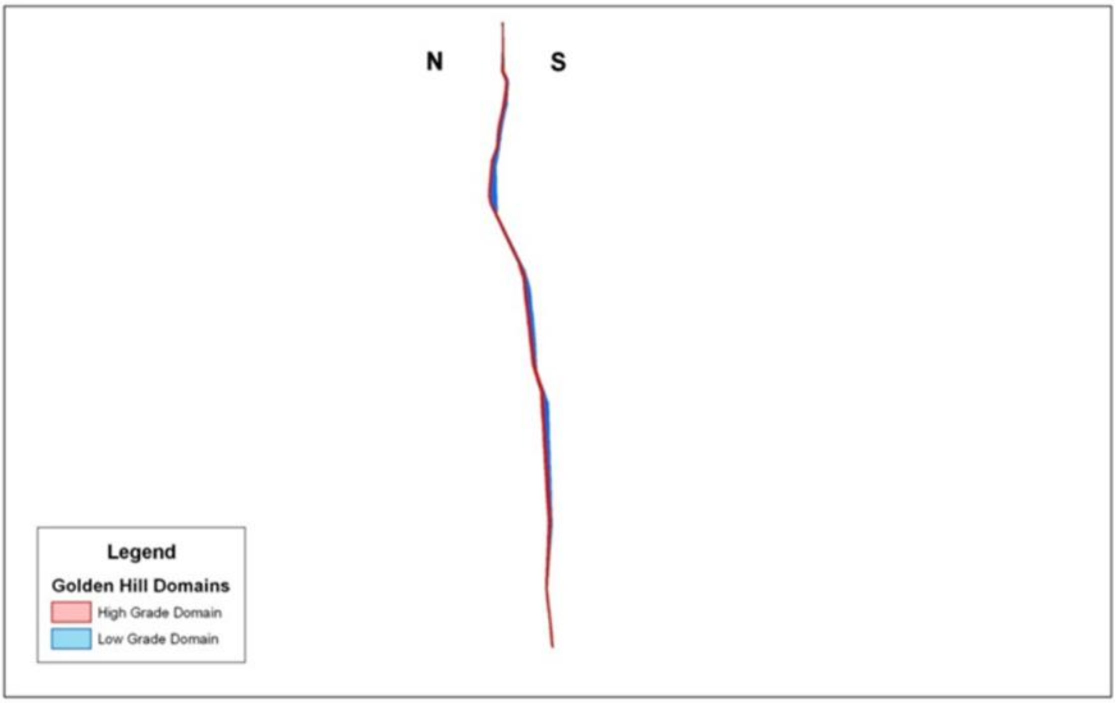
The Mineral Resources estimated for the Giles Ore Body using Datamine™ were partly mined down to 28 Level and depletion of the declared Mineral Resources was carried out accordingly.

*Figure 35: Schematic Section View of the Giles Domains*

### Golden Hill Domains

Two grade domains were defined for the Golden Hill Ore Body, namely a low-grade and a high-grade domain. The high-grade domain was delineated on a 2.5 g/t cut-off.

*Figure 36: Section Indicating the Grade Domains for the Golden Hill Ore Body Along X-1300*

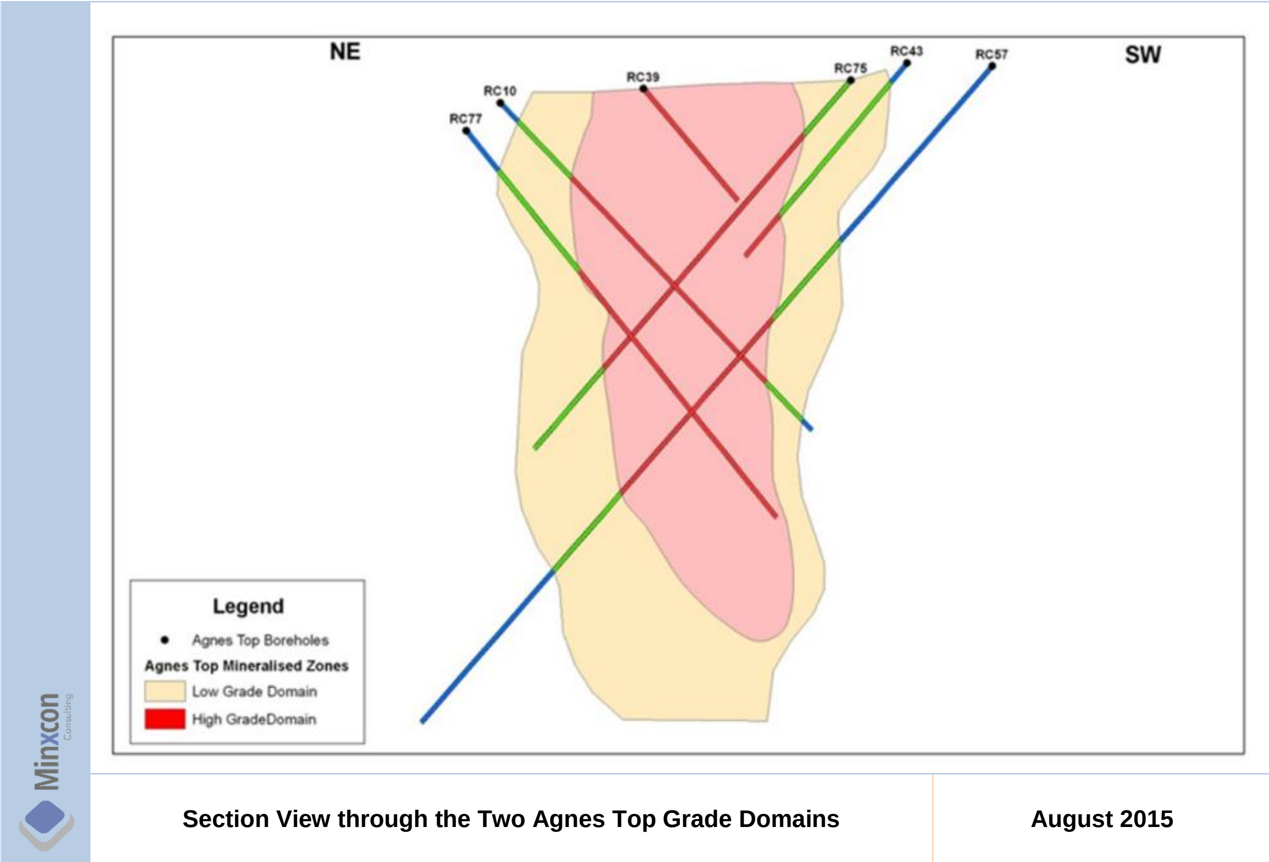



| Section Indicating the Grade Domains for the Golden Hill Ore Body Along X-1300 | August 2015 |
|---|---|

### Agnes Top Domains

A mineralised zone delineated on a 0.20 g/t cut-off was defined. Within this zone, a further main mineralised zone based on a 1.00 g/t cut-off was also defined. These two mineralised zones were treated as separate grade domains and were modelled separately. The Figure 37 illustrates the two Agnes Top domains.

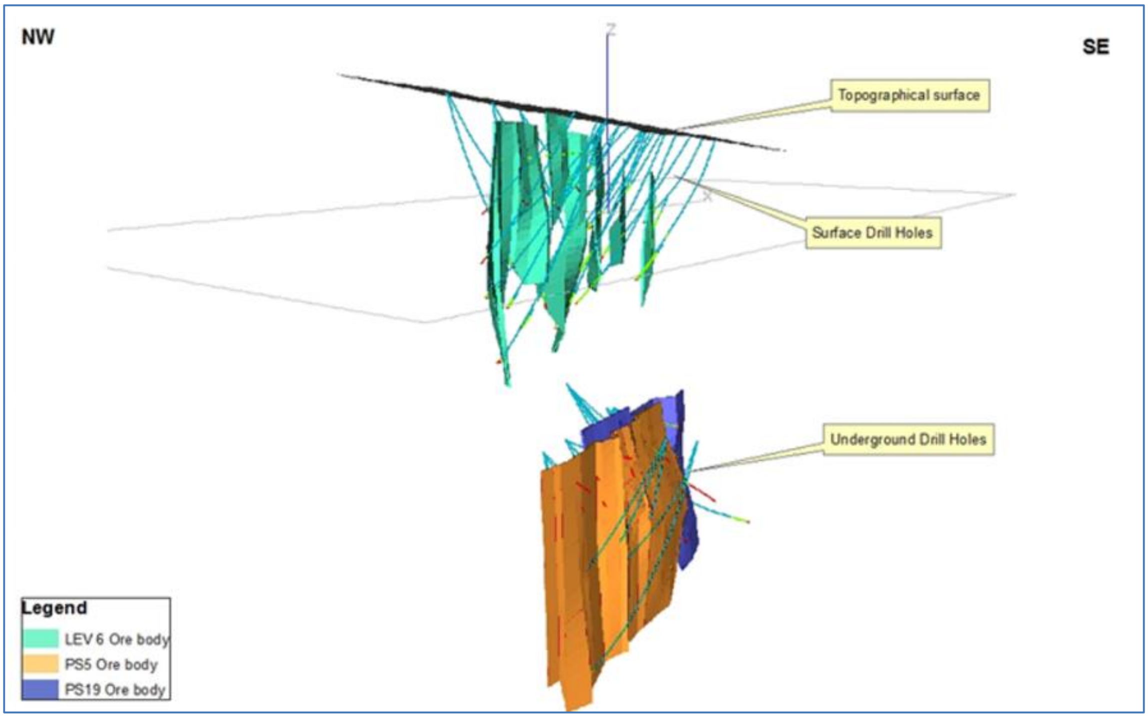
*Figure 37: Section View through the Two Agnes Top Grade Domains*



**Princeton Domains**

The three Princeton sections were treated as separate domains, as shown in Figure 38.

*Figure 38: The Three Princeton Domains as Viewed in 3D*

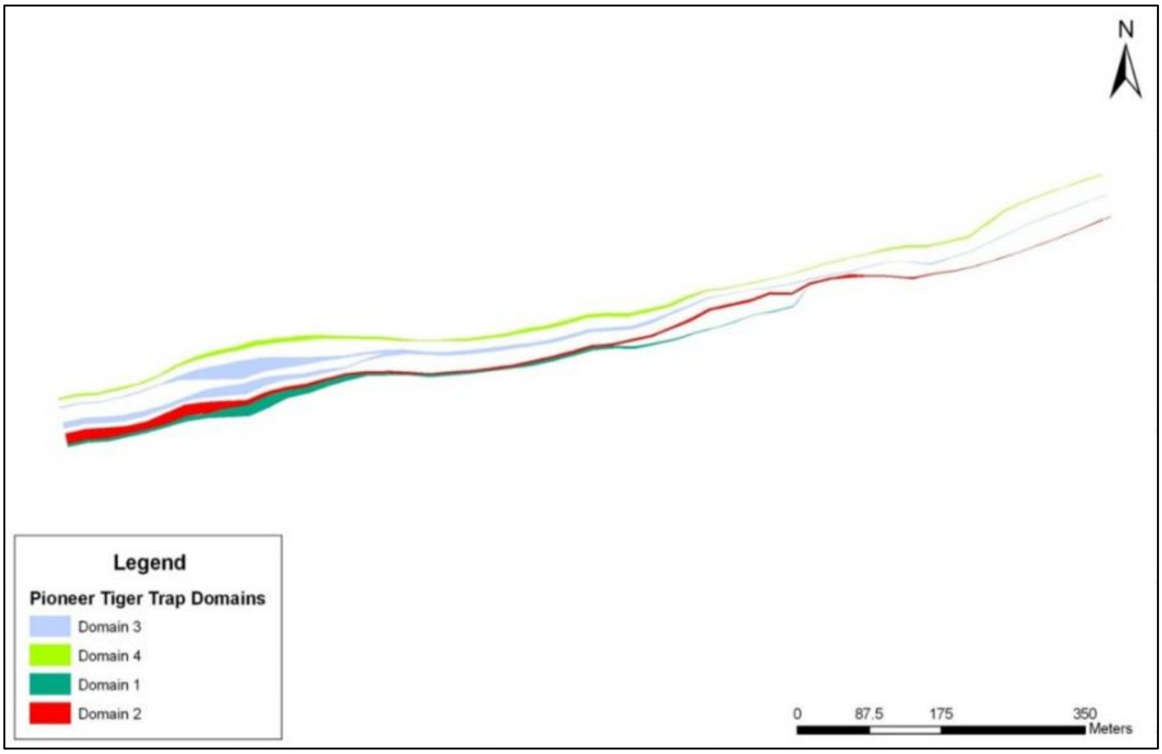



| The Three Princeton Domains as Viewed in 3D | August 2015 |
|---|---|

**Pioneer-Tiger Trap Domains**

Four parallel mineralised grade domains were modelled within the Pioneer-Tiger Trap Ore Body, as shown in Figure 39.

*Figure 39: Plan View of the Pioneer-Tiger Trap Ore Bodies and Domains*

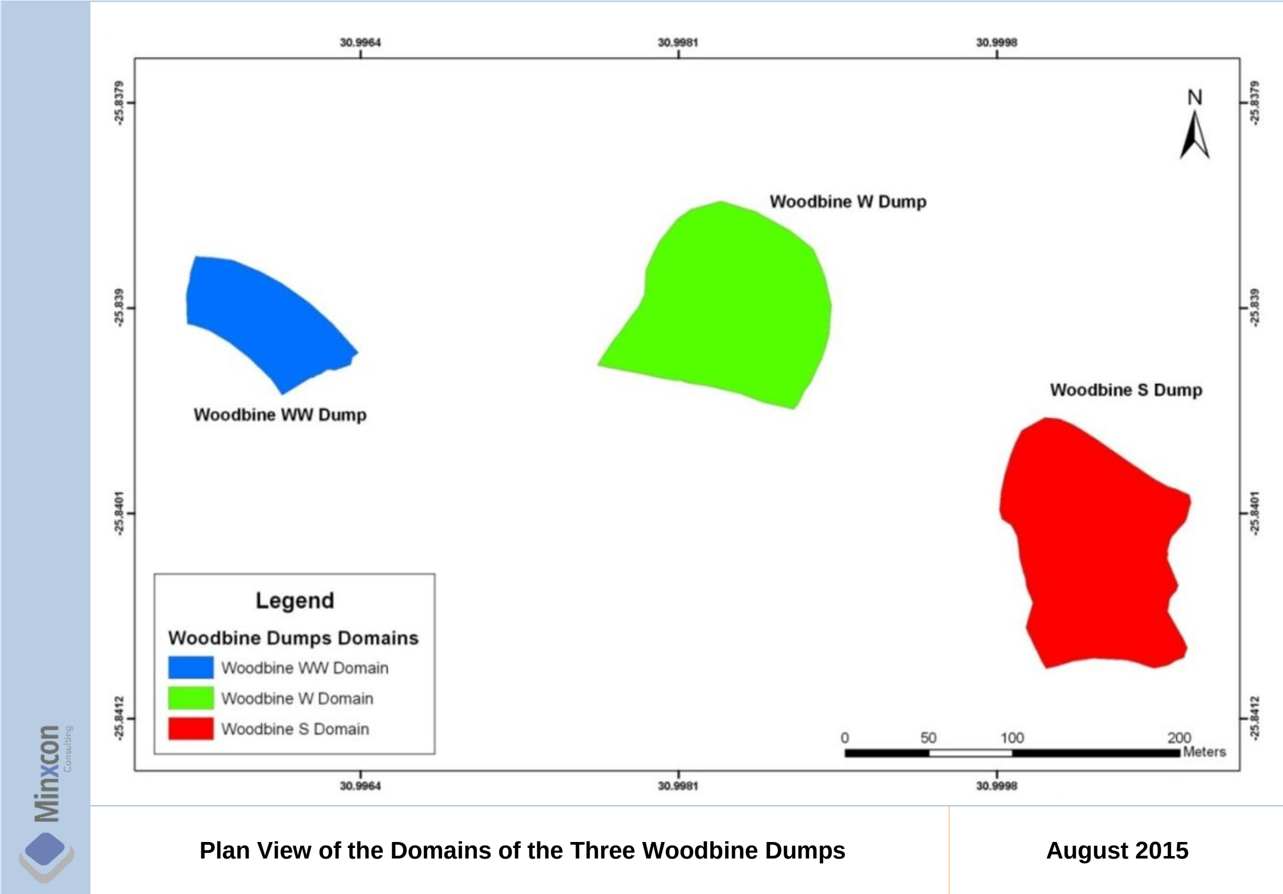



| Plan View of the Pioneer-Tiger Trap Ore Bodies and Domains | August 2015 |
|---|---|

### Woodbine Dump Domains

The three Woodbine dumps were modelled in 2011 as separate domains, as shown below in Figure 40.

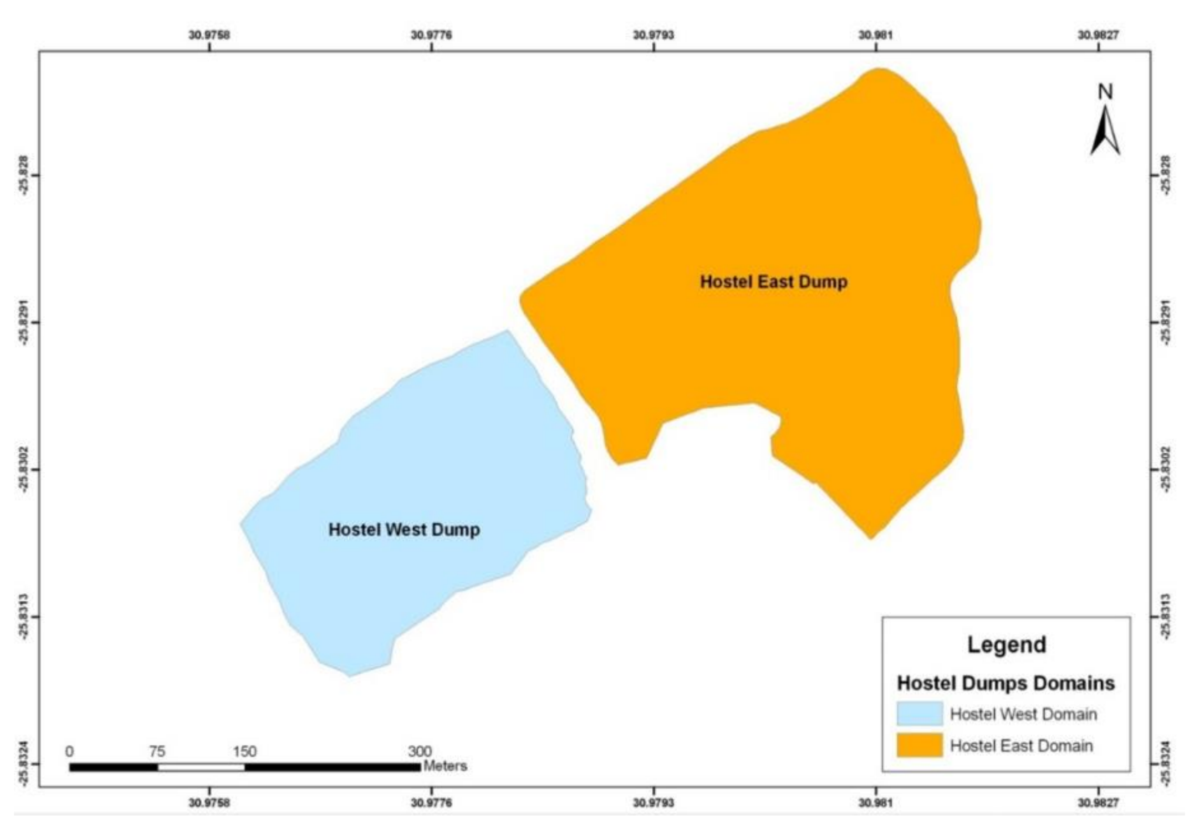
*Figure 40: Plan View of the Domains of the Three Woodbine Dumps*



### Hostel Dumps Domains

The two Hostel dumps were evaluated as two separate domains based on differing history.

*Figure 41: Plan View of the Hostel West and East Dumps Domains*

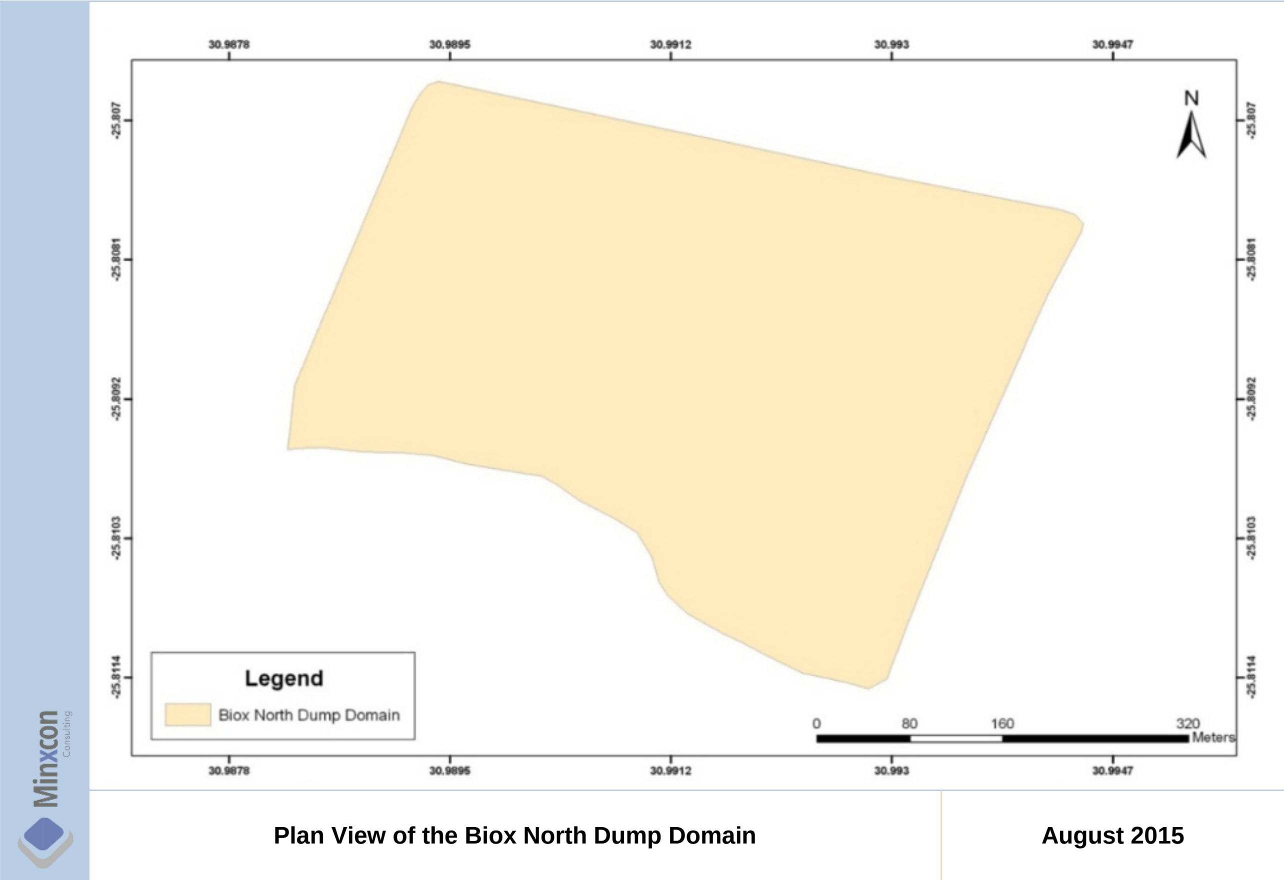



**Plan View of the Hostel West and East Dumps Domains** | **August 2015**

**Biox North Dump Domain**

The Biox North Dump was modelled as one domain, as shown in Figure 42.

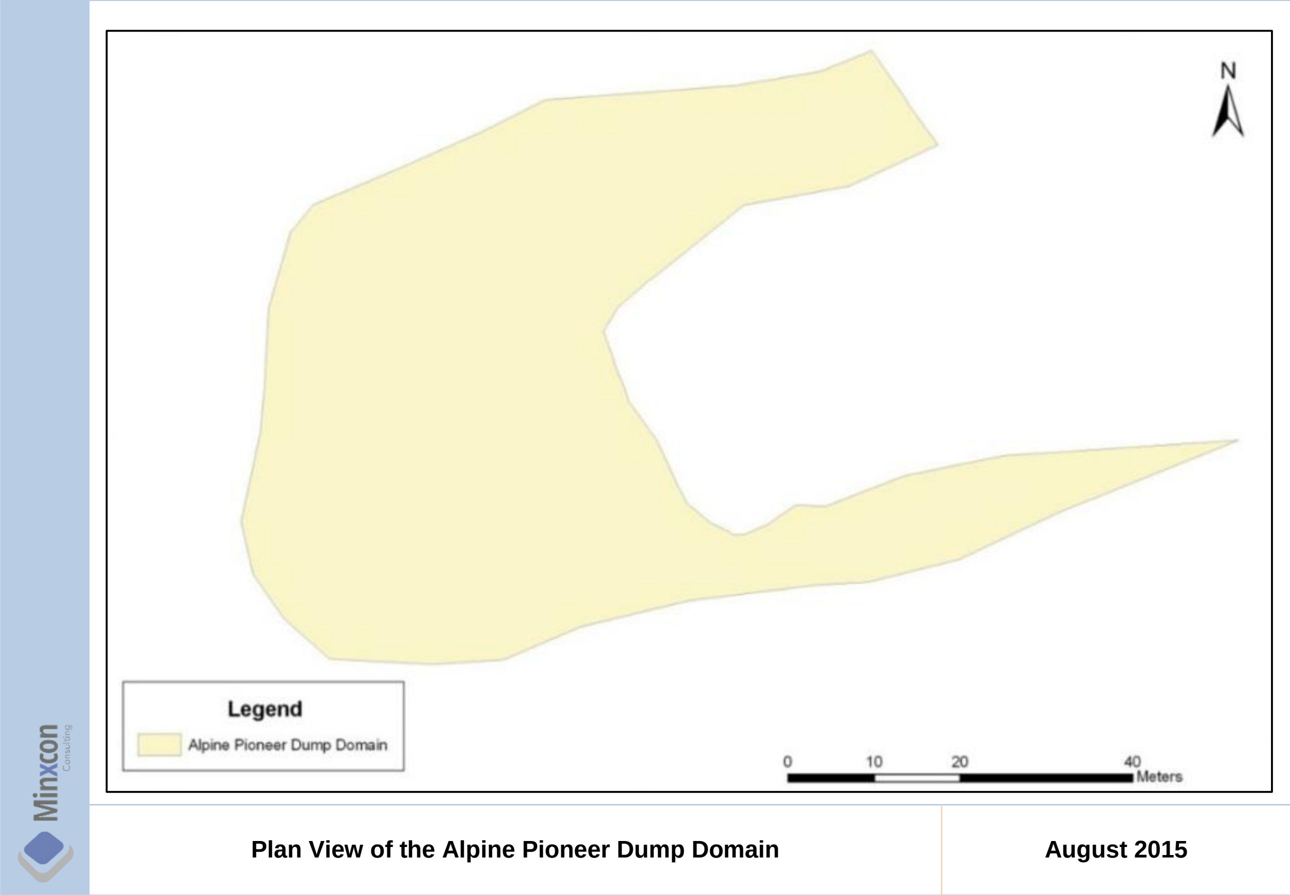
*Figure 42: Plan View of the Biox North Dump Domain*



### Alpine-Pioneer Dump Domain

One domain was defined for the Alpine Pioneer Dump, as shown in Figure 43.

*Figure 43: Plan View of the Alpine Pioneer Dump Domain*



#### DESCRIPTIVE STATISTICS

Descriptive statistics in the form of histograms (frequency distributions) and probability plots (evaluate the normality of the distribution of a variable) are thus used to develop an understanding of such statistical relationships. Skewness is a measure of the deviation of the distribution from symmetry (0 – no skewness). Kurtosis measures the "peaked-ness" of a distribution (0 – normal distribution).

The statistics that summarise the population distribution for each of the Galaxy Gold Mine ore bodies are detailed in the following table.

*Table 14: Agnes Top High-grade Zone Descriptive Statistics*

| Ore Body | Valid Samples | Minimum | Maximum | Average | Variance | Std. Dev | Geomean | Log Mean | CoV |
|---|---|---|---|---|---|---|---|---|---|
| | | g/t | g/t | g/t | | | g/t | | |
| **Underground** | | | | | | | | | |
| Agnes Top High Grade | 1,099 | 0.010 | 183.07 | 1.81 | 46.51 | 6.82 | 0.50 | 2.63 | 3.76 |
| Agnes Top Low Grade | 498 | 0.010 | 14.10 | 0.37 | 0.74 | 0.86 | 0.12 | 0.47 | 2.34 |
| Golden Hill High Grade | 1,470 | 0.005 | 21.48 | 2.71 | 12.77 | 3.57 | 0.84 | 5.44 | 1.32 |
| Golden Hill Low Grade | 1,041 | 0.005 | 19.00 | 0.87 | 3.04 | 1.74 | 0.25 | 1.23 | 2.02 |
| Princeton LEV6 | 969 | 0.010 | 18.95 | 3.24 | 16.53 | 4.07 | 0.96 | 9.36 | 1.25 |
| Princeton PS5 | 99 | 0.010 | 12.49 | 3.03 | 11.28 | 3.36 | 0.50 | 22.12 | 1.11 |
| Princeton PS19 | 248 | 0.010 | 43.40 | 5.18 | 50.07 | 7.08 | 1.80 | 16.36 | 1.37 |
| Galaxy 17 Lev Up | 2,610 | 0.010 | 38.40 | 1.36 | 10.01 | 3.16 | 0.22 | 1.98 | 2.34 |
| Galaxy 24-Level-Down | 14,114 | 0.010 | 243.10 | 1.94 | 18.87 | 4.34 | 0.81 | 2.35 | 2.24 |
| Woodbine | 836 | 0.010 | 69.69 | 3.40 | 19.89 | 4.46 | 2.14 | 4.02 | 1.31 |
| Giles | 517 | 0.010 | 243.00 | 3.88 | 142.81 | 11.95 | 1.85 | 4.19 | 3.08 |
| Pioneer-Tiger Trap Dom 1 | 176 | 0.010 | 7.30 | 0.50 | 0.77 | 0.88 | 0.19 | 0.54 | 1.74 |
| Pioneer-Tiger Trap Dom 2 | 153 | 0.010 | 11.05 | 0.80 | 1.84 | 1.36 | 0.22 | 1.12 | 1.69 |
| Pioneer-Tiger Trap Dom 3 | 225 | 0.010 | 20.38 | 0.85 | 2.97 | 1.72 | 0.22 | 1.08 | 2.02 |
| Pioneer-Tiger Trap Dom 4 | 75 | 0.010 | 4.82 | 0.64 | 1.07 | 1.03 | 0.13 | 0.90 | 1.60 |
| **Surface** | | | | | | | | | |
| Alpine Pioneer Dump | 97 | 0.680 | 2.54 | 1.37 | 0.21 | 0.46 | 1.29 | 1.37 | 0.33 |
| Hostel East Dump | 470 | 0.240 | 2.12 | 0.78 | 0.14 | 0.38 | 0.70 | 0.78 | 0.48 |
| Hostel West Dump | 227 | 0.220 | 3.02 | 0.85 | 0.21 | 0.45 | 0.77 | 0.85 | 0.53 |
| Biox North Dump | 212 | 0.080 | 11.13 | 1.70 | 3.15 | 1.77 | 1.19 | 1.67 | 1.05 |
| Woodbine WW Dump | 39 | 0.370 | 0.71 | 0.52 | 0.01 | 0.09 | 0.51 | 0.52 | 0.17 |
| Woodbine W Dump | 49 | 0.353 | 0.93 | 0.62 | 0.03 | 0.19 | 0.59 | 0.62 | 0.30 |
| Woodbine S Dump | 79 | 0.447 | 2.53 | 1.52 | 0.29 | 0.54 | 1.41 | 1.54 | 0.35 |

For Princeton, Galaxy, Woodbine and Giles, only the statistics for the DD holes have been shown above.

The dumps have low variances, while the ore bodies have high variances, with the exception of the Agnes Top low-grade domain, which has a low variance of 0.74.

#### CO-EFFICIENT OF VARIATION

The co-efficient of variation ("CoV") is the ratio between the standard deviation and the mean and is a relative measure of dispersion in a data set. Typically, a CoV <1 indicates low variance within the data set. A low-variance data set demonstrates that the population distribution reflects a relatively stable data set which is necessary for estimation purposes. Details of the CoV are shown in Table 14.

The CoV for the ore bodies is above one, indicating a need to further sub-domain the units in order to obtain stable populations, should the data sets eventually be big enough.

#### HISTOGRAMS AND PROBABILITY PLOTS

Histograms and probability plots provide a graphic representation of the distribution of values in the population in each of the ore bodies. Histograms and probability plots were used to identify the existence of anomalous high grades.

### Top Cutting and Capping Strategy

Statistical analysis facilitated the application of top-cut values for the variography and kriging processes. Top-cut values are determined by review of and calculations from the normal and log probability plots for each commodity.

Examination of the histograms and probability plots revealed some anomalous grade values that required capping of the data for kriging purposes. Capping is carried out during the kriging stage to limit the influence that the ultra-high grades may have on the estimation of the surrounding areas.

Top cuts were applied during the variography stage to prevent the excessive variances of the anomalously high grade from skewing the distribution away from the representative variance of the data distribution. Table 15 shows the top cuts applied to the data prior to variogram modelling.

*Table 15: Galaxy Gold Mine Variogram Top Cuts and Kriging Caps Applied*

| Ore Body | Variogram Top Cut | Kriging Caps |
|---|---|---|
| | g/t | g/t |
| **Undergound** | | |
| Agnes Top High-grade Zone | 16.00 | 16.00 |
| Agnes Top Low-grade Zone | 2.80 | 2.80 |
| Golden Hill Ore Body | 22.00 | 22.00 |
| Princeton LEV6 Ore Body | 18.95 | 18.95 |
| Princeton PS19 Ore Body | 70.36 | 70.36 |
| Princeton PS5 Ore Body | 43.40 | 43.40 |
| Galaxy Reef Ore Body | 55.00 | 55.00 |
| Woodbine Reef Ore Body | 50.00 | 50.00 |
| Giles Reef Ore Body | 80.00 | 80.00 |
| **Surface** | | |
| All Dumps | - | - |

Analysis of the spatial location of the "outliers" was carried out and it was established that no further grade domaining was possible with the given data.

### Topography Surface

The Galaxy Gold Mine is set in a mountainous area with steeply to gently undulating hills, some defining steep escarpments as seen above the Ben Lomond adit entrance. The average topography is from zero metres to 930 m below mean sea level.

### Variography

Variograms are an essential tool for investigating the spatial relationships of samples. Variograms for gold content and channel width were modelled. Note that the untransformed variograms – and not the log-variograms – are used for the kriging.

Omni-directional variograms and variograms in the channel development direction were modelled; however, in most cases, the directional variograms were unstable due to the data scarcity. Thus, omni-directional variograms were predominantly applied. Anisotropy was investigated by generating experimental variograms in all directions from 0° in 15 degree increment to 165°, then observing each pair of orthogonal directions to check whether or not there are significant differences in the resulting variograms. If anisotropy exists, the ranges of the two variograms will differ and the angles which produce the pair of experimental variograms with the largest difference in ranges represent the principal axes of anisotropy. The variogram with the larger range represents the major principal axis and the variogram with the shorter range represents the minor principal axis. In most instances, the data azimuth angle had little effect on the resulting experimental variograms and thus omnidirectional variograms were modelled.

The Galaxy Gold Mine ore bodies are all oriented in a northeast-southwest direction and variograms are modelled in the pre-defined direction to determine grade trends on strike, across strike and down-dip.

The variograms modelled for the Galaxy Gold Mine ore bodies are located in Table 16 of this Report. The parameters of the modelled variograms are summarised in the table.

Owing to the limited amount of data, there was difficulty in generating a general nugget:sill % for the ore bodies but of note is the high nugget tendencies in some ore bodies, which is common due to the nuggety nature of the mineralisation.

All the rotations were carried out in the rotation axis order Rotation axis 1=3, Rotation axis 2=2 and Rotation axis 3=1.

*Table 16: Galaxy Gold Mine Variogram Parameters*

| Ore Body | First Rotation (deg.) | Second Rotation (deg.) | Third Rotation (deg.) | Nugget: Sill % | Range X (1st Structure) | Range Y (1st Structure) | Range Z (1st Structure) | C 1 | Range X (2nd Structure) | Range Y (2nd Structure) | Range Z (2nd Structure) | C 2 | Range X (3rd Structure) | Range Y (3rd Structure) | Range Z (3rd Structure) | C 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Agnes High Grade | 170 | 45 | -90 | 9 | 8 | 8 | | 2.2 | 20 | 33 | | 0.0 | - | - | | - |
| Agnes Low Grade | 170 | 45 | -90 | 27 | 9 | 10 | | 2.8 | 11 | 13 | | 0.0 | - | - | | - |
| Golden Hill High Grade | 130 | -44 | 76 | 56 | 46 | 25 | | 0.1 | 85 | 55 | | 0.3 | - | - | | - |
| Golden Hill Low Grade | -7 | -72 | 124 | 46 | 20 | 20 | | 0.2 | 65 | 39 | | 0.3 | - | - | | - |
| Princeton Lev6 | 160 | -30 | -90 | 9 | 88 | 49 | | 19.1 | 175 | 87 | | 18.7 | - | - | | - |
| Princeton PS5 | 160 | -30 | -90 | 9 | 88 | 49 | | 19.1 | 175 | 87 | | 18.7 | - | - | | - |
| Princeton PS19 | 160 | -30 | -90 | 9 | 88 | 49 | | 19.1 | 175 | 87 | | 18.7 | - | - | | - |
| Galaxy | 123 | 31 | 201 | 55 | 25 | 22 | | 0.9 | 36 | 27 | | 1.4 | 50 | 37 | | 2.7 |
| Woodbine 24-L Down | 156 | 60 | -86 | 9 | 11 | 5 | | 4.8 | 49 | 17 | | 1.9 | 105 | 48 | | 1.8 |
| Giles 24-L Down | 0 | 0 | 0 | 10 | 4 | 4 | | 14.2 | 66 | 66 | | 2.6 | 80 | 80 | | 9.8 |
| Pioneer-Tiger Trap | 0 | 0 | 0 | 56 | 26 | 26 | 26 | 0.40 | 75 | 75 | 75 | 0.27 | - | - | - | - |

### GALAXY GOLD MINE GRADE ESTIMATION

Two basic approaches were taken to estimation, 3D modelling using Datamine™, and manual estimation. The 3D modelling approach was employed for all areas barring those where the data was not yet captured or validated, in which case, the historical block listings were used after being verified with the stope sampling taken off the plans. The grades and thicknesses of the block listings were verified for each block.

Geological modelling of the ore bodies, which were estimated in 3D using Datamine™, was carried out by Deswik. Deswik reviewed the data and wireframes supplied, ensuring that the reef was correctly identified and that the drill hole reef intercepts were honoured.

The dimensions of the Galaxy Gold Mine ore bodies as well as the estimation type are summarised in Table 17.

*Table 17: Ore Body Dimensions and Estimation Type*

| Ore Body | Strike | Width | Depth | Estimation Type |
|---|---|---|---|---|
| | m | m | m | |
| Agnes Top | 400 | 35.0 | 90 | 3D |
| Golden Hill | 325 | 3.5 | 530 | 3D |
| Princeton Lev6/PS7 | 595 | 3.5 | 330 | 3D |
| Princeton 5 | 380 | 1.5 | 360 | 3D |
| Princeton 19 | 330 | 1.0 | 300 | 3D |
| Galaxy Surface to Dyke | 150 | 20.0 | 165 | Manual |
| Galaxy 17-Level-Up | 140 | 20.0 | 140 | 3D |
| Galaxy Gap 17-24 Level | 520 | 25.0 | 400 | Manual |
| Galaxy 24-Level-Down | 390 | 30.0 | 290 | 3D |
| Woodbine W & E Surface - 22 Level | 1,250 | 1.2 | 620 | Manual |
| Woodbine 24-Level-Down | 1,250 | 1.5 | 520 | 3D |
| Giles Surface - 23 Level | 850 | 1.2 | 620 | Manual |
| Giles 25 Level Down | 850 | 1.0 | 490 | 3D |
| Pioneer & Tiger Trap | 1300 | 14.0 | 500 | 3D |
| Ivy Shaft Pillar | 240 | 0.4 | 450 | Manual |
| Ivy to Agnes 3-11 Level | 180 | 0.4 | 450 | Manual |
| Ceska Shaft Pillar | 180 | 0.4 | 480 | Manual |

The dimensions of the Galaxy Gold Mine dumps for which Mineral Resources were declared are summarised in Table 18.

*Table 18: Dump Parameters and Estimation Type*

| Dump | Foot Print Area | Height | Estimation Type |
|---|---|---|---|
| | $m^2$ | m | |
| Alpine Pioneer Dump | 3,150 | 6 | 3D |
| Hostel East Dump | 80,550 | 15 | 3D |
| Hostel West Dump | 43,300 | 18 | 3D |
| Biox North Dump | 192,250 | 7 | 3D |
| Woodbine South Dump | 11,050 | 6 | 3D |
| Woodbine West Dump | 10,250 | 15 | 3D |
| Woodbine WW Dump | 4,050 | 6 | 3D |

### DIGITAL MODEL DEPLETIONS

#### Underground and Surface Hardrock Operations

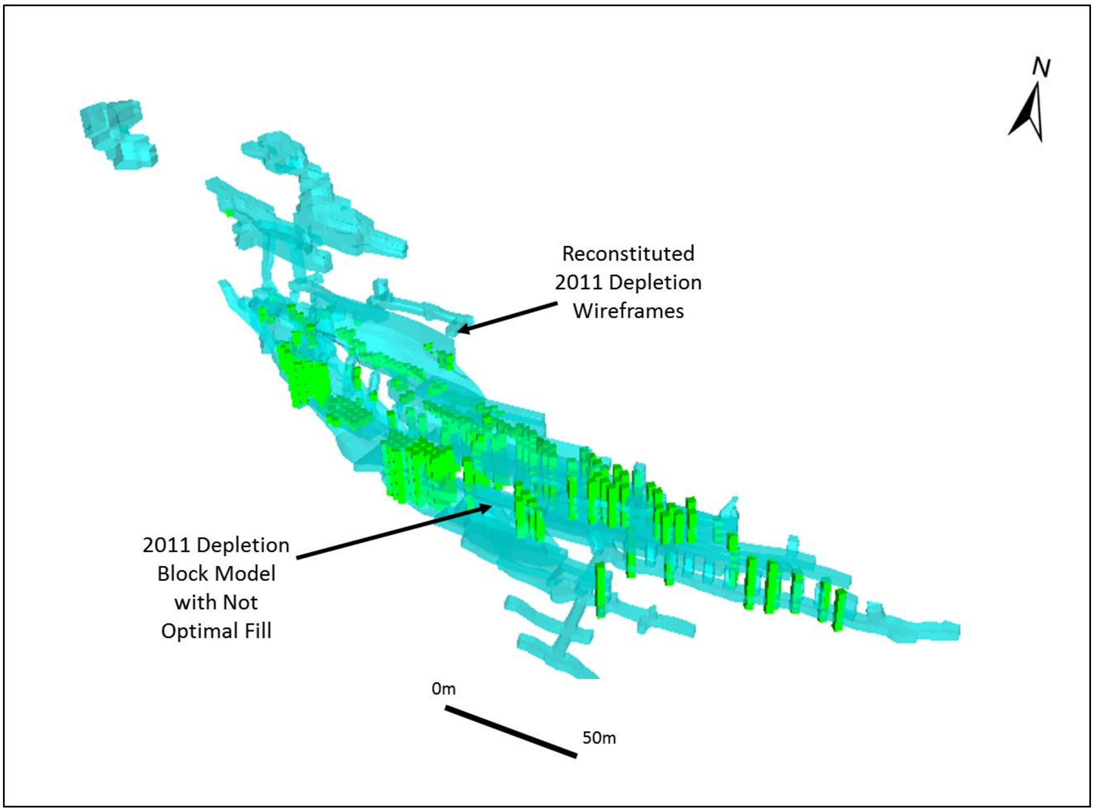
As part of the 2015 Galaxy Mineral Resource declaration process, Minxcon reviewed the historical voids on all the underground operations for correct positioning within the original block models, as well as for correct ore body volume depletion before conducting the July 2011 to 2015 mining depletions.

Minxcon found that for the planar ore body models, the 2011 depletions may be viewed as adequate, due to the shrinkage mining employed. However, for the tubular Galaxy ore body, Minxcon concluded that 2011 depletions as employed were not optimal. Reasons for this are discussed in the section below.

#### Galaxy

Review of the 2011 depletions for Galaxy 17 Level Up, as well as Galaxy 24 Level Down, revealed the following issues. Firstly, the final block model utilised by Deswik for the purposes of mining depletion had a vertical cell size of 15 m. This resulted in cell centroids not being located optimally relative to mining voids, as only individual cells with their centroids falling within the voids were removed from the block model for the rendition of the final declared Mineral Resources for the Galaxy Ore Body in 2011. The non-optimal depletion of the Galaxy 17 Level Up area may be viewed in Figure 44.

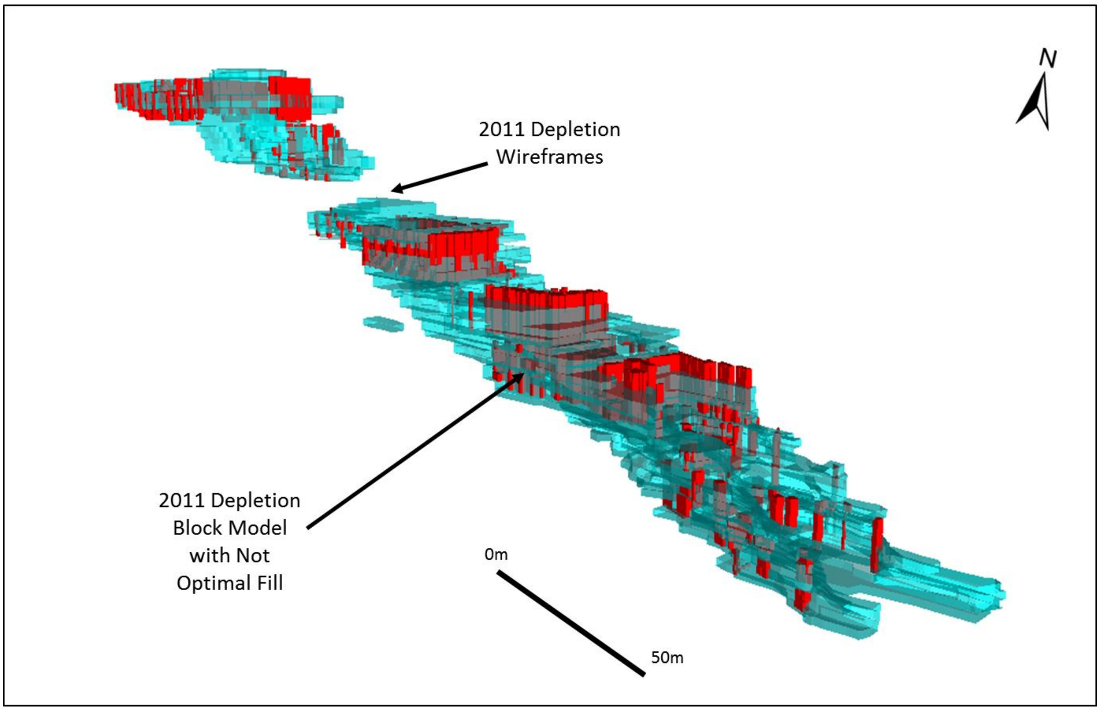
*Figure 44: Non-Optimal Depletion in 2011 of the Galaxy 17 Level Up Project Area*




| Non-Optimal Depletion in 2011 of the Galaxy 17 Level Up Project Area | August 2015 |
|---|---|

The non-optimal depletion of the Galaxy 24 Level Down area may be viewed in Figure 45.

*Figure 45: Non-Optimal Depletion in 2011 of the Galaxy 24 Level Down Project Area*



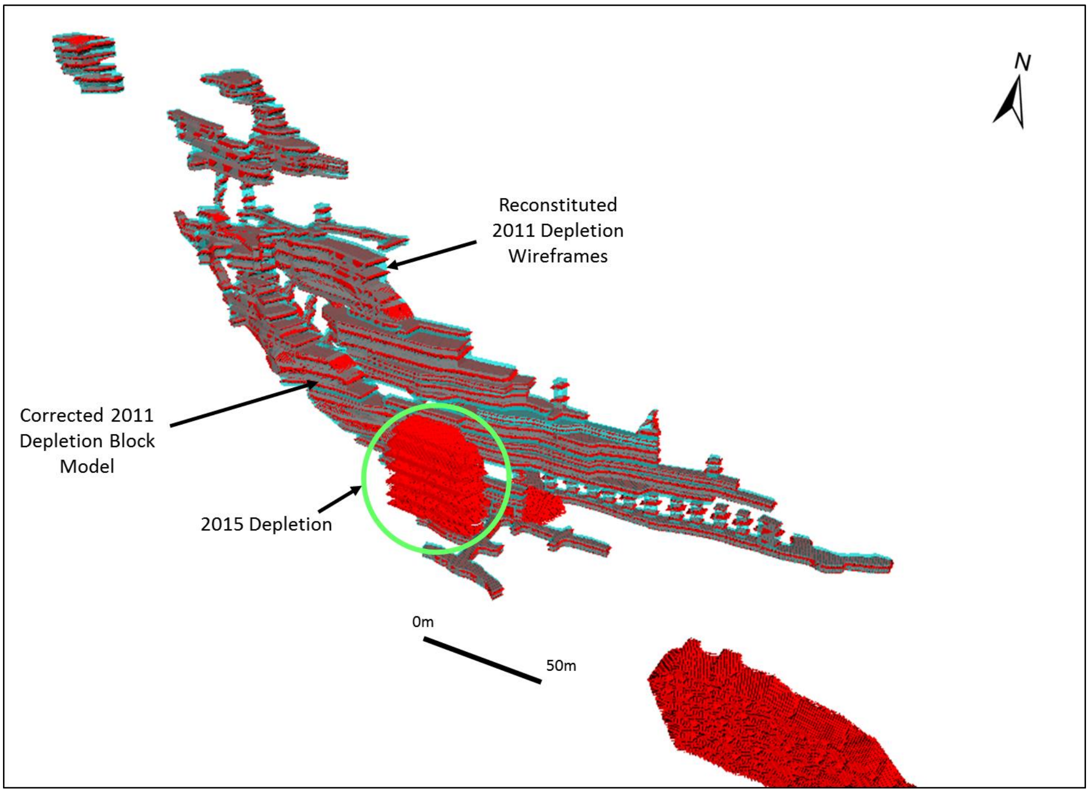

| Non-Optimal Depletion in 2011 of the Galaxy 24 Level Down Project Area | August 2015 |
|---|---|

Secondly, Minxcon conducted a validation of the 2011 mining voids for both the 17 Level Up and 24 Level Down. Minxcon found that the integrity of the mining voids utilised was compromised due to wireframe overlaps. Minxcon then utilised the raw 2011 void strings, as originally provided by Galaxy and re-wireframed the 17 Level Up section. Owing to the complexity of the 24 Level Down mining voids, Minxcon generated a block model below each mined hanging-wall wireframe, utilising the averaged mined width in order to generate an optimal depletion volume. Minxcon then generated additional mining void wireframes from the July 2011 to 2015 mining survey strings and reviewed these relative to the new 2011 depletion wireframes to validate positioning and correct depletion.

In order to conduct optimal depletion of the two mining sections, Minxcon sliced the block model down to cell vertical dimensions of 3 m as opposed to the 15 m utilised in 2011. Minxcon conducted tonnage and grade reconciliations of the sliced block model relative to the 2011 undepleted block model in order to prove that the integrity of the original undepleted block model had not been compromised. Tonnage and grade reconciliations revealed no change to the undepleted slice block model relative to the original 2011 undepleted block model.

Minxcon then utilised the new, regenerated 2011 depletion wireframe for 17 Level Up to conduct a new depletion for the 2011 mining void. Minxcon then further depleted the new resized Galaxy block model to account for the mining conducted from July 2011 through to 2015. In addition, Minxcon utilised the new constructed void block model for 2011 to correctly deplete the 2011 sliced block model. After the new depletion of the 2011 sliced block model, Minxcon then depleted the result with the 2015 mining void in order to render the final depleted 2015 declared Mineral Resources for the Galaxy Ore Body. The final total depletion (updated 2011 depletion plus 2015 depletion) block model for the Galaxy 17 Level Up area relative to the mining void may be reviewed in Figure 46 below.

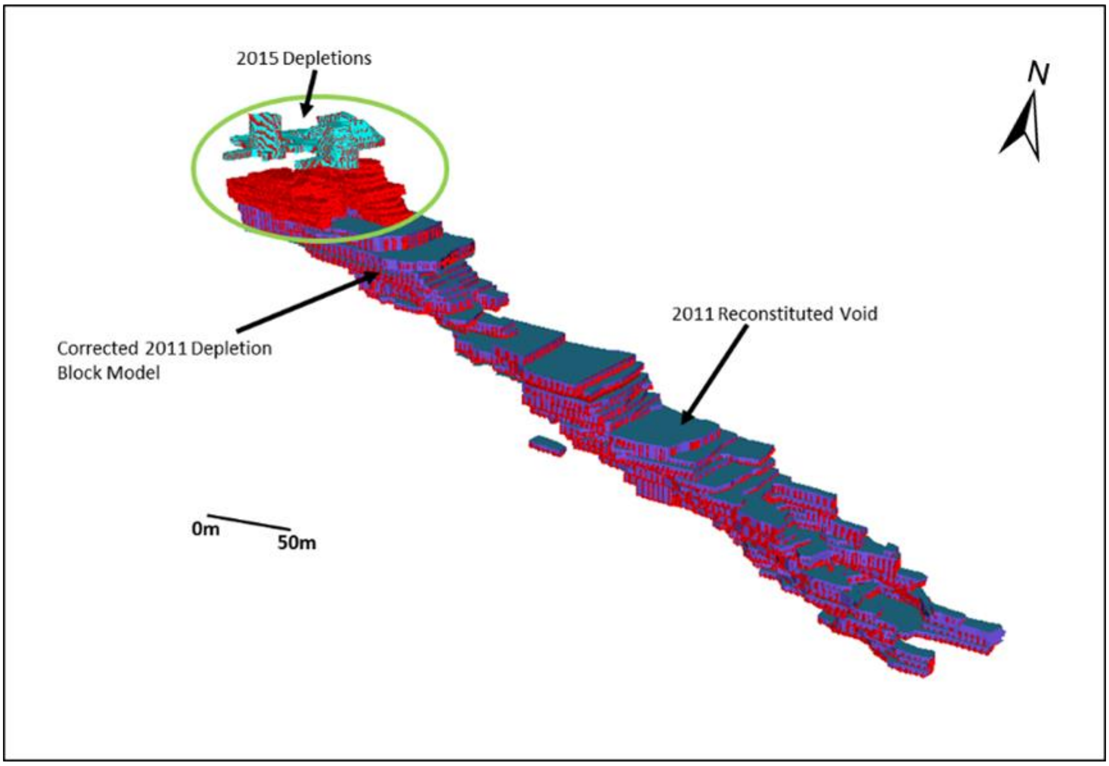
*Figure 46: Total Corrected Depletion (Updated 2011 Depletion Plus 2015 Depletion) Block Model for the Galaxy 17 Level Up Area*




| Total Corrected Depletion (Updated 2011 Depletion Plus 2015 Depletion) Block Model for the Galaxy 17 Level Up Area | August 2015 |
|---|---|

The final total depletion (updated 2011 depletion plus 2015 depletion) block model for the Galaxy 24 Level Down area relative to the mining void may be reviewed in Figure 47 below.

*Figure 47: Total Corrected Depletion (Updated 2011 Depletion Plus 2015 depletion) Block Model for the Galaxy 24 Level Down Area*




| Total Corrected Depletion (Updated 2011 Depletion Plus 2015 Depletion) Block Model for the Galaxy 24 Level Down Area | August 2015 |
|---|---|

### Woodbine 24 Level Down

Minxcon utilised survey strings provided by Galaxy to generate the July 2011 to 2015 depletion wireframes for the digital Woodbine 24 Level Down Mineral Resources. Minxcon reviewed the previous 2011 depletions conducted by Deswik and concluded that these depletions had been adequately accounted for. Minxcon then removed all mineralised material occurring within the July 2011 to 2015 mining voids from the block model and reported the result for the purposes of the 2015 Mineral Resource update.

### Giles 23 Level Down

Minxcon utilised survey strings provided by Galaxy to generate the July 2011 to 2015 depletion wireframes for the digital Giles 23 Level Down Mineral Resources. Minxcon reviewed the previous 2011 depletions conducted by Desik and concluded that these depletions had been adequately accounted for. Minxcon then removed all mineralised material occurring within the July 2011 to 2015 mining voids from the block model and reported the result for the purposes of the 2015 Mineral Resource update.

### Other Digital Underground and Surface Hardrock Project Depletions

Minxcon reviewed only historical depletions for the following underground operations as no mining activity in these projects had taken place for the period July 2011 to present:-

- Golden Hill;
- Agnes Top;
- Princeton 6/PS7;
- Princeton 5;
- Princeton 19; and
- Pioneer-Tiger Trap.

Minxcon is of the opinion that the historical depletions conducted on these ore bodies was conducted adequately for the Mineral Resource declaration purposes.

**Surface Dump Operations**

The surface dumps were depleted utilising 2D survey strings as provided by the Galaxy Survey Department. These were draped onto the existent wireframes, the true area calculated, and the resultant depth of depletion calculated utilising the 2011 SG per dump and the associated calculated declared mined volume to generate mined closed volume wireframes. These volumes were then removed from each block model to render a final depleted Mineral Resource on a per dump basis. The dumps which had to be depleted for the 2015 declaration are listed below:-

- Woodbine South Dump;
- Hostel East Dump;
- Hostel West Dump;
- Biox North Dump; and
- Alpine Pioneer Dump.

Minxcon was notified by Galaxy that the Alpine Pioneer Dump had been completely mined and as a result has been completely removed from the 2015 Mineral Resource tabulation.

The Woodbine West and Woodbine West-west Surface dumps have not been mined subsequent to their Mineral Resource declaration of 27 June 2011 and thus did not require Mineral Resource depletion.

**MANUAL ESTIMATION**

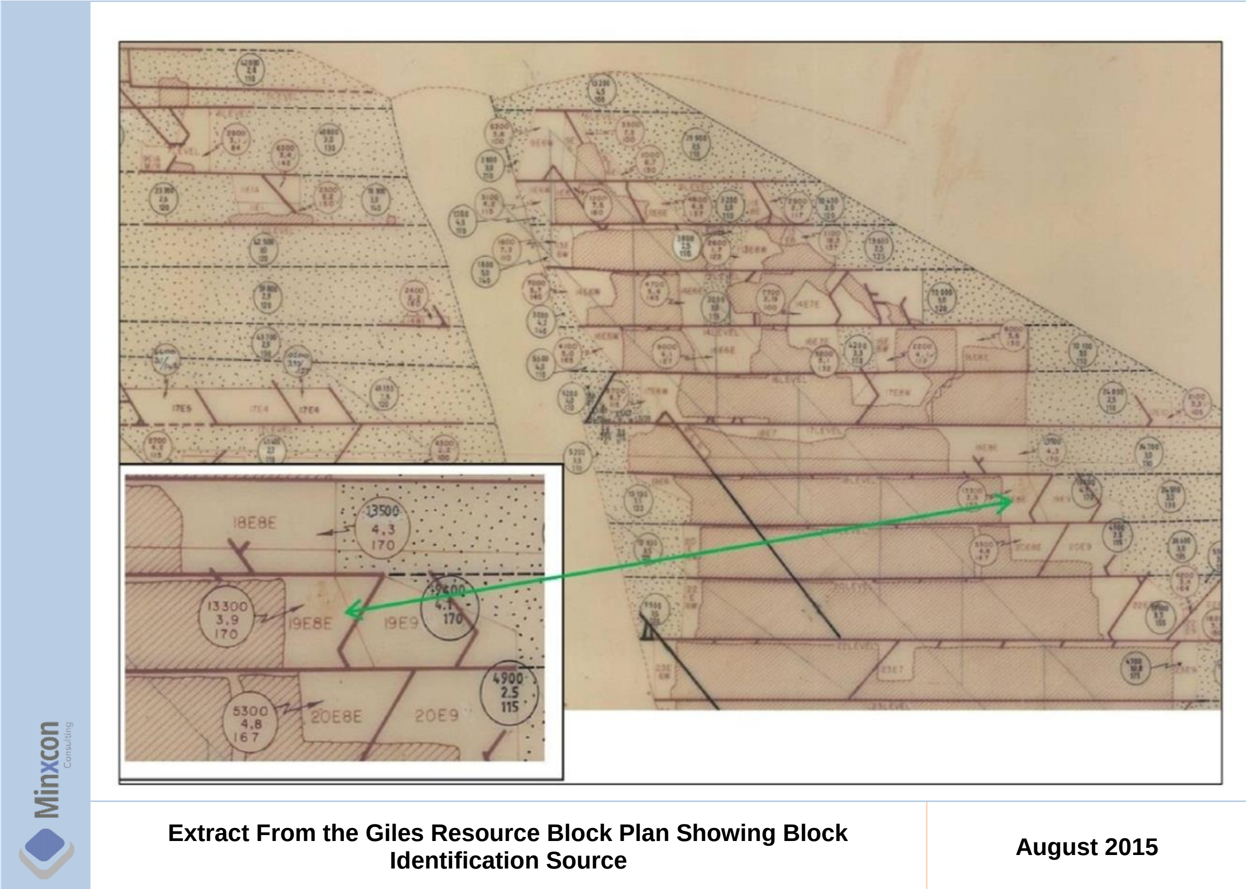
Manual estimation of Mineral Resources was carried out using historical plans, sections and block listings. This methodology is utilised at Woodbine W & E Surface to 22 level, Giles Surface to 23 level, Ivy Shaft Pillar, Ivy to Agnes 3-11 level and Ceska Shaft Pillar.

The block listings were used to identify the blocks and to have an idea of the grade and tonnes. Utilising the assays plans, the grade of each block was then calculated by averaging the grades of all the samples in the bottom and top drives of the block. Raise samples were not used as it was not certain if the development was on-reef for all the raises.

The thicknesses of the reef in each block were averaged as well to give the average block thickness. The area of the block was then measured off the sections and, subsequently, the tonnes were derived by multiplying the average channel width by the SG by the area of the block.

Figure 48 below illustrates an example of the available block plans.

*Figure 48: Extract From the Giles Resource Block Plan Showing Block Identification Source*




***Source***: Galaxy Gold Mine Plans

### VOLUME/TONNAGE CALCULATION

The volume to tonnage calculations were based on the specific density figures for the different ore bodies as shown below:-

*Table 19: Specific Density Factors Utilised in the 2011 Mineral Resource Estimate*

| Ore Body | SG<br>t/m³ |
|---|---|
| **Underground** | |
| Agnes Top | 2.80 |
| Golden Hill | 3.03 |
| Princeton | 3.08 |
| Galaxy Ore Body | 2.73 |
| Woodbine Reef Ore Body | 2.73 |
| Giles Reef Ore Body | 2.73 |
| Pioneer Tiger Trap | 2.73 |
| Alpine Pioneer | 1.26 |
| Ivy Shaft Pillar, Ivy to Agnes & Ceska Shaft Pillar | 2.78 |
| **Surface** | |
| Hostel East Dump | 1.41 |
| Hostel West Dump | 1.41 |
| Biox North Dump | 1.38 |
| Woodbine West and WW Dumps | 1.17 |
| Woodbine South Dump | 1.12 |

### DATA VERIFICATION

During 2011, Minxcon carried out a site visit to gather information for the CPR. During the visit, Minxcon reviewed the data storage facilities and status, and the data accessibility for a number of historical and recent drill holes. Minxcon also reviewed core management practices and sample storage facilities.

A site visit to inspect exploration and mineral resource components was not conducted, as no further work of this nature has been conducted since the 2011 CPR compilation. The relevant geological information was produced and reviewed in sufficient detail to prepare this CPR. Minxcon's review of the Galaxy Gold Mine Mineral Resource estimation was completed based on information provided by Deswik and Galaxy.

### MINERAL RESOURCE CLASSIFICATION CRITERIA

The Mineral Resource classification is a function of the confidence in the whole process from drilling, sampling, geological understanding and geostatistical relationships.

*Table 20: Mineral Resource Classification Criteria*

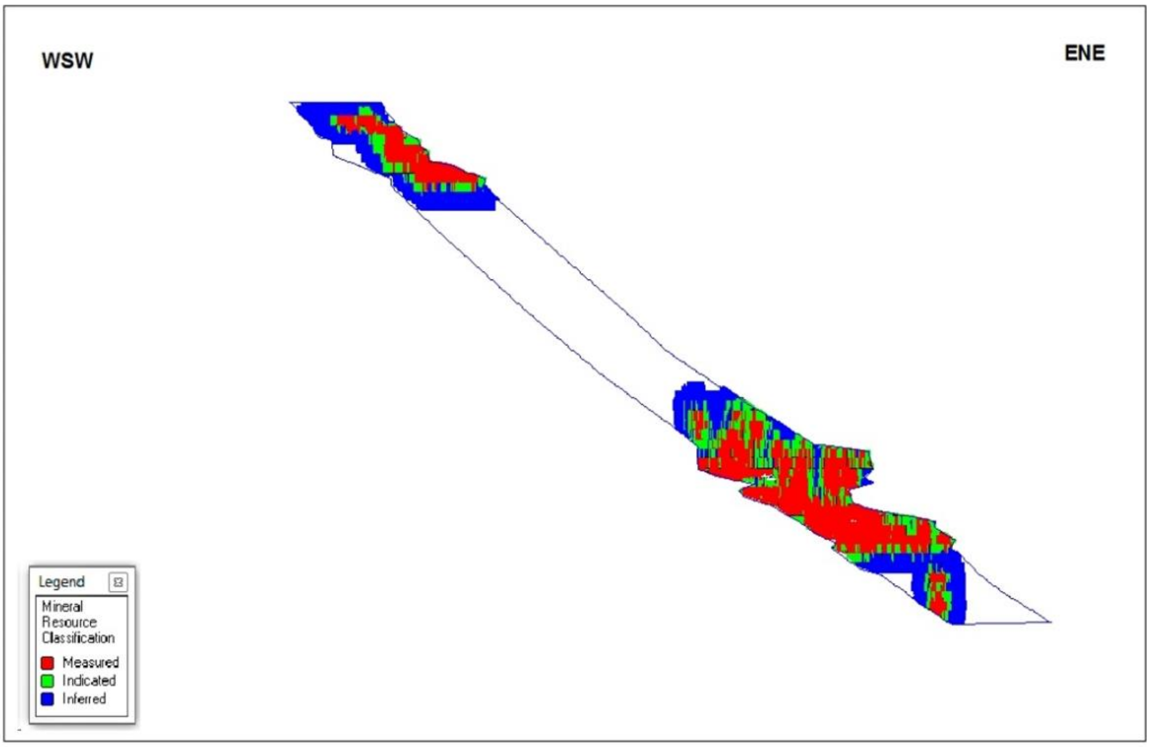
| Criteria | Measured Mineral Resource | Indicated Mineral Resource | Inferred Mineral Resource |
|---|---|---|---|
| **Geological Confidence** | High confidence in the understanding of geological relationships, continuity of geological trends and sufficient data. | Good understanding of geological relationships | Geological continuity not established. |
| **Number of Samples Used to Estimate a Specific Block** | Three search volumes were defined, each with a defined set of minimum and maximum number of samples criteria. The first search volume, the minimum and maximum numbers of samples within two thirds of the variogram are required. The second and third volumes which would represent Indicated and Inferred Mineral Resources respectively are multiples of the first. | | |
| **Kriged Variance** | This is a relative parameter and is only an indication and used in conjunction with the other parameters. | | |
| **Distance to Sample (Semi-variogram Range)** | At least within 66% of semi – variogram range. | Within 1.5 times semi-variogram range (twice for Agnes Top). | Further than semi-variogram range. |
| **Lower Confidence Limit (Blocks)** | < 20% from mean (90% confidence). | 20% – 40% from mean (80% – 90% confidence). | > 40% (less than 80% confidence). |
| **Kriging Efficiency** | > 75% | 50 – 75% | < 50% |
| **Slope of Regression** | >0.95 | 0.85 – 0.95 | < 0.84 |

Using the criteria mentioned above, the Galaxy Gold Mine Mineral Resources were classified as Measured, Indicated and Inferred as illustrated in the diagrams that follow.

**Galaxy**

The Mineral Resource classification for the Galaxy 17-Level-Up and 24-Level-Down ore bodies is shown below in Figure 49.

*Figure 49: Section View of the Galaxy Ore Body Depicting the Mineral Resource Classification for the Ore Body*



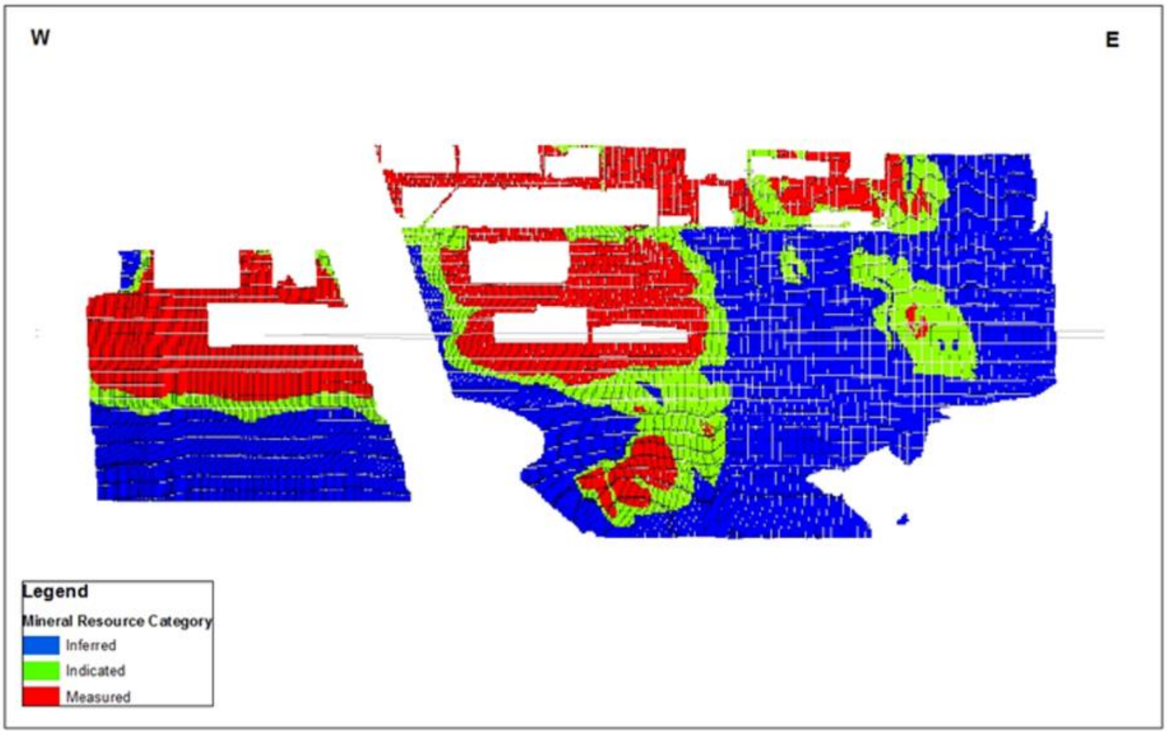

| Section View of the Galaxy Ore Body Depicting the Mineral Resource Classification for the Ore Body | August 2015 |
|---|---|

Both sections show Inferred Mineral Resources going into the gap area that lies between them.

**Woodbine**

The Mineral Resource classification for the depleted Woodbine Ore Body is illustrated below in Figure 50.

*Figure 50: Mineral Resource Classification for the Woodbine Ore Body*



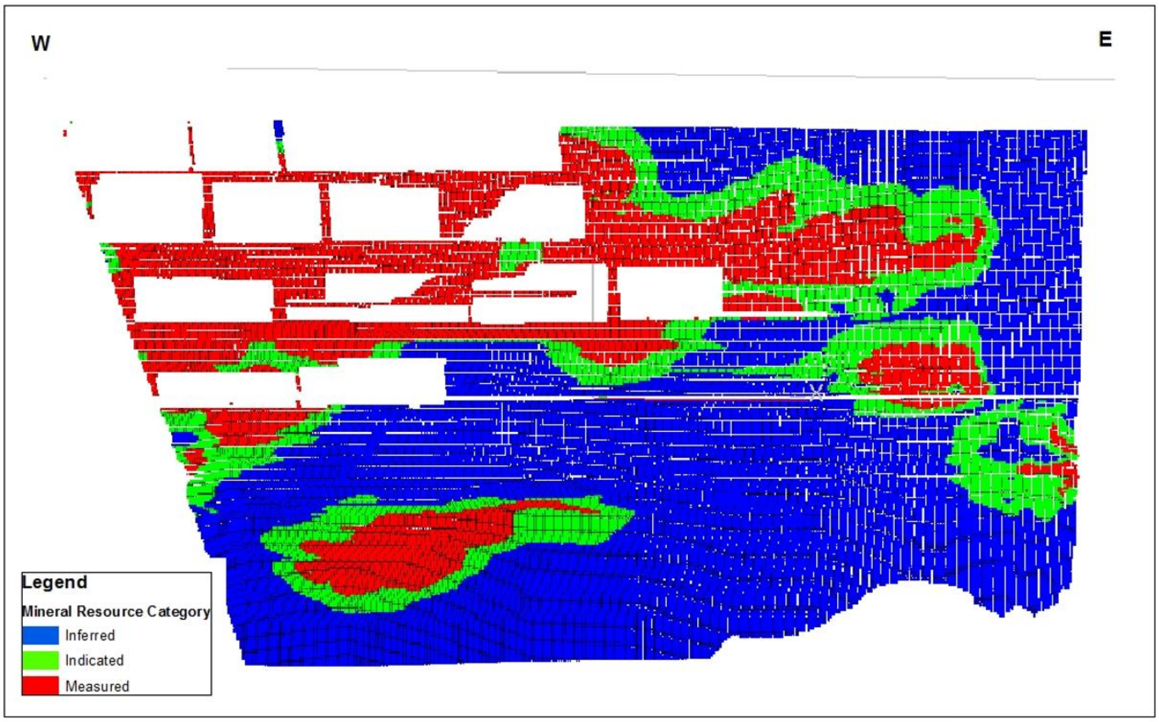

| Mineral Resource Classification for the Woodbine Ore Body | August 2015 |
|---|---|

The mined-out portions of the Woodbine Mineral Resource have been excluded.

**Giles**

The classification for the Giles Ore Body is as shown below in Figure 51.

*Figure 51: Mineral Resource Classification for the Giles Ore Body*



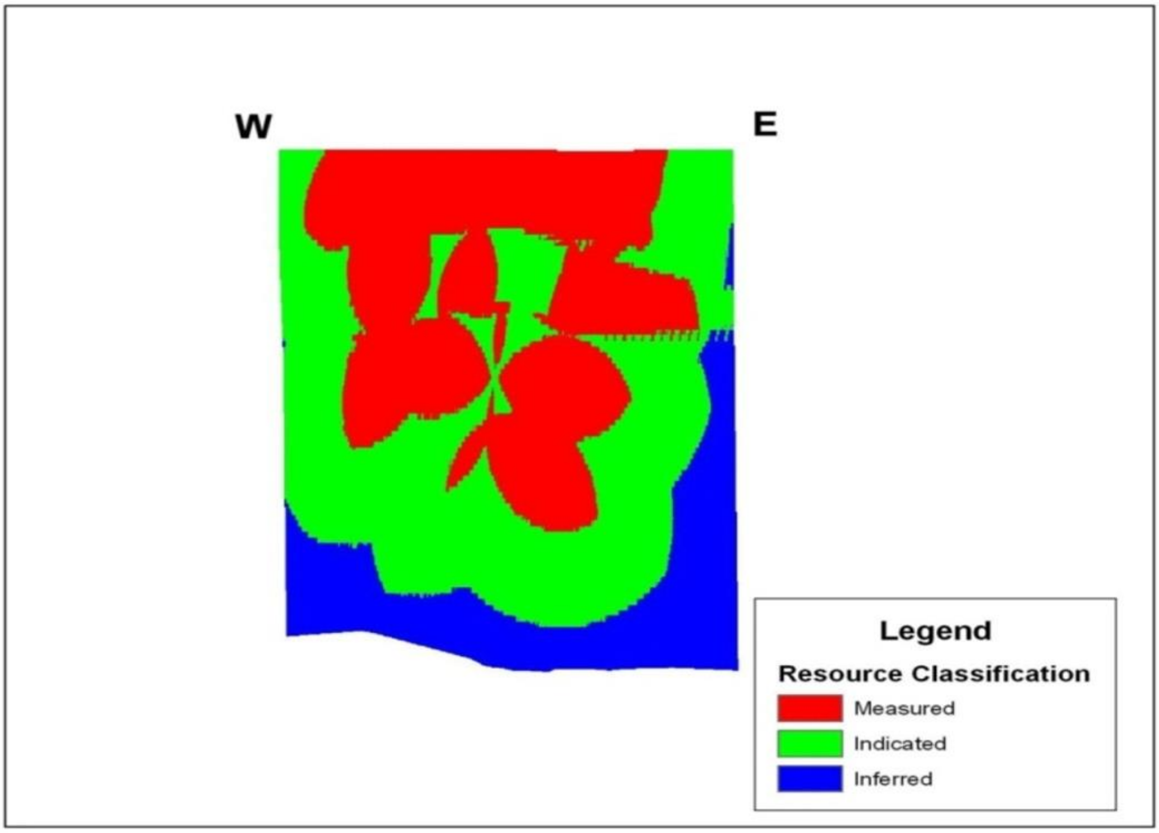

| Mineral Resource Classification for the Giles Ore Body | August 2015 |
|---|---|

The areas proximal to the mined-out stopes are Measured Mineral Resources, coincident with the confidence afforded by the sampling and underground mapping.

**Golden Hill**

The Mineral Resource classification for Golden Hill is shown in Figure 52 below.

*Figure 52: Mineral Resource Classification of the Golden Hill Ore Body*



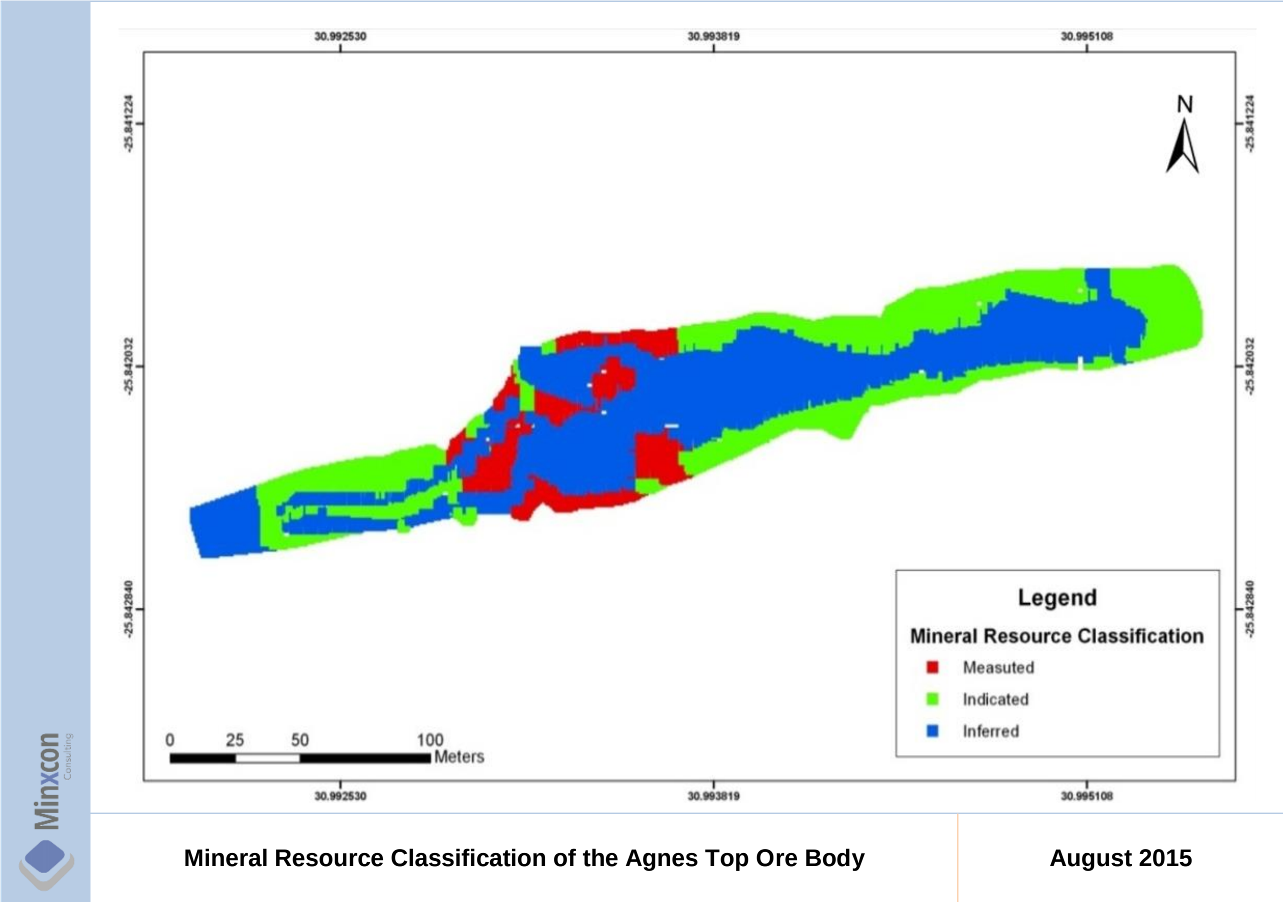

| Mineral Resource Classification of the Golden Hill Ore Body | August 2015 |
|---|---|

The down dip interpolations of the Golden Hill Ore Body are largely Inferred Mineral Resources.

**Agnes Top**

The Mineral Resource classification for Agnes Top is illustrated in Figure 53 below.

*Figure 53: Mineral Resource Classification of the Agnes Top Ore Body*



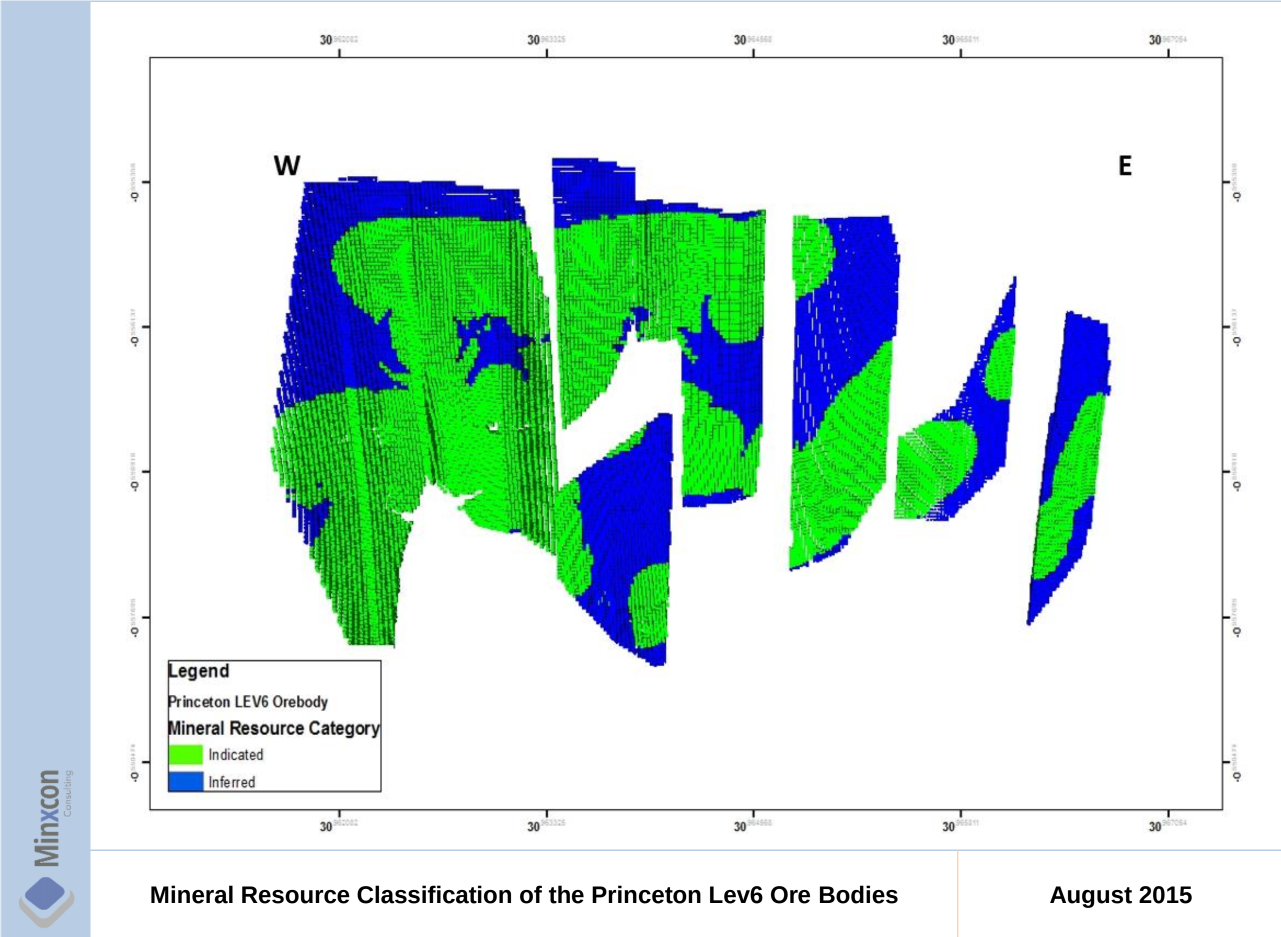

The Agnes Top Mineral Resources were classified as Measured, Indicated and Inferred Mineral Resources.

The inner Inferred Mineral Resources for Agnes Top highlight the higher grade portions of the ore body which had less data and thus fall in the lower Mineral Resource category.

**Princeton 6/PS7**

The Princeton 6/PS7 (or Lev6) Ore Body has Indicated and Inferred Mineral Resources, as indicated below in Figure 54.

*Figure 54: Mineral Resource Classification of the Princeton Lev6 Ore Bodies*

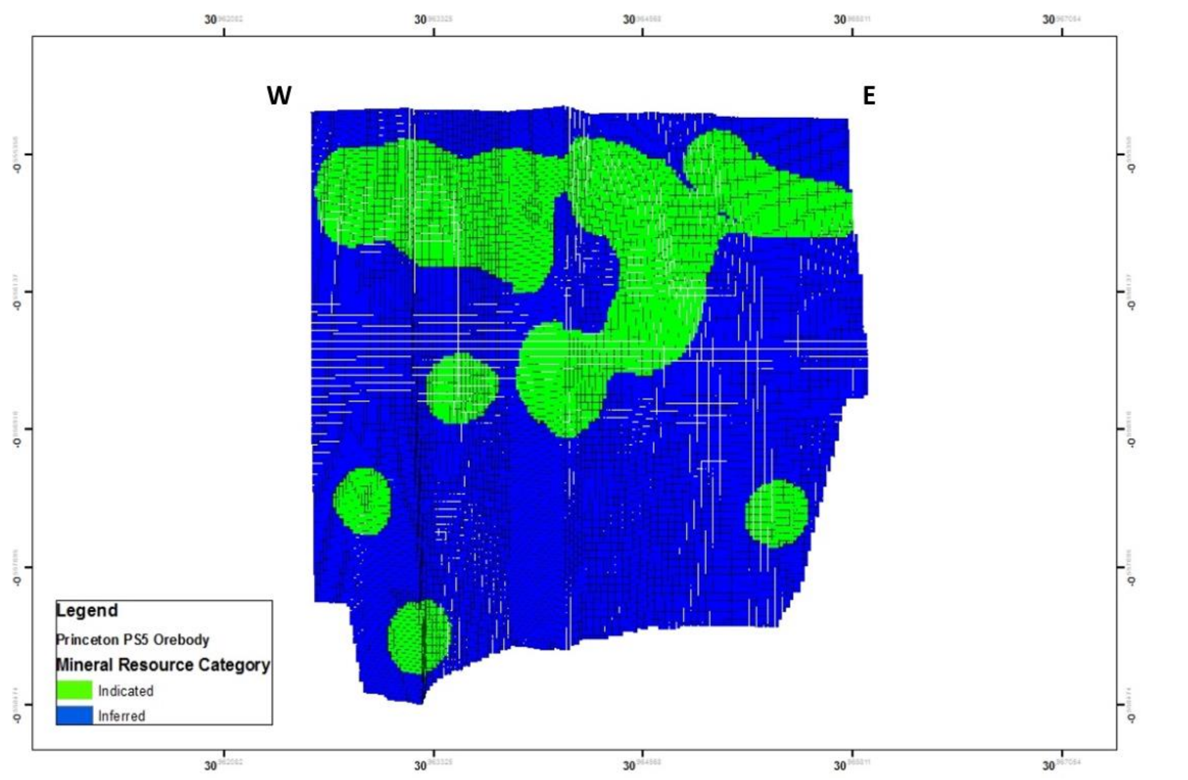



The Inferred Mineral Resource portions of the Lev6 ore body have little informing data and kriging efficiencies of less than 75%.

### Princeton PS5

The Mineral Resource classification for the Princeton PS5 Ore Body is shown below in Figure 55.

*Figure 55: Mineral Resource Classification of the Princeton PS5 Ore Bodies*



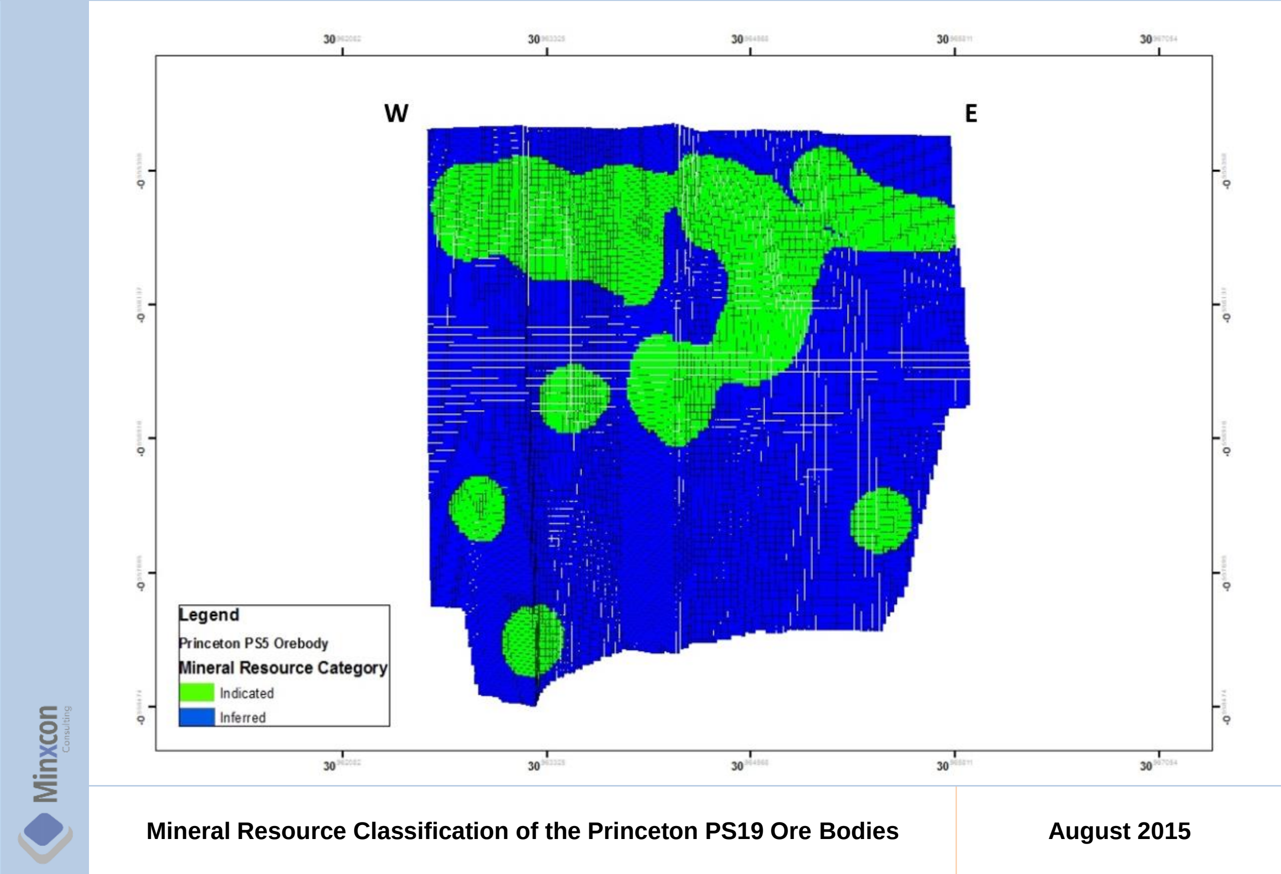

| Mineral Resource Classification of the Princeton PS5 Ore Bodies | August 2015 |
|---|---|

The majority of the Princeton PS5 Mineral Resources are classified as Inferred Mineral Resources.

### Princeton PS19

The Mineral Resource classification for the Princeton PS19 Ore Body is shown in Figure 56.

*Figure 56: Mineral Resource Classification of the Princeton PS19 Ore Bodies*

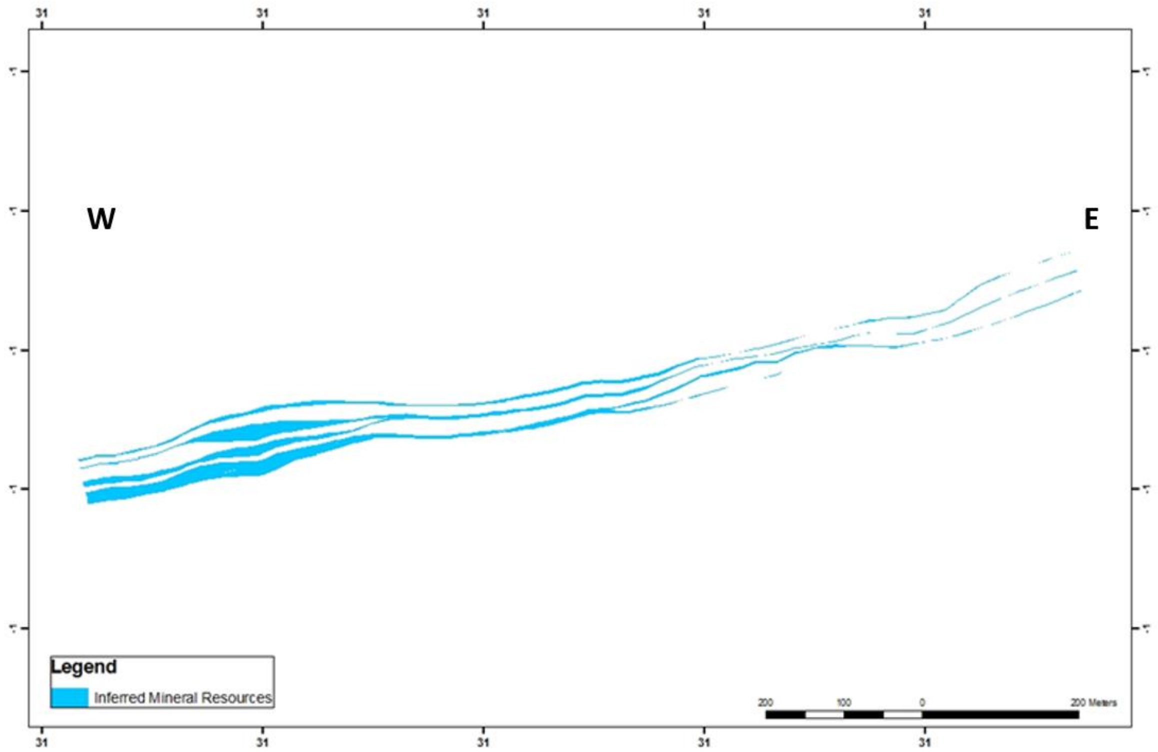



The informed areas of the PS19 ore body are classified as Indicated Mineral Resources, while the interpolations and extrapolations are Inferred Mineral Resources.

**Pioneer-Tiger Trap**

The Mineral Resource classification of the Pioneer-Tiger Trap Ore Body is indicated below in Figure 57.

*Figure 57: Mineral Resource Classification for the Pioneer-Tiger Trap Ore Bodies*



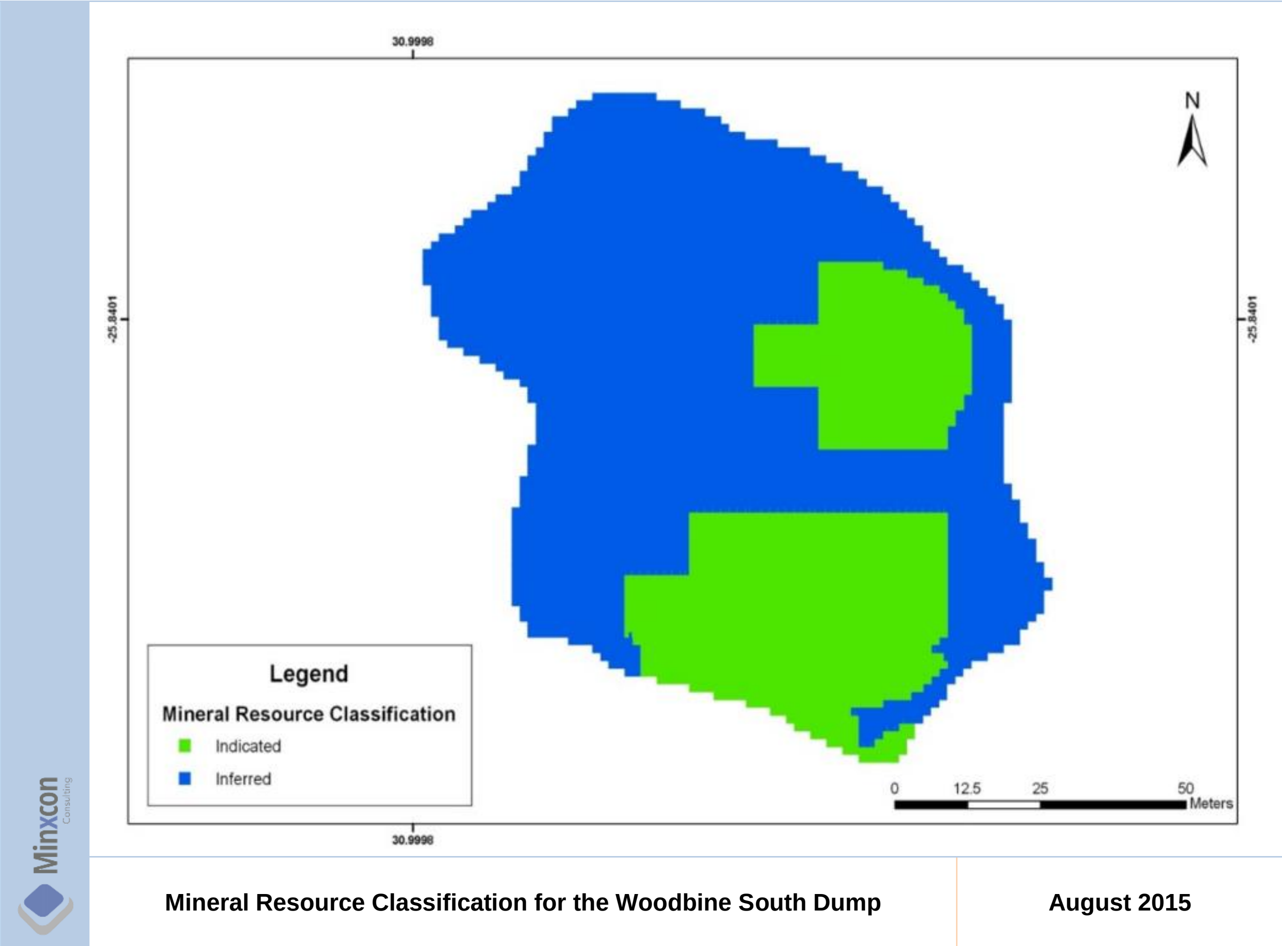

| Mineral Resource Classification for the Pioneer-Tiger Trap Ore Bodies | August 2015 |
|---|---|

The Pioneer-Tiger Trap Ore Body has Inferred Mineral Resources only.

**Woodbine South Dump**

The Mineral Resource classification for the Woodbine South Dump is illustrated below in Figure 58.

*Figure 58: Mineral Resource Classification for the Woodbine South Dump*

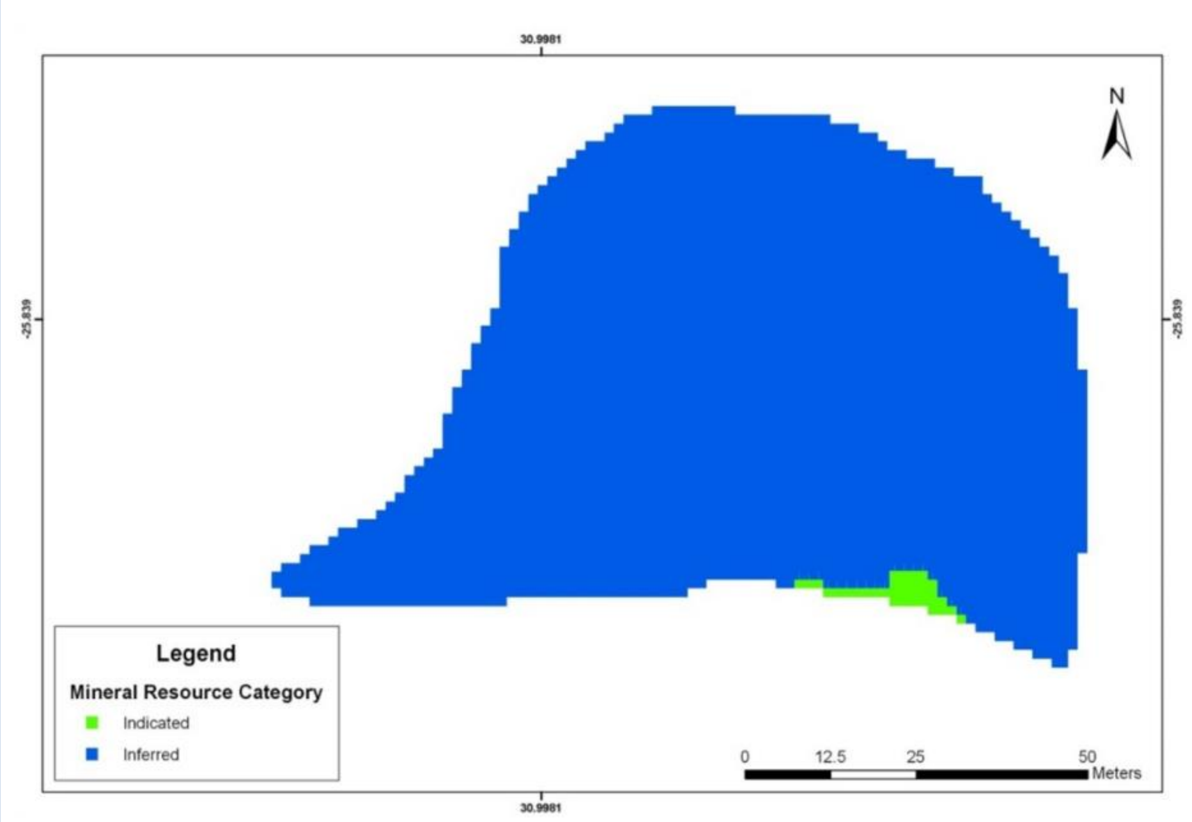



The Woodbine South Dump has both Indicated and Inferred Mineral Resources.

### Woodbine West Dump

The Mineral Resource classification for the Woodbine West Dump is illustrated below in Figure 59.

*Figure 59: Mineral Resource Classification for the Woodbine West Dump*



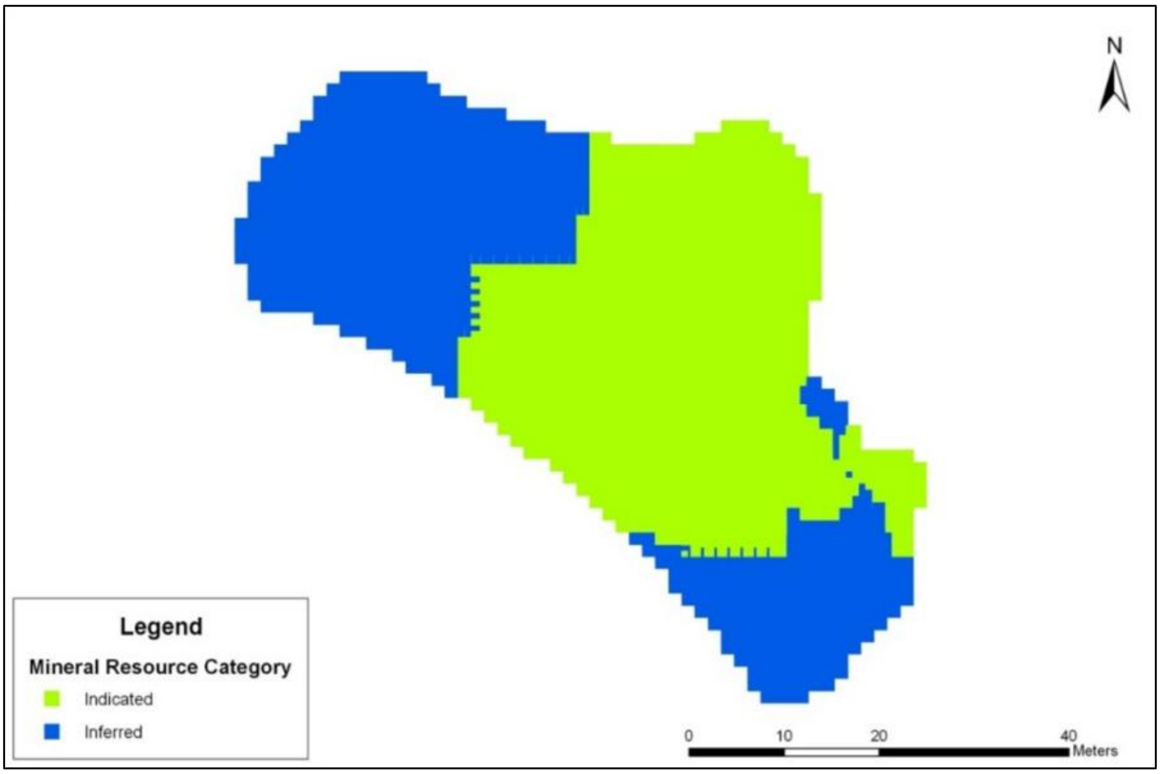

**Mineral Resource Classification for the Woodbine West Dump** **August 2015**

The Woodbine West Dump has Indicated and Inferred Mineral Resources. Only a small portion of the Indicated Mineral Resources can be seen at 1,382 m amsl.

**Woodbine West-west Dump**

The Mineral Resource classification for the Woodbine West-west Dump is illustrated below in Figure 60.

*Figure 60: Mineral Resource Classification of the Woodbine West-west Dump*



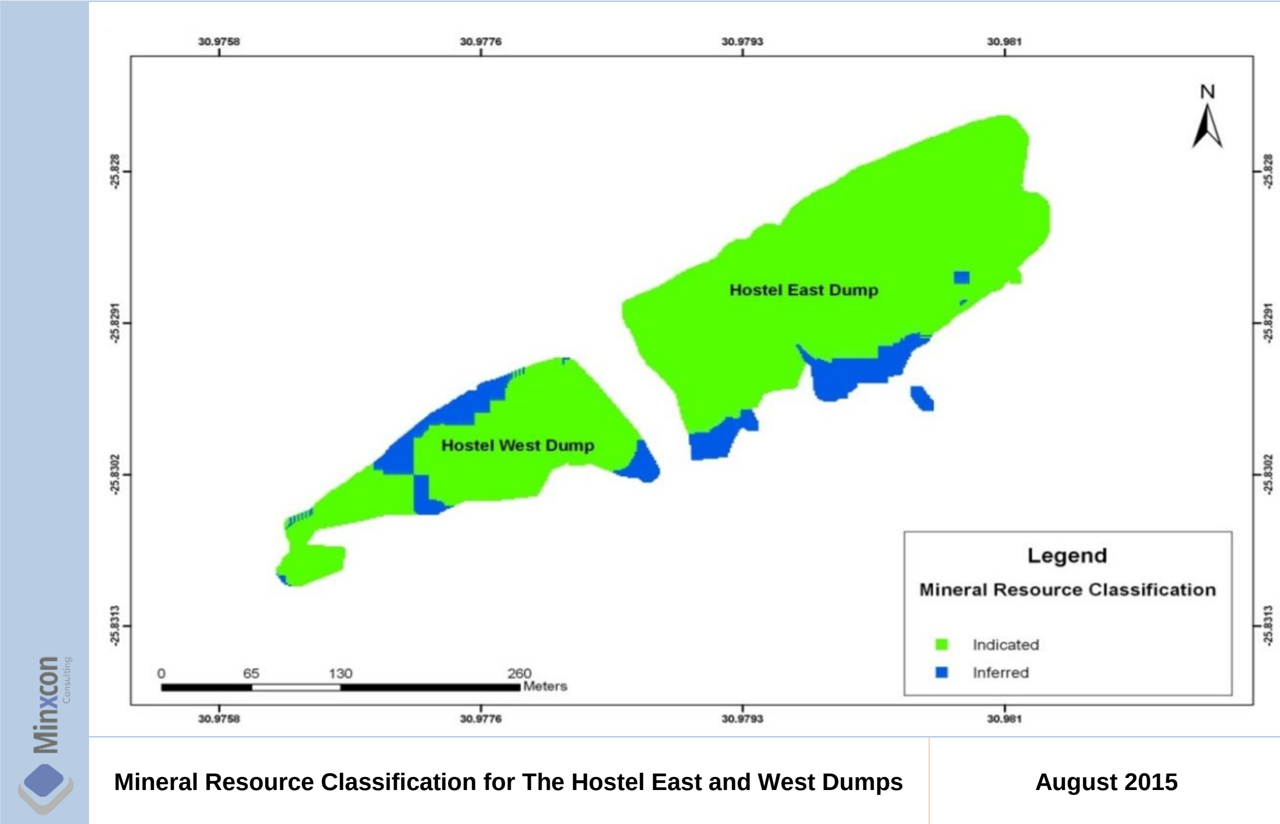

| Mineral Resource Classification of the Woodbine West-west Dump | August 2015 |
|---|---|

The Woodbine West-west Dump has Indicated and Inferred Mineral Resources.

### Hostel East and West Dumps

The Mineral Resource classification for the Hostel Dumps is illustrated below (Figure 61) on sections taken at 990 m amsl and 1,000 m amsl for the Hostel East and West Dumps respectively.

*Figure 61: Mineral Resource Classification for the Hostel East and West Dumps*

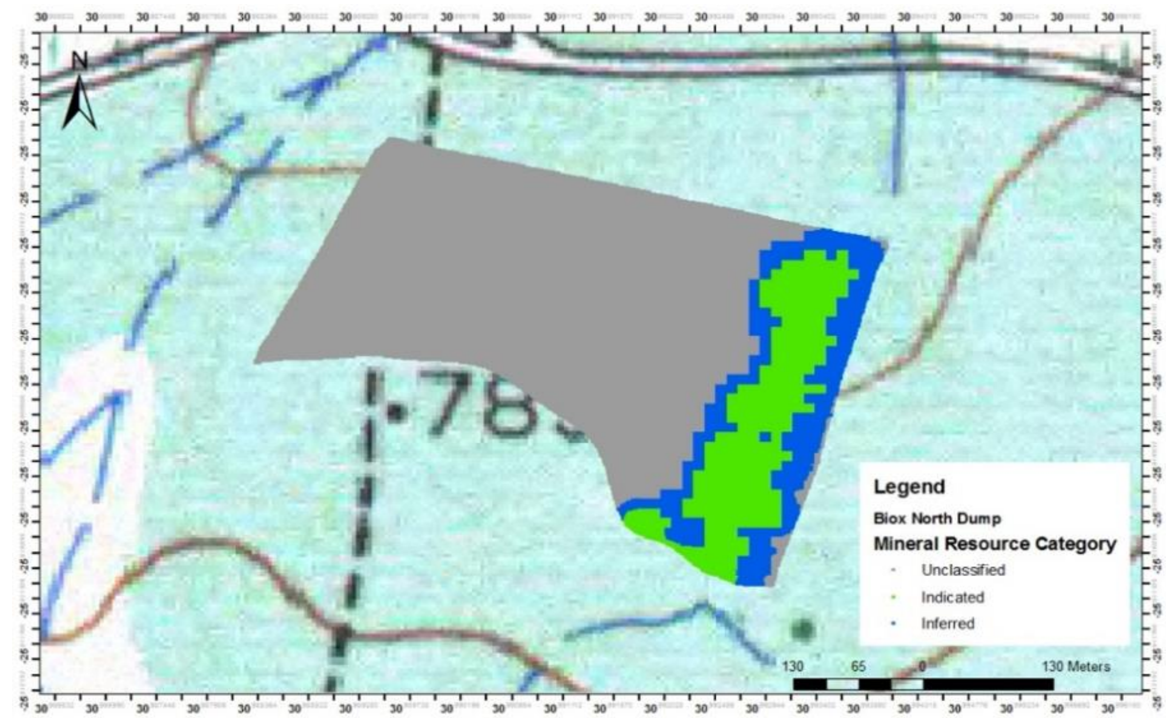



The Hostel Dumps have Indicated and Inferred Mineral Resources.

### Biox North Dump

A section was taken through the Biox North block model at an elevation of 790 m amsl to illustrate the Mineral Resource classification, as shown below in Figure 62.

*Figure 62: Mineral Resource Classification for the Biox North Dump*




| Mineral Resource Classification for the Biox North Dump | August 2015 |
|---|---|

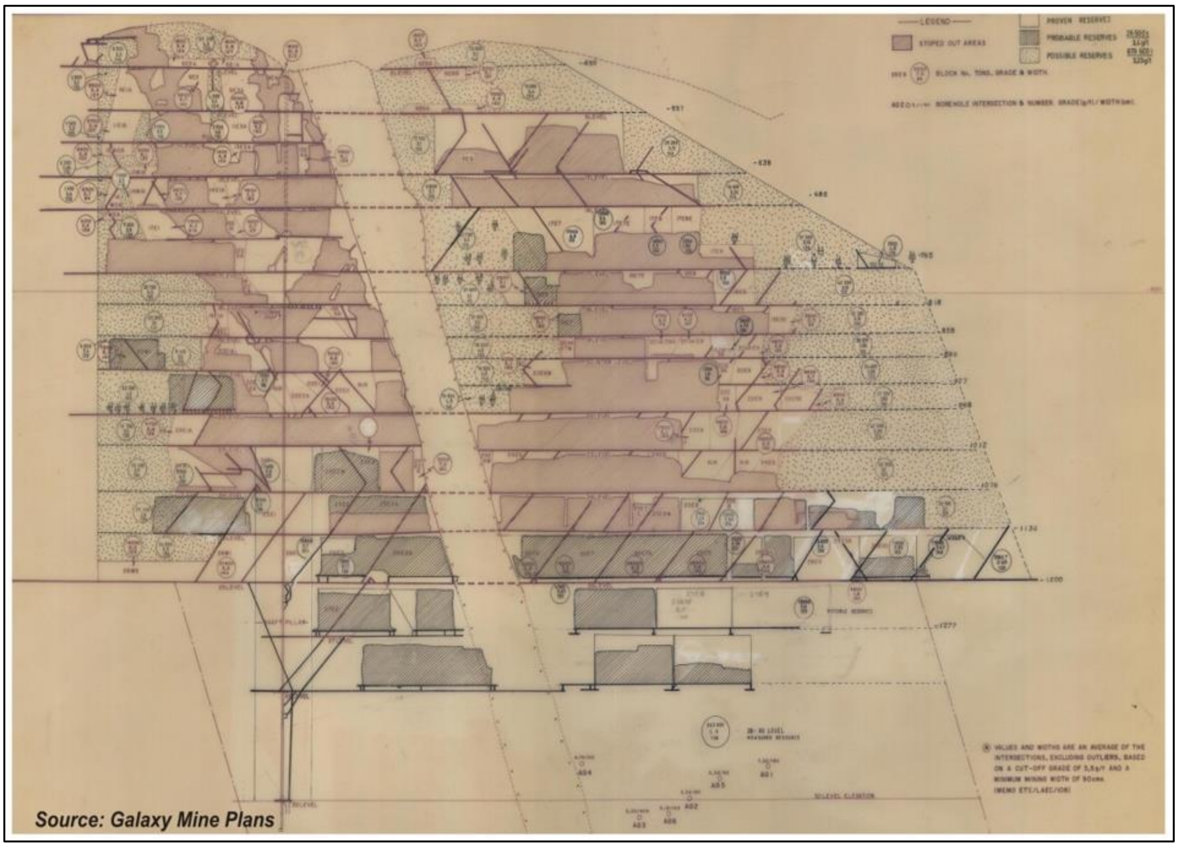
The grey area in Figure 62 was not drilled. The grade thereof was therefore not interpolated, as no data on the quality of the material was available. The drilled area was classified as Indicated and Inferred Mineral Resources.

#### MANUALLY ESTIMATED MINERAL RESOURCES

Owing to the historical nature of the manual plans and uncertainty of the information Deswik downgraded the Mineral Resource classification with respect to the classification on the block plans. The block plans show the following categories:- proven, probable and possible Mineral Reserves. However, Deswik downgraded the classification from Proven Mineral Reserve to Indicated Mineral Resource and the Inferred Mineral Reserve became an Inferred Mineral Resource. The plans showed very little Probable Mineral Reserve category blocks.

Figure 63 and Figure 64 show the block plans (with Mineral Resource classification) that make up the block listing for the manual Mineral Resources for Woodbine Surface to 22 level and Giles Surface to 23 level. The clear blocks are the old proven blocks which are now indicated and the spotted blocks show the Mineral Resource inferred blocks.

*Figure 63: Scan of the Plan for Estimating the Woodbine Surface to 22 Level Mineral Resources*




| Scan of the Plan for Estimating the Woodbine Surface to 22 Level Mineral Resources | August 2015 |
|---|---|

*Figure 64: Scan of the Plan for Estimating the Giles Surface to 23 Level Mineral Resources*


*Source: Galaxy Mine Plans*

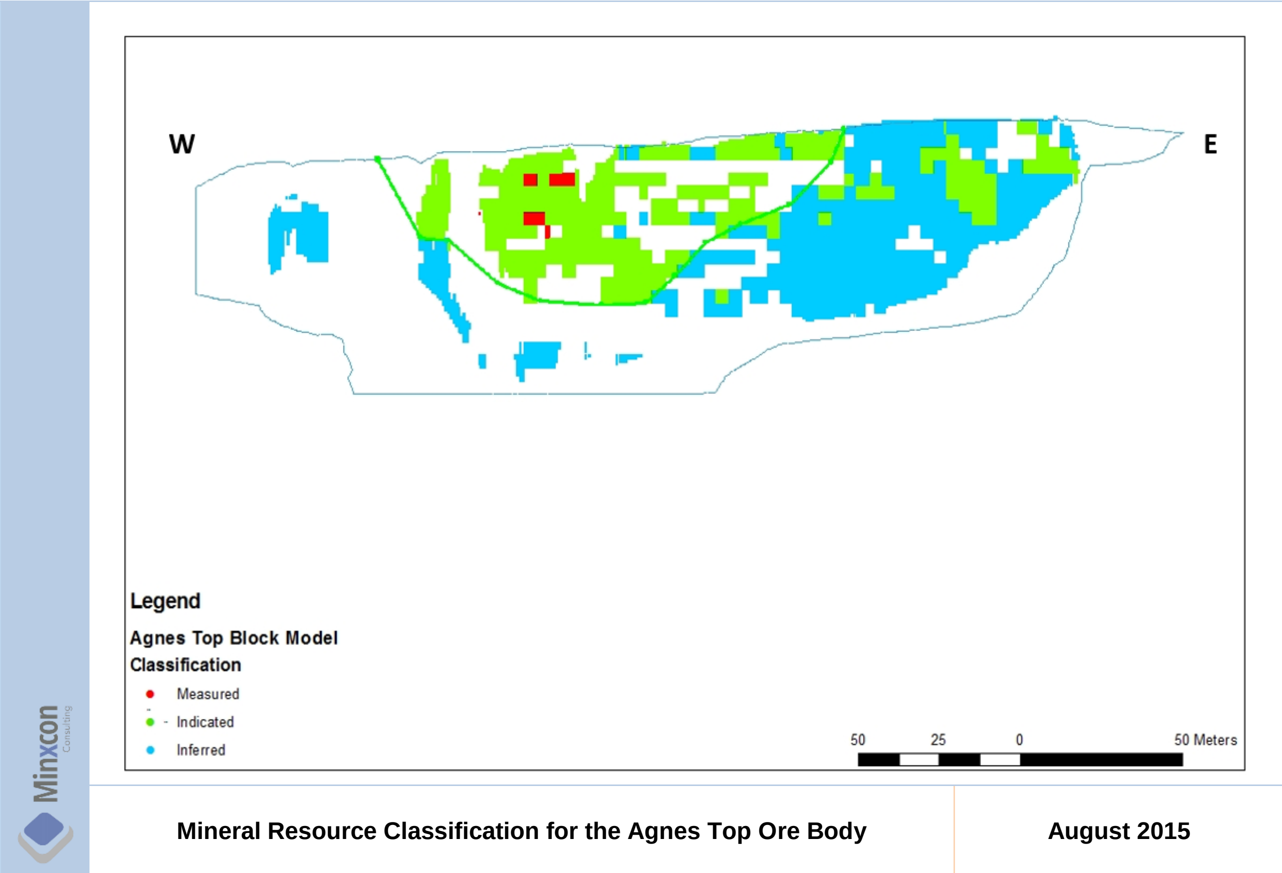
| Scan of the Plan for Estimating the Giles Surface to 23 Level Mineral Resources | August 2015 |
|---|---|

### Comments on Classification Criteria

After reviewing the classification criteria for the Galaxy Gold Mine Mineral Resources, Minxcon is of the opinion that the Mineral Resource categories are accurate and appropriate based on the data that is currently available.

Minxcon is also of the opinion that, as part of continuous improvement, the classification should be modified to improve the connectivity of the Mineral Resources per category. For example, the appearance (in relation to the blue Inferred Mineral Resource blocks) of the Indicated Mineral Resource can actually be improved, as shown by the green string below in Figure 65.

*Figure 65: Mineral Resource Classification for the Agnes Top Ore Body*




The blue line represents the outline of the ore body.

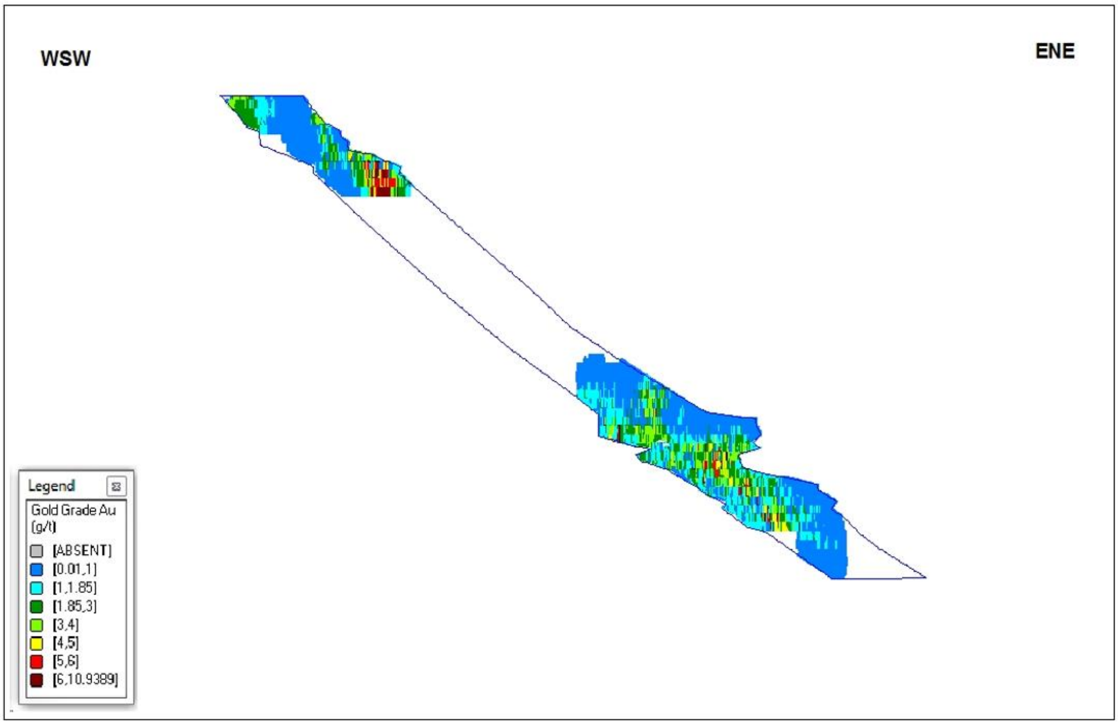
### MODEL PLANS AND SECTIONS

The following diagrams summarise the estimated gold grade and its distribution within individual ore bodies.

#### Galaxy

Figure 66 below depicts the combined Galaxy 17 Level Up and Level 24 Down block models indicating the grade distribution in these two areas of the Galaxy Ore body.

*Figure 66: Gold Distribution for the Galaxy Level 17 Up and Level 24 Down Ore Body Areas*

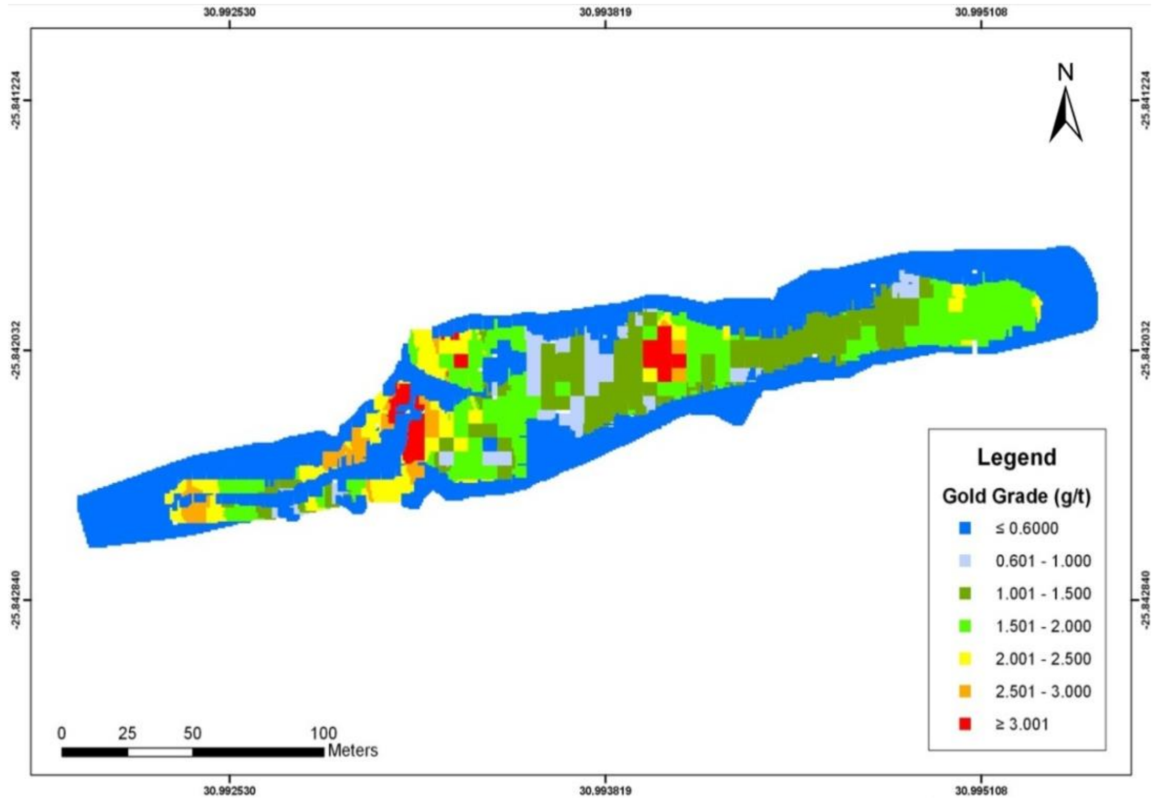



| Gold Distribution for the Galaxy Level 17 Up and Level 24 Down Ore Body Areas | August 2015 |
| --- | --- |

**Agnes Top**

Figure 67 shows the Agnes Top block model grade distribution taken at 1,420 m amsl.

*Figure 67: Gold Distribution within the Agnes Top Ore Body*




Minxcon Consulting

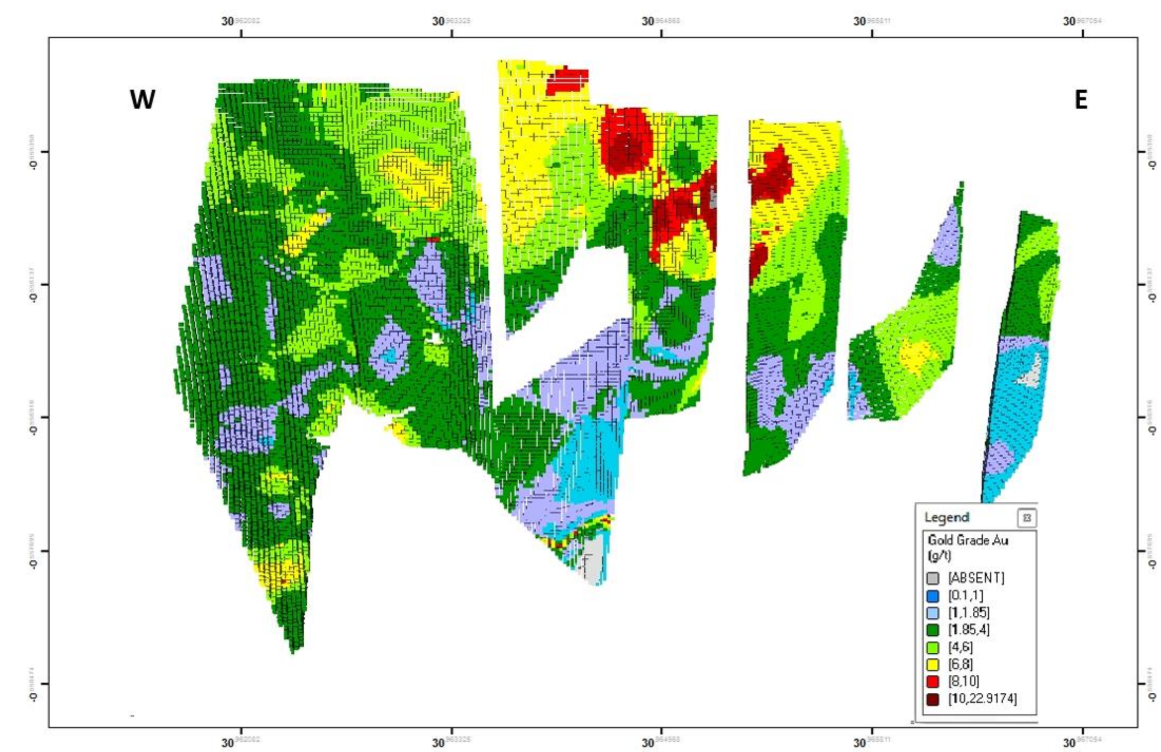
| Gold Distribution within the Agnes Top Ore Body | August 2015 |
|---|---|

The high-grade zone which forms the core of the Agnes Top Ore Body has grades ranging from 0.60 g/t to greater than 3.0 g/t, while the outer low-grade portions have grades of less than 0.60 g/t Au. This grading is due to the open-pittable nature of this ore body.

**Princeton**

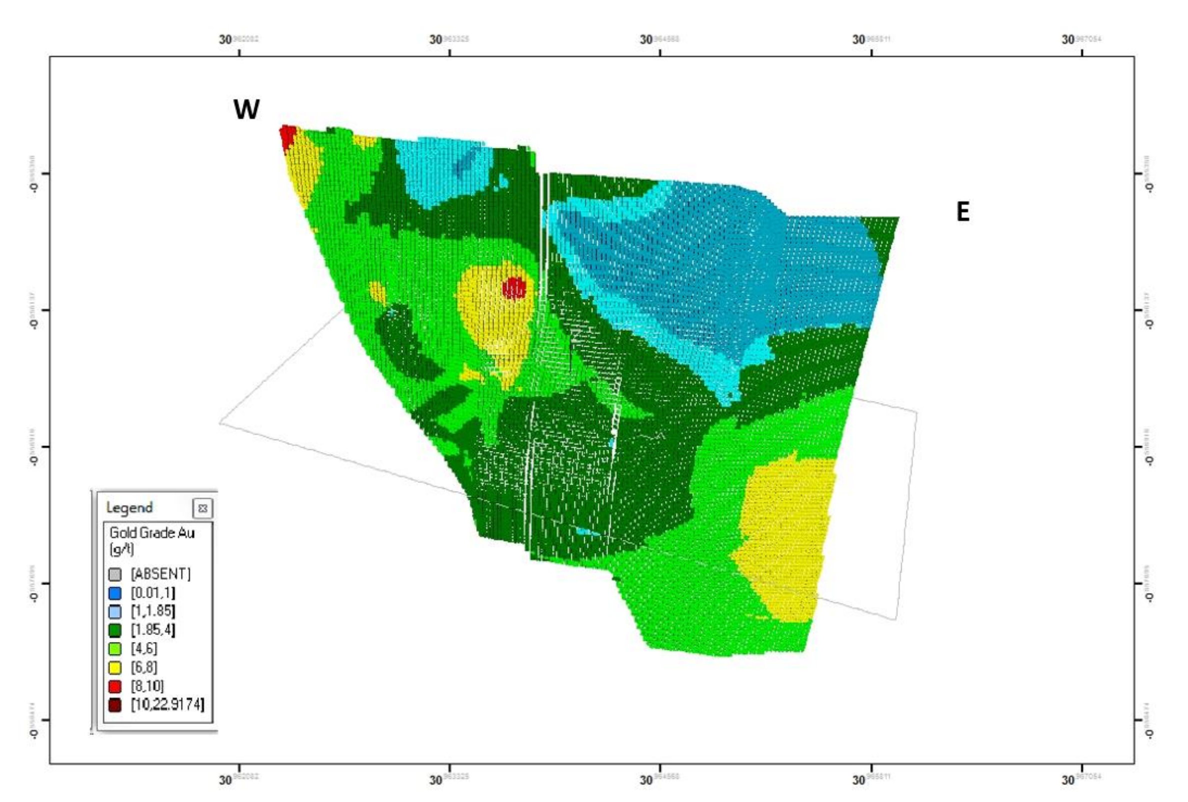
The Gold distribution for the Princeton Lev6, Princeton PS19 and Princeton PS5 ore bodies is respectively depicted in Figure 68, Figure 69 and Figure 70 below.

*Figure 68: Gold Distribution as Exhibited by the Princeton Lev6 Ore Body*



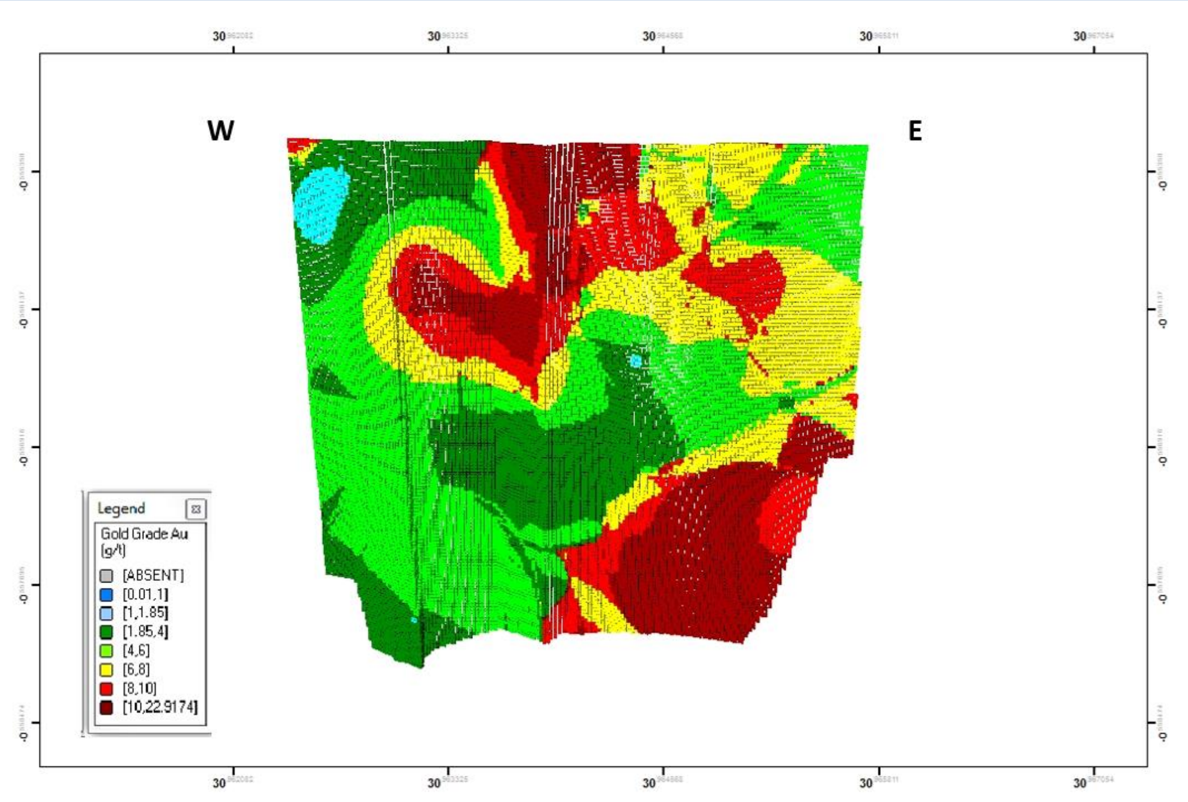

**Gold Distribution as Exhibited by the Princeton Lev6 Ore Body** | **August 2015**

*Figure 69: Gold Distribution as Exhibited by the Princeton PS19 Ore Body*




**Gold Distribution as Exhibited by the Princeton PS19 Ore Body** | **August 2015**

*Figure 70: Gold Distribution as Exhibited by the Princeton PS5 Ore Body*

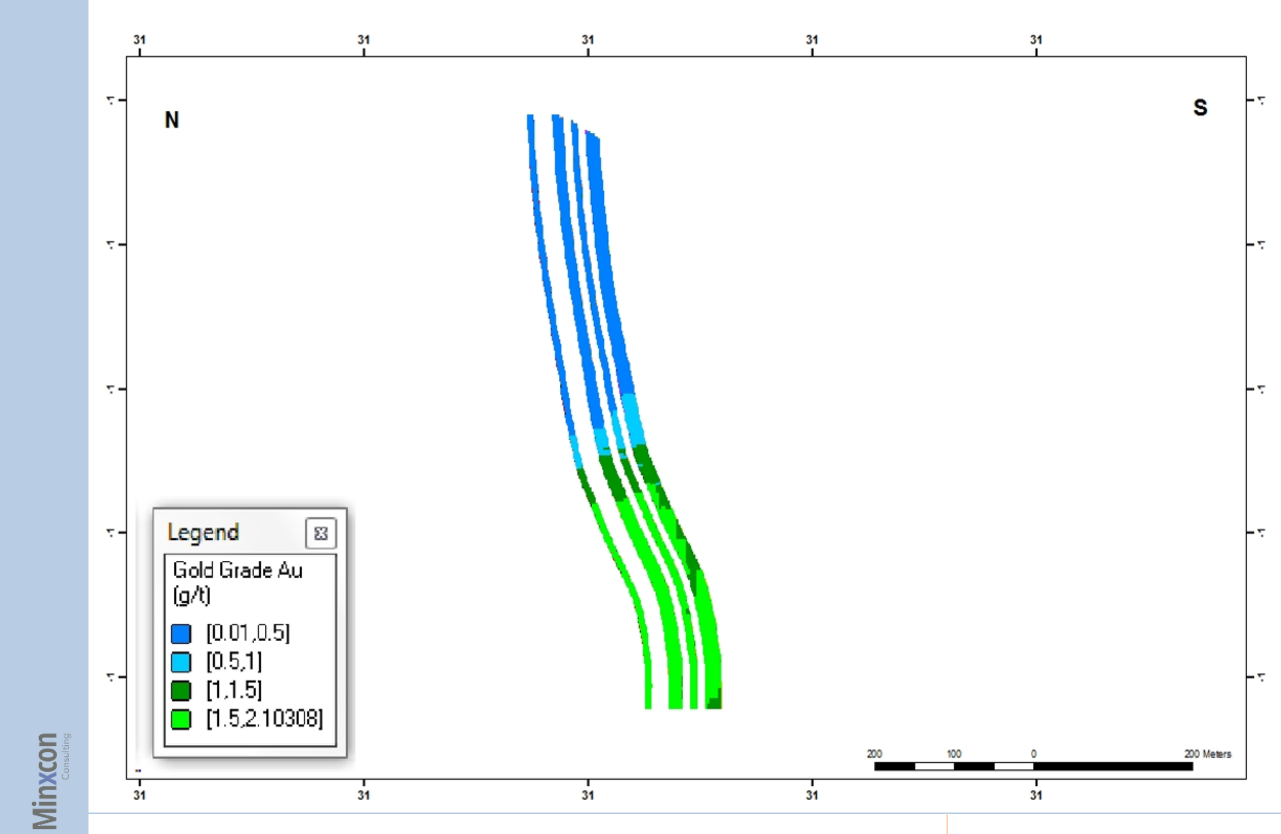



**Gold Distribution as Exhibited by the Princeton PS5 Ore Body** | **August 2015**

**Pioneer-Tiger Trap**

The gold distribution for the Pioneer-Tiger Trap Orebodies is depicted in Figure 71 below.

*Figure 71: Gold Distribution within the Pioneer-Tiger Trap Ore Bodies*

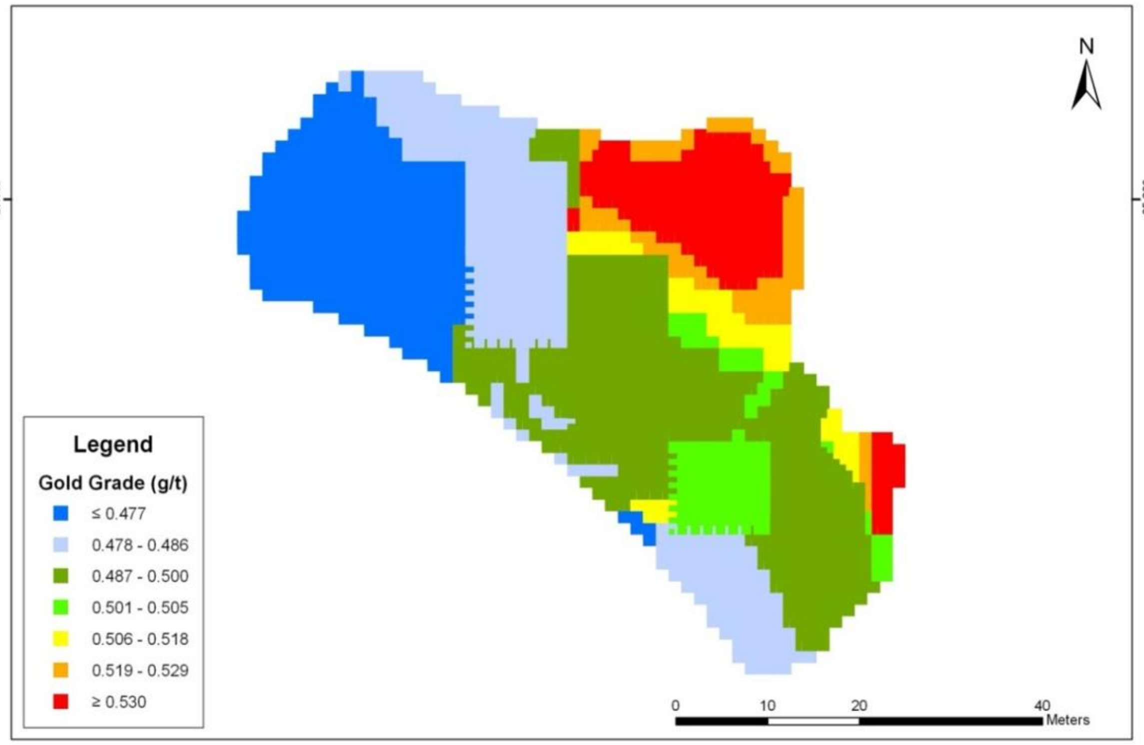



| Gold Distribution within the Pioneer-Tiger Trap Ore Bodies | August 2015 |
| --- | --- |

**Woodbine West-west Dump**

Figure 72 below depicts the gold distribution within the Woodbine West-west Dump.

*Figure 72: Gold Distribution within the Woodbine West-west Dump at 1,338 m amsl*

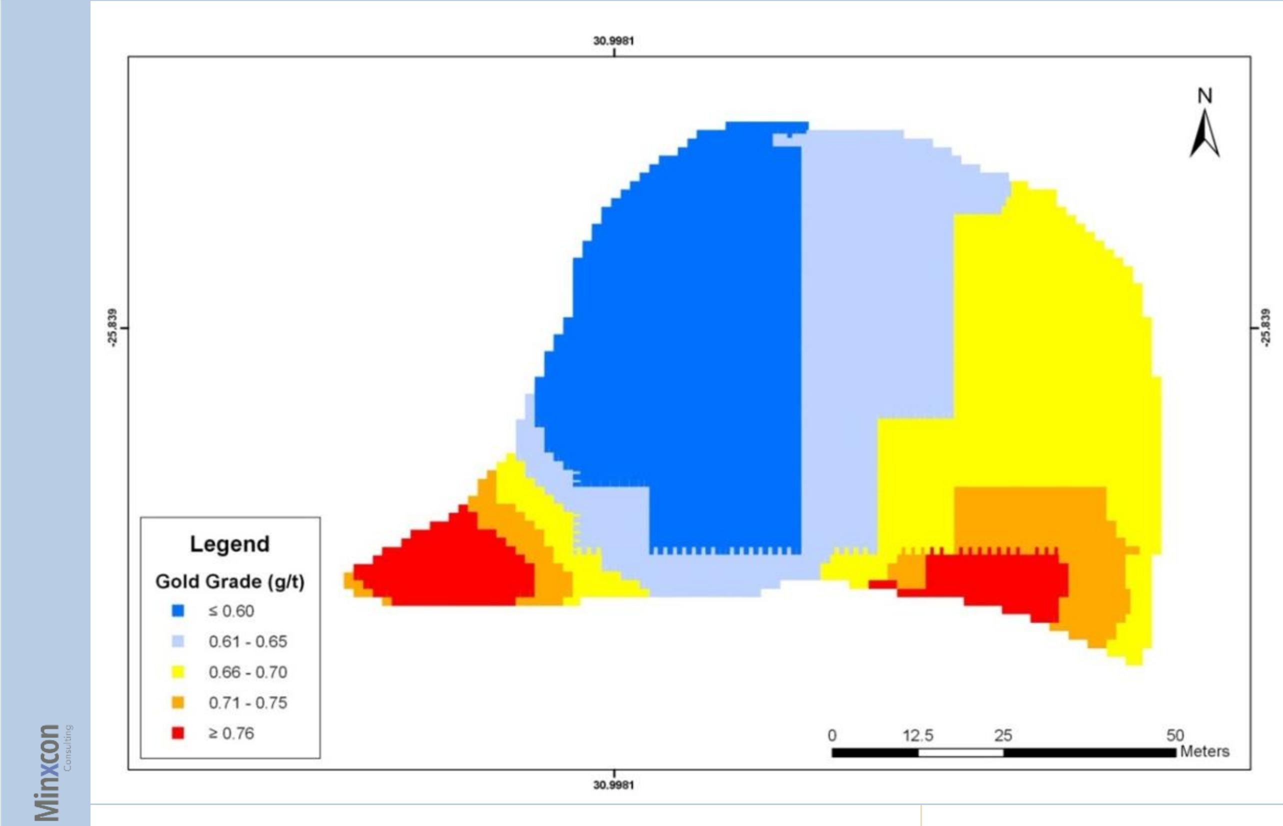



| Gold Distribution within the Woodbine West-west Dump at 1,338 m amsl | August 2015 |
| --- | --- |

### Woodbine West Dump

Figure 73 below depicts the gold distribution within the Woodbine West Dump.

*Figure 73: Gold Distribution within the Woodbine West Dump at 1,382 m amsl*

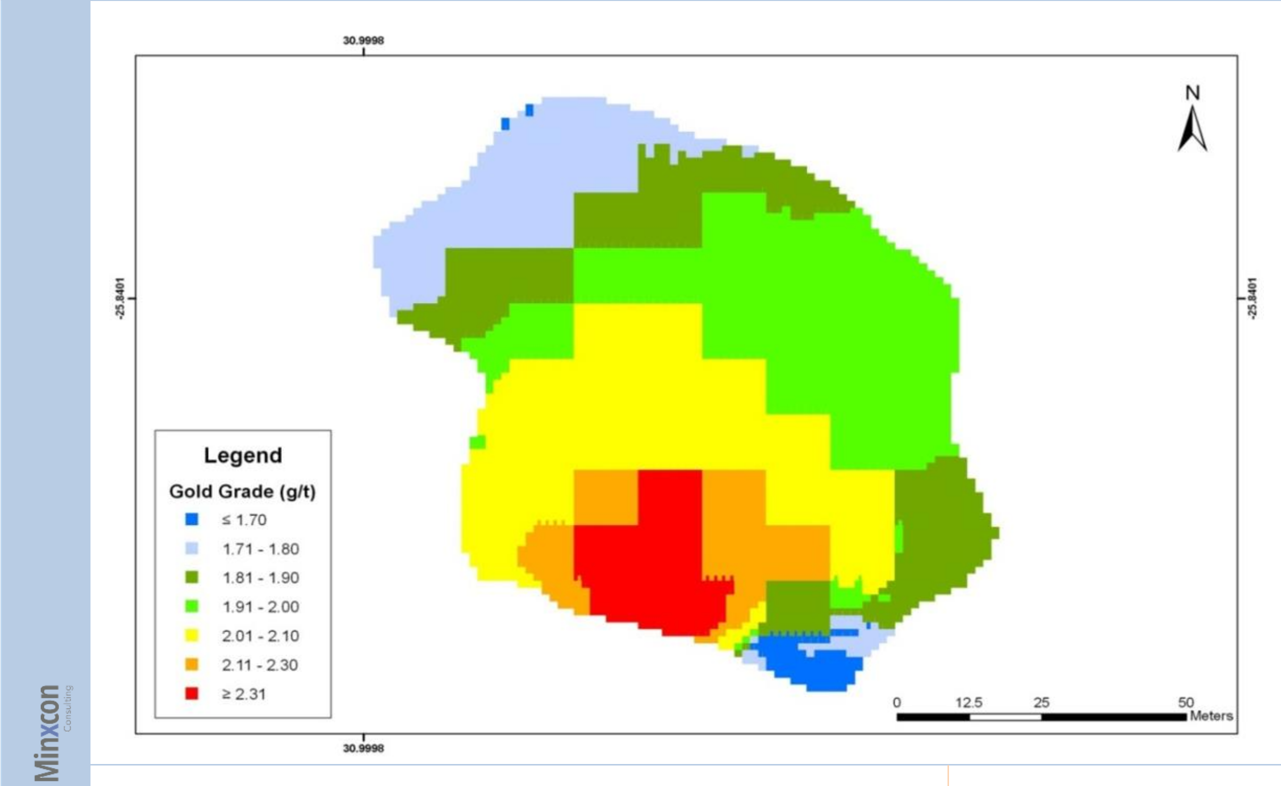



**Gold Distribution within the Woodbine West Dump at 1,382 m amsl** | **August 2015**

**Woodbine South Dump**

Figure 74 below depicts the gold distribution within the Woodbine South Dump.

*Figure 74: Gold Distribution within the Woodbine South Dump at 1,382 m amsl*



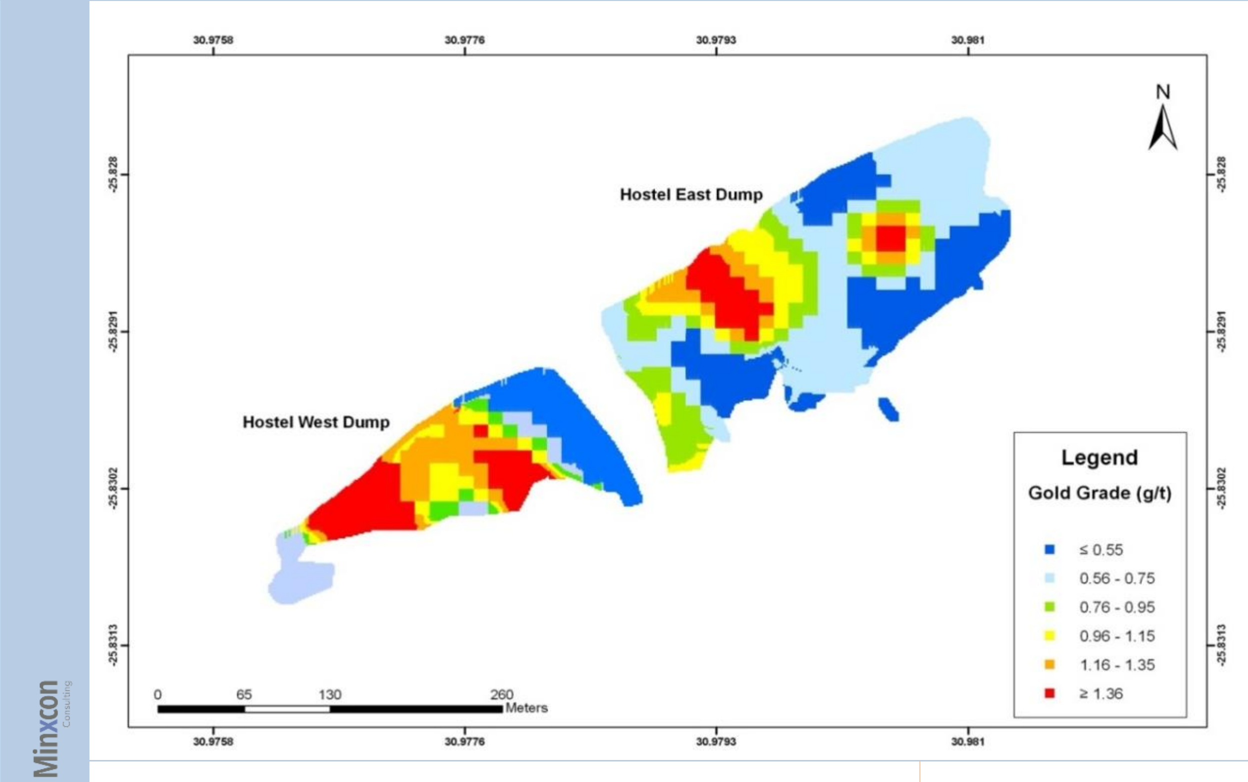

| Gold Distribution within the Woodbine South Dump at 1,382 m amsl | August 2015 |
| --- | --- |

The Woodbine South grades are over 1 g/t owing to the inverse distance estimation method applied.

**Hostel East and West Dumps**

The grade distribution of the Hostel Dumps is shown below in Figure 75.

*Figure 75: Gold Distribution for the Hostel West and East Dumps*



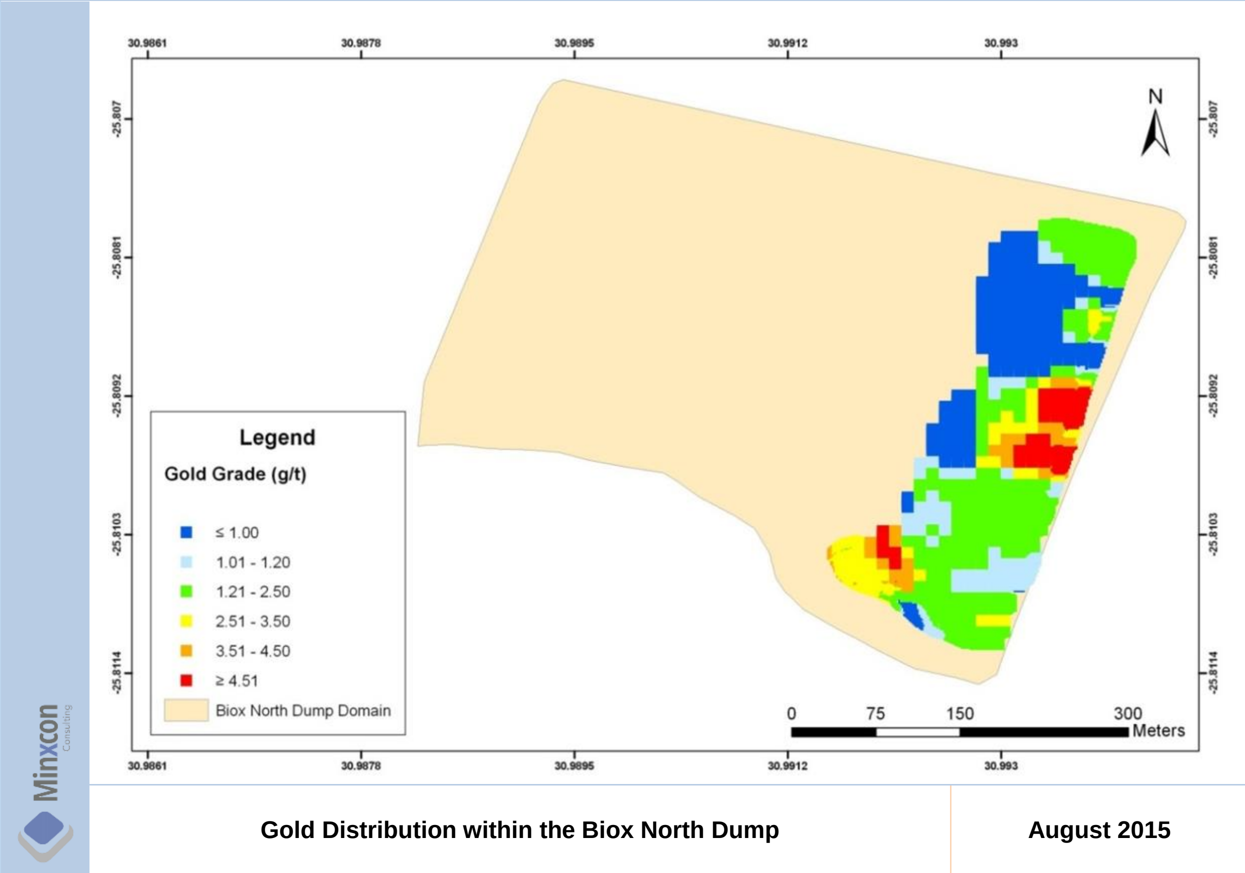

Gold Distribution for the Hostel West and East Dumps

August 2015

**Biox North Dump**

Figure 76 below depicts the gold distribution within the Biox North Dump. Mineral Resources were only evaluated for the eastern extremity of the dump to this area being the only area of the dump with evaluation data.

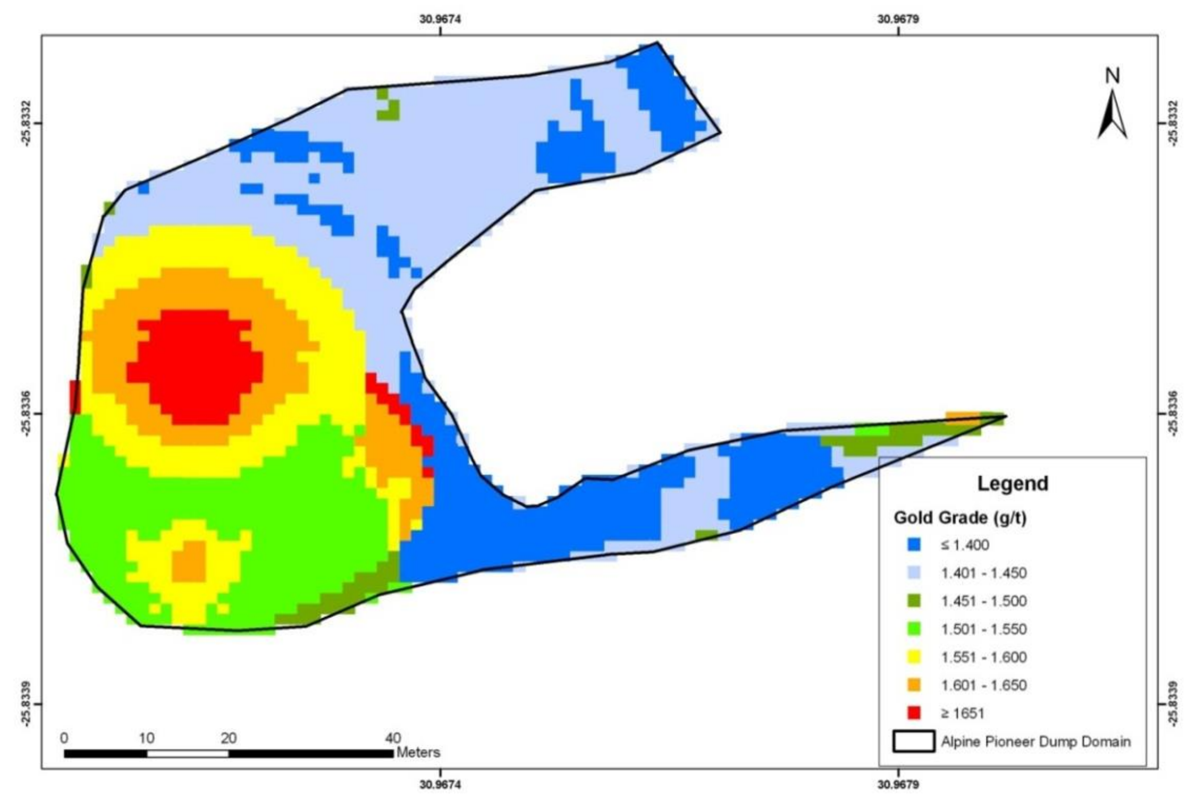
*Figure 76: Gold Distribution within the Biox North Dump*



**Alpine Pioneer Dump**

The grade distribution of the Alpine Pioneer Dump is shown below in Figure 77.

*Figure 77: Gold Distribution within the Alpine Pioneer Dump*




| Gold Distribution within the Alpine Pioneer Dump | August 2015 |
|---|---|

The grade distribution reflects the influence from the auger holes. Two holes lie in the main body of the dump and these have effected grades of over 1.6 g/t Au.

## Item 14 (b) - Disclosure Requirements for Resources

All Mineral Resources have been categorised and reported in compliance with the definitions embodied in the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by the CIM Council (incorporated into NI 43-101). As per CIM Code specifications, Mineral Resources have been reported separately in the Measured, Indicated and Inferred Mineral Resource categories. Inferred Mineral Resources have been reported separately and have not been incorporated with the Measured and Indicated Mineral Resources.

## Item 14 (c) – Individual Grade of Metals

Mineral Resources for gold have been estimated for the Galaxy Gold Mine. No other metals or minerals have been estimated for the Project.

## Item 14 (d) – Factors Affecting Mineral Resource Estimates

No socio-economic, legal or political modifying factors have been taken into account in the estimation of Mineral Resources for the Galaxy Gold Mine. Minxcon is not aware of any known environment, permitting, legal, title, taxation, socio-economic, marketing, and political or other factors that will materially affect the Mineral Resource estimates. Should nature reserves as described in Item 20 (a) be declared, a portion of the Mineral Resource as described will fall within the nature reserve boundaries. Special permissions or restrictions may be imposed but as the operations are underground, Minxcon deems this impact on the Mineral Resources will be low.

All underground Mineral Resources were stated at a cut-off grade 1.85 g/t. The open pit Mineral Resources were stated at a cut-off grade of 1.0 g/t, while the dumps were all stated at a cut-off grade of 0.3 g/t.

### Derivation of Mineral Resource Cut-off Grades

The cut-offs are tabulated in Table 21 below.

*Table 21: Mining Cut-offs*

| Galaxy, Woodbine, Giles, Golden Hill, Pioneer-Tiger Trap, Ivy and Ceska Shaft Pillar and Princeton Ore Bodies | | Agnes Top | All Dumps |
|---|---|---|---|
| Cut-off (g/t) | 1.85 | 1.00 | 0.30 |

Economic, metallurgical and mining parameters were used to derive the cut-offs. The parameters are tabulated in Table 22 below.

*Table 22: Cut-off Derivation Factors*

| Parameter | Unit | Quantity |
|---|---|---|
| Exchange rate | ZAR/USD | 13.09 |
| Real metal price | ZAR/kg | 500 088 |
| Metal price | ZAR/g | 500.088 |
| Operating cost | ZAR/t | 495 |
| Treatment cost | ZAR/t | 370 |
| Dilution | % | 10 |
| Plant recovery factor | % | 81 |
| Mine call factor | % | 92 |
| Recovery | % | 100 |

***Notes:***

1. LoM gold price based on analyst consensus of 1,467 USD/oz for 2015.
2. LoM exchange rate based on analyst consensus of 13.09 ZAR:USD for 2015.
3. Gold price applied for Mineral Resource cut-off calculation is LoM gold price plus 10%.
4. Processing cost applied assuming 90% Mineral Resource to Mineral Reserve conversion.
5. Mining cost applied assuming 90% Mineral Resource to Mineral Reserve conversion.

### DETAILED MINERAL RESOURCE TABULATION

The Mineral Resources declared for the Galaxy operations are shown in Table 23 and summarised in Table 24.

*Table 23: Galaxy Gold Mine Mineral Resources as at 31 August 2015*

| | | | Measured Mineral Resource | | | Indicated Mineral Resource | | | M & I Sub-total | | | Inferred Mineral Resource | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cut-off Au | SG | Tonnes | Grade Au | Content | Tonnes | Grade Au | Content | Tonnes | Grade Au | Content | Tonnes | Grade Au | Content |
| | g/t | t/m³ | t | g/t | Oz | t | g/t | Oz | t | g/t | Oz | t | g/t | Oz |
| **Underground** | | | | | | | | | | | | | | |
| Galaxy Surface to Dyke** | 1.85 | 2.73 | - | - | - | - | - | - | **-** | **-** | **-** | 291,000 | 3.19 | 29,845 |
| Galaxy 17 Level Up | 1.85 | 2.73 | 85,268 | 3.03 | 8,307 | 63,105 | 4.35 | 8,822 | **148,373** | **3.59** | **17,128** | 47,326 | 2.02 | 3,067 |
| Galaxy Gap 17-24 Level** | 1.85 | 2.73 | - | - | - | - | - | - | **-** | **-** | **-** | 1,047,000 | 3.09 | 104,015 |
| Galaxy 24 Level Down | 1.85 | 2.73 | 797,728 | 3.02 | 7,511 | 27,711 | 3.10 | 29,694 | **1,095,439** | **3.04** | **107,205** | 165,373 | 2.17 | 11,529 |
| **Total Galaxy** | **1.85** | **2.73** | **882,995** | **3.02** | **85,818** | **360,816** | **3.32** | **38,516** | **1,243,812** | **3.11** | **124,334** | **1,550,699** | **2.98** | **148,456** |
| Woodbine W & E Surface - 22 Level* | 1.85 | 2.73 | - | - | - | 110,501 | 4.61 | 16,392 | **110,501** | **4.61** | **16,392** | 306,432 | 2.95 | 29,025 |
| Woodbine 24 Level Down | 1.85 | 2.73 | 312,978 | 3.81 | 38,345 | 191,334 | 3.37 | 20,734 | **504,312** | **3.64** | **59,079** | 715,203 | 3.54 | 81,296 |
| **Total Woodbine** | **1.85** | **2.73** | **312,978** | **3.81** | **38,345** | **301,836** | **3.83** | **37,126** | **614,813** | **3.82** | **75,471** | **1,021,635** | **3.36** | **110,321** |
| Giles Surface - 23 Level* | 1.85 | 2.73 | - | - | - | 263,614 | 4.15 | 35,155 | **263,614** | **4.15** | **35,155** | 232,274 | 3.98 | 29,712 |
| Giles 23 Level Down | 1.85 | 2.73 | 378,844 | 4.11 | 50,050 | 255,811 | 3.48 | 28,651 | **634,655** | **3.86** | **78,701** | 1,035,631 | 3.83 | 127,562 |
| **Total Giles** | **1.85** | **2.73** | **378,844** | **4.11** | **50,050** | **519,425** | **3.82** | **63,806** | **898,268** | **3.94** | **113,856** | **1,267,906** | **3.86** | **157,273** |
| **Golden Hill** | **1.85** | **3.03** | **301,309** | **3.02** | **29,223** | **372,277** | **3.25** | **38,852** | **673,586** | **3.14** | **68,075** | **99,381** | **5.42** | **17,313** |
| **Agnes Top** | **1.00** | **2.80** | **-** | **-** | **-** | **561** | **2.07** | **37** | **561** | **2.07** | **37** | **870,632** | **1.75** | **49,016** |
| Princeton 6/PS7 | 1.85 | 3.08 | - | - | **-** | 678,578 | 4.09 | 89,238 | **678,578** | **4.09** | **89,238** | 332,834 | 4.26 | 45,612 |
| Princeton 5 | 1.85 | 3.08 | - | - | **-** | 328,440 | 6.53 | 68,961 | **328,440** | **6.53** | **68,961** | 765,259 | 7.25 | 178,300 |
| Princeton 19 | 1.85 | 3.08 | - | - | **-** | 87,844 | 4.72 | 13,324 | **87,844** | **4.72** | **13,324** | 151,396 | 4.64 | 22,572 |
| **Total Princeton** | **1.85** | **3.08** | - | - | **-** | **1,094,862** | **4.87** | **171,522** | **1,094,862** | **4.87** | **171,522** | **1,249,489** | **6.14** | **246,484** |
| **Pioneer & Tiger-Trap** | 1.85 | 2.73 | - | - | **-** | - | - | **-** | **-** | **-** | **-** | 1,234,540 | 1.96 | 77,647 |
| **Ivy Shaft Pillar*** | 1.85 | 2.78 | - | - | **-** | - | - | - | **-** | **-** | **-** | 47,125 | 10.18 | 15,427 |
| **Ivy to Agnes 3-11 Level*** | 1.85 | 2.78 | - | - | **-** | - | - | - | **-** | **-** | **-** | 45,498 | 5.71 | 8,349 |
| **Ceska Shaft Pillar*** | 1.85 | 2.78 | - | - | **-** | - | - | - | **-** | **-** | **-** | 113,534 | 9.59 | 34,987 |
| **Surface** | | | | | | | | | | | | | | |
| **Woodbine South Dump** | 0.30 | 1.12 | - | - | **-** | 35,754 | 1.57 | 1,803 | **35,754** | **1.57** | **1,803** | 83,024 | 1.66 | 4,425 |
| **Woodbine West Dump** | 0.30 | 1.17 | - | - | **-** | 19,377 | 0.61 | 381 | **19,377** | **0.61** | **381** | 72,540 | 0.64 | 1,495 |
| **Woodbine W.West Dump** | 0.30 | 1.17 | - | - | **-** | 13,136 | 0.50 | 209 | **13,136** | **0.50** | **209** | 25,057 | 0.51 | 410 |
| **Hostel East Dump** | 0.30 | 1.41 | - | - | **-** | 958,401 | 0.76 | 23,562 | **958,401** | **0.76** | **23,562** | 164,506 | 0.68 | 3,581 |
| **Hostel West Dump** | 0.30 | 1.41 | | | **-** | 484,996 | 0.86 | 13,367 | **484,996** | **0.86** | **13,367** | 107,961 | 0.85 | 2,947 |
| **Biox North Dump** | 0.30 | 1.38 | | | **-** | 189,340 | 1.66 | 10,080 | **189,340** | **1.66** | **10,080** | 141,993 | 1.77 | 8,069 |
| **Grand Total** | | | **1,876,126** | **3.37** | **203,435** | **4,350,781** | **2.85** | **399,261** | **6,226,907** | **3.01** | **602,696** | **8,095,521** | **3.40** | **886,199** |

***Notes:***

1. * Manual Mineral Resource estimate from Block Plans.
2. ** Mineral Resources estimated from adjacent modelled areas for grade distribution; Ore body volume estimated from digital wireframe.
3. 2015 Mineral Resource estimation were carried out by Mr P Obermeyer of Minxcon (BSc Hons (Geol.), Pr.Sci.Nat.) under supervision of and verified by Mr U Engelmann, as qualified person of this Report.
4. The Inferred Mineral Resources have a large degree of uncertainty as to their existence and whether they can be mined economically or legally.
5. Only Mineral Resources lying within the legal boundaries are reported.
6. Mineral Resources are inclusive of Mineral Reserves.
7. Mineral Resources are declared at cut-offs shown in the table above.
8. All figures are in metric tonnes.
9. 1 kg = 32.15076 oz.

*Table 24: Summarised Galaxy Gold Mine Mineral Resources as at 31 August 2015*

| Mineral Resource Category | Tonnes | Grade Au | Content Au |
|---|---|---|---|
| | t | g/t | Oz |
| Measured | 1,876,126 | 3.37 | 203,435 |
| Indicated | 4,350,781 | 2.85 | 399,261 |
| **Measured and Indicated** | **6,226,907** | **3.01** | **602,696** |
| Inferred | 8,095,521 | 3.40 | 886,199 |

***Notes:***

1. 2015 Mineral Resource estimation were carried out by Mr P Obermeyer of Minxcon (BSc Hons (Geol.), Pr.Sci.Nat.) under supervision of and verified by Mr U Engelmann, as qualified person of this Report.
2. The Inferred Mineral Resources have a large degree of uncertainty as to their existence and whether they can be mined economically or legally.
3. Only Mineral Resources lying within the legal boundaries are reported.
4. Mineral Resources are inclusive of Mineral Reserves.
5. Mineral Resources are declared at cut-offs: Galaxy, Woodbine, Giles, Golden Hill, Princeton, Pioneer & Tiger Trap, Ivy shaft Pillar, Ivy to Agnes 3-11 Level = 1.8 g/t; Agnes Top = 1.00 g/t; surface dumps = 0.30 g/t.
6. All figures are in metric tonnes.
7. 1 kg = 32.15076 oz.

The auriferous ore bodies modelled represent thin tabular ore bodies of near vertical orientation. Overall, the mineralised zones vary from approximately 1.5 metres in width (e.g. Princeton, Woodbine, Giles and Pioneer-Tiger Trap) to five metres at Golden Hill. The Galaxy and Agnes Top ore bodies mineralised widths average 30 m.

# ITEM 15 - MINERAL RESERVE ESTIMATES

## Item 15 (a) - KEY ASSUMPTIONS, PARAMETERS AND METHODS

**Pay Limit**

The pay limit for each ore body is detailed in Table 25. The calculation was completed using a gold price of USD1,130/oz which were sourced from the Energy and Metals Consensus Long Term Forecast and the exchange rate of ZAR11.70/USD used was calculated as the mean of the Nedbank and Investec long term forecasts.

*Table 25: Pay Limit Calculation*

| Description | Unit | Woodbine | Giles | Galaxy | Princeton | TSF |
|---|---|---|---|---|---|---|
| Dilution | % | 17.7% | 16.8% | 4.0% | 6.8% | 2.0% |
| Mine Call Factor | % | 92% | 92% | 92% | 92% | 98% |
| Recovery | % | 81% | 81% | 81% | 81% | 70% |
| Metal price | R/g | 425.1 | 425.1 | 425.1 | 425.1 | 425.1 |
| Total Operating Cost | R/t | 765.6 | 765.6 | 741.6 | 741.6 | 246.6 |
| Starting Point Pay Limit | g/t | 1.80 | 1.80 | 1.74 | 1.74 | 0.58 |
| Dilution | % | 2.12 | 2.10 | 1.81 | 1.86 | 0.59 |
| MCF | % | 2.30 | 2.29 | 1.97 | 2.03 | 0.60 |
| Recovery | % | 2.84 | 2.82 | 2.43 | 2.50 | 0.86 |
| Pay Limit | g/t | **2.84** | **2.82** | **2.43** | **2.50** | **0.86** |

***Notes:***

1. Gold Price – 1130 USD/oz.
2. Exchange Rate ZAR 11.70/USD.

**Modifying Factors**

The modifying factor used to convert the Mineral Resources to Mineral Reserves are detailed in this section.

*Pillar Losses*

Pillar loss is applied as a factor for the different ore bodies. The factor is calculated from rock engineering criteria as a percentage of ore left *in situ* as pillars to function as support.

The pillar loss calculation for the conventional shrinkage stoping is detailed in Table 26. This was calculated using Figure 83.

*Table 26: Conventional Shrinkage Stoping - Pillar Loss Factor*

| Description | Width | Height | Total Area |
|---|---|---|---|
| | m | m | $m^2$ |
| **Total Stope Area** | **100** | **75** | **7,500** |
| Loss | | | |
| *Rib Pillar* | *6* | *75* | *450* |
| Sill Pillar | 94 | 6 | 564 |
| Ore Passes (x7) | 1.8 | 6 | 76 |
| *Sill Pillar* | | | *488* |
| **Total Loss** | | | **938** |
| **Pillar Loss %** | | | **12.5%** |

The pillar loss calculation for mechanised cut and fill mining and longhole stoping was calculated using Figure 84 and the calculation is detailed in Table 27.

*Table 27: Mechanised Cut and Fill and Longhole Stoping - Pillar Loss Factor*

| Description | Width | Height | Total Area |
|---|---|---|---|
| | m | m | m$^2$ |
| **Total Stope Area** | **150** | **150** | **22,500** |
| Loss | | | |
| *Rib Pillar* | *8* | *150* | *1,200* |
| Sill Pillar | 142 | 8 | 1,136 |
| Ore Passes (x7) | | | - |
| *Sill Pillar* | | | *1,136* |
| **Total Loss** | | | **2,336** |
| **Pillar Loss %** | | | **10.4%** |

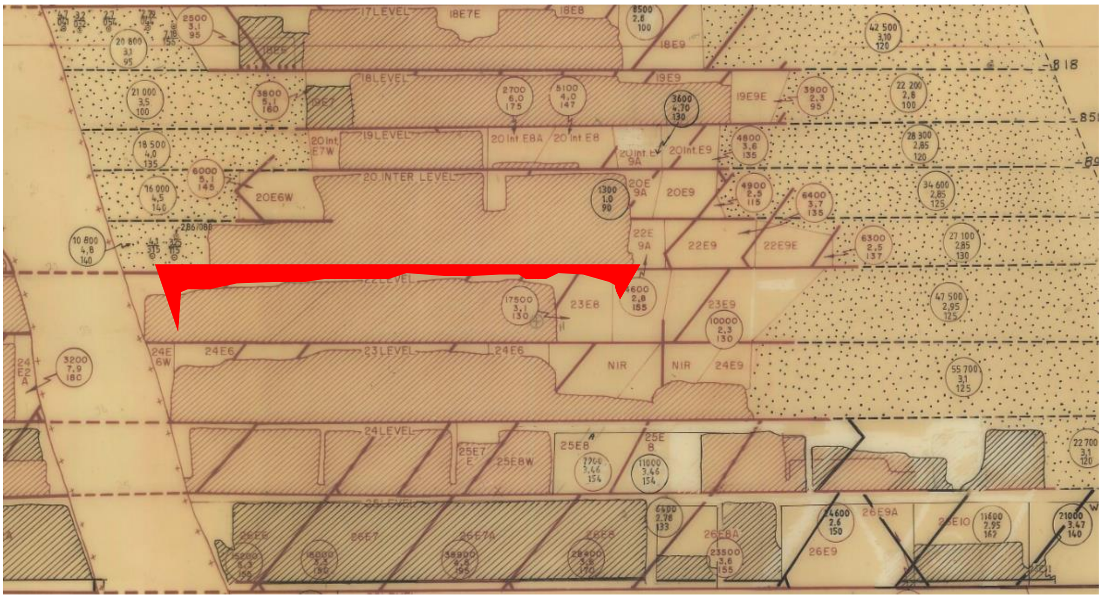
No pillar loss factor was applied to the TSF and is only partially extracted throughout the LoM.

*Mining Extraction*

Mining extraction accounts for the areas planned but not mined. This factor was based on visual analysis of the mined out areas to determine the areas not mined. This excludes pillars.

An example of the areas planned but not mined is illustrated in Figure 78. This was the method used to determine mining extraction.

*Figure 78: Previously Mined Out Areas used to Determine Mining Extraction*




**Previously Mined Out Areas used to Determine Mining Extraction** | **October 2015**

*Dilution*

Dilution implies that a certain amount of waste is mixed with the ore during the mining process and ends up in the primary crusher or delivered to the plant. This portion effectively increases the ore tonnages, but, as the waste material contains no grade or is of low grade value, it decreases the overall grade delivered to the plant.

The calculation used to determine the dilution for conventional shrinkage stoping is detailed in Table 28.

*Table 28: Shrinkage Stoping Dilution Calculation*

| Dilution | Units | Giles | Woodbine |
|---|---|---|---|
| **Overbreak** | | | |
| Channel Width | cm | 128.79 | 135.18 |
| Dilution (+10 cm Hanging Wall) | cm | 10.00 | 10.00 |
| Dilution (+10 cm Footwall) | cm | 10.00 | 10.00 |
| Total Stoping Width | cm | 148.79 | 155.18 |
| **Overbreak %** | **%** | **15.53%** | **14.80%** |
| **Development Dilution** | | | |
| Total Stoping 'section' Area (SW x Height) | $m^2$ | 112.00 | |
| Waste from Horisontal Development (2.5 m x 2.5 m) | $m^2$ | 2.53 | |
| **Development Dilution %** | **%** | **2.22%** | **2.00%** |
| Total Dilution % | % | 17.75% | 16.79% |

The calculation used to determine the dilution for mechanised cut and fill and longhole stoping is detailed Table 29.

*Table 29: Mechanised Cut and Fill and Longhole Stoping Dilution Calculation*

| Dilution | Units | Galaxy | Princeton | Golden Hill |
|---|---|---|---|---|
| **Overbreak** | | | | |
| Channel Width | cm | 500 | 296 | 389 |
| Dilution (+10 cm Hanging Wall) | cm | 10 | 10 | 10 |
| Dilution (+10 cm Footwall) | cm | 10 | 10 | 10 |
| Total Stoping Width | cm | 520 | 316 | 409 |
| Overbreak % | % | 4.00% | 6.76% | 5.14% |
| **Development Dilution** | | | | |
| Total Stoping 'section' Area (SW x Height) | $m^2$ | In design | | |
| Waste from Horisontal Development (2.5 m x 2.5 m) | $m^2$ | In design | | |
| Development Dilution % | % | 0.00% | 0.00% | 0.00% |
| Total Dilution % | % | 4.00% | 6.76% | 5.14% |

A dilution factor of 2% was applied on the TSF based on other tailings operations. This is dilution usually from the footwall of the TSF.

*Mine Call Factor*

Mine call factor ("MCF") is the ratio, expressed as a percentage, which the specific product accounted for in recovery plus residues bears to the corresponding product called for by, the mine's measuring methods. The MCF was calculated from historic data.

*Table 30: Mine Call Factor Based on Historic Information*

| Description | Unit | Woodbine | Giles | Galaxy | Princeton | Golden Hill | Hostel West TSF |
|---|---|---|---|---|---|---|---|
| MCF | % | 92.0 | 92.0 | 92.0 | 92.0 | 92.0 | 98.0 |

*Modifying Factors Summary*

The Mineral Reserves were calculated based on the updated Mineral Resource estimation and only Measured and Indicated Mineral Resources were included in the LoM planning. The applied modifying factors for the mining sections are detailed in Table 31.

*Table 31: Modifying Factors*

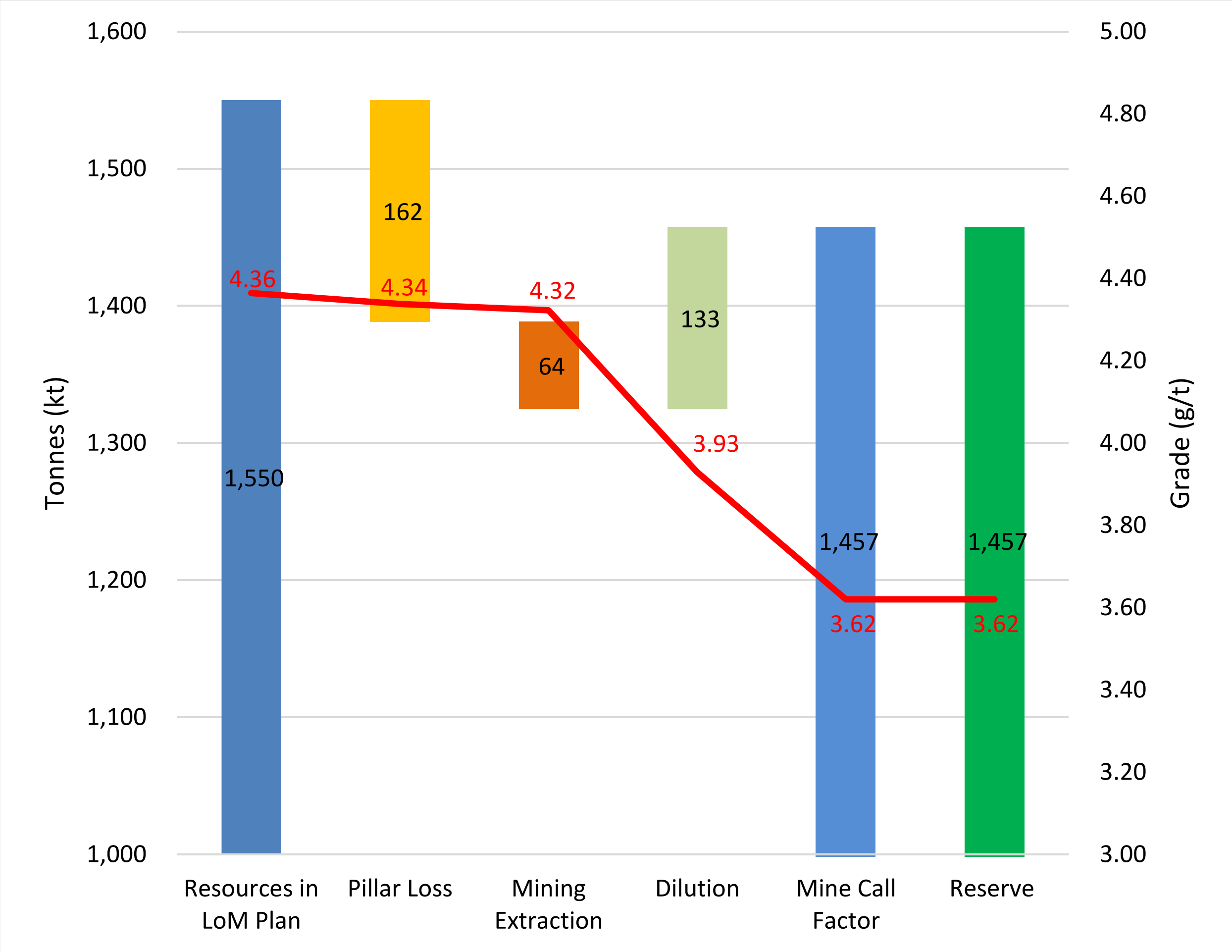
| Description | Unit | Woodbine | Giles | Galaxy | Princeton | Golden Hill | Hostel West TSF |
|---|---|---|---|---|---|---|---|
| Pillar Loss | % | 12.5 | 12.5 | 10.4 | 10.4 | 10.4 | - |
| Mining Extraction | % | 95.0 | 95.0 | 95.0 | 95.0 | 95.0 | 100.0 |
| Dilution | % | 17.7 | 16.8 | 4.0 | 6.8 | 5.1 | 2.0 |
| MCF | % | 92.0 | 92.0 | 92.0 | 92.0 | 92.0 | 98.0 |

**Notes:**

1. MCF- Mine Call Factor.
2. Pillar Loss: not included in the design.
3. Mining Extraction: based on review of mined out areas.
4. Dilution: calculated.
5. MCF: historic values used.

Appling the modifying factors as detailed in Table 31 have an effect on the total Mineral Resource tonnes and grade for the project which is illustrated in Figure 79.

*Figure 79: Overall Grade Dilution*




The red line in the figure illustrates the change in grade from an *in situ* Mineral Resource grade to a delivered to mill Mineral Reserve.

The effect of the modifying factors on the total mined Mineral Resource tonnes converted to total Mineral Reserve tonnes delivered are also illustrated in the figure.

## Item 15 (b) - Mineral Reserve Reconciliation - Compliance with Disclosure Requirements

The Mineral Reserves for the Galaxy Gold Mine are illustrated in Table 32.

*Table 32: Galaxy Gold Mine Mineral Reserve Statement as at 31 August 2015*

| Mineral Reserve Category | Pay Limit Au | SG | Probable Mineral Reserves | | |
|---|---|---|---|---|---|
| | | | Tonnes | Grade Au | Content Au |
| | g/t | t/m³ | t | g/t | Oz |
| **Underground** | | | | | |
| Galaxy | 2.43 | 2.73 | 117,887 | 3.29 | 12,470 |
| Princeton | 2.50 | 2.73 | 627,875 | 4.59 | 92,567 |
| Woodbine and Giles Manual | 2.82 | 2.73 | 248,803 | 3.80 | 30,400 |
| Woodbine and Giles CAD | 2.82 | 2.73 | 343,856 | 2.78 | 30,701 |
| **Surface** | | | | | |
| Hostel West Dump | 0.86 | 1.41 | 118,902 | 0.90 | 3,447 |
| **Total Mineral Reserve** | | | **1,457,322** | **3.62** | **169,586** |

***Notes:***

1. Tonnages refer to tonnes delivered to the metallurgical plant.
2. All figures are in metric tonnes.
3. 1 kg = 32.15076 oz.
4. Different Dilution, Recovery and Mine call factor applied to each ore body and TSF.
5. Pay Limit calculated: USD/oz. = 1,130 and Exchange rate of ZAR11.70/USD.

## Mineral Reserve Reconciliation

The Mineral Reserve reconciliation between Mineral Reserve Effective 30 August 2011 and the current estimate is detailed in Table 33.

*Table 33: Mineral Reserve Reconciliation*

| Ore Body | Galaxy Gold Mine Mineral Reserve Statement (2011) | | | | | Galaxy Gold Mine Mineral Reserve Reserve Statement (2015) | | | | Variance | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Underground Category | Tonnes | Gold | | | Tonnes | Gold | | | Tonnes | Gold | |
| | | t | Au g/t | Au kg | Au oz | t | Au g/t | Au kg | Au oz | t | Au kg | Au oz |
| Galaxy | Proven | 307,317 | 2.32 | 713 | 22,923 | - | - | - | - | -307,317 | -713 | -22,923 |
| Golden Hill | | 105,069 | 1.90 | 200 | 6,430 | - | - | - | - | -105,069 | -200 | -6,430 |
| Woodbine and Giles | | 131,926 | 2.72 | 359 | 11,542 | - | - | - | - | -131,926 | -359 | -11,542 |
| Princeton | | - | - | - | - | - | - | - | - | - | - | - |
| Hostel West | | - | - | - | - | - | - | - | - | - | | |
| **Proven Total** | | **544,312** | **2.34** | **1,272** | **40,895** | **-** | **-** | **-** | **-** | **-544,312** | **-1,272** | **-40,895** |
| Galaxy | Probable | 176,988 | 2.86 | 506 | 16,268 | 117,887 | 3.29 | 388 | 12,470 | -59,101 | -118 | -3,798 |
| Golden Hill | | 85,849 | 2.30 | 197 | 6,334 | - | - | - | - | -85,849 | -197 | -6,334 |
| Woodbine and Giles | | 434,239 | 3.01 | 1,307 | 42,021 | 592,658 | 3.21 | 1,900 | 61,101 | 158,419 | 593 | 19,080 |
| Princeton | | 1,153,144 | 3.11 | 3,586 | 115,293 | 627,875 | 4.59 | 2,879 | 92,567 | -525,269 | -707 | -22,726 |
| Hostel West | | - | - | - | - | 118,902 | 0.90 | 107 | 3,447 | 118,902 | 107 | 3,447 |
| **Probable Total** | | **1,850,220** | **3.02** | **5,596** | **179,916** | **1,457,322** | **3.62** | **5,275** | **169,586** | **-392,898** | **-321** | **-10,330** |
| **Grand Total** | | **2,394,532** | **2.87** | **6,868** | **220,811** | **1,457,322** | **3.62** | **5,275** | **169,586** | **-937,210** | **-1,593** | **-51,225** |

From the table it is evident that no Proven Mineral Reserves has been stated for the new Mineral Reserve estimation. The reasons for the downgrade of Proven Mineral Reserve to Probable Mineral Reserves are:-

- No flotation concentrate off-take agreement in currently in place;
- The operation is currently on care and maintenance and not operational;
- The mining cost has been based on benchmarking from other similar projects and no firm quote from a contractor is available;
- There is low confidence in the mine call factor as it was based on only a few months of production data; and
- An alternate mining method may have to be considered at Galaxy as there may not be enough waste generated for cut and fill mining.

The other variance in the Mineral Reserve estimates can be attributed to updated grade cut-off parameters, updated mineral resource estimates and updated mine planning and depletions since 2011.

## Item 15 (c) - MULTIPLE COMMODITY RESERVE (PRILL RATIO)

Gold is the only commodity within the mining areas that is present in significant concentrations.

## Item 15 (d) - FACTORS AFFECTING MINERAL RESERVE ESTIMATION

It is the requirement of all mineral-extraction projects, or mines, to have issued by relevant government departments all necessary licences as required by law. Currently, Galaxy do not have an approved EMP or WUL to encompass all activities. Failure to obtain such will render Mineral Reserves as estimated obsolete, as Galaxy will not be allowed to commence mining.

The operation is currently on care and maintenance and not operational. Investment is required to re-commission the mine. Furthermore, although there is a credible life of mine a detailed project execution plan is required to ensure that re-commissioning is completed within the targeted timeline. Failure to effectively execute the re-commissioning may result in higher costs and less revenue which may impact on the Mineral Reserve.

# ITEM 16 - MINING METHODS

## Item 16 (a) - PARAMETERS RELEVANT TO MINE DESIGN

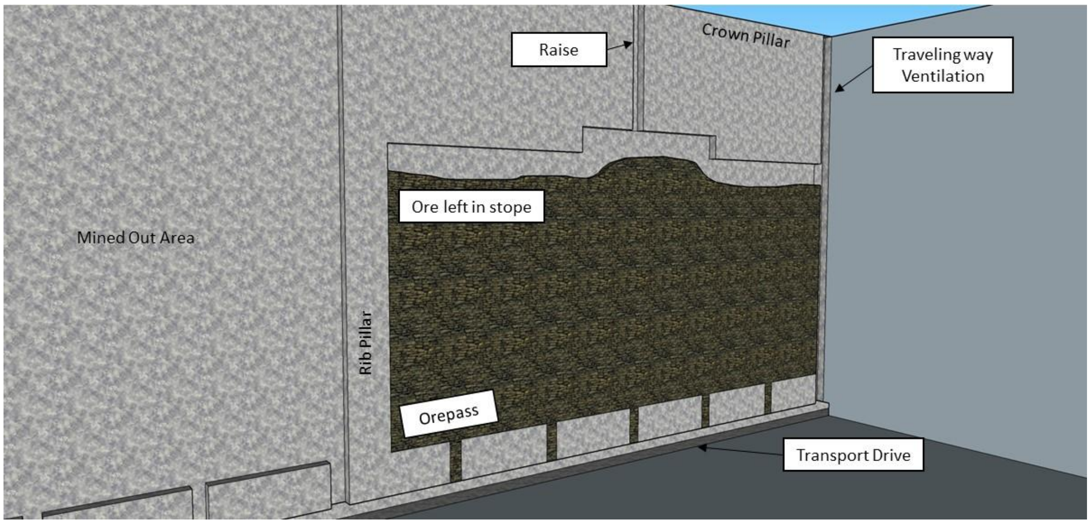
**Mining Methods**

Three different mining methods will be used at Galaxy Gold Mine, namely fully mechanised cut and fill mining method, longhole stoping and a conventional shrinkage stoping mining method. Furthermore, the TSF will be mined by load and haul.

Conventional shrinkage stoping is used in the narrow steeply dipping ore bodies to reduce the overall mining width ultimately reducing dilution of the ore produced. It is an overhand mining method that relies on broken ore being left in the stope to be used as the "working floor" and to support the walls. During the mining cycle ore is extracted through the draw points developed at the bottom of the level.

Conventional shrinkage stoping is illustrated in Figure 80.

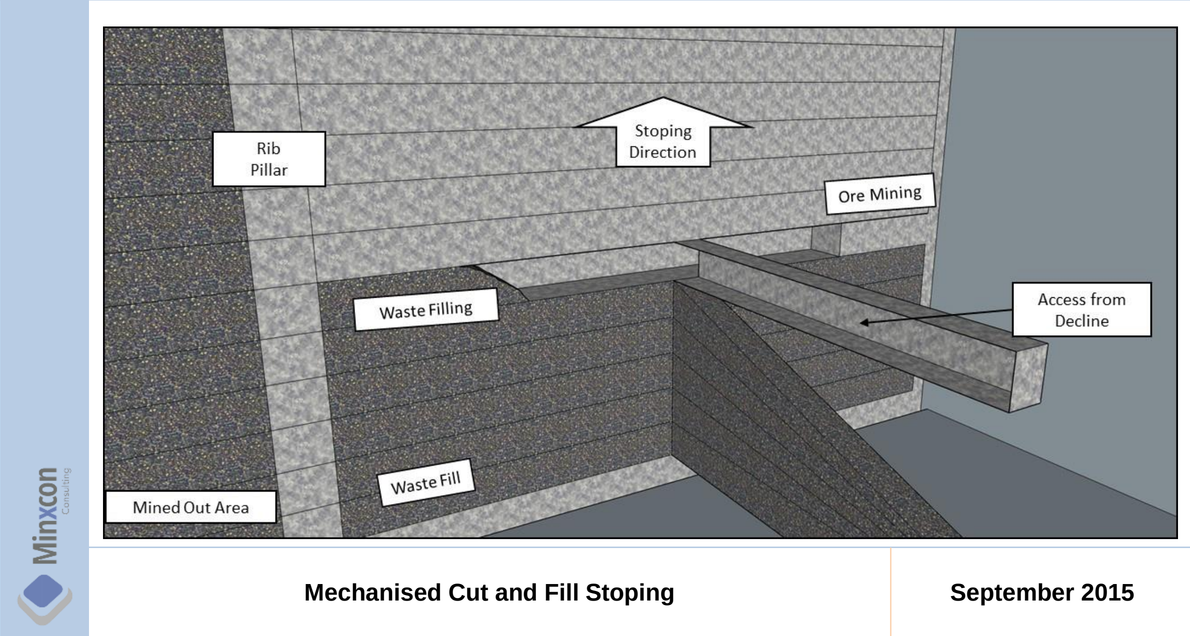
*Figure 80: Conventional Shrinkage Stoping*




| Conventional Shrinkage Stoping | September 2015 |
|---|---|

Mechanised cut and fill stoping is a method of underground mining used in vertical stopes and in mining high-grade irregular ore bodies. As the name of the method implies, successive cutting of the ore into horizontal slices is carried out starting from the bottom of the stope and progressing upwards towards the surface. This horizontal slicing leaves a void that is backfilled with waste material to provide support until all the ore is extracted from the mine. The stope is accessed from a decline and horizontal drives, the drilling of the spiral decline and stoping are done with drill rigs and loading of ore and waste rock is done using load haul dumpers ("LHDs"). A typical cut and fill mining method is illustrated in Figure 81.

*Figure 81: Mechanised Cut and Fill Stoping*



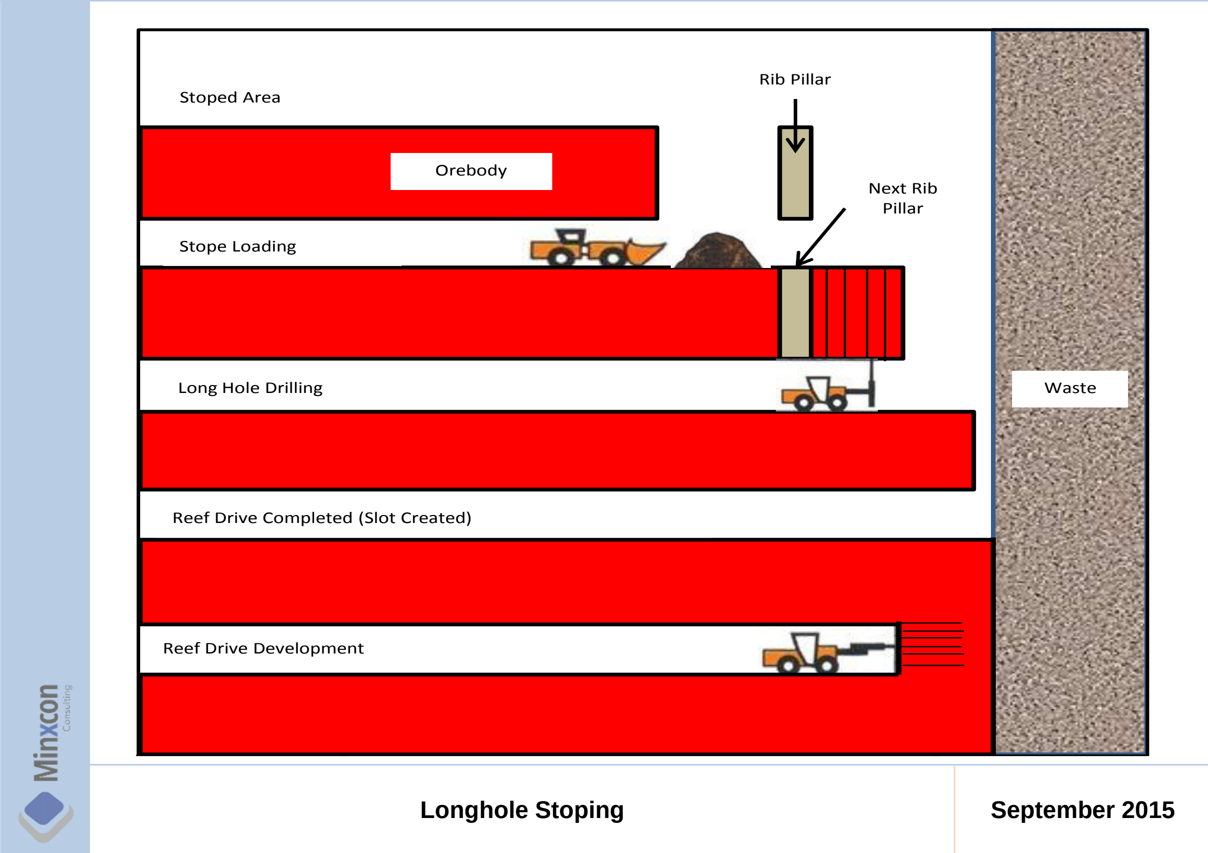

| Mechanised Cut and Fill Stoping | September 2015 |
|---|---|

The longhole stoping method provides the opportunity for a high degree of mechanisation to be used in development and mining operations. Development generally requires that drill-jumbos in conjunction with explosive loaders, rock bolters, and LHDs be used in order to drive development and access drives. Stope drilling is usually conducted by ITH or top-hammer drills, while loading of blast holes can be done by hand or with specific loading equipment.

Mucking is typically carried out with the use of LHDs. The size of mucking equipment depends on the desired production rate in that specific area of the mine, and also on the size of the openings through which the equipment has to pass. Remote control operation of LHDs and other mucking equipment is often required as personnel should not be exposed to open stopes. LHDs can either transport muck to ore passes or to haul trucks.

Drilling for the purpose of reef extraction (stoping) will take place from the reef drives and will be drilled upwards. Extraction of the reef will take place from the furthest extent of the reef retreating towards the centre, where the spiral decline shaft is situated. The above-mentioned mining configuration is illustrated in Figure 82.

*Figure 82: Longhole Stoping*



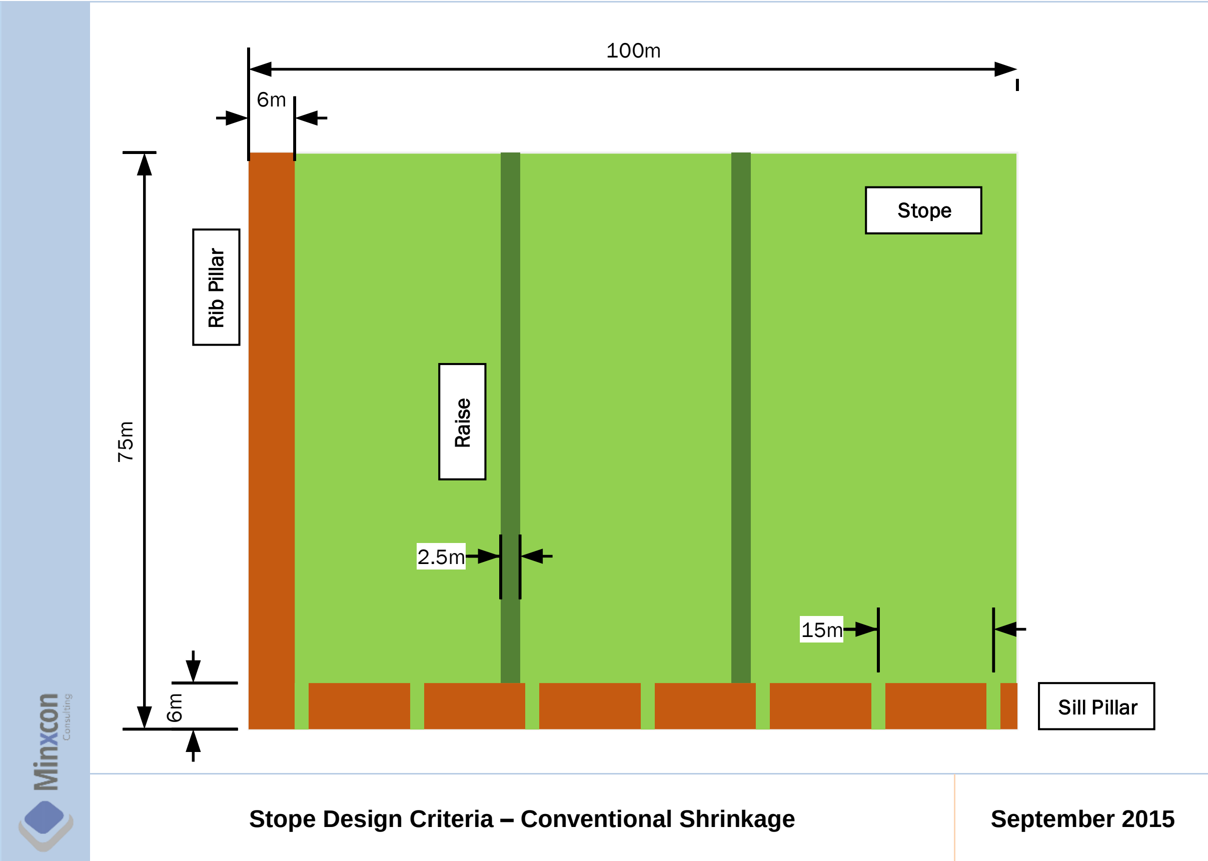

Mining of the TSF will be through using truck and shovel combinations. Excavators will be used to free dig the TSF material and load it onto dump trucks. Dump trucks will deliver the material to the plant.

**Mine Design Criteria**

The mine design criteria applicable to the mining methods described above is detailed in the following section.

The technical design criteria as based on historic rock engineering requirements, for conventional shrinkage stoping is illustrated in Figure 83.

*Figure 83: Stope Design Criteria - Conventional Shrinkage*




The development and access design dimensions for the conventional shrinkage mining method is detailed in Table 34.

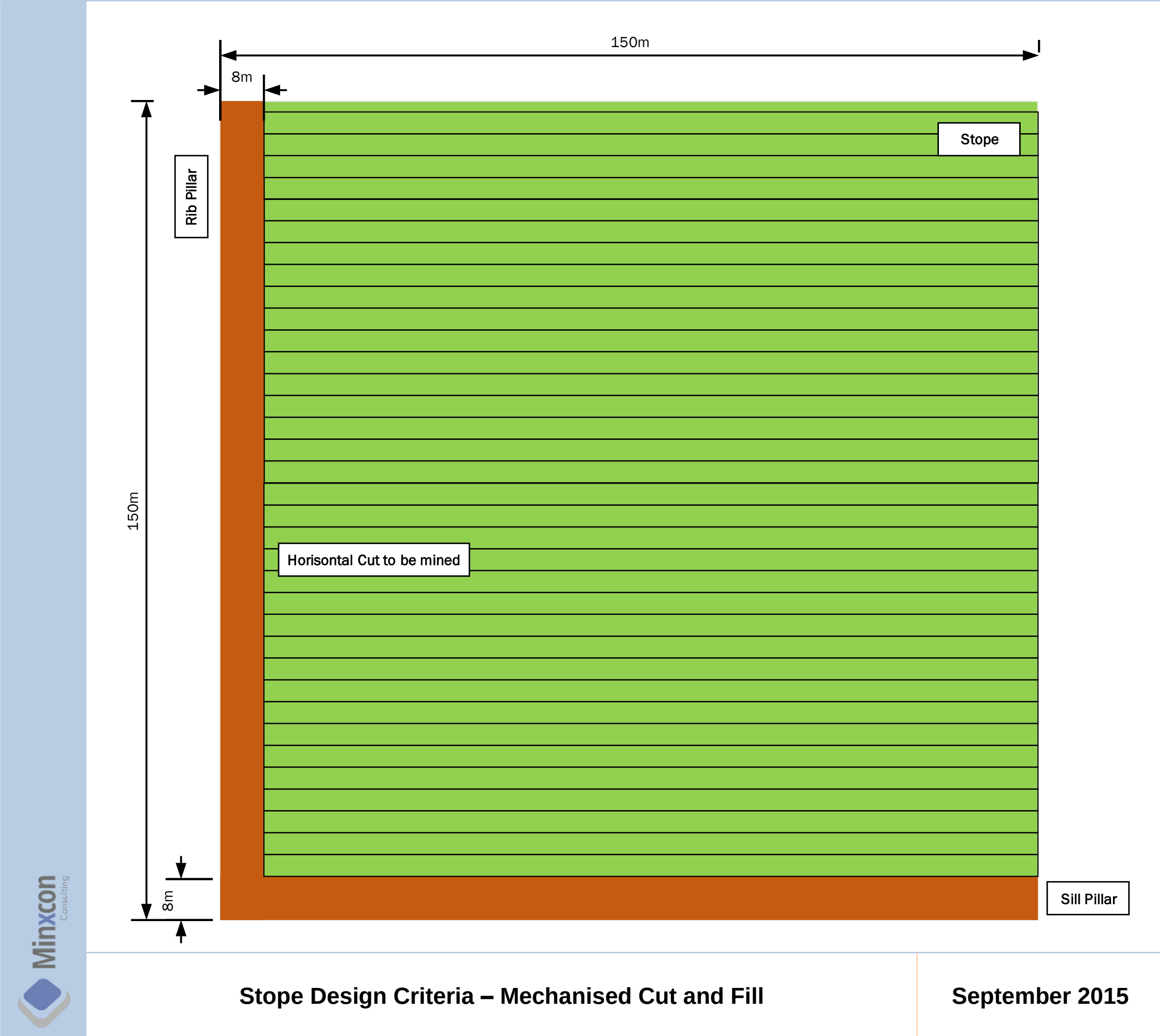
*Table 34: Design Dimensions - Conventional Shrinkage Mining Method*

| Development | Unit | Woodbine | Giles |
|---|---|---|---|
| Decline/Incline Spiral | m | 4.0 x 4.0 | |
| Haulages, Crosscuts, Reef Access Drives | m | 3.0 x 3.0 | |
| Ore Passes, Ventilation Holing, T/Ways | m | 2.0 x 2.0 | |
| Lateral Raises | m | CW x 2.5 | |

These sizes was used in the manual and CAD planning.

The stope design criteria for mechanised cut and fill stoping which is based on historic rock engineering design criteria is illustrated in Figure 84.

*Figure 84: Stope Design Criteria - Mechanised Cut and Fill*




The size of the development used for the mechanised cut and fill mining method is detailed in Table 35.

*Table 35: Design Dimensions - Mechanised Cut and Fill Mining Method*

| Development | Unit | Galaxy | Princeton | Golden Hill |
|---|---|---|---|---|
| Decline/incline spiral | m | 4.0 x 4.0 | | |
| Haulages, Crosscuts, Reef access drives | m | 4.0 x 4.0 | | |
| Ore passes, ventilation holing, T/Ways | m | 3.0 x 3.0 | | |

The methodology currently used for the longhole stoping design criteria and production rates is similar to the values used for the mechanised cut and fill stoping as detailed above.

The TSF will be selectively mined using truck and shovel combinations. A bench height of 10 m and a mining width of 20 m will be utilised to mine the TSF.

# Item 16 (b) - Production Rates, Expected Mine Life, Mining Unit Dimensions, and Mining Dilution

## Production Rates

The LoM planning for the conventional shrinkage toping sections is based on the production rates as detailed in Table 36.

*Table 36: Production Rates (Conventional Shrinkage Stoping)*

| Stoping | Unit | Woodbine | Giles |
|---|---|---|---|
| Stoping Rate (Conventional Shrinkage Stoping) | t/month | 3,000 | 3,000 |
| Stoping Rate (Conventional Shrinkage Stoping) | m2/crew | 375 | 375 |
| **Development** | **Unit** | **Woodbine** | **Giles** |
| Haulages, Crosscuts, Reef access drives | m/month | 30 | 30 |
| Lateral Raises | m/month | 25 | 25 |
| Ore passes, ventilation holing, T/Ways | m/month | 20 | 20 |

The LoM planning for the mechanised cut and fill mining and longhole stoping method is based on the production rates as detailed in Table 37.

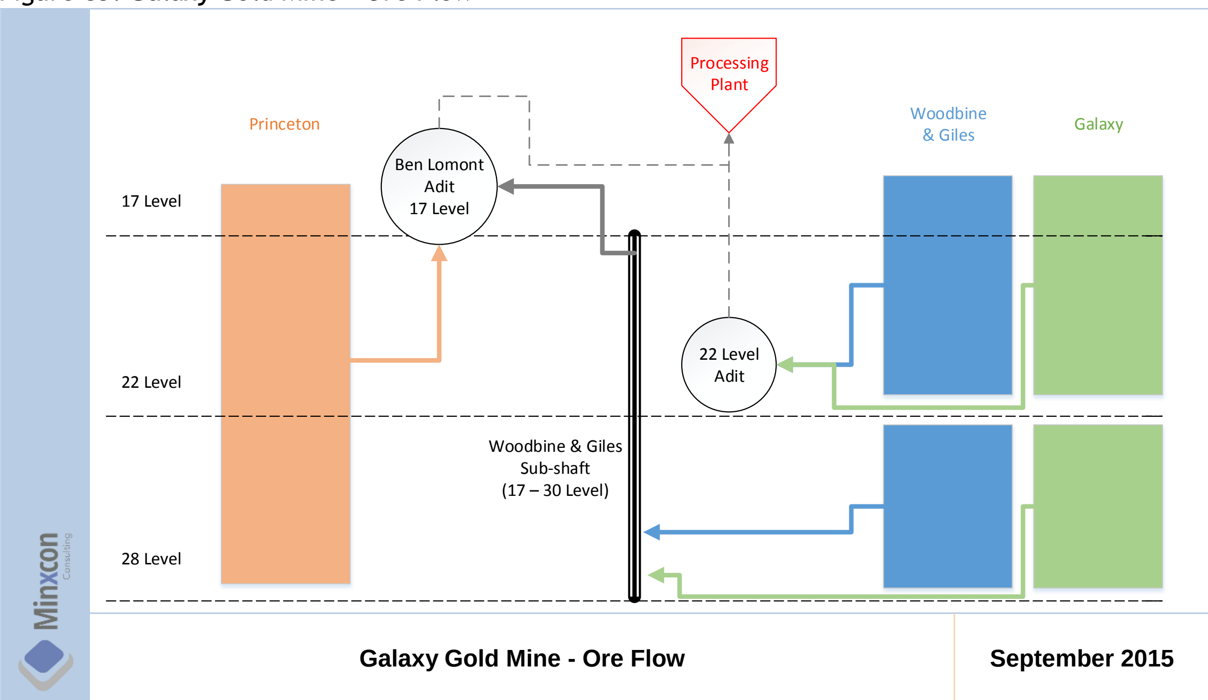
*Table 37: Production Rates (Mechanised Cut and Fill and Longhole Stoping)*

| | Unit | Galaxy | Princeton | Golden Hill |
|---|---|---|---|---|
| **Stoping** | | | | |
| Stoping Rate | t/month | 9,000 | 9,000 | 6,000 |
| **Development** | | | | |
| Spiral ramp | m/month | 90 | 150 | 135 |
| Incline shaft | m/month | 90 | 150 | 135 |
| Haulages, Crosscuts, Reef access drives | m/month | 90 | 150 | 135 |
| Ore pass, T/Ways | m/month | 20 | 20 | 20 |

## Ore Flow

The ore flow for the operation is illustrated in Figure 85.

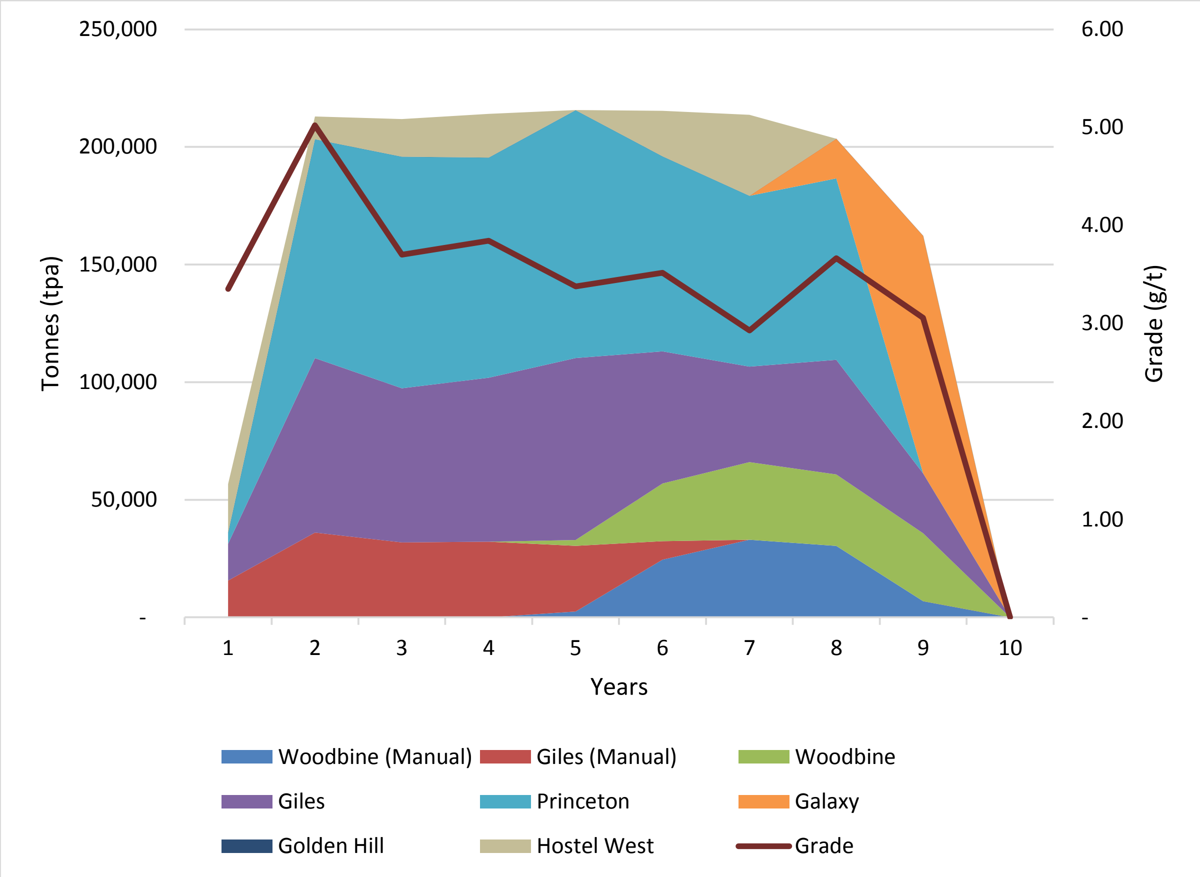
*Figure 85: Galaxy Gold Mine - Ore Flow*



**Life of Mine**

The LoM plan for Galaxy Gold Mine is based on a production capacity of 15 ktpm constrained by the processing plant capacity. The LoM production profile is illustrated in Figure 86.

*Figure 86: Galaxy Gold Mine Life of Mine Production*

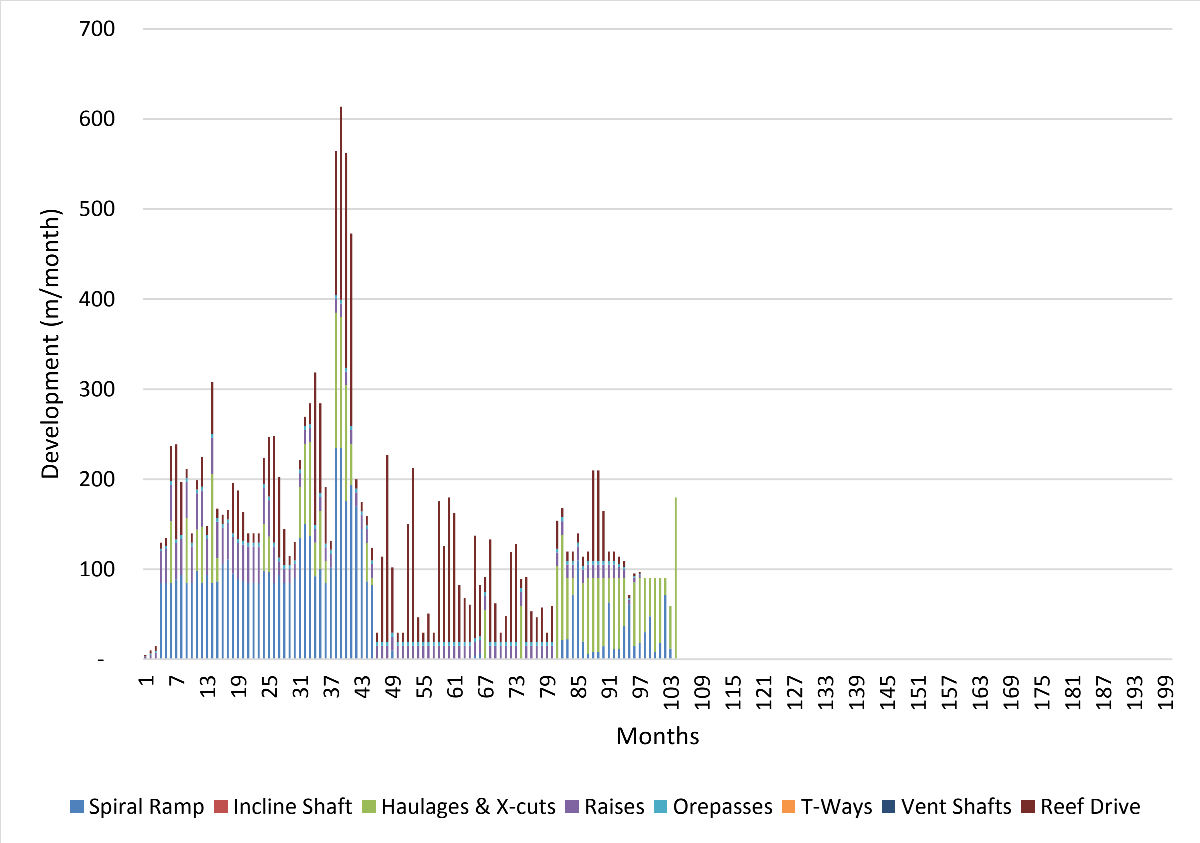



## Item 16 (c) - Requirements for Stripping, Underground Development and Backfilling

**Underground Development**

The primary access to all the mining section is developed and in good condition and able to provide adequate and safe access to the ore bodies. To access mining area below current infrastructure and to develop the mechanised cut and fill sections, some additional development will be required. The development profile for the LoM planning is illustrated in Figure 87.

*Figure 87: Development Profile*




## Item 16 (d) - Required Mining Fleet and Machinery

Mining operations will be completed by a mining contractor appointed by Galaxy to mine and extract ore in accordance with the production schedule.

The mining contract identifies the typical equipment required to extract the ore. The mining fleet will consist of the following equipment:-

- UG drill rig;
- LHDs;
- 35 t dump trucks;
- 15 t dump trucks;
- 8 t utility vehicles;
- 1 t utility vehicles;
- compressors; and
- light vehicles.

A mining contract has not been signed for this operation, hence the size, number and specifications of the mining fleet are based on the fleet from another mining operation where the mining contractor is active.

# ITEM 17 - RECOVERY METHODS

## Item 17 (a) - FLOW SHEETS AND PROCESS RECOVERY METHODS

Bravura, a niche independent investment banking and advisory firm with a specific focus on corporate finance, advisory services and financial structuring, and M2M have been mining underground and retreating tailings material intermittently since 2011. Currently the plant is on care and maintenance. Some sections of the plant have been dismantled to protect the equipment from theft. Furthermore, some of the equipment has corroded and requires upgrading and repairs before commissioning of the plant can commence. Provision for this has been made in the capital programme and scheduling.

During the mining ramp up Galaxy will treat tailings material as a filler together with RoM material to produce a flotation concentrate. The tailings will be mined from the nearby Hostel tailings dumps. A flotation recoveries of 55% on the tailings and 90% on the RoM material was assumed. The tailings flotation recovery of 55% was based on current and historic recoveries achieved at Galaxy Gold Mine.

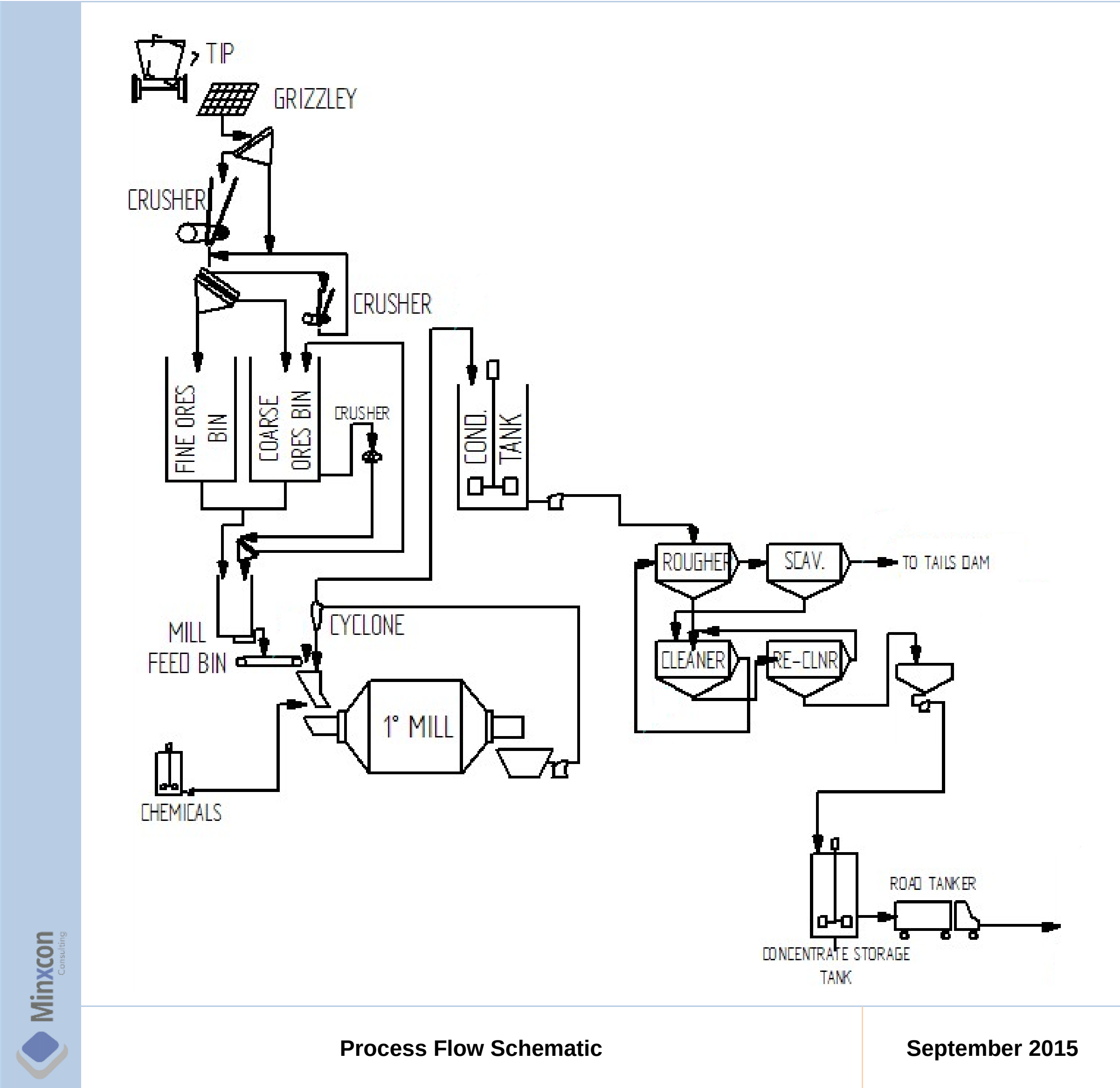
For this phase, RoM material will be fed through the crushing and milling circuits prior to being floated. The tailings material will be trucked from the Hostel Dump and fed into the milling circuit together with the crushed RoM. The mill will serve to polish the tailings and mill the crushed RoM to 80% passing 75 µm at a total throughout of 15 ktpm. The milled material will then be floated to produce a concentrate. The concentrate will then be sold as a high-grade gold concentrate.

The following circuits will be operated:-

- crushing by means of jaw and cone crushers;
- ball milling and cyclone classification;
- sulphide flotation;
- receiving area for historic tailings retreatment;
- tailings storage facilities;
- reagent mixing and addition; and
- water recovery and reticulation.

The flotation plant will have a RoM feed capacity of approximately 15 ktpm. The process flow schematic is shown in Figure 88.

*Figure 88: Process Flow Schematic*




## Item 17 (b) – Operating Results Relating to Gold Recovery

The historic production data is summarised in Table 38. A flotation recovery of 87% was achieved for the period January to August 2011.

*Table 38: Historic Galaxy Production Data (January 2011 to August 2011)*

| Item | Unit | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 | Total/ Average |
|---|---|---|---|---|---|---|---|---|---|---|
| RoM milled | ktpm | 5.82 | 3.67 | 5.04 | 3.06 | 2.14 | 4.99 | 5.54 | 4.80 | **35.05** |
| RoM head grade | g/t | 2.66 | 2.60 | 2.68 | 2.26 | 2.67 | 2.55 | 2.19 | 2.36 | **2.49** |
| RoM head content | kg | 15.50 | 9.53 | 13.53 | 6.92 | 5.72 | 12.73 | 12.14 | 11.32 | **87.39** |
| Flotation recovery | % | 88.5% | 87.0% | 84.0% | 87.2% | 80.7% | 87.5% | 86.5% | 88.7% | **86.6%** |
| Biox-CIL recovery | % | 83.5% | 86.8% | 87.0% | 90.6% | 91.3% | 86.8% | 81.0% | 89.2% | **86.3%** |
| Overall recovery | % | 90.2% | 74.4% | 63.6% | 91.6% | 75.3% | 58.0% | 64.9% | 73.6% | **73.1%** |

The plant also treated RoM material between early 2012 to early 2013 at an average rate of 4,100 ktpm And a RoM head grade of 1.96 g/t. The plant was only able to achieve recoveries of about 84% for flotation and 84% for BIOX®. During both the 2011 and 2012-2013 periods of operation, the plant operated under unfavourable conditions mainly due to a short supply of ore resulting in stop-start conditions. This affected flotation and BIOX® stability which resulted in below-expected recoveries.

With stable plant operation it is assumed that the flotation recoveries can be improved to approximately 90%.

## Item 17 (c) - Plant Design, Equipment Characteristics and Specifications

**Crushing, Milling and Flotation Plant**

Referring to Figure 88, the gold-bearing RoM feed will be crushed through jaw and cone crushers. The crushed material will then be milled in a ball mill and cyclone classification circuit. The cyclone overflow (averaging around 80% passing 75 µm) will be fed into the flotation conditioning tank while the underflow will gravitate back into the mill.

The flotation circuit comprises of a rougher scavenger, cleaner and recleaner circuits. The flotation circuit should be able to achieve gold recoveries of approximately 90% at mass pulls of 4% to 6%.

The flotation tails will be pumped to the TSF while flotation concentrate transferred to a thickener. Thickener overflow (process water) will be returned to the plant and re-used. The concentrate thickener underflow is pumped into a storage tank from where is it loaded into a tanker.

**Tailings Deposition**

There are a number of historic TSFs, some of which were reprocessed by the Mine as part of their surface mining operations.

Plant tailings were deposited on Tailings Dam B, a ring-dyke tailings dam, which is a single-compartment unlined dam. The dam consists of two design phases with Phase 1 built in 1985. It is located immediately south-southwest of the Biox North Dump.

In 2011, it was estimated that Tailings Dam B had approximately up to four years of deposition capacity remaining. Consequently Galaxy planned to expand the dam with an additional capacity of 9 Mt in 2014 at a cost of ZAR24 million. This expansion would accommodate a deposition rate of 50 ktpm for a further 15 years.

Since little to no deposition has occurred since 2011 and at the planned production rates of 15 ktpm, it is assumed that this expansion will only be required in 2019 and 2020. Since lower mining rates of approximately 15 ktpm are now planned for the LoM, the TSF will only need to be expanded to accommodate approximately 1 Mt.

A capital cost of ZAR4 million has been estimated for this expansion. The rate of rise may be sufficient to negate the need to expand the dam’s footprint. Nevertheless, the dam expansion will need to be reviewed by qualified tailings dam engineers to confirm the capacity and capital cost assumptions.

## Item 17 (d) – Energy, Water and Process Materials Requirements

**Power and Water**

Raw water will be sourced from underground while power will be provided by the national power supplier, Eskom. A power consumption of 1,070 MWh per month has been estimated. A water treatment plant will produce potable water for the mine and plant.

**Plant Labour Requirements**

Plant labour requirements will consist of the following personnel:-

*Table 39: Labour Compliment for the Plant*

| Item | Number of Persons | ZAR/month |
|---|---|---|
| Management and Administration | 11 | 295,784 |
| Engineering | 6 | 261,934 |
| Production | 56 | 1,109,997 |
| **Total** | **73** | **1,667,715** |

# ITEM 18 - PROJECT INFRASTRUCTURE

The Galaxy Gold Mine is currently on care and maintenance and no mining activities are conducted at present. Adits allowing access to the underground workings remain accessible and are guarded by security guards stationed on site. A skeleton crew operates from the mine and is in charge of basic care and maintenance and day to day operations. Additional information on the mining operations and associated infrastructure is contained in the relevant sections of this Report.

## Item 18 (a) - MINE LAYOUT AND OPERATIONS

A plan layout of surface infrastructure is illustrated in Figure 6. This shows the main infrastructure areas defined as follows:-

- The Ben Lomond Adit;
- The 22 Level Adit;
- Flotation processing plant area;
- The mine office area;
- TSFs; and
- The Ben Lomond village.

## Item 18 (b) - INFRASTRUCTURE

### SURFACE INFRASTRUCTURE

The Galaxy Gold Mine consists of various adits from which historical mining operations were conducted. One of these adits, the Ben Lomond Adit, as photographed on a site visit conducted on the 19th of June 2015 is illustrated in Figure 89. Infrastructure on site is generally in a good condition although capital will have to be invested to get the mine fully operational again.

*Figure 89: Ben Lomond Adit*


| Ben Lomond Adit | August 2015 |
| --- | --- |

The various adits from which mining operations were historically conducted are listed as follows:-

- Ben Lomond Adit;
- Princeton Adit;
- 22 Level Adit;
- Tiger Trap Adit ; and
- The Golden Hill Adit.

In addition to these adits, two dormant adits are also present on the Project Area namely the Alpine Adit and the Pioneer Adit.

The two adits that will be used to mine the various ore bodies collectively forming the Galaxy Gold Mine are the Ben Lomond and 22 Level adits.

**Access and Haul Roads**

Access to the Mine is via a 7 km tar road from Barberton to Moodies Estates and then via a 4 km dirt road to the Mine. The road services the mine, timber industry and the Moodies agricultural estate. Access on the mine consist of gravel roads that cut along the mountain sides and link the access gate to the mine offices, staff complexes and the residential and recreational areas.

Historically, the work force travelled by taxi or by bus to the Mine. The work force residing on the Mine generally travelled by foot or car to their respective work areas.

Haul roads and access roads are in a reasonable condition and access to the Mine is easily obtainable.

**Security**

Currently, security on the mine is provided by a contractor. Important areas such as the processing plant are fenced off.

**Mine Office Complex**

The Mine office area consist of various offices and infrastructure capable of sustaining mining operations. Offices are currently in a good condition and are being utilised by the skeleton staff located on the mine. As per information supplied by the client, a basic breakdown of the Mine office complex and the amount of personnel that can be accommodated on the premises is illustrated in Table 40.

*Table 40: Mine Office Complex Breakdown*

| Description | Personnel | Comment |
|---|---|---|
| Admin 1 | 5 | |
| Admin 2 | 2 | |
| General Manager | 1 | |
| HR Office | 1 | |
| HR Assistant | 1 | |
| Accounting | 1 | |
| Finance Manager | 1 | |
| Ablutions | | 2 separate toilets and wash basins |
| Technical Services Manager | 1 | |
| Survey Office | 3 | |
| Underground Manager | 1 | |
| Mine Captain | 1 | |
| Strong Room | | 2 strong rooms with 1 safe |
| Management Change House | 8 | 1 toilet |
| Boardroom | | Seats 15 |
| Shift boss Office | 2 | |
| Senior Shift boss Office | 1 | |
| Engineering Foreman | 1 | |
| Officials Change House | 24 | |
| Engineering and Miners Change House | 37 | |
| Lamp Room | | 140 rescue packs and 145 lamps available |
| Shaft Clerk Office | 2 | |

**Workshop and Stores**

A workshop with dimensions 24 m by 12 m exists on surface. As per staff on site, this workshop is empty and would need to be re-equipped. The mine store with dimensions 21 m by 21 m is situated adjacent the workshop and has office space for 4 persons.

Underground workshops, one at 27 Level, one at 28 Level, one at the Ben Lomond Adit and one at Princeton 17 Level are functional and require equipping in order to be fully operational.

**Refuelling Facility**

The on-site refuelling bay is capable of storing 10,000 l of diesel.

**Processing Plant**

Two metallurgical process facilities exist, the flotation plant adjacent to the Ben Lomond Adit (17 Level Adit) and the BIOX®/CIL Plant adjacent the TSF site.

**Tailings Storage Facility**

Until recently, tailings from the flotation and CIL circuit was pumped to the existing ring-dyke TSFs located at the foot of the Barberton Mountains next to the closed BIOX® Plant. Tailings Dam B is a single compartment, unlined impoundment. Two existing pipelines carried tailings from the concentrator plant to the TSF.

There are a number of historic TSFs, some of which were up until recently reprocessed by the mine as part of their surface mining operations.

#### UNDERGROUND INFRASTRUCTURE

Access to the underground workings is via the main Ben Lomond Adit located on 17 Level (1,060 m amsl). The adit access is used as the main haulage leading to the Woodbine sub-vertical shaft and is equipped with single line track over its 3 km length. A spiral ramp adjacent the mineralised envelope of the Galaxy Ore Body is developed from 28 Level to approach 26 Level.

A separate haulage that breaks away from the main haulage close to the adit entrance allows access to the Princeton Ore Body. The Woodbine sub-vertical shaft is 579 m in depth up to 28 Level although the shaft sump extends to 30 Level (852 m below collar). At present, the shaft bottom is filled with spillage and debris and requires significant work to the shaft steelwork from 28 Level downwards.

The two compartment shaft is equipped with two 4 t skips that was used to hoist material from between 28 Level and 17 Level as well as provide transport for men and equipment. The shaft, since the introduction of an underground crusher, has a capacity of 18,000 tpm RoM. Waste tonnage generated underground was used in the cut and fill mining cycle.

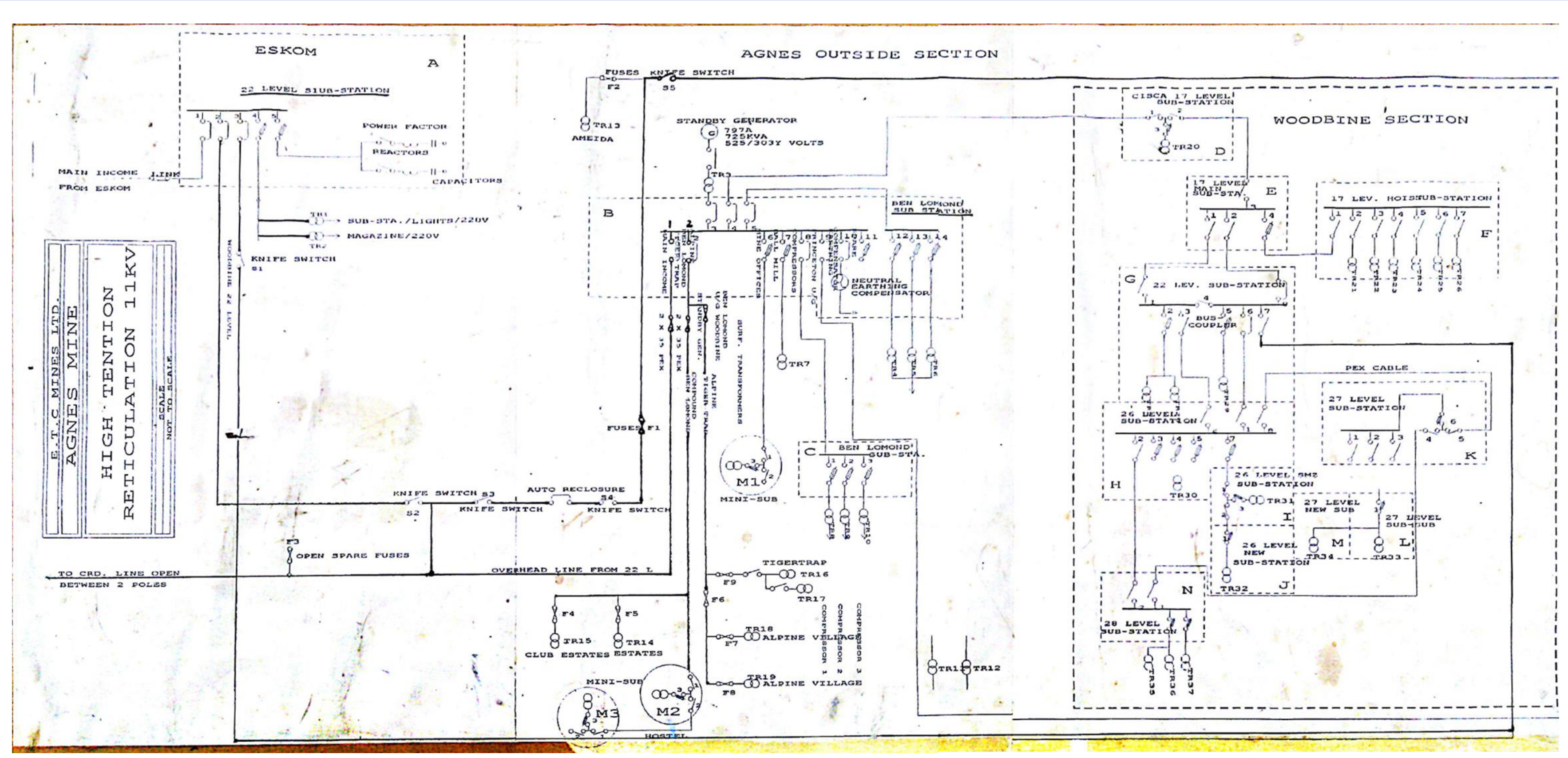
## Item 18 (c) - SERVICES

### Power

The main power supply to the mine is from an electrical substation located on Moodies Estates near the 22 Level Adit with an installed capacity of 2.5 MVA. A second 2.5 MVA transformer is used as a standby unit. These transformers have historically shown low power factors and need to be replaced. 11 kV Overhead power lines reticulate power to the various mining infrastructure locations.

High tension reticulation for the previously named Agnes Mine is illustrated in Figure 90.

*Figure 90: Agnes Mine - High Tension Reticulation*



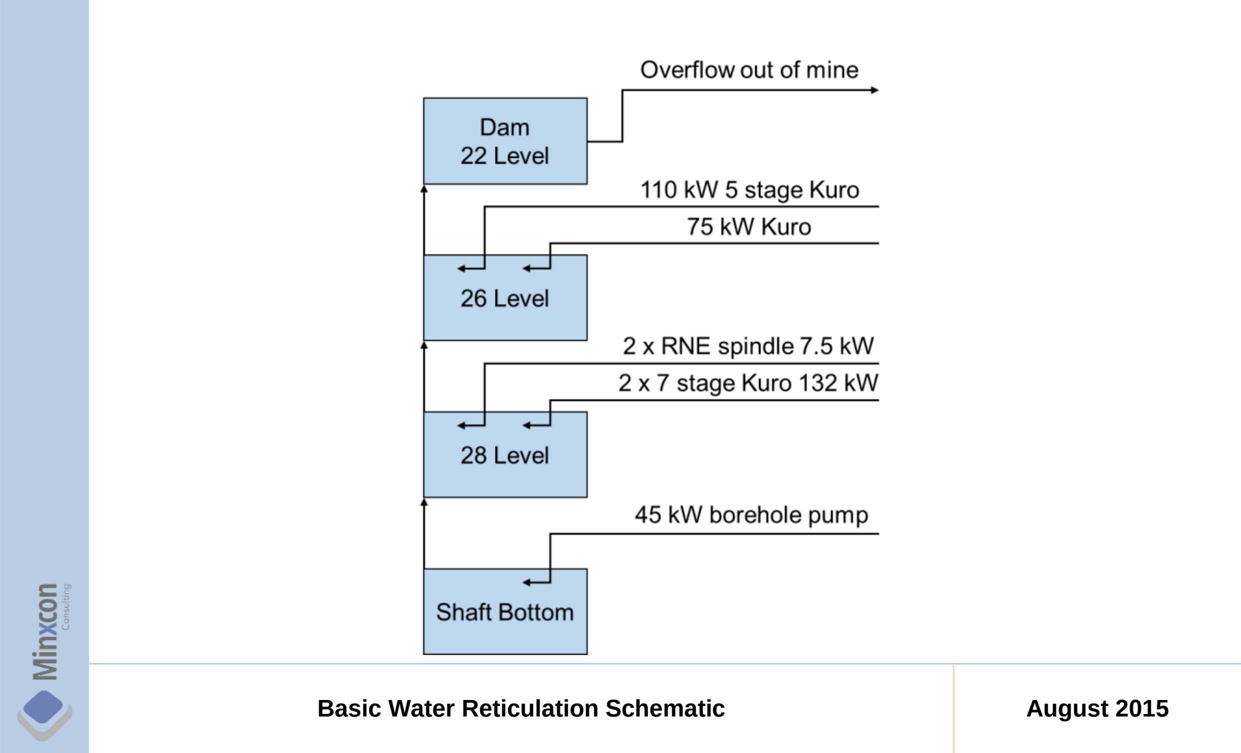

**Agnes Mine - High Tension Reticulation** | **August 2015**

### Water

An underground dam situated 1 km into the Ben Lomond Adit supplied water to the mine and the surrounding villages. The water from the Princeton Mine flowed from an aquifer within the mine. This water was used for processing and stored in two 6 metre diameter reservoirs. Additional water for mining purposes was obtained from surface floodwater.

Volumes associated with the water reticulation from underground sources are illustrated in Figure 91.

*Figure 91: Basic Water Reticulation Schematic*




Process water will be returned to the plant from the TSF return water dam while potable water will be treated on-site via a sand and chlorination filter.

Approximately 3,500 m$^3$ of water flowing from the adit was discharged into a tributary of Concession Creek through a pipe located at the base of the plant on a daily basis. A further 1,200 m$^3$ of water flowing from the 22 Level Adit was released into a tributary of the creek daily.

Galaxy also supplies water, flowing from the adits to the local municipality. The municipality treats the water from the adits in a purification plant located next to Tiger Trap, where after it is piped to a reservoir for distribution to end users.

### Storm Water Management

Storm water in and around the Mine infrastructure area natural flows into creeks surrounding the property. Storm water at the TSFs are managed by several trenches, diverting dirty run-off water to the return water dam and clean storm water to the environment.

**Waste Management**

The mine historically operated a domestic waste dump which has been in existence since the late 1900s. All general waste is disposed of in this landfill site.

Sewage from the hostel was treated in a 600 person Becon Bio Filter RBC sewage plant installation. Water from this system was discharged into a tributary of Concession Creek.

**Ventilation**

Intake ventilation was obtained from the Ben Lomond Adit, Ivy Shaft, 22 Level Adit and Woodbine Shaft. Air was drawn in by three 45 kW fans located on 26 Level. The three fans pushed air out through the old working areas of the Woodbine and Giles ore bodies. Air was directed via the Woodbine sub-vertical shaft to the lowest operating level (28 Level).

All fans on 17 Level Ben Lomond Adit and Princeton Adit have been removed. Historically, 60 $m^3$/sec of ventilation was required based on the diesel driven mining equipment.

Due to the limited amount of mining within the Princeton section the area is ventilated by natural ventilation that occurs through the Princeton spiral shaft holing to surface.

Self-rescue breathing apparatus was compulsory when working underground.

**Communication**

Offices have cell reception for both Vodacom and MTN services. Reception elsewhere on the Mine including the flotation plant has little to no reception. Wi-Fi as well as Streamline internet is available at the mine offices. The intra web system is currently damaged and needs upgrading. VoIP can be used to make phone calls, however voice quality is low.

# ITEM 19 – MARKET STUDIES AND CONTRACTS

## Item 19 (a) – MARKET STUDIES AND COMMODITY MARKET ASSESSMENT

### GOLD COMMODITY OVERVIEW

The gold market comments were extracted from the Gold Investment Digest of the second quarter of 2015 from investor information published into the public domain.

**Gold Overview for Half Year 2015**

- Jewellery demand came under pressure from negative consumer sentiment, while investment was a casualty of directionless prices and stock market gains.
- Gold prices were largely directionless between March and June 2015. This was both the cause and effect of weak demand.
- The effect of localised issues driving demand was clearly apparent in European investment trends. Gold investors in Europe – in both retail and institutional camps – adopted a more positive stance towards gold than those in most other markets.
- During the start of the third quarter of 2015, the gold market has witnessed some significant developments; notably, a sharp decline in the gold price and an announcement by the People's Bank of China ("PBoC") of a 604 tonnes addition to its gold reserves.

### GOLD RESOURCES

According to Natural Resource Holdings ("NRH") (2013), the total global gold Resources (inclusive of Proven and Probable Reserves, Measured, Indicated and Inferred Resources) that are owned by 312 entities including public, private and government backed companies, approximated 3.72 billion *in situ* ounces ("Boz") in 2013. The average grade of all the deposits was estimated at 1.01 g/t gold.

The database comprises of 580 mines and deposits, which consists of over one million ounces of *in situ* resources in all categories. Of these 580 used, 199 are producing mines at an average grade of 1.18 g/t whilst the remaining 381 are undeveloped deposits at an average grade of 0.89 g/t. The average grade differs significantly (33%) between producing and undeveloped deposits. This has important implications on future gold production, and at a gold price reaching low levels many of these projects will simply not be economically feasible. While North America displays the largest amount of contained gold, Africa continues to be home to some of the highest grade (and highest risk) projects in the world, as can be seen in Table 41.

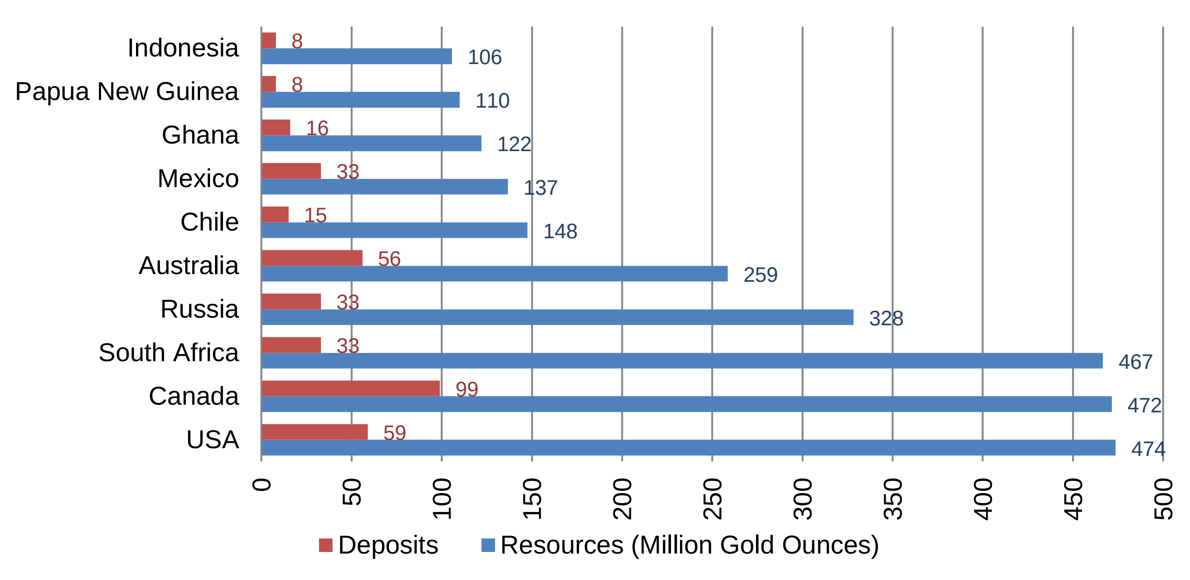
*Table 41: Geographical Gold Deposits*

| Continent | Resources | Number of Deposits | Average Grade |
|---|---|---|---|
| | Moz | | g/t |
| North America | 1,131 | 199 | 0.71 |
| Africa | 842 | 109 | 2.87 |
| Asia | 717 | 87 | 1.11 |
| South America | 543 | 90 | 0.83 |
| Australasia | 381 | 68 | 0.98 |
| Europe | 104 | 27 | 1.00 |
| **World total** | **3,717** | **580** | **1.01** |

***Source*:** Natural Resource Holdings (2013)

The most resource ounces are held by the top 10 following countries as displayed in Figure 92.

*Figure 92: Top 10 Countries by Total Gold Resource Ounces*




***Source:*** Natural Resource Holdings (2013)

### GOLD RESERVES

The global gold reserves are dominated by Australia, South Africa and Russia, as tabulated in Table 42.

*Table 42: Country Listing of Gold Reserves*

| Country | Reserves |
|---|---|
| | Mt |
| Australia | 9,800 |
| South Africa | 6,000 |
| Russia | 5,000 |
| Chile | 3,900 |
| United States | 3,000 |
| Indonesia | 3,000 |
| Brazil | 2,400 |
| Peru | 2,100 |
| Ghana | 2,000 |
| Canada | 2,000 |
| China | 1,900 |
| Uzbekistan | 1,700 |
| Mexico | 1,400 |
| Papua New Guinea | 1,200 |
| Other countries | 10,000 |
| **World total (rounded)** | **55,400** |

***Source:*** US Geological Survey, Mineral Commodity Summaries 2015, February 2015

### GOLD SUPPLY AND DEMAND FUNDAMENTALS

**Gold Supply**

- Total supply contracted by 5% year-on-year, to 1,032.6 tonnes in the second quarter of 2015 - despite another quarter of modest growth in mine production - as recycling activity diminished again.
- Year-to-date, mine production, hedging and recycling have generated a combined 2,107.1t of supply, 3% less than in the same period of 2014. Lower levels of recycling account for a good portion of this decline.

**Mine Production**

It was estimated that global mine supply increased by 58 tonnes to a new all-time high of 3,109 tonnes during 2014, which is 2% higher than 2013. With difficult current economic conditions, the increase in production is a result of a combination of factors, namely:-

- A large number of operations have reported higher year-on-year production over the last couple of quarters. In some cases it reflects a return towards "normal" levels of output following periods of low production due to political issues, geotechnical problems and mine sequencing;
- More mature mines generally did not perform as well as historically, with losses seen at some of the world's largest mature assets;
- The top five mine site increases were all from mines which began operations in prior years and were ramping production up towards full capacity in 2014. These five mines accounted for 55 tonnes of growth;
- Supply from new operations has made an important contribution towards the increase in global production; and
- Major producers focused on reducing non-essential capital expenditure, and more generally moved away from expansions and acquisitions as seen previously.

*Figure 93: Gold Supply*

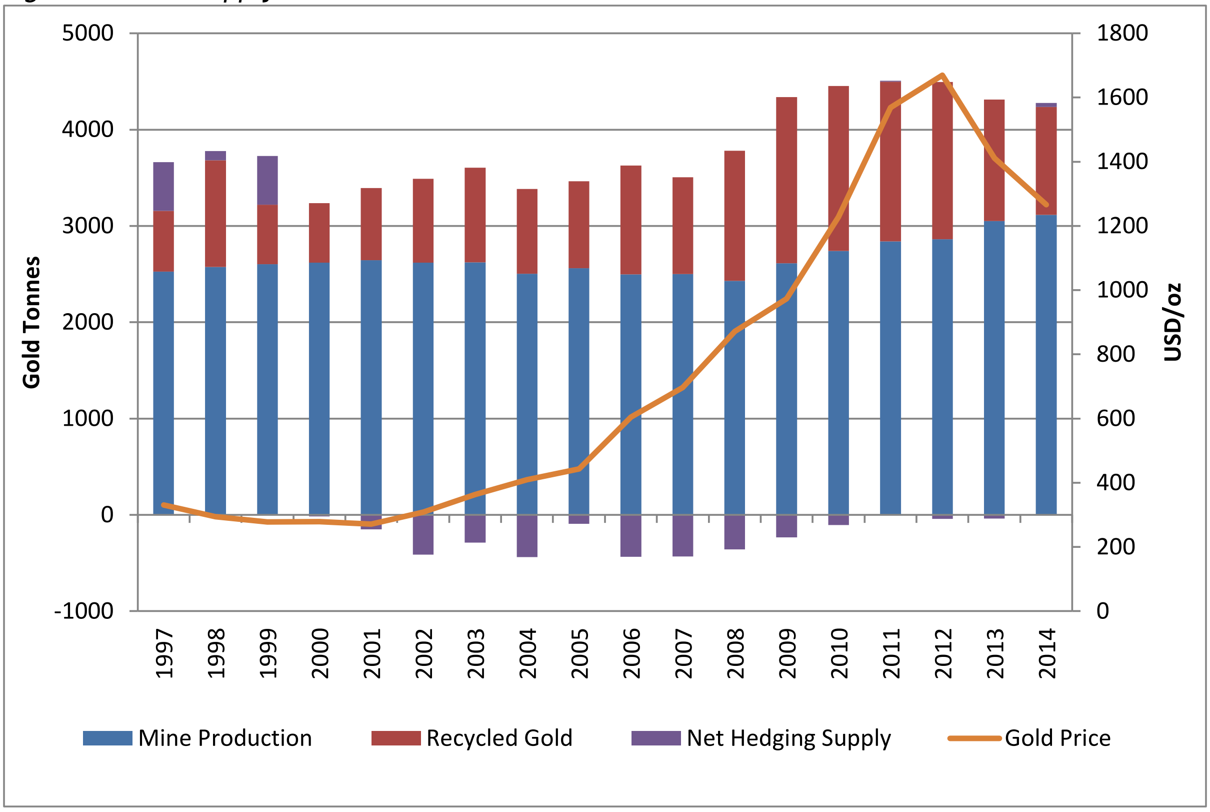



Table 43 displays the top 20 gold mining countries for the years 2013 to 2014. China is now by far the biggest producer, whilst South Africa has moved down to occupying the 6th position.

*Table 43: Top 20 Gold Mining Countries*

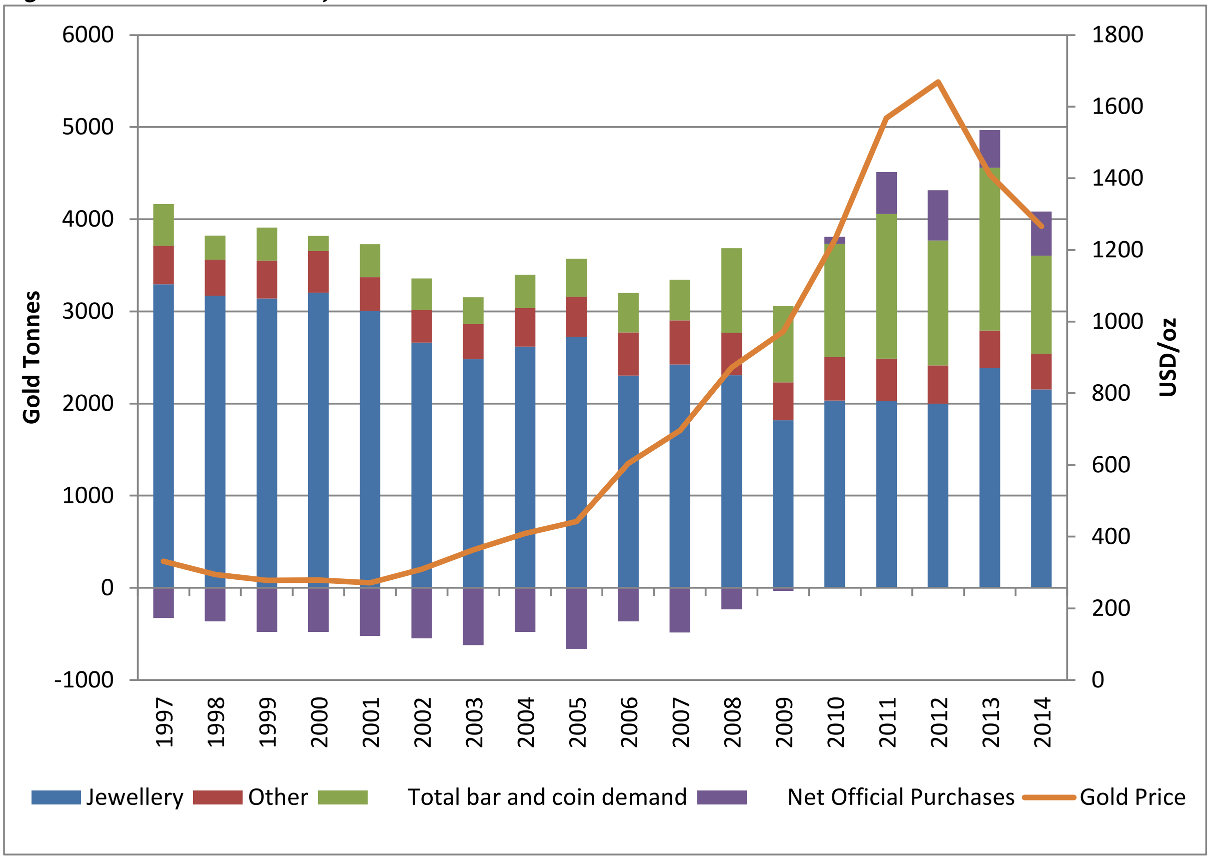
| Country | Mine Production (t) | | Change % |
|---|---|---|---|
| | 2013 | 2014e | y-o-y |
| China | 438 | 466 | 6% |
| Russia | 249 | 272 | 9% |
| Australia | 268 | 270 | 1% |
| United States | 228 | 200 | -14% |
| Peru | 188 | 169 | -11% |
| South Africa | 177 | 165 | -8% |
| Canada | 133 | 153 | 13% |
| Mexico | 120 | 116 | -4% |
| Indonesia | 109 | 110 | 1% |
| Ghana | 107 | 106 | -1% |
| Brazil | 80 | 81 | 0% |
| Uzbekistan | 77 | 80 | 4% |
| Papau New Guinea | 61 | 59 | -2% |
| Argentina | 50 | 58 | 13% |
| Mali | 48 | 48 | 0% |
| Kazakhstan | 42 | 48 | 11% |
| Tanzania | 47 | 44 | -5% |
| Chile | 49 | 44 | -11% |
| Columbia | 41 | 43 | 4% |
| Philippines | 39 | 39 | 2% |
| Rest of World | 498 | 538 | 7% |
| **World Total** | **3,050** | **3,109** | **2%** |

***Source:*** Thomson Reuters GFMS (2015)
***Note:*** e: estimated

### GOLD DEMAND

- Jewellery fabrication contracted by a CAGR of 2.5% over the past 18 years and fell by 11% year-on-year despite the lower gold prices, primarily due to restrained demand in China.
- Industrial fabrication demand slipped by 5%, due to weakness in all major segments.
- Total physical demand fell 19% as all areas except official sector purchases, registered declines.
- Retail purchases of bars and coins slumped by 40% in 2014, driven by weak investor interest in Asia.

*Figure 94: Global Demand for Gold*




### Jewellery

According to the world gold council (2015), the last two years have seen net jewellery demand recover to exceed 2,000 tonnes per annum. This was partly due to a firming of jewellery demand as the world has emerged from the crisis. Despite restrictions aimed at cooling imports of gold, jewellery demand in India hit a record 662 tonnes in 2014, whilst Chinese jewellery demand weakened.

A longer term perspective shows that an increasing share of global collective wealth has been allocated to gold jewellery since 2003 (with the exception of 2009, during the worst of the financial crisis). In 2013, gold jewellery value was almost 0.14% of global gross domestic product ("GDP") compared with less than 0.08% ten years previously. Significantly, jewellery's share of global GDP in 2014 was one fifth higher than 1997, which was the peak year for gold jewellery demand at 3,294 tonnes.

### Investment

Gold exchange-traded products are traded on the major stock exchanges including Zurich, Mumbai, London, Paris and New York and most funds are physically backed by vaulted gold. Throughout 2014 the main feature of gold investment was the contrast between exchange-traded funds ("ETFs"), which acted as a source of supply to the market as substantial institutional positions were sold and demand for bars and coins, which reached 1,064 tonnes.

Over-the-counter ("OTC") investment and stock flows include the more dense elements of the investment market, as well as any stock changes that have yet to be identified and any statistical residual. The OTC investment and stock flows saw net buying during 2014, mainly aided by opportunistic buying in Asia. Also incorporated within OTC investment and stock flows is demand for gold deposit accounts, which has increased particularly in countries such as Turkey and China. An additional element contributing to the number is gold used to support financial transactions, for example in China, where a number of new instruments (e.g. inter-bank swaps and ETFs) have been introduced.

**Technology**

Application of gold in the technology sector remains relatively small. According to the world gold council, the full year demand in 2014 contracted to 389 t, which is the lowest level since 2003. This was mainly due to slow-moving economic conditions in key markets and ongoing substitution away from gold. The volume of gold used in electronic devices plunged to a 10-year low of 267.3 t.

Gold used in dentistry continued its long term downtrend, and the pace of decline in 2014 (-6%) was of similar magnitude to 2013. This took the sector to a new low of 34.2 t. Gold is facing a continuation of the long term trend away from gold to other cheaper alternatives (mainly cobalt, chrome, porcelain, and ceramics).

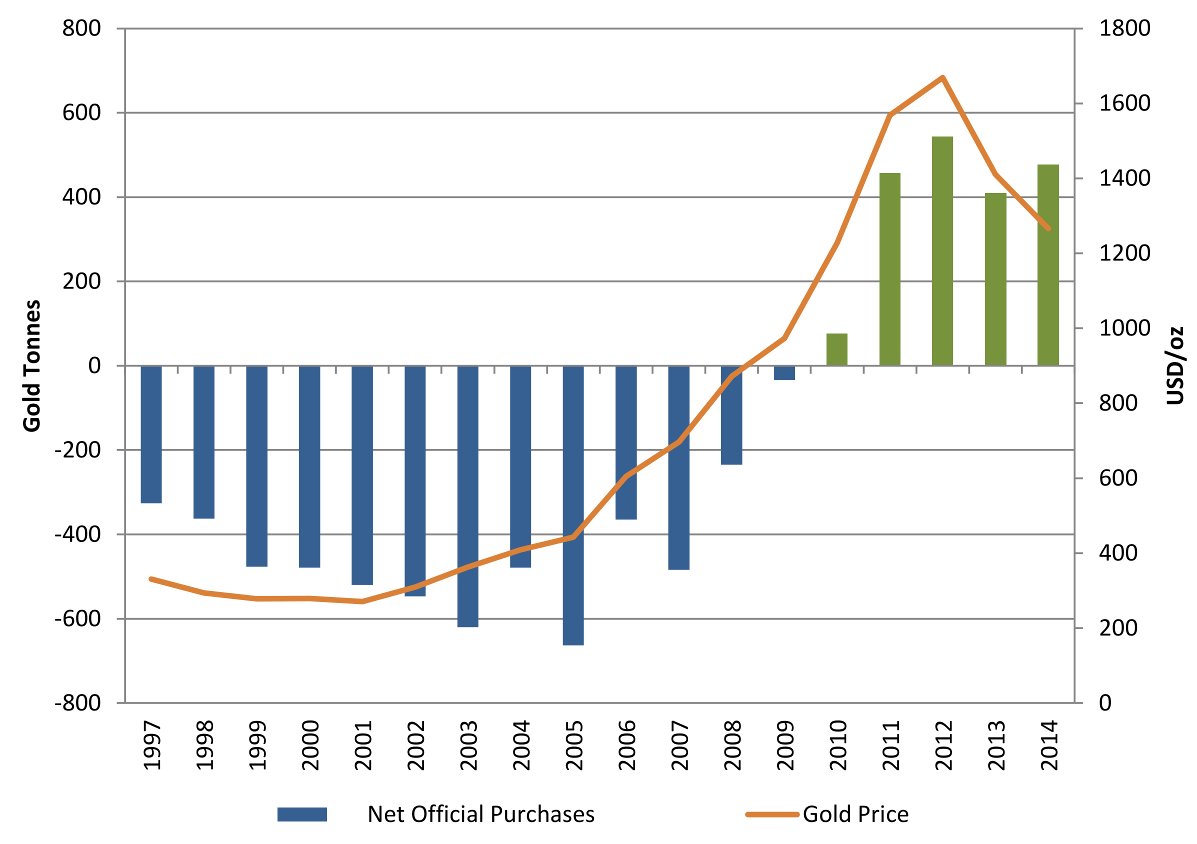
#### CENTRAL BANKS

**Demand**

Central Banks turned net buyers in 2008 following a number of years where the banks were net sellers. Central banks made net purchases of 477 t of gold in 2014. Seeking continued diversification away from the USD, these institutions continued to support their holdings of gold.

A Swiss referendum on gold reserves and the signing of the fourth Central Bank Gold Agreement attracted much attention during 2014. However, the repatriation of gold to other European countries is arguably of greater importance. Although the annual total is 15% lower than 2012, it is a healthy outcome – particularly as 2012 showed the highest level of demand for almost 50 years (Figure 95). The central banks have been a source of net demand for five consecutive years and this is expected to continue into 2015.

*Figure 95: Central Bank Annual Net Sales and Purchases*




Sales of gold by central banks were limited. Ukraine's sale of almost 19 tonnes was by far the most sizeable. In spite of the gold price action seen throughout 2014, there clearly remains little appetite from signatories to reduce their gold holdings any further. The top 40 countries' official gold holdings as at the end of August 2015 are displayed in Table 44 below.

*Table 44: Top 40 Reported Official Gold Holdings (As at August 2015)*

| Rank | Country | Tonnes | Rank | Country | Tonnes |
|---|---|---|---|---|---|
| 1 | United States | 8,133.5 | 21 | Austria | 280.0 |
| 2 | Germany | 3,381.0 | 22 | Belgium | 227.4 |
| 3 | International Monetary Fund | 2,814.0 | 23 | Kazakhstan | 205.7 |
| 4 | Italy | 2,451.8 | 24 | Philippines | 195.4 |
| 5 | France | 2,435.4 | 25 | Algeria | 173.6 |
| 6 | Russia | 1,275.0 | 26 | Thailand | 152.4 |
| 7 | China | 1,054.1 | 27 | Singapore | 127.4 |
| 8 | Switzerland | 1,040.0 | 28 | Sweden | 125.7 |
| 9 | Japan | 765.2 | 29 | South Africa | 125.2 |
| 10 | Netherlands | 612.5 | 30 | Mexico | 122.2 |
| 11 | India | 557.7 | 31 | Libya | 116.6 |
| 12 | Turkey | 504.8 | 32 | Greece | 112.4 |
| 13 | European Central Bank | 504.7 | 33 | Bank for International Settlements | 108.0 |
| 14 | Taiwan | 423.6 | 34 | Korea | 104.4 |
| 15 | Portugal | 382.5 | 35 | Romania | 103.7 |
| 16 | Venezuela | 361.0 | 36 | Poland | 102.9 |
| 17 | Saudi Arabia | 322.9 | 37 | Iraq | 89.8 |
| 18 | United Kingdom | 310.3 | 38 | Australia | 79.9 |
| 19 | Lebanon | 286.8 | 39 | Kuwait | 79.0 |
| 20 | Spain | 281.6 | 40 | Indonesia | 78.1 |

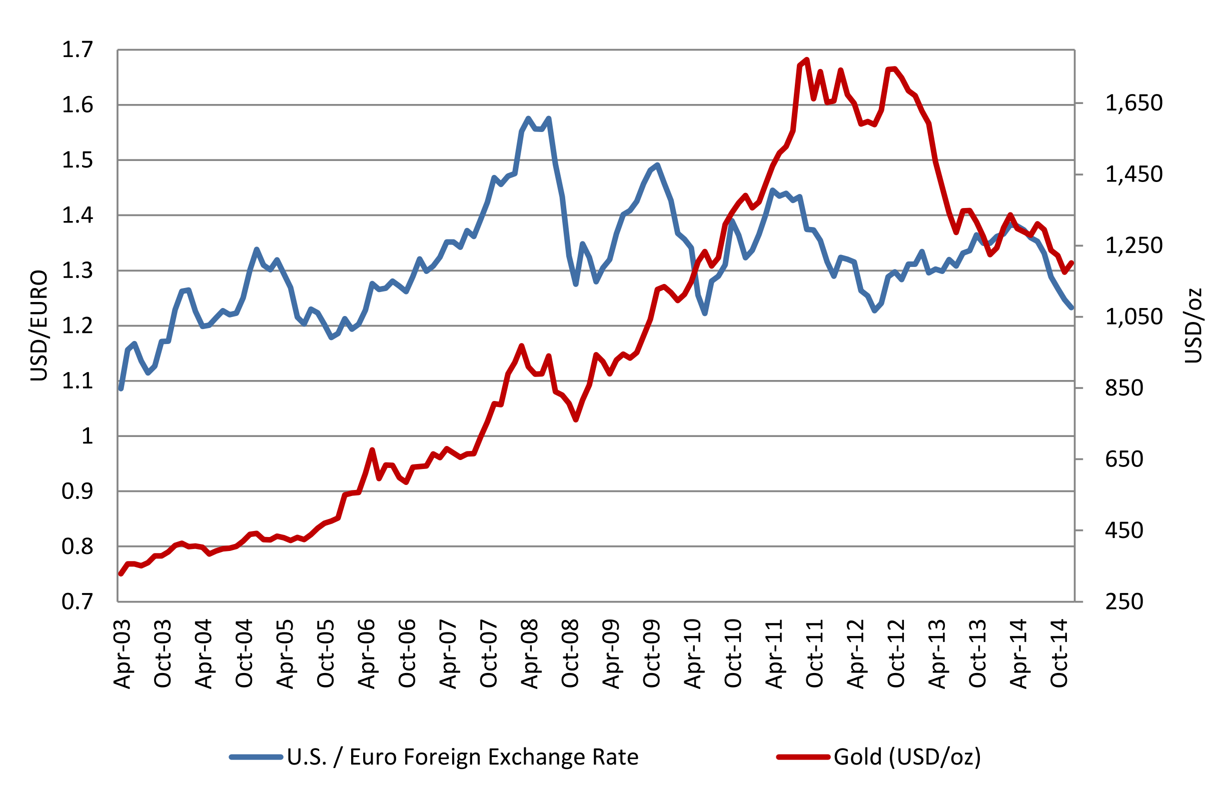
***Source:*** World Gold Council – Q2 2015

#### CURRENCY

As gold is usually traded relative to its USD price, the value of the dollar has a meaningful impact on gold. More importantly, gold is viewed as a natural hedge to the USD as it is not directly linked to the monetary or fiscal policies of a particular government. This characteristic strengthens their inverse relationship. Because the USD is also the primary currency used in global transactions and is seen as a stable and reliable unit of exchange, countries aim to have ample reserves to be able to meet their USD denominated liabilities. As such, the dollar forms the lion’s share of foreign reserve portfolios. However, governments need to manage the concentration risk in their reserves by diversifying into high quality, liquid assets that lack credit risk – like gold.

Gold is often seen as a currency that provides a natural alternative to money. Gold satisfies many criteria that define a currency, including its use as convertibility, store of value and medium of exchange. Through the years it can be seen that gold has the evolving nature of the relationship with the USD, its geological scarcity and its physical/chemical qualities as a non-corrosive, durable metal make it a natural hedge to paper currencies. Because fiat money can be printed as a result of monetary policies, part of gold’s value as a hard asset is derived from its lack of supply growth. Gold is a highly liquid asset, with daily trading volumes comparable to major currency pairs such as the USD-pound sterling, and is eclipsed only by USD-yen and USD-euro transactions (Figure 96).

*Figure 96: Gold Price versus USD/Euro*




***Note***:

Correlation: 0. 66030296

While gold is considered a commodity by many, in practice, its role as currency stands out. It is used by central banks as part of their foreign reserves, accepted in exchange for goods in parts of the world, and traded alongside other currencies in the financial system. According to the Bank for International Settlements' ("BIS") 2013 annual report that states that "gold is to be dealt with as a foreign exchange position rather than a commodity because its volatility (which is almost consistently lower than commodities) is more in line with foreign currencies, and banks manage it in a similar manner to foreign currencies".

An allocation to gold, denominated in USDs, represents an implicit exposure to a foreign currency, providing international investors with protection against falls in their local currency.

Further, when evaluating a portfolio's exchange risk in light of its foreign currency denominated holdings, gold can be used as a cost-effective and better-rounded complement to other hedging strategies. For example, for a US investor trying to hedge currency risk stemming from emerging market exposure, gold has been historically less costly than a basket of currencies, and including gold as part of the hedging strategy has significantly reduced drawdowns.

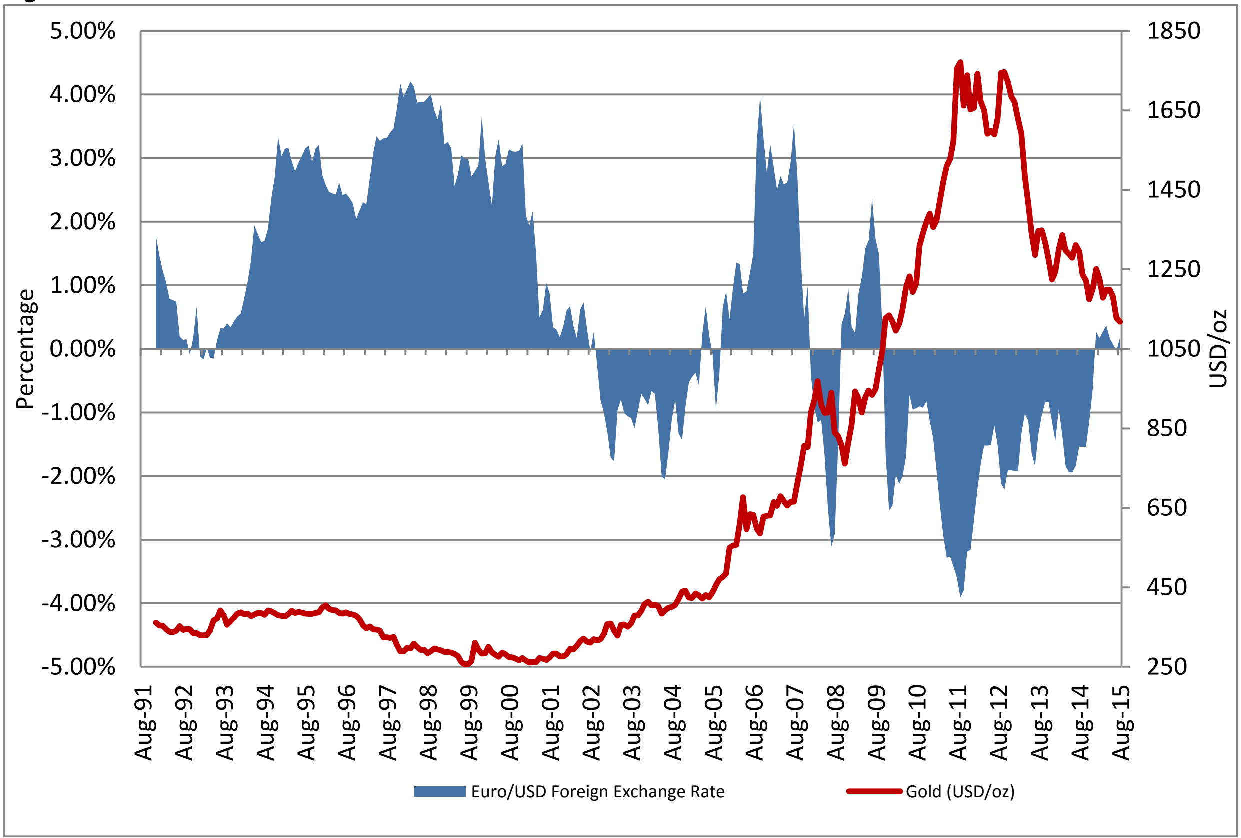
Driven by China's desire to increase its financial influence, the Chinese renminbi is likely to emerge gradually as a genuine international currency as Beijing eases restrictions on its use in transactions and investments abroad. It is expected that during the coming period of uncertainty and transition between different reserve currencies, official central bank asset managers around the world are likely to increase their interest in gold as a result of doubts about the overall strength of global monetary arrangements. This has been prominent since the economic downturn in 2008 (Figure 96).

### US Inflation and Interest Rates

A common argument for buying gold is that it is seen as an inflation hedge. Consumer price indices ("CPI") measure 'representative' baskets of goods that may well reflect a general price trend, but these will likely not reflect everyone's experience of inflation. The reason why the US CPI is the measure most widely used to measure gold's effectiveness as hedge, is due to the fact that gold is traded by the USD and that real interest rates create an opportunity cost for holding gold make US inflation a logical candidate to use as a reference in long-term pricing.

Real US rate is the lending interest rate adjusted for inflation, as measured by the GDP deflator. From Figure 97 it can be seen that when the real US rate becomes negative, the gold price increases, which indicates that investors start investing in gold rather than the banks, to receive better returns.

*Figure 97: Gold Price versus Real USD Rate*

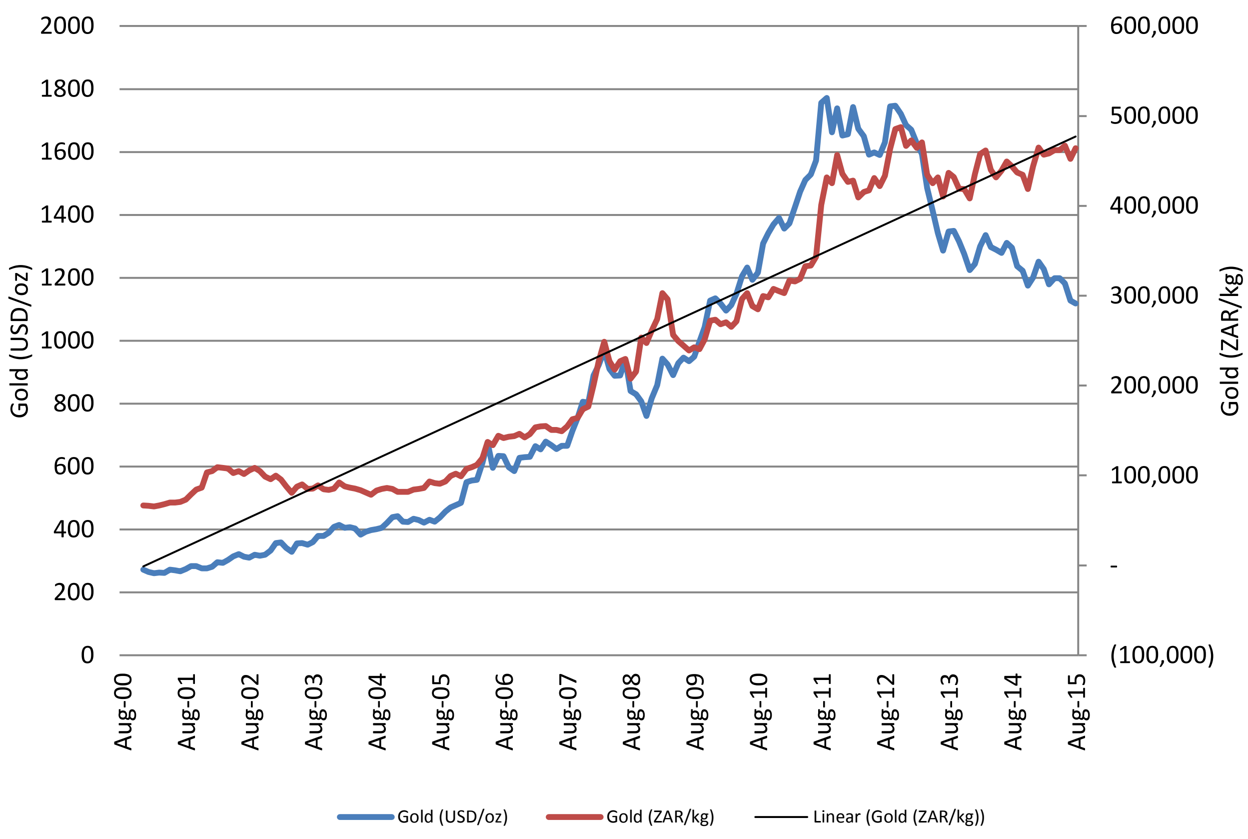



### Gold Pricing

Gold prices were largely directionless between March and June 2015. This was both the cause and effect of weak demand. In US dollar terms, gold traded within a narrow USD70 range. Volatility was just 13%, compared with its 5-year average of 18%. Such sideways price movement meant that consumers in a number of markets were discouraged from buying gold as they were uncertain as to whether there would be an opportunity to buy at lower levels.

After a relatively subdued first half of 2015, there are reasons for cautious optimism for the remainder of the year. Importantly, from the perspective of consumers in price sensitive markets, falls in the gold price can be a strong buy signal. Lower prices in markets across Asia and the Middle East often trigger purchases and interest has already been reported across a number of these. The onset of the festival and wedding season in India in Q4 suggests healthy prospects for jewellery demand for the remainder of the year, with the caveat that this assumes normal monsoon rainfall. And there are tentative signs that the recent drop in gold prices has lifted appetite for gold in both China and India, with interest having picked up a little following the price fall.

*Figure 98: Gold Yearly Prices*




Consensus opinion has the real gold price inclining over the coming months and years.

*Table 45: Gold Price Forecast (Nominal Terms)*

| | Unit | 2015 | 2016 | 2017 | 2018 | 2019 | Long-term (Nominal) | Long-term (Constant) |
|---|---|---|---|---|---|---|---|---|
| Gold | USD/oz | 1,135 | 1,167 | 1,228 | 1,224 | 1,253 | 1,250 | 1,113 |

*Source:* Consensus Economics (Aug 2015)

### GOLD OUTLOOK

According to J Whitefoot (2015) the demand for gold remained solid in 2014. Admittedly, gold sales in 2014 were never going to be as bright compared to 2013, which showed phenomenal growth. Central banks purchased 477.5 tonnes of gold in 2014, a 17% increase over the previous year and the biggest increase in 50 years. This also marks the fifth year in a row that central banks have been net importers of gold. These factors don't even take into consideration the fact that the U.S. Department of Justice is investigating whether or not the world's biggest banks have been manipulating silver and gold prices.

Because of all of these factors, it is predicted that gold prices will be considerably higher in 2016 and will continue to trend higher in the years ahead.

Unexpected economic challenges out of China, Japan, Russia, and the eurozone could also send investors back into gold. So, too, could rising geopolitical tensions from the Middle East, Russia/Ukraine, terrorist groups, and wild cards like North Korea and Nigeria.

## Item 19 (b) - CONTRACTS

The concentrate off-take agreement between GGR and M2M described in detail in Item 4 (e) has been cancelled.

Minxcon is not aware of any further contracts that GGR has entered into.

# ITEM 20 - ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

## Item 20 (a) – RELEVANT ENVIRONMENTAL ISSUES AND RESULTS OF STUDIES DONE

As highlighted in an environmental due diligence investigation report by Solomi *et al.* (2015), Galaxy currently does not have an approved and updated Enviornmental Management Plan ("EMP") in terms of the MPRDA. In addition, it is noted that Galaxy do not have Environmental Authorisation or required updated environmental impact assessment ("EIA"). Since 2001, several EMPs have been compiled as described in the paragraphs to follow.

An initial Environmental Management Programme Report ("EMPR") for the Galaxy Gold Mine (previously Agnes Gold Mine) assets was completed for Cluff Mining SA (later renamed to APM) by Walmsley Environmental Consultants and approved in 2001 by the ex-Department of Minerals and Energy ("DME") in terms of the National Environmental Management Act, 1998 (Act No 107 of 1998) ("NEMA"). The EMPR details the environmental management programme to be implemented at the Galaxy Mining Assets, and also details the actions required to implement the environmental mitigation identified in the EIA.

In the EIA, aspects identified that would be negatively impacted by mining operations are:-

- Soils:-
  - Tailings and waste rock deposition to render soils unusable indefinitely;
  - Seepage from processing and disposal sites to contaminate soil;
  - Storm water run-off likely to cause significant erosion;
- Surface water quality: Progressive deterioration of Concession Creek water quality as it passes the Mine, polluted by:-
  - Water decanting from adits;
  - Processing water run-off;
  - Waste rock dump run-off;
  - Return water dam; and
- Groundwater quality.

Implementation of mitigation and monitoring measures for these was highlighted as essential. Dust generation from Galaxy was found to be insignificant, as was the impact of noise from operations. No sensitive landscapes or archaeological sites were identified within the Project Area. As per Solomi *et al.* (2015), the 2001 "EMP is no longer binding as the DMR requested the EMP to be updated. The EMP is irrelevant as activities on site differ from the EMP".

The EMPR was updated by Synergistics in accordance with the MPRDA, on behalf of APM, in 2005. This report too highlighted the impacts of operations on surface and groundwater resources and a concern limited knowledge on the extent of the groundwater contamination from the TSF. However, it was noted that the risk is reduced given the limited potential for groundwater users to be affected. The report was submitted by the ex-DME in May 2005 but was not approved. A subsequent directive received from the DMR, dated 20 June 2012, indicated a revision submission deadline of 20 September 2012.

A decision was made by Galaxy senior staff to update the EMPR for the Galaxy Gold Mine and utilise the opportunity to include management measures for the proposed expansion of the existing TSF of the Mine. This updated EMP was compiled in association with Digby Wells Environmental and submitted to the DMR in 2013 following the 2009 purchase of the mine by GGR. This document has not been approved following failure of Galaxy to respond to directives issued by the DMR for the report. The details of the directives issued for the 2013 documents could not be obtained by Minxcon.

Impacts on the physical environment identified in the 2013 EMP update are as follows:-

- Topography: alteration of topography with continual waste rock and tailings deposition on surface;
- Soil:-
    - Potential soil contamination due to spillage of chemicals, seepage or spillage from the TSF and waste management areas or accidental discharge from tailings pipes;
    - Loss of soil and land capability by the deposition of tailings on surface (i.e. increase in tailings area);
    - Increased erodibility of soils due to vehicular activity and the removal of vegetation during the construction of the TSF expansion;
    - Damage to the natural soil structure due to soil handling, removal and mixing of soil types and horizons during the construction of the TSF expansion;
- Surface water:-
    - Potential surface water contamination through runoff from the TSF, overflow of the return water dams and runoff from waste management areas;
    - Potential knowledge gap whilst further work is undertaken as part of the IWULA and IWWMP;
- Groundwater:-
    - Potential groundwater contamination through seepage from the TSF and waste management areas;
    - Potential knowledge gap whilst further work is undertaken as part of the IWULA and IWWMP; and
- Aquatic environment: contaminated surface water impacting on water quality and aquatic habitats of Concession Creek and associated surface water system.

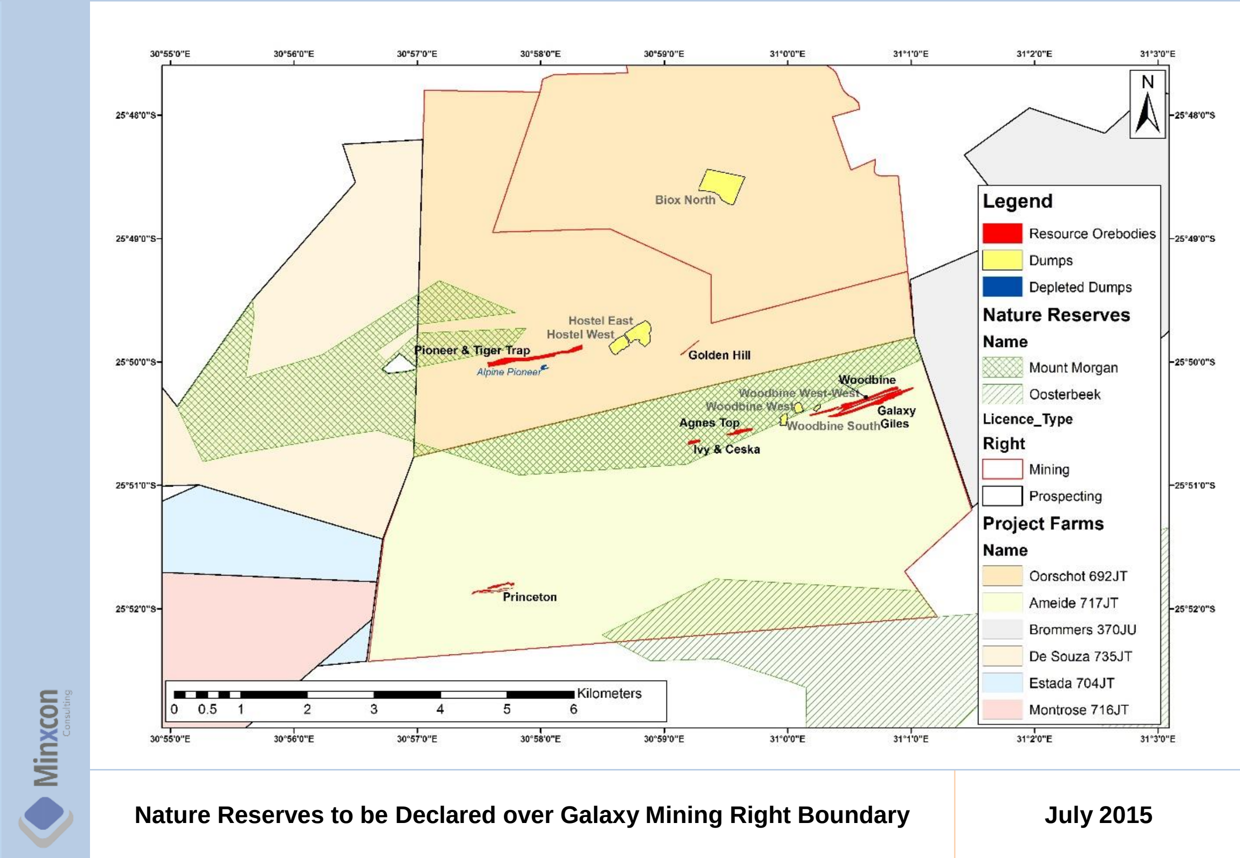
Small labour force coupled with short duration of the TSF expansion construction phase, no significant socio-economic impacts were identified. However, closure and decommissioning of the greater Mine will result in unemployment in the local area and therefore. A strong recommendation was made for Galaxy to implement the SLP and undertake regular reviews of the plan to ensure sustainable social closure of the mine.

**Nature Reserves**

UME, as owners of the Ptn 12 Oorschot 692 JT, has government approval for plans to construct a Concession Creek Dam and subsequently declare the land a nature reserve. Should UME decide to implement such, all mining operations within the area boundary will have to be ceased indefinitely. To avoid implementation of this threat, the recommendation by Minxcon given in Item 4 (d) to come to an amicable agreement with UME is thus further emphasised.

Recently, however, Minxcon identified the Mpumalanga Provincial Gazette no 2520 of 24 July 2015, volume 22, containing official intentions to declare nature reserves including Mount Morgan and Oosterbeek, the boundaries of both of which transcend those of the 413 MR for the Galaxy Project Areas, as shown in Figure 99.

*Figure 99: Nature Reserves to be Declared over Galaxy Mining Right Boundary*




Following the publication of this notice, members of the public are invited to submit objections within 60 days.

As shown in the figure, the Mount Morgan Nature Reserve will include the Ivy & Ceska ore bodies, as well as Agnes Top, Woodbine South and Woodbine West Dumps, the latter group of which are included in the Mineral Resources of Galaxy. Should the nature reserve be officiated, Galaxy will have to acquire permission from the DMR to conduct any activities on the affected areas. In addition, any existing infrastructure as part of the Galaxy operations that fall within the areas will need to be relocated. Galaxy will also need to have heightened cognisance of their environment footprint. From the image it can also be seen that a large portion of the farm De Souza 735JT under prospecting licence application will also be encompassed by the nature reserve. Minxcon recommends Galaxy plan exploration and mining operations with great cognisance of the nature reserve boundaries.

## Item 20 (b) – Waste Disposal, Site Monitoring and Water Management

Technical details in the following paragraphs are extracted from Koch, 2013.

**Waste Disposal**

Galaxy does currently not have a Waste Management Licence in place for the Mine (Solomi *et al.*, 2015). The Mine operates a domestic waste dump landfill site dating back to the late 1900s into which all general waste is disposed of. Sewage from the hostel is treated in a 600-man Becon biofilter biodisk installation. Water from this system is discharged into a Concession Creek tributary, while sewage from other areas on the Mine are treated in French drains.

**Site Monitoring**

The monitoring of the Mine area is vital to ensure that the impact of mining activities on the environment and ecosystems is managed effectively and minimised. Water monitoring guidelines are described in directives received from IUCMA (dated 4 February 2014) and provide, inter alia, at which locations water samples should be taken. These are also described in the 2013 EMPR update.

Regular sampling and assessment of groundwater, surface water and soil resources should be undertaken throughout the LoM and conducted post-closure at defined intervals that satisfy legal guidelines. This will also be applicable to air quality (dust fallout).

**Water Management**

The management of surface and ground water quality must form an imperative part of the mine plan throughout the LoM to ensure that water quality is not negatively impacted upon by the Project and that on-going review and update of water management plans is undertaken to ensure suitability as mining progresses. The implementation of water management measures must in particular be aligned with the DWA Best Practice Guidelines Series. The design, placement, operation and maintenance of water management systems should be in line with the prescribed Schedules of Regulation 704, of the NWA.

A detailed surface water management plan will be developed as part of the IWULA and IWWMP that is being compiled for the Galaxy Gold Mine. Owing to the extensive use of groundwater on the site as well as the supplying of water to the Municipality, this resource requires protection. Management measures for the protection of groundwater have been recommended to the site in the previous IWWMP which is currently being updated.

The largest existing impacts to the integrity of the aquatic system associated with the mine site are to habitat quality and quantity. The aim of the aquatic management plan should therefore be to maintain the existing healthy ecosystems. Monitoring of the system should be initiated in order to determine temporal and spatial trends of the system. Management should primarily consider the ecosystem driver component with reference to both water quality and habitat, ensuring these components are not further impacted on, and where possible, improved upon. Effective management of the surrounding activities will help to achieve both the short term and long term management objectives which have been prescribed.

Galaxy does currently not have a formal Storm Water Management Plan for the Mine. Several trenches around the tailings area manage storm water, diverting dirty runoff water to the return water dam and clean storm water to the environment. Management measures to monitor storm water management at the Mine will be discussed in detail in the IWWMP that is being developed for the Mine, in support of an IWULA.

## Item 20 (c) - PERMIT REQUIREMENTS

As described in Item 4 (g), Galaxy do not hold a relevant approved Environmental Authorisation or EMP for the Mine. The Mine also does not have a Waste Management Licence or WUL as is required by governing laws. Minxcon advises that Galaxy are required to obtain these as a matter of urgency, without which it will be unlawful to conduct mining activities at the sites.

Solomi *et al.* (2015) also noted the need for the following environmental work to be completed:-

- Groundwater Impact Assessment;
- Surface Water Impact Assessment; and
- Closure and Rehabilitation Plan.

Minxcon emphasises the importance of Galaxy obtaining all government authorisations and licences prior to conducting of any applicable activities. Failure to do so will result in potentially crippling penalties, imprisonment and ultimately closure of operations. As such, it is advised that mining companies maintain good records with governing authorities.

## Item 20 (d) – SOCIAL AND COMMUNITY RELATED REQUIREMENTS

A public participation process (“PPP”), complying with relevant legislation, for the Galaxy Gold Mine has been undertaken in an effort to ensure that all interested and affected parties (“IAPs”) were given an opportunity to provide input into the EIA process prior to the environmental authorisation decision. A single PPP is currently being undertaken with identified IAPs in support of application for the updated EMP/EIA and IWULA. Public consultation will be on-going throughout the environmental authorisation process and should be continued throughout the LoM.

As per the 2010 SLP, Galaxy will aim to supply their Mine employees with skills development initiatives in order to advance their operational skills as well as those applicable to general living and well-being. This will be implemented through implementation of an integrated Human Resources Development Plan, which will include Adult Basic Education and Training (“ABET”) and Broad Based Black Economic Enterprise (“BBBEE”) Development, as well as cohesive mentorships. Subscribing to the Mining Charter, an Employment Equity (“EE”) policy will be drafted for the Mine with emphasis placed on developing historically disadvantaged South Africans (“HDSAs”).

The following Table 46 is extracted from the SLP and summarises the socio-economic factors of the Mine (as previously Agnes Gold Mine).

*Table 46: Potential Socio-Economic Impact of Galaxy Gold Mine (2010-2014)*

| Identified Socio-Economic Impact | 30-Sep-10 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| Estimated no. of people to be employed at the Mine | 273 | 289 | 311 | 345 | 345 | 345 |
| Estimated procurement to be spent with local companies (Umjindi Local Municipality) | 7% | 7% | 12% | 18% | 25% | 28% |
| Estimated procurement to be spent with district companies (Ehlanzeni District Municipality) | 12% | 12% | 18% | 24% | 28% | 30% |
| Estimated procurement to be spent with regional companies (Mpumalanga Province) | 1% | 1% | 5% | 10% | 15% | 20% |
| Estimated procurement to be spent with national companies (within RSA) | 80% | 80% | 65% | 48% | 32% | 22% |
| **Total Procurement Spend** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** |

***Source:*** SLP, 2010

***Note:*** The figures presented need to be updated.

It is highlighted that this SLP and figures therein are outdated and were only estimated up to and including 2015, and need to be updated.

Minxcon is not aware of any current agreements or negotiations with local communities.

### ILLEGAL MINERS

Approximately 300 Illegal miners are currently present on the Galaxy Gold Mine property, specifically at Tiger Trap Top. No significant issues are currently experienced as a result of their presence, with the exception of there being an increase in their numbers because of a current lack in security at the site. The ore is refractory and the recoveries for Illegal miners are very low, especially combined with the Mine’s low grade Mineral Resource compared to higher grade mines. Galaxy have engaged with the South African Police, HAWKS and the DMR to have these illegal miners removed.

## Item 20 (e) – MINE CLOSURE COSTS AND REQUIREMENTS

As described by Solomi *et al*. (2015), "a Closure and Rehabilitation Plan is required in terms of the MPRDA and NEMA, with the draft Regulation pertaining to the Financial Provision for Rehabilitation, Closure and Post Closure having been published for comment. A closure cost assessment will be required as part of the Closure and Rehabilitation Plan. An updated financial provision will need to be provided to the DMR as a bank guarantee before the EMP will be approved. The most recent financial provision was calculated by Joan Construction and Projects in 2014 and, with CPI for 2015 applied to the total excluding VAT, equates to ZAR12,284,100.21 (excluding VAT). It is Digby Wells' opinion that this figure is not adequate and is unlikely to be accepted by the DMR. An updated financial provision calculation should be undertaken."

With regards social obligations as extracted from the 2010 SLP, social management strategies for the post-closure period will also be developed with local stakeholders within the closure planning process. Strategies that avoid dependency amongst the social intervention beneficiaries and promote independence amongst individuals and businesses in the community will be developed to ensure post-closure sustainability. On-going consultation and advisory roles facilitated through the Future Forum structure will be utilised to ensure that the programmes and plans continue to deliver sustainable and effective benefits. The continued contribution and on-going management role of local government in this respect will be essential to this post-closure management process.

Planning for specific local economic development ("LED") projects at closure is very difficult given that the life of the proposed Mine is twenty (20) years. Knowledge of the specific LED needs within the area surrounding the Mine at the time of or several years in advance of closure is very difficult. However, cognisance of the need for comprehensive LED projects which are developed with the aim of sustainable social and economic development in the region surrounding the Mine, particularly for workforce and/or communities previously dependent on the Mine for their livelihoods, will be key. Such planning will commence some five years prior to closure.

The financial provisions for the Mine are summarised in Table 47. For the purpose of the financial model the 2014 cost of ZAR2.838 million was used throughout the LoM.

*Table 47: Summary of Financial Provisions (2010-2014)*

| Category | 2010 (ZAR) | 2011 (ZAR) | 2012 (ZAR) | 2013 (ZAR) | 2014 (ZAR) | Combined (2010 - 2014) (ZAR) |
|---|---|---|---|---|---|---|
| Human Resource Development Programmes | 900,000 | 900,000 | 1,032,000 | 1,136,000 | 1,240,000 | **5,208,000** |
| LED Programmes | 500,000 | 1,110,000 | 1,060,000 | 960,000 | 960,000 | **4,590,000** |
| Closure and Retrenchment Management Programmes | 480,000 | 528,000 | R580,000 | 638,000 | 638,000 | **2,864,000** |
| **Estimated Total Provision for SLP** | **1,880,000** | **2,538,000** | **2,672,000** | **2,734,000** | **2,838,000** | **12,662,000** |

***Source:*** SLP, 2010

***Note:*** The figures presented need to be updated.

# ITEM 21 - CAPITAL AND OPERATING COSTS

## Item 21 (a) - CAPITAL COSTS

### MINING

The Galaxy Gold Mine is currently on care and maintenance and no mining activities are conducted at present. A skeleton crew operates from the mine and is in charge of basic care and maintenance and day to day operations. Although the general mining infrastructure is in a good condition, capital is required to get the mine operational and capable of producing at the envisaged monthly production volumes

Infrastructure items requiring either upgrading or refurbishment include, but is not limited to the following:-

- flotation plant;
- adits; and
- Woodbine sub-vertical shaft.

Offices, housing and other surface infrastructure on the premises were upgraded 3 years ago and are still in a good usable condition as is illustrated in Figure 100.

*Figure 100: Surface Infrastructure*

| Surface Infrastructure | August 2015 |
|---|---|

Additional capital associated with mining operations are illustrated in Table 48.

*Table 48: Mining Operations – Capital Estimation*

| Description | Unit | Value |
|---|---|---|
| Electrical Reticulation | ZAR | 2,520,000 |
| Ventilation | ZAR | 131,800 |
| Rolling Stock | ZAR | 520,000 |
| Steel and Plate | ZAR | 150,000 |
| Shaft Repairs | ZAR | 5,680,000 |
| Other | ZAR | 530,500 |
| **Total** | **ZAR** | **9,532,300** |

These costs involve electrical reticulation, ventilation, ore handling and the refurbishment of the Woodbine sub-vertical shaft.

The Woodbine sub-vertical shaft is currently inaccessible from 28 Level down to 30 Level. The shaft bottom arrangement is covered in spillage and has been exposed to water for extended periods of time. The above capital estimation assumes the refurbishment of the shaft steelwork from 28 Level downwards as well as the installation of a new loading arrangement and shaft bottom arrangement. No pumps are included in these costs as existing pumps are assumed to be used for shaft de-watering purposes. Additional capital has also been allowed for refurbishing additional sections of the shaft where steelwork has been found to be substandard. A detailed assessment of the Woodbine sub-vertical shaft was conducted by the acting safety officer on 4 December 2014 and lists the various areas of concern.

Upgrading and refurbishment of the various items listed above will not take very long and capital will thus be scheduled in bulk within the first few months before the start of mining operations

**PROCESSING**

The following capital costs (provided by Galaxy) are required for the refurbishment of the Galaxy Gold Mine plant. The plant refurbishments will take place during months 1 to 5. All necessary infrastructure refurbishments will be conducted with focus on the crushing, milling and flotation circuits. During this period no processing will take place. Thereafter, RoM and historic tailings material will be treated through the crushing, milling and flotation circuits to produce a float concentrate.

*Figure 101: Plant Capital Costs*

| Item | ZAR million (Excluding VAT) |
|---|---|
| **Crushing, Milling and Flotation Circuits** | **4.29** |
| Ball Mill Gearbox and Liners | 0.74 |
| Crusher Motor and Switchgear | 0.19 |
| Conveyor Belting (900 mm) Repairs/Replacements | 0.30 |
| Vibrator Screen Motor (0.5 kW) and other spares | 0.19 |
| Troughing and Return Idlers | 0.25 |
| Steel Plates and Base Plate Rebuild | 0.36 |
| CV1 Tail Pulley Replacement | 0.04 |
| Telsmith 10/21 Crusher | 0.60 |
| Conveyor Belting (650 mm) Repairs/Replacements | 0.19 |
| Granulator Spares and scale calibration | 0.27 |
| White Metal Bearing Repair | 0.07 |
| Rotors & Stators for flotation cells | 0.16 |
| 4/3 Slurry Pumps and Motors | 0.26 |
| Relining of Tanks | 0.25 |
| 25 MPa Drying Slab | 0.33 |
| Sundries and Other | 0.12 |
| **Power, Infrastructure and Other Capital** | **1.50** |
| **Total (excl. VAT)** | **6.39** |

### Other

According to an environmental legal due diligence prepared by Solomi *et al.* from Digby Wells in August 2015, a summary of the required studies, authorisations and licences are provided in, with a breakdown of the anticipated costs and time implications. All these costs were included in the financial model in year 1 and amounts to ZAR1.94 million.

*Table 49: Other Capital Costs*

| Study/ Authorisation | Anticipated Time | Unit | Anticipated Cost (Excluding VAT) |
|---|---|---|---|
| Numerical Model | 6 weeks | ZAR | 250,000 |
| Storm Water Management Plan | 6 weeks | ZAR | 70,000 |
| Closure and Rehabilitation Plan | 6 weeks | ZAR | 150,000 |
| Scoping and EIA Process in accordance with the MPRDA | 300 days | ZAR | 1,000,000 |
| Section 24G Rectification process | 300 days | ZAR | 300,000 |
| IWULA | 300 days | ZAR | 175,000 |
| **Total** | **300 days** | **ZAR** | **1,945,000** |

### Capital Summary

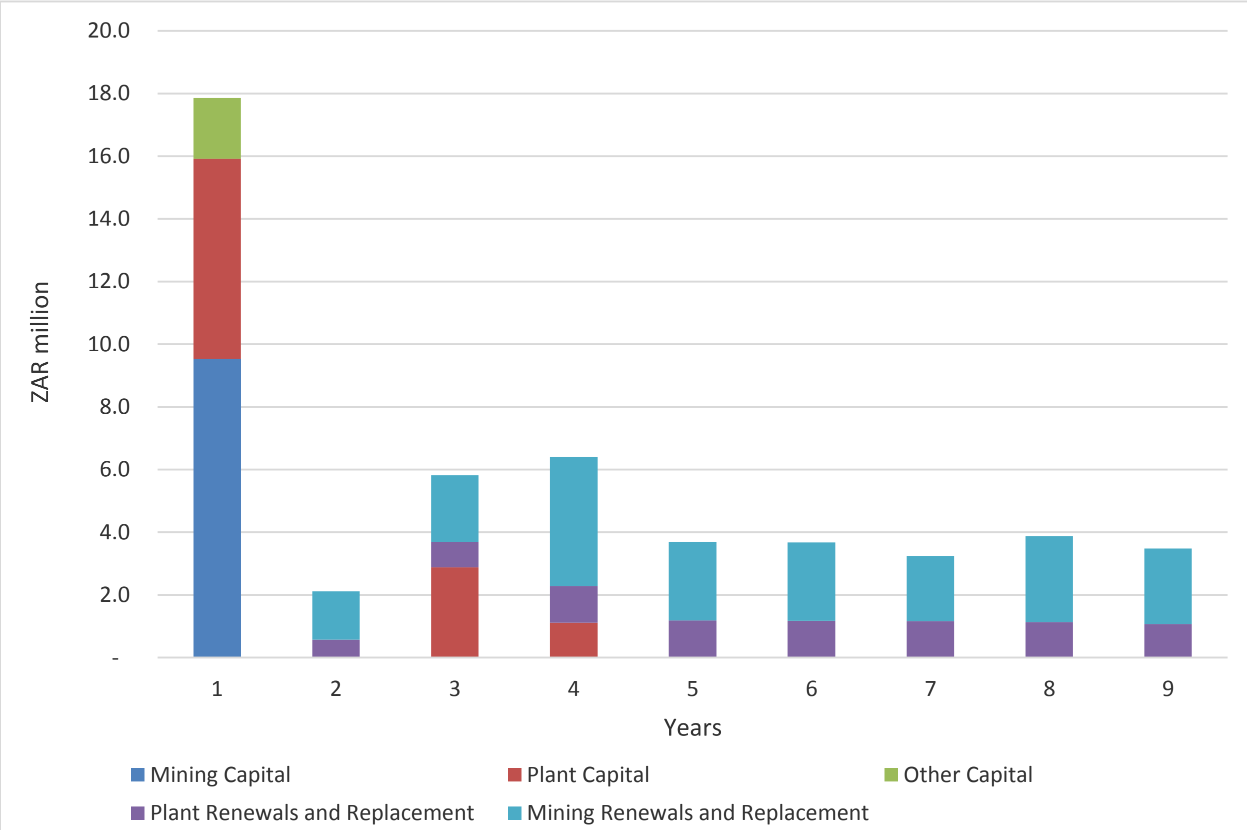
All the initial capital expenditure gets spent during year 1. The initial capital amounts to ZAR17.9 million and is displayed in Table 50.

*Table 50: Initial Capital Expenditure*

| Initial Capital Expenditure | Over LoM | Galaxy Gold Mine |
|---|---|---|
| **Mining Capital** | **Unit** | |
| Electrical Reticulation | ZARm | 2.5 |
| Ventilation | ZARm | 0.1 |
| Rolling Stock | ZARm | 0.5 |
| Steel and Plate | ZARm | 0.2 |
| Shaft Repairs | ZARm | 5.7 |
| Other | ZARm | 0.5 |
| **Total Direct Mining Capital** | **ZARm** | **9.5** |
| **Total Mining Capital** | **ZARm** | **9.5** |
| **Plant Capital** | | |
| Plant Upgrade | ZARm | 6.4 |
| **Total Direct Plant Capital** | **ZARm** | **6.4** |
| **Total Plant Capital** | **ZARm** | **6.4** |
| **Other Non-Direct Capital** | | |
| Required studies, authorisations and licences | ZARm | 1.9 |
| **Total Other Non-Direct Capital** | **ZARm** | **1.9** |
| **Total Other Capital** | **ZARm** | **1.9** |
| **Total Initial Capital** | **ZARm** | **17.9** |

The renewals and replacement capital for the plant was calculated as 3.5% of the plant operating costs and 3.5% of the mining operating costs for the mining renewals and replacement over the LoM and is displayed in Figure 102. The total including the initial capital amounts to ZAR50.19 million. There is no initial capital for the mining fleet as it is contractor operated included in the contractor operating rate.

*Figure 102: Capital Schedule*




## Item 21 (b) - Operating Cost

### Mining

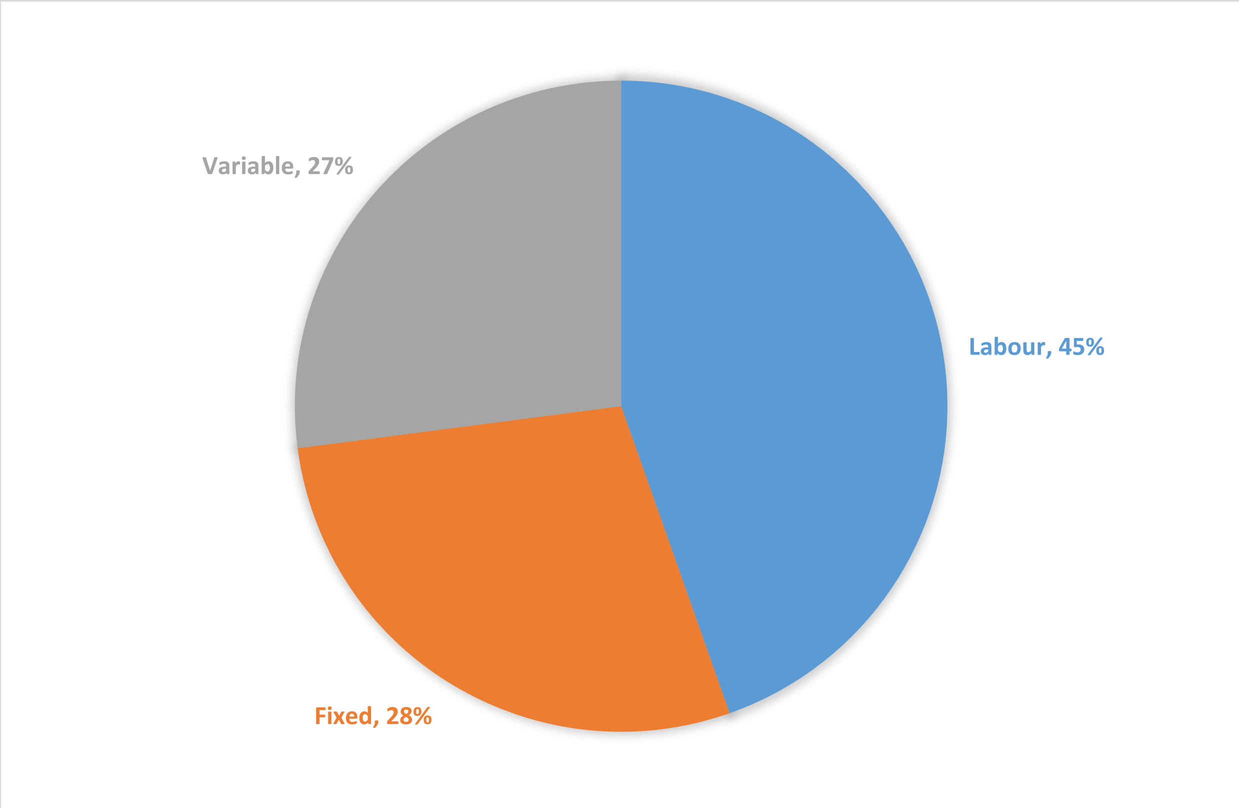
The operating costs used for Galaxy Gold Mine is based on an independent contractor's agreement entered into between a similar mine during May 2015 as received from the Client. The mine on which the contract is based is also a gold mine with similar reef to that at Galaxy Gold Mine, uses mechanised and conventional mining methods and it was thus considered as sufficient to use the rates as depicted in the contract. The planned operating costs were estimated at a production rate of 15,000 tonnes per month. All the mining costs were reviewed and the fixed and variable cost split was revised. The original contract was constructed in Botswanan Pulas ("BWP") and converted to South African Rands by using an exchange rate of ZAR1.29/BWP. The actual invoiced costs at the mine was done in USD terms and converted to South African Rands by using the same exchange rate used in the first year of the DCF (ZAR12.06/USD).

The contract is based on another mine and might change for Galaxy Gold Mine. It should thus be noted that there is a risk that the cost might be higher and an upside potential that the cost might be lower for Galaxy than the contractor rates used for a similar operation. A sensitivity was done on the NPV of the project to indicate the effect a change in cost will have on the Project.

The operating cost is based on the production planned according to the mining plan. Operating costs were calculated for each type of ore body. The operating costs are grouped according to ore body widths. Woodbine and Giles are assumed to use conventional mining while Galaxy, Princeton and Golden Hill ore bodies are mined fully mechanised and a mechanised operating cost was calculated for the current and LoM plan. The contractor rate of ZAR14,804/m was used in the financial model. Jackhammer/conventional development meters were costed at 50% of the primary development cost at ZAR7,402/m (as per contract).

The majority of the contractor rate comprises labour and also includes a fixed and variable cost. The allocation of the cost elements are displayed in Figure 103.

*Figure 103: Contractor Development Cost Allocation*




Other costs not included in the development contractor rates discussed above is the owner cost that includes the following items:-

- explosives;
- diesel;
- general consumables; and
- direct purchases.

These costs are based on an actual costs incurred by the similar mining operation during July 2015 and amount to approximately ZAR2,858/meter developed.

The development costs were calculated for two different development end sizes by calculating costs per cubic meter and then applying this to different end sizes. The two different rates are split between large development ends and small development ends. These costs were applied to the mining schedule to achieve a combined development rate. The rates for the two different development ends are described in Table 51. The large ends for the mechanised development include:-

- spiral ramps;
- incline shaft;
- haulages and cross-cuts; and
- reef drives.

The haulages, cross-cuts and reef drives of the conventional ends are small ends but the spiral ramps and inclines are also considered as big ends. The small ends for the mechanised development include:-

- raises;
- orepasses;
- traveling ways; and

- ventilation shafts.

*Table 51: Development Costs per End*

| Mechanised Development | Rate |
|---|---|
| | ZAR/m |
| Large Ends | 17,662 |
| Small Ends | 16,412 |
| **Conventional Development** | **Rate** |
| | **ZAR/m** |
| Large Ends | 10,260 |
| Small Ends | 8,518 |

The mechanised stoping cost per tonne mined was received from the Client. The contractor rate of ZAR82.2/t was used in the financial model.

Other costs not included in the stoping contractor rates is the owner cost that includes the following items listed in the table below. These costs are based on an actual costs incurred at the similar mine per contractor agreed rates. The conventional owner's costs were calculated from first principals and are slightly higher than the mechanised costs. Combined this amounts to a rate of ZAR184.2/t stoped for mechanised mining and ZAR209.7/t for conventional stoping.

*Table 52: Owners' Costs Stoping*

| Mining Method | General Consumables | Explosives | Diesel | Direct Purchase | Total Owners Cost |
|---|---|---|---|---|---|
| | ZAR/t | ZAR/t | ZAR/t | ZAR/t | ZAR/t |
| Mechanised | 34.3 | 48.3 | 5.5 | 14.0 | 102.0 |
| Conventional | 79.2 | 48.3 | - | - | 127.5 |

***Source:*** Galaxy (August 2015)

***Note:*** Exchange Rate of 12.06 ZAR/USD.

Other direct mining expenses associated with Galaxy are displayed in Table 53. This cost amounts to ZAR1.7 million per month and was split between all the different shafts.

For the Geology Department this cost includes labour for:-

- business development manager;
- senior geologist;
- graduate geologist; and
- 8 samplers.

For the Mining Department this cost includes labour for:-

- mine manager;
- mine planner;
- surveyor;
- 2 underground supervisors;
- mining engineer;
- graduate mining engineer;
- consultant for ventilation;
- rock engineer; and
- department overheads.

*Table 53: Other Direct Mining Costs*

| Cost | Unit | Galaxy |
|---|---|---|
| Mining Department | ZAR per month | 1,197,558 |
| Geology Department | ZAR per month | 532,248 |
| **Total** | **ZAR per month** | **1,729,806** |

***Source:*** Galaxy (August 2015)

**Tailings Mining Opex**

Mining and treating of historic tailings dumps were included in the first seven years of the LoM plan to ensure a total plant throughput of 15 ktpm. The current tailings operating costs were assumed to be at a contractor rate for mining by means of a load and heal by means of front end loaders and trucks. The cost associated with the tailings amounts to ZAR17.86 per mined tailings tonne.

**Other Opex**

Other non-direct mining costs associated with the project includes the costs as displayed in Table 54. This amounts to ZAR1.91 million per month. The costs are based on the actual costs suffered at Galaxy Gold Mine during the time of operation in 2011 and were inflated to current monetary terms.

*Table 54: Other Non-direct Mining Costs*

| Cost | Unit | Galaxy |
|---|---|---|
| Finance & Administration | ZAR per month | 838,181 |
| General Services | ZAR per month | 302,854 |
| Health & Safety | ZAR per month | 24,867 |
| IT & Communications | ZAR per month | 61,421 |
| Logistics | ZAR per month | 262,552 |
| Security | ZAR per month | 179,461 |
| Social and Labour Plan | ZAR per month | 236,500 |
| **Total** | **ZAR per month** | **1,905,836** |

***Source:*** Galaxy (August 2015)

**PROCESSING**

These costs are based on the following assumptions:-

- Reagent consumptions were based on historic consumptions as far as possible;
- Labour requirements are based on industry standard salary grades and estimated personnel skill requirements;
- Power costs are based on an electricity price of ZAR0.85/kWh; and
- Where information was not available, industry standards and benchmarking were applied.

These operating costs are for the processing of RoM and tailings material to produce a flotation concentrate. The plant will consist of crushing, milling, flotation and thickening of concentrates. The costs are summarised in Table 55. A total processing cost of ZAR185/t is estimated at a throughput of 15 ktpm.

*Table 55: Flotation Plant Operating Costs*

| Item | Unit | Value |
|---|---|---|
| **Fixed** | | |
| Admin & Other | ZAR'000 | 12.8 |
| Consultants | ZAR'000 | 20.0 |
| Labour | ZAR'000 | 833.6 |
| Power | ZAR'000 | 6.9 |
| Security | ZAR'000 | 124.0 |
| Laboratory & Assay | ZAR'000 | 161.8 |
| TSF | ZAR'000 | 50.0 |
| **Fixed Total** | **ZAR'000** | **1,189.1** |
| **Variable** | | |
| Flotation Reagents | ZAR/t | 18.3 |
| Engineering Spares & Maintenance | ZAR/t | 8.0 |
| Grinding Media | ZAR/t | 9.6 |
| Liners | ZAR/t | 6.7 |
| Power | ZAR/t | 60.1 |
| TSF | ZAR/t | 2.5 |
| **Variable Total** | **ZAR/t** | **152.8** |
| **Total** | **ZAR/t** | **184.5** |
| **Total** | **ZAR'000** | **2,767.7** |

### OPEX SUMMARY

To produce an ounce of gold, mining companies incur not only operating costs, but also spend sustaining capital at the sites and capital to explore and to sustain their long-term future. Some confusion still exists in the mining industry on reporting mining costs and there is no specific set of standards. Minxcon used the current Australian method of reporting that was suggested by the Gold Institute. This method is perceived as being uniform in the industry but basic differences still exists between countries. The operating costs in the financial model were broken down into different categories:-

(C1) Direct Cash Cost;
(C2) Production Cost; and
(C3) All-in Sustainable Cost.

The definitions of these costs are as follows:-

**(C1) Direct Cash Cost**

C1 represents the cash cost incurred at each processing stage, from mining through to recoverable metal delivered to market, less net by-product credits (if any). The M1 margin is defined as metal price received minus C1. Direct Cash Costs cover:-

- Mining, ore freight and milling costs;
- Ore purchase and freight costs from third parties in the case of custom smelters or mills;
- Mine-site administration and general expenses;
- Concentrate freight, smelting and smelter general and administrative costs;
- Matte freight, refining and refinery general and administrative costs; and
- Marketing costs (freight and selling).

**(C2) Production Cost**

Production Cost (C2) is the sum of net direct cash costs (C1) and Capex. The M2 margin is defined as metal price received minus C2.

**(C3) All-in Sustainable Cost**

All-in Sustainable Cost (C3) is the sum of the production cost (C2), indirect costs and net interest charges. The M3 margin is defined as metal price received minus C3. Indirect costs are the cash costs for:-

- The portion of corporate and divisional overhead costs attributable to the operation;
- Research and exploration attributable to the operation;
- Royalties and "front-end" taxes (excluding income and profit-related taxes);
- Extraordinary costs, i.e. those incurred as a result of strikes, unexpected shutdowns etc.; and
- Interest charges including all interest paid, both directly attributable to the operation and any corporate allocation (net of any interest received) on short-term loans, long-term loans, corporate bonds, bank overdrafts, etc.

Costs reported for the Galaxy Gold Mine, which consists of plant, other and mining operating costs, are displayed in Table 56. Other costs include the non-direct mining expenses as discussed in detail in Table 54 as well as rehabilitation cost. Detail about the operating cost and the breakdown of the mining and plant costs are described in the mining and plant cost sections.

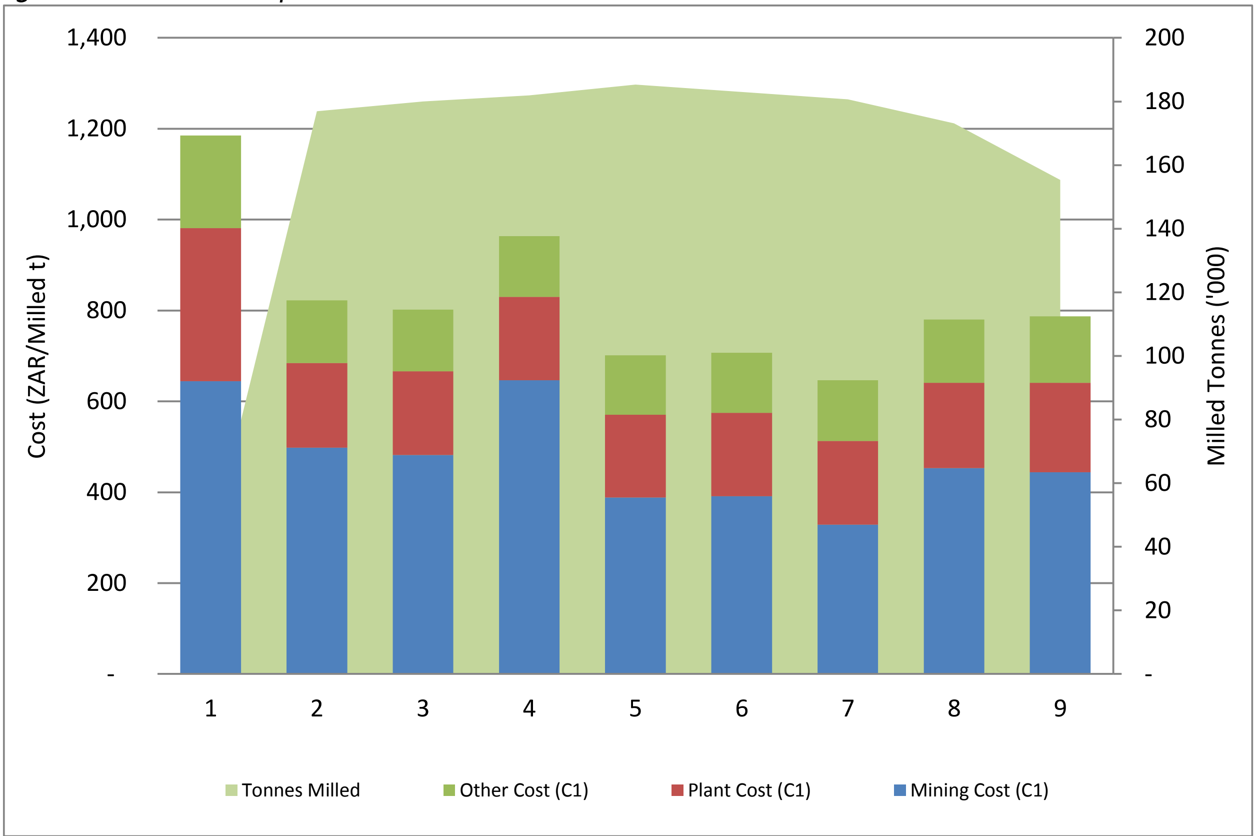
*Table 56: Opex Summary*

| Item | Unit | Galaxy Gold Mine |
|---|---|---|
| **Net Turnover** | **ZAR/Milled tonne** | **960** |
| Mine Cost | ZAR/Milled tonne | 459 |
| Plant Costs | ZAR/Milled tonne | 190 |
| Other Costs | ZAR/Milled tonne | 138 |
| **Direct Cash Costs (C1)** | **ZAR/Milled tonne** | **787** |
| Capex | ZAR/Milled tonne | 34 |
| **Production Costs (C2)** | **ZAR/Milled tonne** | **822** |
| Royalties | ZAR/Milled tonne | 13 |
| Other Cash Costs | ZAR/Milled tonne | - |
| **All-in Sustaining Cost (C3)** | **ZAR/Milled tonne** | **834** |
| **NCE Margin** | **%** | **13%** |
| EBITDA* | ZAR/Milled tonne | 160 |
| EBITDA Margin | % | 17% |
| Gold Recovered | oz | 151,421 |
| **Net Turnover** | **USD/Gold oz** | **792** |
| Mine Cost | USD/Gold oz | 379 |
| Plant Costs | USD/Gold oz | 157 |
| Other Costs | USD/Gold oz | 114 |
| **Direct Cash Costs (C1)** | **USD/Gold oz** | **649** |
| Capex | USD/Gold oz | 28 |
| **Production Costs (C2)** | **USD/Gold oz** | **678** |
| Royalties | USD/Gold oz | 10 |
| Other Cash Costs | USD/Gold oz | - |
| **All-in Sustaining Cost (C3)** | **USD/Gold oz** | **688** |
| EBITDA* | USD/Gold oz | 132 |

***Notes:***
1. * EBITDA excludes capital expenditure.
2. Numbers may not add up due to rounding.

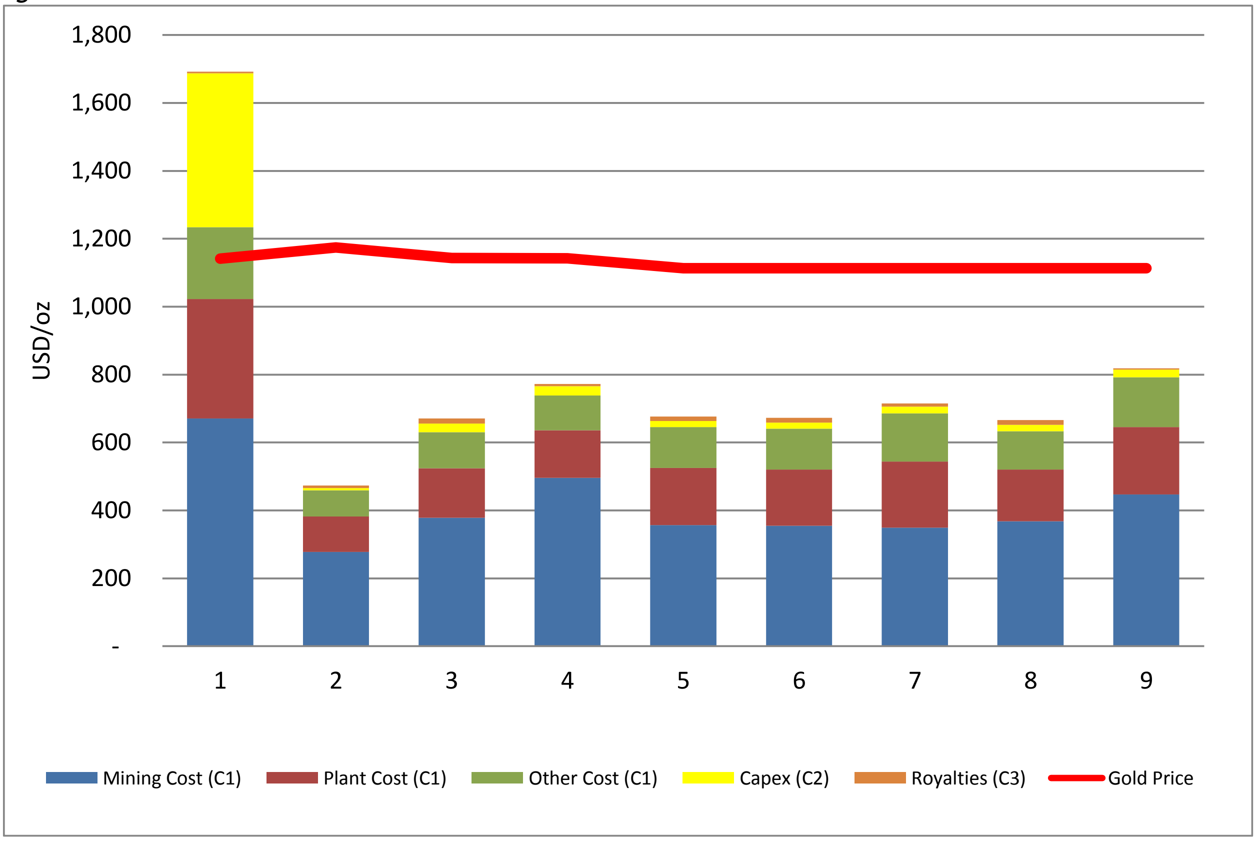
Direct Cash cost for Galaxy Gold Mine is ZAR787/milled t that equates to USD649/oz. Figure 104 displays the direct cost per tonne milled vs. the actual tonnes to the mill.

*Figure 104: Direct Cost per Milled Tonne versus Tonnes Milled*



Galaxy Gold Mine has an all-in sustainable cost of ZAR834/milled tonne. When comparing gold mine costs to the gold price in terms of USD/oz, Galaxy Gold Mine has an all-in sustainable cost of USD688/oz.

*Figure 105: All-in Sustainable Costs versus Gold Price*



# ITEM 22 - ECONOMIC ANALYSIS

## Item 22 (a) - PRINCIPAL ASSUMPTIONS

The purpose of this valuation exercise was to demonstrate the financial viability of the Project. This is illustrated by using the Discounted Cash Flow ("DCF") method on a Free Cash Flow to the Firm ("FCFF") basis, to calculate the nett present value ("NPV") and the intrinsic value of the Project in real terms. The intrinsic value is the amount considered, on the basis of an evaluation of available facts, to be the "true", "real" or "underlying" worth of an item. Thus it is a long-term, Non-Market Value concept that smooths short term price fluctuations. In mining, the intrinsic value refers to the fundamental value based on the technical inputs, and a cash flow projection that creates a NPV. Few of these inputs are market related, except possibly for metal price, benchmarked costs and the discount rate applied.

A company has different sources of finance, namely common stock, retained earnings, preferred stock and debt. Free cash flow is based on either FCFF or Free cash flow to equity ("FCFE"). FCFF is the cash flow available to all the firm's suppliers of capital once the firm pays all operating expenses (including taxes) and expenditures needed to sustain the firm's productive capacity. The expenditures include what is needed to purchase fixed assets and working capital, such as inventory. FCFE is the cash flow available to the firm's common stockholders once operating expenses (including taxes), expenditures needed to sustain the firm's productive capacity, and payments to (and receipts from) debt holders are accounted for. It must be noted that FCFF minus Nett Debt = FCFE.

The NPV is derived post-royalties and tax, pre-debt real cash flows, after taking into account operating costs, capital expenditures for the mining operations and the processing plant and using forecast macro-economic parameters. The valuation date for the Discounted Cash Flow is 1 September 2015.

**Basis of Valuation of the Mining Assets**

In generating the financial model and deriving the valuations, the following were considered:-

- This Report details the optimised cash flow model with economic input parameters;
- The cash flow model is in constant money terms and done in ZAR;
- A discount rate of 9.1% (in real terms) was calculated for the discount factor, but the NPV was also shown for a range of discount rates;
- The impact of the Mineral Royalties Act using the formula for refined metals was included;
- Sensitivity analyses were performed to ascertain the impact of discount factors, commodity prices, grade, working costs and capital expenditure;
- Valuation of the tax entity was performed on a stand-alone basis;
- The full value of the operation was reported for Galaxy Gold Mine – no attributable values were calculated;
- The model was set up in calendar years with the first year starting in year 1;
- The plant produces a concentrate that gets sold at a 70% payability;
- The first four months are used for construction and refurbishment. The first year therefore only has eight months of production; and
- The cash flow became negative after year 9 and the model was cut at this point.

**Macro-Economic Forecasts**

All economic criteria that have been used for the study are described in Table 57, together with the macro-economic and commodity price forecasts for the operations over the LoM. Forecast data are based on projections for the gold price and the country-specific macro-economic parameters and are presented in calendar years. Both the ZAR/USD exchange rate and USD gold prices are displayed in constant and nominal money terms. The gold price forecasts were sourced from the Energy and Metals Consensus Forecast. The exchange rate forecast is fixed at ZAR11.5 per USD from 2020 onwards and was calculated as the mean of the Nedbank and Investec forecasts. Table 57 illustrates the forecasts for the first four years as well as the long-term forecast. A gold price in the region of ZAR411,591/kg (Real terms) is considered to be an acceptable and appropriate long-term forecast.

*Table 57: Macro-Economic Forecasts and Commodity Prices over the LoM*

| Forecast | Year | 2016 | 2017 | 2018 | 2019 | Long-Term |
|---|---|---|---|---|---|---|
| Real Exchange rate | ZAR/USD | 12.06 | 11.85 | 11.75 | 11.83 | 11.50 |
| Nominal Exchange rate | ZAR/USD | 12.06 | 12.19 | 12.42 | 12.82 | |
| Inflation rate | SA | 5.67% | 5.26% | 5.23% | 4.93% | 4.93% |
| Inflation rate | US | 2.20% | 2.30% | 2.40% | 2.40% | 2.40% |
| Real Gold Price | USD/oz. | 1,142 | 1,175 | 1,144 | 1,143 | 1,113 |
| Nominal Gold Price | USD/oz. | 1,142 | 1,202 | 1,198 | 1,226 | |
| Real Gold Price | ZAR/kg | 442,853 | 447,544 | 432,007 | 434,548 | 411,591 |
| Nominal Gold Price | ZAR/kg | 442,853 | 471,086 | 478,517 | 505,039 | |

**Source:** Consensus Economics (Aug 2015), Investec (Apr 2015), Nedbank (July 2015)

**Working Capital**

Gold debtors' days were calculated at 15 days and creditor days at 30 days.

**Recoveries**

The ore from the Galaxy Gold Mine operation is treated at the existing plant; the expected recovery percentage can be seen in Table 58. The recovery is detailed in the Item 17 of this Report. The plant produces a concentrate that gets sold at a 70% payability.

*Table 58: Recovery Percentage Steady State*

| Item | Percentage |
|---|---|
| Mine Float Recovery | 90.0% |
| Tailings Float Recovery | 55.0% |

**DISCOUNT RATE**

**Capital Asset Pricing Model**

Minxcon used the Capital Asset Pricing Model ("CAPM") to calculate the discount rate. The following were considered:-

- The Risk Free Rate (R186) at 8.48% was considered as an acceptable risk-free rate at the time of the valuation;
- The market risk premium of 5.0 %, a rate generally considered as being the investor's expectation for investing in equity rather than a risk-free government bond;
- The beta of a stock is used to reflect the stock price's volatility over and above other general equity investments in the country of listing – the Beta was calculated at 1.20; and
- Minxcon considered two Beta's of similar gold companies to conclude if the calculated Beta of 1.20 can be considered as an acceptable Beta. Both the companies Beta's were found to be similar to Galaxy's rate (Pan African: 1.16 and Harmony Gold: 0.94). The Galaxy rate is thus considered to be a fitting rate.

*Table 59: Nominal Discount Rate Calculation*

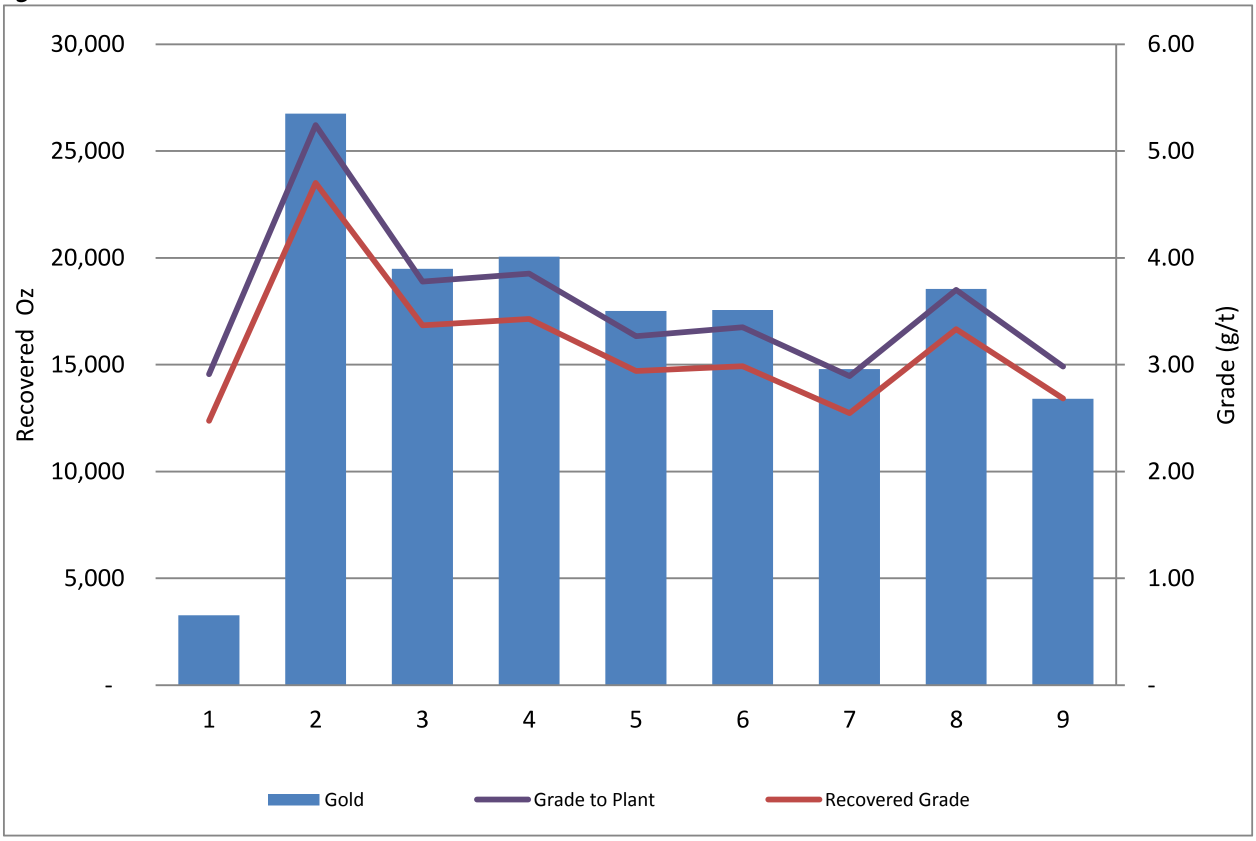
| Cost of Equity | Discount Rate |
|---|---|
| Risk free rate | 8.48% |
| Risk premium of market | 5.0% |
| Operational Risk (Base Beta) | 1.20 |
| Cost of equity (CAPM) | 14.5% |

The above nominal discount rate of 14.5% compares to a real discount rate of 9.1% that was used for the discount rate.

## Item 22 (b) - Cash Flow Forecast

The saleable product per annum is illustrated in Figure 106. The combined average recovery over the LoM is 89.3% for a combined average mined grade of 3.62 g/t.

*Figure 106: Saleable Product*




A breakdown of the tonnes and ounces used in the LoM are displayed in Table 60. The Reserve LoM plan included only Mineral Reserves that have been diluted by using the modifying factors described in the mining section. The cash flow became negative after year 9 and all Mineral Reserves beyond this point were not included in the Mineral Reserve statement.

*Table 60: Production Breakdown in LoM*

| Item | Project | Galaxy Gold Mine LoM |
|---|---|---|
| Ore Tonnes Mined | Tonnes ('000) | 1,457 |
| Average Mined Grade | g/t | 3.62 |
| Total Oz in Reserve LoM Plan | oz. | 169,586 |
| Grade Delivered to Plant | g/t | 3.62 |
| **Metal Recovered** | | |
| Recovered grade | g/t | 3.23 |
| Yield/Recovery | % | 89% |
| Total Oz Recovered | oz. | 151,421 |

### Discounted Cash Flow

Minxcon's in-house DCF model (Table 61) was employed to illustrate the NPV for the Project in real terms. The NPV was derived post-royalties and tax, pre-debt real cash flows, using the techno-economic parameters, commodity price and macro-economic projections.

This valuation is based on a free cash flow and measures the economic viability of the Mineral Reserves to demonstrate if the extraction of the Mineral Deposit is viable and justifiable under a defined set of realistically assumed modifying factors. The model is based on financial years running from January to December and commences in year 1. The annual and cumulative cash flow forecast for the LoM are displayed in Figure 107. From the figure below it can be seen that the peak funding requirement amounts to ZAR36 million.

*Figure 107: Annual and Cumulative Cash Flow*

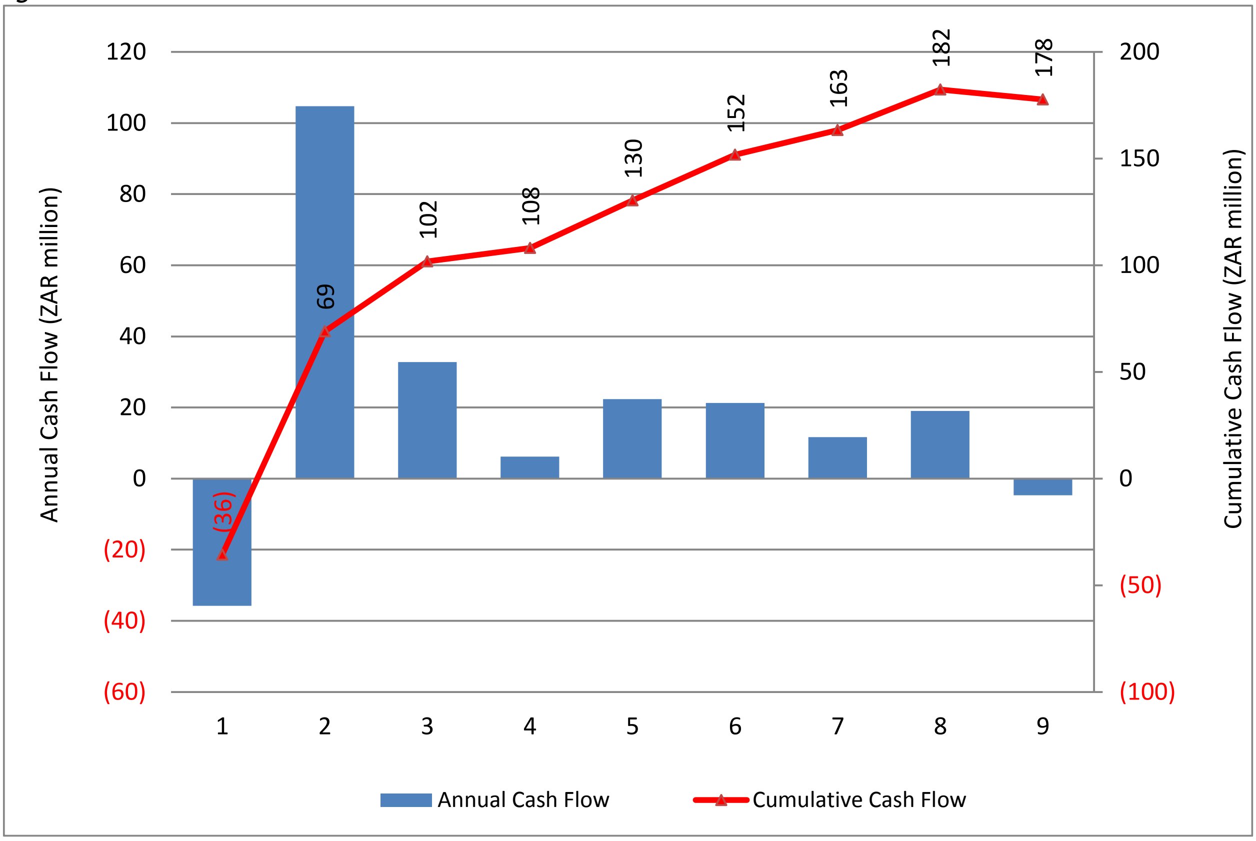


*Table 61: Real Cash Flow*

**Project Title:** **Galaxy Gold Mines**
Client: Galaxy Gold Mining Limited
Project Code: M15-027a

| Project Valuation Schedule | |
|---|---|
| Project Valuation Date (Base Date) | 01-Jan-16 |
| Financial Year End (month and year) | 31-Dec-16 |
| First Year | 0 |
| Days remaining | 365 |

| | | | |
|---|---|---|---|
| Commodity Price | 100% | Fixed Costs | 100% |
| Exchange Rate | 100% | Variable Cost | 100% |
| Grade | 100% | Mining Capex | 100% |
| | | Plant Capex | 100% |

| Project Duration | | Unit | Totals | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Years | | | | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| Financial Years | | years | 9 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| **Macro-Economic Factors (Real Terms)** | | | | | | | | | | | | |
| Currency | | ZAR /USD | 11.67 | 12.063 | 11.850 | 11.750 | 11.830 | 11.500 | 11.500 | 11.500 | 11.500 | 11.500 |
| Inflation | ZAR Inflation Rate | % | 5.08% | 5.67% | 5.26% | 5.23% | 4.93% | 4.93% | 4.93% | 4.93% | 4.93% | 4.93% |
| Inflation | US Inflation Rate | % | 2.37% | 2.20% | 2.30% | 2.40% | 2.40% | 2.40% | 2.40% | 2.40% | 2.40% | 2.40% |
| Commodity prices | Gold | USD/oz. | 1,130 | 1,142 | 1,175 | 1,144 | 1,143 | 1,113 | 1,113 | 1,113 | 1,113 | 1,113 |
| **Operating Statistics** | | | | | | | | | | | | |
| ROM | | tonnes | 1,457,322 | 41,043 | 176,930 | 180,005 | 181,921 | 185,307 | 182,988 | 180,675 | 173,121 | 155,332 |
| ROM | (Max) | tonnes/mnth | 15,442 | 6,840 | 14,744 | 15,000 | 15,160 | 15,442 | 15,249 | 15,056 | 14,427 | 12,944 |
| Mill Head grade | Gold | g/t | 3.62 | 2.91 | 5.24 | 3.78 | 3.85 | 3.27 | 3.35 | 2.89 | 3.70 | 2.98 |
| Tonnes to mill | | tonnes | 1,457,322 | 41,043 | 176,930 | 180,005 | 181,921 | 185,307 | 182,988 | 180,675 | 173,121 | 155,332 |
| Recovered grade | Precious Metals | g/t | 3.23 | 2.48 | 4.70 | 3.37 | 3.43 | 2.94 | 2.99 | 2.55 | 3.33 | 2.69 |
| Metal recovered | Gold | kg | 4,710 | 102 | 832 | 606 | 624 | 545 | 546 | 460 | 577 | 417 |
| Metal recovered | Gold | oz | 151,421 | 3,267 | 26,754 | 19,496 | 20,062 | 17,521 | 17,564 | 14,800 | 18,545 | 13,413 |
| **Financial** | | | | | | | | | | | | |
| **Revenue** | | **ZAR** | **1,398,789,419** | **31,497,945** | **260,693,929** | **183,372,456** | **189,809,764** | **157,009,270** | **157,393,940** | **132,624,994** | **166,186,420** | **120,200,701** |
| Revenue | Gold | ZAR | 1,398,789,419 | 31,497,945 | 260,693,929 | 183,372,456 | 189,809,764 | 157,009,270 | 157,393,940 | 132,624,994 | 166,186,420 | 120,200,701 |
| **Mining cost** | | | **(669,322,918)** | **(26,448,422)** | **(88,166,291)** | **(86,758,572)** | **(117,630,534)** | **(71,944,710)** | **(71,621,094)** | **(59,348,157)** | **(78,463,743)** | **(68,941,394)** |
| Direct Cash Costs | Fixed Cost | ZAR | (405,579,361) | (21,947,701) | (55,311,355) | (54,589,021) | (85,458,388) | (35,793,151) | (39,033,565) | (29,937,298) | (44,561,327) | (38,947,556) |
| Direct Cash Costs | Variable Cost | ZAR | (263,743,556) | (4,500,722) | (32,854,936) | (32,169,552) | (32,172,146) | (36,151,559) | (32,587,529) | (29,410,859) | (33,902,416) | (29,993,838) |
| Direct Cash Costs | Contingeny | ZAR | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Plant cost** | | | **(277,034,022)** | **(13,832,257)** | **(32,889,185)** | **(33,212,763)** | **(33,414,374)** | **(33,770,790)** | **(33,526,665)** | **(33,283,343)** | **(32,488,326)** | **(30,616,320)** |
| Direct Cash Costs | Fixed Cost | ZAR | (123,669,499) | (9,513,038) | (14,269,558) | (14,269,558) | (14,269,558) | (14,269,558) | (14,269,558) | (14,269,558) | (14,269,558) | (14,269,558) |
| Direct Cash Costs | Variable Cost | ZAR | (153,364,522) | (4,319,219) | (18,619,627) | (18,943,205) | (19,144,816) | (19,501,232) | (19,257,107) | (19,013,785) | (18,218,768) | (16,346,763) |
| **Other Costs** | | | **(200,851,409)** | **(8,367,612)** | **(24,394,388)** | **(24,341,623)** | **(24,299,578)** | **(24,257,532)** | **(24,215,487)** | **(24,173,442)** | **(24,131,396)** | **(22,670,351)** |
| Direct Cash Costs | Other Cost Fixed | ZAR | (189,908,892) | (8,367,612) | (22,870,035) | (22,870,035) | (22,870,035) | (22,870,035) | (22,870,035) | (22,870,035) | (22,870,035) | (21,451,035) |
| Direct Cash Costs | Rehabilitation | ZAR | (10,942,518) | 0 | (1,524,354) | (1,471,588) | (1,429,543) | (1,387,497) | (1,345,452) | (1,303,407) | (1,261,361) | (1,219,316) |
| **Direct Cash Costs** | **Total C1** | | **(1,147,208,349)** | **(48,648,291)** | **(145,449,864)** | **(144,312,958)** | **(175,344,485)** | **(129,973,032)** | **(129,363,246)** | **(116,804,942)** | **(135,083,466)** | **(122,228,065)** |
| Production Costs | Initial Capital expenditure | ZAR | **(21,857,372)** | (17,857,372) | 0 | (2,880,000) | (1,120,000) | 0 | 0 | 0 | 0 | 0 |
| Production Costs | SIB | ZAR | **(28,334,499)** | 0 | (2,118,471) | (2,939,298) | (5,286,572) | (3,700,042) | (3,680,172) | (3,242,103) | (3,883,322) | (3,484,520) |
| **Production Costs** | **Total C2 (Includes C1)** | **ZAR** | **(1,197,400,219)** | **(66,505,663)** | **(147,568,334)** | **(150,132,256)** | **(181,751,057)** | **(133,673,074)** | **(133,043,417)** | **(120,047,044)** | **(138,966,788)** | **(125,712,585)** |
| All-in Sustainable Cost | Royalty Act No 28 of 2008 | ZAR | (18,414,521) | (157,490) | (2,421,387) | (3,576,078) | (1,593,745) | (2,651,942) | (2,735,012) | (1,669,361) | (3,008,503) | (601,004) |
| **All-in Sustainable Cost** | **Total C3 (Includes C1+C2)** | **ZAR** | **(1,215,814,740)** | **(66,663,153)** | **(149,989,721)** | **(153,708,334)** | **(183,344,803)** | **(136,325,016)** | **(135,778,429)** | **(121,716,405)** | **(141,975,291)** | **(126,313,589)** |
| **EBITDA** | | **ZAR** | **233,166,549** | **-17,307,836** | **112,822,678** | **35,483,420** | **12,871,533** | **24,384,296** | **25,295,683** | **14,150,691** | **28,094,451** | **(2,628,367)** |
| **EBIT** | | **ZAR** | **182,974,678** | **-35,165,208** | **110,704,207** | **29,664,122** | **6,464,962** | **20,684,254** | **21,615,511** | **10,908,589** | **24,211,129** | **(6,112,887)** |
| Taxation | | ZAR | (4,101,377) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (4,101,377) | 0 |
| Income after tax | | ZAR | 178,873,301 | (35,165,208) | 110,704,207 | 29,664,122 | 6,464,962 | 20,684,254 | 21,615,511 | 10,908,589 | 20,109,752 | (6,112,887) |
| Working capital changes | | ZAR | 1 | (569,509) | (5,913,154) | 3,147,857 | (247,763) | 1,704,335 | (328,807) | 736,807 | (1,075,411) | 1,414,708 |
| Net Cash Flow | Annual cash flow | ZAR | **178,873,301** | (35,734,717) | 104,791,054 | 32,811,979 | 6,217,199 | 22,388,589 | 21,286,704 | 11,645,396 | 19,034,341 | (4,698,180) |
| Cumulative Net Cash Flow | Cumulative cash flow | ZAR | | (35,734,716) | 69,056,337 | 101,868,316 | 108,085,515 | 130,474,104 | 151,760,807 | 163,406,203 | 182,440,544 | 177,742,364 |
| **Net present value** | | | | **0** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Discount Rate | Real | % | **9.07%** | 1.0000 | 1.0907 | 1.1896 | 1.2975 | 1.4152 | 1.5435 | 1.6835 | 1.8361 | 2.0027 |
| Net Present Value | | ZAR | **137,784,598** | (35,734,717) | 96,077,805 | 27,582,280 | 4,791,719 | 15,820,572 | 13,791,222 | 6,917,472 | 10,366,446 | (2,345,960) |

## Item 22 (c) - NET PRESENT VALUE

The highlights of the valuation conducted by Minxcon are discussed in the following sections. Table 62 illustrates the Project NPV at various discount rates with a best-estimated value of ZAR138 million at a real discount rate of 9.1%.

The IRR was calculated at 226%. This number should be treated with care, as it is skewed by the fact that it is an existing mine. The Mine and plant are on care and maintenance and therefore the capital requirement is not high. The low initial capital requirement of ZAR18 million in year 1 and high cash flow of ZAR110 million in year 2 returns resulted in an IRR that was calculated at 226% which is very high compared to new developed mines. The overall project has an all-in cost margin of 13% which is low compared to other operating mines and makes the Project marginal.

*Table 62: Project Valuation Summary – Real Terms*

| Item | Unit | Value |
|---|---|---|
| Real NPV @ 0.00% | ZARm | 179 |
| Real NPV @ 5.00% | ZARm | 154 |
| **Real NPV @ 9.07%** | **ZARm** | **138** |
| Real NPV @ 10.00% | ZARm | 134 |
| Real NPV @ 15.00% | ZARm | 119 |
| IRR | % | 226% |

Table 63 illustrates the Project profitability ratios.

*Table 63: Profitability Ratios*

| Item | Unit | Profitability Ratios |
|---|---|---|
| Total ounces in Reserve LoM plan | oz. | 169,586 |
| *In-Situ* Mining Inventory Valuation | USD/oz. | 70 |
| Production LoM | Years | 9 |
| Present Value of Income flow | ZARm | 182 |
| Peak Funding Requirement | ZARm | 36 |
| Payback Period | Years | 1 |
| Break Even Milled Grade | g/t | 3.15 |
| Break Even/Incentive Gold Price | USD/oz. | 688 |

A range of values was calculated for the DCF valuation by determining an upper and lower range. The upper and lower ranges were determined by applying a maximum and minimum standard deviation on the following input parameters with the lower confidence categories having a wider variance:-

- Commodity Price (USD/Au oz);
- Exchange Rate (ZAR/USD);
- Grade (g/t);
- Fixed Cost;
- Variable Cost;
- Plant Capex; and
- Mining Capex.

In order to evaluate risk, a simulation was developed using a population of 5,000 simulations. This allows the simulation of random scenarios to determine the effect thereof. Minxcon simulated various input parameters using a range in which a parameter is expected to vary (see Table 64).

*Table 64: Input Ranges*

| Input | Min | Max | Current | Min | Max |
|---|---|---|---|---|---|
| Gold Price (USD/oz.) | 85% | 125% | 1,130 | 960 | 1,412 |
| Exchange Rate (ZAR/USD) | 85% | 115% | 11.7 | 9.9 | 13.4 |
| Grade (g/t) | 90% | 110% | 3.6 | 3.3 | 4.0 |
| Fixed Costs (ZAR/t) | 90% | 110% | 493 | 444 | 543 |
| Variable Cost (ZAR/t) | 90% | 110% | 286 | 258 | 315 |
| Plant Capex (ZARm) | 90% | 110% | 10 | 9 | 10 |
| Mining Capex (ZARm) | 90% | 110% | 10 | 9 | 11 |

By applying these ranges, a lower and upper value were determined for the DCF (see Table 65).

*Table 65: Range of Values*

| Valuation Method | Lower Value | Best Estimated Value | Higher Value |
|---|---|---|---|
| | ZARm | ZARm | ZARm |
| Discounted Cash Flow | 77 | 138 | 258 |

## Item 22 (d) - REGULATORY ITEMS

**Corporate Taxes**

Gold mining companies in South Africa are taxed according to the gold mine formula. Owing to the nature of the ore bodies in South Africa – deep ore bodies that require significant capital coupled with a fluctuating gold price – the government identified the vulnerability of gold mining companies during times when margins are squeezed. The tax rates based on the formula decline when the company shows lower profits thereby giving the company the necessary breathing space during a difficult operating environment.

Historically, there were two formulas for companies selecting to pay Secondary Tax on Dividends ("STC"). However, from 1 April 2012 STC was replaced by the introduction of dividends tax and only one formula is now in use:-

*Equation 2: Dividends Tax Formula*

$$y = 34 - (170/x)$$

Where x = the ratio, expressed as a percentage, calculated as follows:

$$\frac{\text{Taxable income from gold mining}}{\text{Total revenue (turnover) from gold mining}}$$

and y = calculated percentage which represents the rate of tax to be levied.

The rate of normal tax on taxable income other than that derived from mining for gold is 28%.

For all mines, capital expenditure incurred may be redeemed immediately against mining profits. All qualifying mining capital expenditure is deducted from taxable mining income to the extent that it does not result in an assessed loss. Accounting depreciation is eliminated when calculating the South African mining tax income. Excess capital expenditure and tax losses are carried forward as unredeemed capital and assessed losses to be claimed from future mining taxable income. As at 31 March 2015, GGR had an unredeemed capital allowance of ZAR104.6 million and assessed losses of ZAR64.1 million, which was utilised against tax.

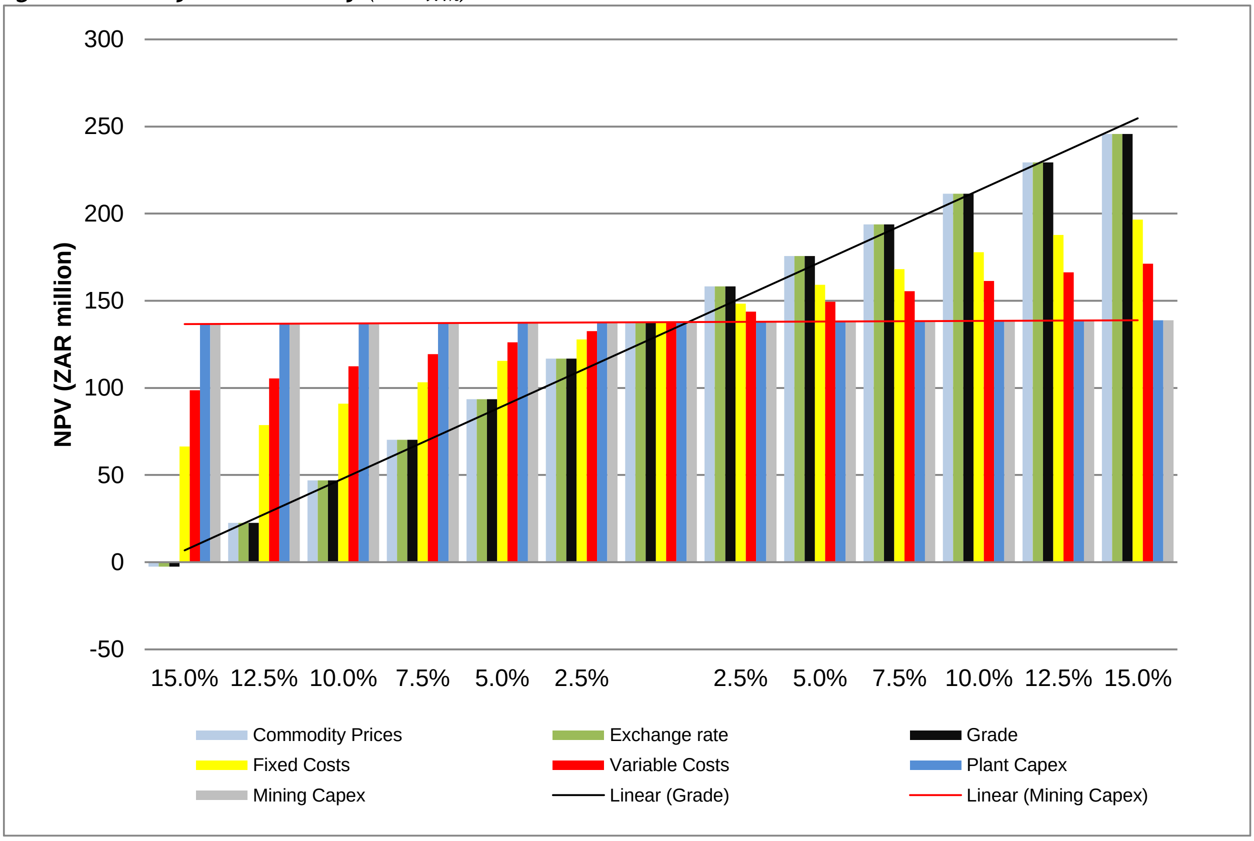
**Royalties**

As discussed in Item 4 (e), refined mineral formula was used for this Project. Owing to the high unredeemed capital and assessed losses the minimum royalty rate applied for most part of the mine life.

## Item 22 (e) - Sensitivity Analysis

Based on the real cash flow calculated in the financial model, Minxcon performed single-parameter sensitivity analyses to ascertain the impact on the NPV. The bars represents various inputs into the model each being increased or decreased by 2.5% i.e., left side of graph shows lower NPVs because of lower prices and lower grades, higher Opex and Capex and the opposite on the right hand. The red line and black line representing the least sensitive and most sensitive impacts to the NPV. For the DCF, the gold price, exchange rate and grade have the biggest impact on the sensitivity of the Project followed by the operating cost. The Project is not sensitive to the capital.

*Figure 108: Project Sensitivity ($NPV_{9.1\%}$)*




A sensitivity analysis was conducted on the grade and the exchange rate to better indicate the effect these two factors have on the NPV, as well as the production costs (C1) and the grade. This is displayed in Table 66 and Table 67.

*Table 66: Sensitivity Analysis of Gold Price and Exchange Rate to $NPV_{9.1\%}$ (ZARm)*

| | **Exchange Rate** | 9.92 | 10.21 | 10.50 | 10.79 | 11.08 | 11.37 | **11.67** | 11.96 | 12.25 | 12.54 | 12.72 | 13.12 | 13.42 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Au Price** | **Change %** | 85.0% | 87.5% | 90.0% | 92.5% | 95.0% | 97.5% | **100.0%** | 102.5% | 105.0% | 107.5% | 109.0% | 112.5% | 115.0% |
| 960 | 85.0% | -131 | -109 | -88 | -67 | -45 | -24 | -3 | 19 | 40 | 60 | 72 | 99 | 119 |
| 989 | 87.5% | -109 | -87 | -65 | -43 | -21 | 1 | 23 | 44 | 64 | 85 | 97 | 126 | 143 |
| 1,017 | 90.0% | -88 | -65 | -43 | -20 | 2 | 25 | 47 | 68 | 89 | 110 | 122 | 148 | 165 |
| 1,045 | 92.5% | -67 | -43 | -20 | 3 | 26 | 49 | 70 | 92 | 113 | 134 | 145 | 169 | 186 |
| 1,073 | 95.0% | -45 | -21 | 2 | 26 | 49 | 71 | 94 | 116 | 136 | 155 | 165 | 190 | 206 |
| 1,102 | 97.5% | -24 | 1 | 25 | 49 | 71 | 94 | 117 | 137 | 157 | 174 | 186 | 209 | 227 |
| **1,130** | **100.0%** | -3 | 23 | 47 | 70 | 94 | 117 | **138** | 158 | 176 | 194 | 204 | 229 | 246 |
| 1,158 | 102.5% | 19 | 44 | 68 | 92 | 116 | 137 | 158 | 176 | 195 | 213 | 224 | 248 | 266 |
| 1,186 | 105.0% | 40 | 64 | 89 | 113 | 136 | 157 | 176 | 195 | 213 | 232 | 242 | 268 | 284 |
| 1,215 | 107.5% | 60 | 85 | 110 | 134 | 155 | 174 | 194 | 213 | 232 | 250 | 262 | 286 | 302 |
| 1,243 | 110.0% | 80 | 105 | 131 | 152 | 172 | 192 | 211 | 231 | 249 | 269 | 279 | 303 | 321 |
| 1,271 | 112.5% | 99 | 126 | 148 | 169 | 190 | 209 | 229 | 248 | 268 | 286 | 296 | 321 | 339 |
| 1,299 | 115.0% | 119 | 143 | 165 | 186 | 206 | 227 | 246 | 266 | 284 | 302 | 313 | 339 | 357 |
| 1,356 | 120.0% | 154 | 176 | 197 | 220 | 239 | 261 | 280 | 299 | 317 | 336 | 348 | 374 | 395 |

*Table 67: Sensitivity Analysis of Production Costs and Grade to $NPV_{9.1\%}$ (ZARm)*

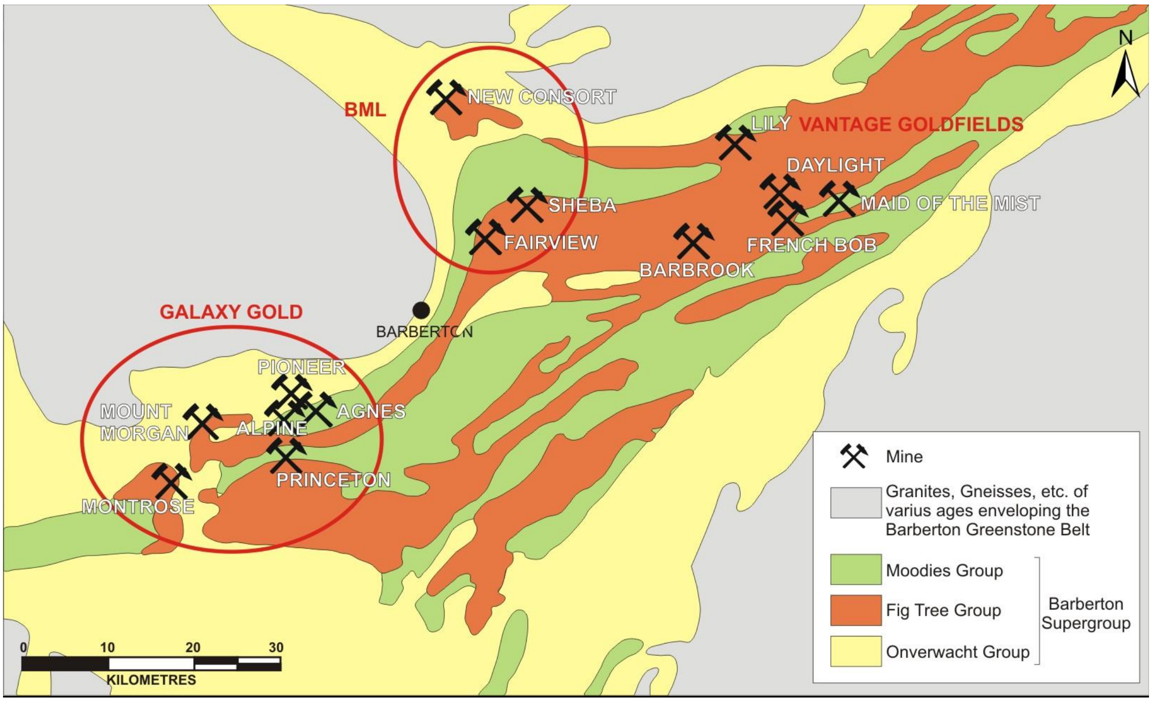
| | **Grade** | 3.08 | 3.17 | 3.26 | 3.35 | 3.44 | 3.53 | **3.62** | 3.71 | 3.80 | 3.89 | 3.95 | 4.07 | 4.16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Direct Cost (ZAR/t)** | **Change %** | 85.0% | 87.5% | 90.0% | 92.5% | 95.0% | 97.5% | **100.0%** | 102.5% | 105.0% | 107.5% | 109.0% | 112.5% | 115.0% |
| 1,014 | 130.0% | -251 | -226 | -201 | -176 | -150 | -125 | -100 | -75 | -50 | -25 | -10 | 25 | 49 |
| 975 | 125.0% | -209 | -184 | -159 | -134 | -109 | -84 | -59 | -34 | -9 | 17 | 31 | 64 | 88 |
| 936 | 120.0% | -168 | -143 | -118 | -93 | -68 | -43 | -17 | 8 | 33 | 56 | 70 | 103 | 126 |
| 897 | 115.0% | -127 | -102 | -76 | -51 | -26 | -1 | 24 | 48 | 71 | 95 | 109 | 139 | 159 |
| 858 | 110.0% | -85 | -60 | -35 | -10 | 15 | 40 | 63 | 87 | 110 | 132 | 144 | 170 | 189 |
| 819 | 105.0% | -44 | -19 | 6 | 31 | 55 | 78 | 102 | 125 | 145 | 164 | 175 | 200 | 219 |
| **780** | **100.0%** | -3 | 23 | 47 | 70 | 94 | 117 | **138** | 158 | 176 | 194 | 204 | 229 | 246 |
| 741 | 95.0% | 39 | 62 | 85 | 109 | 132 | 151 | 169 | 188 | 205 | 223 | 233 | 257 | 274 |
| 702 | 90.0% | 77 | 101 | 124 | 144 | 163 | 181 | 199 | 216 | 233 | 249 | 260 | 283 | 299 |
| 663 | 85.0% | 116 | 137 | 156 | 174 | 193 | 209 | 227 | 243 | 260 | 277 | 287 | 309 | 324 |
| 624 | 80.0% | 150 | 168 | 186 | 203 | 221 | 237 | 253 | 271 | 287 | 303 | 312 | 334 | 350 |
| 585 | 75.0% | 179 | 197 | 213 | 231 | 247 | 264 | 281 | 297 | 312 | 328 | 337 | 359 | 375 |
| 546 | 70.0% | 207 | 225 | 241 | 257 | 275 | 291 | 306 | 322 | 338 | 353 | 363 | 385 | 401 |

# ITEM 23 - ADJACENT PROPERTIES

## Item 23 (a) - Public Domain Information

Producing gold mines in the area surrounding the Galaxy Gold Mine include the Lily Mine and Barbrook Mines Complex ("Barbrook") (held by Vantage Goldfields) as well as the Sheba Mine, Fairview Mine and the New Consort Mine, which are currently held by Pan African Resources PLC as Barberton Mines Limited ("BML"). These mines lie some 30 to 50 km northeast of the Galaxy assets (Figure 109).

*Figure 109: Major Gold Mines of the BGB*




***Source:*** Redrawn from Meadon (2010)

| Major Gold Mines of the BGB | July 2015 |
|---|---|

The Sheba, Fairview and New Consort gold mines together with the Agnes (Galaxy Gold) Mine have been responsible for the production of over 70% of gold historically within the greater BGB area. More recent production of gold from the BGB has largely been from, in order of production, Sheba, New Consort, Fairview, Agnes and Lily mines (Anhaeusser, 2012). Pan African Resources have also recently added a tailings retreatment plant ("BTRP") to their portfolio in Barberton, commencing operations in 2013.

## Item 23 (b) - Sources of Information

- Pan African Resources Mineral Resource and Mineral Reserve Report, 2014.
- www.vantagegoldfields.com

## Item 23 (c) - Verification of Information

Minxcon relied on the information from publically disclosed documentation and current website information for the respective companies included in this section. The Qualified Person has been unable to verify the information.

## Item 23 (d) – Applicability of Adjacent Property's Mineral Deposit to Project

The mines mentioned in this section all lie within the Archaean BGB. Gold is hydrothermal, shear zone hosted within the metasediments of the Barberton Supergroup, controlled structurally by regional faults such as the Sheba and Lily faults (Anhaeusser, 2012). The information presented here for BML and Vantage Goldfields' mines is not necessarily indicative of mineralisation at the Galaxy Gold Mine.

## Item 23 (e) – Historical Estimates of Mineral Resources or Mineral Reserves

The following Table 68 and Table 69 respectively detail the Mineral Resources and Mineral Reserves for the Lily and Barbrook mines as stated by Vantage Goldfields.

*Table 68: Mineral Resources for Lily and Barbrook Mines (31 December 2012)*

| Mine | Mineral Resource Category | Tonnes | Grade | Contained Gold |
|---|---|---|---|---|
| | | Mt | g/t | oz |
| Lily | Measured | 6.35 | 2.68 | 546,100 |
| | Indicated | 2.68 | 2.92 | 215,500 |
| | *Total Measured + Indicated* | *9.03* | *2.75** | *761,600* |
| | Inferred | 12.83 | 2.67 | 1,100,900 |
| Barbook | Measured | 3.40 | 3.39 | 370,800 |
| | Indicated | 3.82 | 3.55 | 436,500 |
| | *Total Measured + Indicated* | *7.22* | *3.48** | *807,300* |
| | Inferred | 7.30 | 5.71 | 1,341,400 |
| **Total Measured + Indicated** | | **16.25** | **3.07*** | **1,568,900** |
| **Total Inferred** | | **20.13** | **3.78*** | **2,442,300** |

***Source:*** www.vantagegoldfields.com (2015)

***Notes:***

1. Columns may not add up due to rounding.
2. *Weighted average calculation by Minxcon.

*Table 69: Mineral Reserves for Lily and Barbrook Mines (31 December 2012)*

| Mine | Mineral Reserve Category | Tonnes | Grade | Contained Gold |
|---|---|---|---|---|
| | | Mt | g/t | oz |
| Lily | Proved | 0.42 | 2.27 | 30,600 |
| | Probable | 3.85 | 2.63 | 325,700 |
| | *TOTAL* | *4.27* | *2.6* | *356,300* |
| Barbrook | Proved | 0.10 | 3.90 | 12,500 |
| | Probable | 0.14 | 4.19 | 19,000 |
| | *TOTAL* | *0.24* | *4.08* | *31,500* |
| **TOTAL** | | **4.51** | **2.68*** | **387,800** |

***Source:*** www.vantagegoldfields.com (2015)

***Notes:***

1. Columns may not add up due to rounding.
2. *Weighted average calculation by Minxcon.

The following Table 70 details the Mineral Resources for the Pan African Resources mines. An additional 19.75 Mt gold is contained at the BTRP at a grade of 1.32 g/t Au. Pan African Resources thus holds a total Mineral Resource of about 3.8 Moz gold.

*Table 70: Mineral Resources for BML Mines (30 June 2014)*

| Mine | Mineral Resource Category | Tonnes | Grade | Contained Gold | |
|---|---|---|---|---|---|
| | | Mt | g/t | kg | oz |
| Fairview | Measured | 1.84 | 8.19 | 15,086 | 485,024 |
| | Indicated | 0.97 | 21.16 | 20,573 | 661,431 |
| | *Total Measured + Indicated* | *2.81* | *12.67** | *35,659* | *1,146,455* |
| | Inferred | 0.99 | 21.51 | 21,251 | 683,248 |
| Sheba | Measured | 1.01 | 8.03 | 8,081 | 259,817 |
| | Indicated | 1.56 | 4.87 | 7,603 | 244,442 |
| | *Total Measured + Indicated* | *2.57* | *6.11** | *15,684* | *504,259* |
| | Inferred | 1.9 | 4.69 | 8,904 | 286,268 |
| New Consort | Measured | 0.33 | 9.35 | 3,102 | 99,722 |
| | Indicated | 0.18 | 11.38 | 2,010 | 64,628 |
| | *Total Measured + Indicated* | *0.51* | *10.07** | *5,112* | *164,350* |
| | Inferred | 0.13 | 18.97 | 2,480 | 79,734 |
| **Total Measured + Indicated** | | **5.89** | **9.58*** | **56,455** | **1,815,064** |
| **Total Inferred** | | **3.02** | **10.81*** | **32,635** | **1,049,250** |

***Source:*** Pan African Resources (2014)

***Notes:***

1. Columns may not add up due to rounding.
2. Prepared in compliance with the SAMREC Code.
3. *Weighted average calculation by Minxcon.

The Mineral Reserves for these mines are given in Table 71. The BTRP contains Probable Mineral Reserves of 14.43 Mt at a grade of 1.43 g/t Au. Total Mineral Reserves for the Pan African Resources portfolio in Barberton is 18.5 Mt at 3.08 g/t, or 1.8 Moz gold.

*Table 71: Mineral Reserves for BML Mines (30 June 2014)*

| Mine | Mineral Reserve Category | Tonnes | Grade | Contained Gold | |
|---|---|---|---|---|---|
| | | Mt | g/t | kg | oz |
| Fairview | Proved | 0.81 | 8.68 | 7,031 | 226,062 |
| | Probable | 0.92 | 19.01 | 17,396 | 559,294 |
| | *TOTAL* | *1.73* | *14.06* | *24,427* | *785,356* |
| Sheba | Proved | 0.51 | 7.77 | 3,995 | 128,454 |
| | Probable | 1.41 | 4.15 | 5,846 | 187,960 |
| | *TOTAL* | *1.92* | *5.12* | *9,842* | *316,414* |
| New Consort | Proved | 0.1 | 7.48 | 748 | 24,056 |
| | Probable | 0.11 | 8.08 | 924 | 29,699 |
| | *TOTAL* | *0.21* | *7.8* | *1,672* | *53,755* |
| **TOTAL** | | **3.86** | **9.27*** | **35,941** | **1,155,525** |

***Source:*** Pan African Resources (2014)

***Notes:***

1. Columns may not add up due to rounding.
2. Prepared in compliance with the SAMREC Code.
3. Gold price used: ZAR400,000/kg.
4. Stoping width: 100 cm.
5. Dilution factor: Fairview 4%, Sheba 6%, New Consort 24%.
6. MCF: Fairview 99%, Sheba 100%, New Consort 95%.
7. Cut-off value (cm.g/t): Fairview 383, Sheba 378, New Consort 482.
8. *Weighted average calculation by Minxcon.

# ITEM 24 – OTHER RELEVANT DATA AND INFORMATION

There are no further relevant data and information that Minxcon is aware of that pertains to the Galaxy Gold Mine.

# ITEM 25 – INTERPRETATION AND CONCLUSIONS

Minxcon reviewed all the information and the Qualified Person of this Report has made the following observations and conclusions regarding the Galaxy Gold Mine:-

***Mineral Resources:-***

- The Galaxy Gold Mine Mineral Resources were last estimated in 2011, with little subsequent mining.
- Minxcon reviewed, depleted and updated the Mineral Resources as at 31 August 2015.
- The operations are on care and maintenance, with no resident geological team in place.
- Digital data is not formally archived by Galaxy, however all Mineral Resource estimation data is stored on the Minxcon server and is readily available. Data security thus presents minimal risk.

***Mining:-***

- A portion (25%) of the LoM plan was completed from manual plans. Manual plans are scheduled and depleted from the block values indicated on the plans.
- The remaining portion (75%) of the LoM plan was completed in CAD software. The software produces the values generated from the resource block models.
- Minxcon has completed the LoM plan and schedule under the guidance of the Galaxy management team, who have also signed off the LoM plan.
- The LoM plan for Princeton was change from a cut and fill to a longhole stoping method. This was done to reduce waste development which had an impact on the cost effectiveness of mining.
- The Woodbine-Giles sub-shaft needs refurbishment before it can be fully operational. It was assumed that the shaft is open and had access to 30 Level. The shaft is very important to the LoM plan as is services the Woodbine, Giles and Galaxy ore bodies.
- The mine plan is based on a contractor mining model but the terms of the contract have not yet been determined.
- Limited skilled labour is currently employed at the Mine because the operation is on care and maintenance; skilled labour will need to be sourced well in advance of operation start-up.

***Processing:-***

- Galaxy will not produce dorè but plans to sell a concentrate.
- As a result of the high sulphur content in the concentrate, BIOX® technology is not appropriate at this point.
- Capital of ZAR6.4 million will be required to refurbish and re-commission the Galaxy flotation plant.
- Approximately 4 months will be required for the plant refurbishment and commissioning.
- With a stable plant feed rate of 15 ktpm, it is estimated that the plant can achieve a flotation recovery of 90%.
- No-off-take agreement is currently in place. A payability of 70% contained gold was assumed.

***Reserve Market Evaluation:-***

- There was a significant decrease in the gold price in the past 3 to 4 years which placed immense pressure on gold mine margins.
- Galaxy has a IRR of 226% which is very high compared to new developed mines and the number should be treated with care, as it is skewed by the fact that it is an existing mine.
- The peak funding requirement is ZAR36 million which is reached in the first year of the Project. The Mine and plant are also on care and maintenance and therefore the capital requirement is not high. This together with the low development capital is the reason for the skewed IRR.
- The all-in sustainable cost (which includes capital cost) of Galaxy was calculated as USD688/oz and is well below the current gold price. One of the reasons for the low operating cost is the fact that the mine has already been established and the development needed to access the orebody is limited.

- However, the project has an all-in cost margin of only 13% which is low compared to other operating mines.
- The Project is marginal with small annual cash flows of approximately ZAR20 million from year 2 onwards. The reason for this is the current expected turnover of only USD792/oz due to a payablility of only 70% of the price on the metal content in the concentrate sold.

### RISK ANALYSIS

A risk assessment to consider and quantify risks within the Galaxy Gold Mine was conducted based on a simplified approach. The result is not designed to be a definitive assessment of the risks, but is rather a tool to articulate and evaluate those risks as identified by persons present at the risk assessment session.

#### Risk Assessment Methodology

All items were reviewed and assessed using the risk severity criteria shown below:-

- Green – Low risk (score 1-5);
- Yellow – Medium risk (score 6-12);
- Orange - Significant risk (score 13-20); and
- Red – High risk (score greater than 21).

Once a high risk is identified, the project team is required to take remedial action to either resolve or mitigate the risk. The identification and recording of corrective and remedial measures was beyond the scope of this particular risk assessment exercise. The risk matrix table is detailed in Table 72.

The outcome of the risk assessment is provided in Table 73.

*Table 72: Risk Matrix*

| | Consequence | | | | |
|---|---|---|---|---|---|
| | 1 - Insignificant | 2 - Minor | 3 – Moderate | 4 - Major | 5 - Catastrophic |
| **Schedule** | Less than 1% impact on overall project timeline | May result in overall project timeline overrun equal to or more than 1% and less than 5% | May result in overall project timeline overrun of equal to or more than 5% and less than 20% | May result in overall project timeline overrun of equal to or more than 20% and less than 50% | May result in overall project timeline overrun of 50% or more |
| **Cost** | Less than 1% impact on the budget of the project | May result in overall project budget overrun equal to or more than 1% and less than 5% | May result in overall project budget overrun of equal to or more than 5% and less than 20% | May result in overall project budget overrun of equal to or more than 20% and less than 50% | May result in overall project budget overrun of 50% or more |
| **Investment Return – NPV loss** | Less than R5m | R5m to less than R50m | R50M to less than R500m | R500m to R5b | R5b or more |
| **Quality and Technical Integrity** | No significant impact on quality of deliverables or effect on production | Quality issues that can be addressed prior to handover or could affect production by more than 1% and less than 5% | Quality issues that can be addressed during ramp-up or could affect production by more than 5% and less than 10% | Quality issues that require significant intervention to maintain performance or could affect production by more than 10% and less than 20% | Quality issues that require significant intervention to achieve performance or could affect production by 20% or more |
| **Safety/Health** | First aid case / Exposure to minor health risk | Medical treatment case / Exposure to major health risk | Lost time injury / Reversible impact on health | Single fatality or loss of quality of life / Irreversible impact on health | Multiple fatalities / Impact on health ultimately fatal |
| **Environment** | Minimal environmental harm - L1 incident | Material environmental harm - L2 incident remediable short term | Serious environmental harm - L2 incident remediable within LOM | Major environmental harm - L2 incident remediable post LOM | Extreme environmental harm - L3 incident irreversible |
| **Legal & Regulatory** | Low level legal issue | Minor legal issue; non compliance and breaches of the law | Serious breach of law; investigation/report to authority, prosecution and or moderate penalty possible | Major breach of the law; considerable prosecution and penalties | Very considerable penalties and prosecutions. Multiple law suits and jail terms |
| **Reputation/Social/Community** | Slight impact - public awareness may exist but no public concern | Limited impact - local public concern | Considerable impact - regional public concern | National impact - national public concern | International impact - international public attention |

| **Likelihood** | | | | Risk Level | | | | |
|---|---|---|---|---|---|---|---|---|
| | **90%** | Near Certainty: 90% chance | Cannot avoid this risk with standard practices, probably not able to mitigate. | Medium - 11 | Significant - 16 | Significant - 20 | High - 23 | High - 25 |
| | **75%** | Highly Likely: 75% chance | Cannot avoid this risk with standard practices, but a different approach may work. | Medium - 7 | Medium - 12 | Significant - 17 | High - 21 | High - 24 |
| | **50%** | Possible: 50% chance | May avoid risk, but rework will be required. | Low - 4 | Medium - 8 | Significant - 13 | Significant - 18 | High - 22 |
| | **25%** | Unlikely: 25% chance | Have usually avoided this type of risk with minimal oversight in similar cases. | Low - 2 | Low - 5 | Medium - 9 | Significant - 14 | Significant - 19 |
| | **15%** | Rare: 15% chance | Will effectively avoid this risk based on standard practices. | Low 1 | Low - 3 | Medium - 6 | Medium - 10 | Significant - 15 |

| Risk Level | **Guidelines for Risk Matrix** |
|---|---|
| High | A high risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised immediately. |
| Significant | A significant risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised as soon as possible. |
| Medium | A moderate risk exists that management's objectives may not be achieved. Appropriate mitigation strategy to be devised as part of the normal management process. |
| Low | A low risk exists that management's objectives may not be achieved. Monitor risk, no further mitigation required. |

*Table 73: Galaxy Gold Mine Risk Assessment*

| Risk Category | Risk Description | Cause | Risk (%) Likelihood | Impact 1 to 5 | Risk | Mitigation/Control |
|---|---|---|---|---|---|---|
| Environmental | No approved EMP for the Mine. | The historically approved EMP is outdated. An updated EMP has been submitted but not yet approved, without which mining activities cannot be conducted. | 50% | 5 | 22 | Submit all required EMP documents to the DMR and address all directives timeously. Appoint service provider to manage and complete process. |
| Environmental | WUL for all activities required. | Updated WULs as required for all water uses at the Mine are required to conduct operations lawfully. | 50% | 5 | 22 | Submit all required WUL application documents to the DWA and address all directives timeously. Appoint service provider to manage and complete process. |
| Mining | Potential delays in the production build-up and unknown hidden cost. | The mine is currently not operational and was placed on care and maintenance. Access to infrastructure to investigate serviceability was limited. | 50% | 3 | 13 | A project execution plan should be put in place for the build-up period. |
| Mining | The mining costs used in the financial model might be inaccurate because no firm contractor quoted is available. | No mining contractor has currently been appointed and no firm quote has been received. | 25% | 3 | 9 | Align contractors quote with the current objectives. |
| Processing | Penalties due to deleterious elements in float concentrate. | Presence of deleterious elements such as sulphur may result in concentrate price penalties. | 25% | 3 | 9 | Source alternate buyers, modify mine plan or dilute feed with low-sulphur material to target a specific float sulphur grade. |
| Processing | No float concentrate off-take contract in place. | The assumed 70% payability may not be realised. | 25% | 3 | 9 | Get an off-take agreement in place as soon as possible. |
| Mining | Low confidence in MCF used. | MCF was based on only a few months of operational data. | 15% | 3 | 6 | Improve measurement and management of planned versus actual mining. |
| Mining | Illegal miners present onsite pose a safety risk and may interfere with operations. | Known gold operation which does entice unemployed persons to conduct illegal mining. | 50% | 1 | 4 | Increase security measures. |
| Mining | Some planned mining areas might not be accessible anymore because access was not confirmed. | The operation is currently on care and maintenance and the access of the mining areas have not been inspected recently to confirm conditions. | 15% | 2 | 3 | Confirm safe working environment as soon as all areas can be accessed from current infrastructure. |

# ITEM 26 – RECOMMENDATIONS

Minxcon recommends the following for the Galaxy Gold Mine:-

***Legals:-***

- Galaxy should prioritise obtaining all environmental authorisations and get approval for an EMP and Water Use Licence as soon as possible.

***Mineral Resources:-***

- Implement a common datum for all resource models for ease of planning and data management.
- Adjust block sizes post estimation in order to improve accuracy of resource model depletions.

***Mining:-***

- Mining contract agreement should be put in place.
- The mine design is currently at a PFS level of accuracy and should be improved to an operational level of accuracy prior to implementation.
- The technical aspects of the LoM plan should be improved which include ventilation, rock engineering, equipment and safety.
- Given the current status of being on care and maintenance, a detailed re-opening plan would assist in bringing the mine back into operation successfully.

***Processing:-***

- Ensure that critical spares and equipment items are identified and ordered before plant start-up.
- The tailings dam capacity should be confirmed by tailings experts.
- A flotation concentrate off-take agreement should be secured as soon as possible.

***Market Evaluation:-***

- An expected 30% discount on the price due to selling concentrate has a significant impact on the margin. Galaxy should investigate alternative processing options to be able to upgrade the final product to a dorè instead of receiving a 70% payability on the concentrate.

# ITEM 27 – REFERENCES


- Anhaeusser, C.R. (2012). The History of Mining in the Barberton Greenstone Belt, South Africa, with an Emphasis on Gold (1868 – 2012). International Mining History Congress 2012 paper, South Africa.
- Camden-Smith, P.M. (2010). Camden Geoserve cc CPR: Competent Persons Report for Agnes Gold Mining (Pty) Ltd Barberton, South Africa, 25 May 2010.
- Cluff Mining (2001). Agnes Feasibility Study. Unpublished Report, October 2001.
- Energy & Metals Consensus Forecasts. August 2015. Philip M. Hubbard. 53 Upper Brook Street, London, United Kingdom.
- Gold Fields - Quarterly Financial Reports. Thompson Reuters. 2015. Gold Fields - Quarterly Financial Reports. Available online at: http://www.goldfields.co.za/inv_rep_quarterly.php. Accessed 1 September 2015.
- Investec Bank. Economic Research. Annabell Bishop. Available online at: http://www.investec.co.za/research-and-insights/economy/economic-research.html. Accessed 1 April 2015.
- John Whitefoot. Profit Confidential. Gold Price Forecast for 2015: Positive Gold Outlook Ahead. Available online at: http://www.profitconfidential.com/gold/gold-price-forecast-for-2015/. Accessed 16 September 2015.
- Koch, D. (2013). Galaxy Gold Reefs (Pty) Ltd – Environmental Impact Assessment (EIA) and Environmental Management Programme (EMP) for the Galaxy Gold Mine, December 2013.
- Meadon, S. (2010). Additional Mineral Resource Review, Agnes Gold Mine, Barberton, Mpumalanga, South Africa, prepared for Agnes Gold Mine Pty Limited. SRK Project Number 411925. SRK Consulting. Draft unpublished report, May 2010.
- Mugovhani, L.P. (2014). Galaxy Gold Reef (Pty) Ltd Environmental Liability Cost Estimate. Joan Construction and Projects (Pty) Ltd, 13 October 2014.
- Natural Resource Holdings. Global Gold Mine and Deposit Rankings 2013. Available online at: http://www.visualcapitalist.com/global-gold-mine-and-deposit-rankings-2013. Accessed 12 February 2014.
- Pan African Resources PLC (2014). Mineral Resource and Mineral Reserve 2014. 62 pp.
- SLP (2010). Social and Labour Plan for Agnes Gold Mining (Pty) Ltd: Agnes Gold Mine. Resubmission: October 2010, Old Order Mining Right Reference Number: ML16/2000.
- Solomi, E., Pettit, D., Hennessy, M. and Beringer, G. (2015). Environmental Legal Due Diligence Report for Mupane Gold Mining. Prepared by Digby Wells Environmental, Project Number MUP3369, Prepared for Mupane Gold Mining, August 2015. 58pp.
- South African Reserve Bank. Full Quarterly Bulletin - No 271 - March 2014. Publish Date: 2014-03-12.
- Stevens, C. (2010). Due Diligence Report in Respect of the Mining and Prospecting Projects of Agnes Gold Mining (Proprietary) Limited. Tabacks and Associates (Pty) Ltd, 15 July 2010.
- U.S. Geological Survey. Mineral Commodity Summaries 2015. Manuscript approved for publication February 28, 2015. U.S. Geological Survey, Reston, Virginia: 2015.
- Walmsley (2001). Environmental Management Programme Report for Agnes Gold Mine, Final Report for Cluff Mining SA. Project No: W431, May 2001.
- World Gold Council. Gold Demand Trends, 2nd Quarter 2015. Thomson Reuters Gold Fields Mineral Services. 10 Old Bailey, London, United Kingdom. Published: August 2015.
- www.vantagegoldfields.com (2015). Resources and Reserves. Available online at: http://www.vantagegoldfields.com/index.php?option=com_content&view=article&id=84&Itemid=35. Accessed 22 July 2015.
- 24hgold.com. Available online at: http://www.24hgold.com/english/project.aspx?id=241597204F8350. Accessed on 20 July 2015.

# GLOSSARY OF TERMS

*Table 74: Glossary of Terms*

| Term | Definition |
|---|---|
| **Alluvial** | The product of sedimentary processes in rivers, resulting in the deposition of alluvium (soil deposited by a river). |
| **Arenite** | A sedimentary rock composed mainly of quartz minerals. |
| **Argillite** | A sedimentary rock composed mainly of clay minerals. |
| **Assay laboratory** | A facility in which the proportions of metal in ores or concentrates are determined using analytical techniques. |
| **Auriferous** | A synonym for gold-bearing. |
| **Beneficial Interest** | The ultimate interest accruing or due to a party in a project. Depending on the circumstances, the beneficial interest may differ from participation, contributory or share subscription interests. |
| **Capital Asset Pricing Model (CAPM)** | A model that describes the relationship between risk and expected return. |
| **Carbon-In-Leach (CIL)** | A process similar to CIP (described below) except that the ore slurries are not leached with cyanide prior to carbon loading. Instead, the leaching and carbon loading occur simultaneously. |
| **Carbon-In-Pulp (CIP)** | A common process used to extract gold from cyanide leach slurries. The process consists of carbon granules suspended in the slurry and flowing counter-current to the process slurry in multiple-staged agitated tanks. The process slurry, which has been leached with cyanide prior to the CIP process, contains solubilised gold. The solubilised gold is absorbed onto the carbon granules, which are subsequently separated from the slurry by screening. The gold is then recovered from the carbon by electrowinning onto steel wool cathodes or by a similar process. |
| **Comminution** | Action of reducing material, normally ore, to minute particles or fragments. |
| **Conglomerate** | A sedimentary rock containing rounded fragments (clasts) derived from the erosion and abrasion of older rocks. Conglomerates are usually formed through the action of water in rivers and beaches. The interstitial spaces between the clasts are filled with finer grained sediment. |
| **Cut-off grade** | Cut-off grade is any grade that, for any specific reason, is used to separate two courses of action, e.g. to mine or to leave, to mill or to dump. |
| **Development** | Activities related to preparation for mining activities to take place and reach the required level of production. |
| **Diamond drilling** | An exploration drilling method, where the rock is cut with a diamond drilling bit, usually to extract core samples. |
| **Dilution** | Waste which is mixed with ore in the mining process. |
| **Dip** | The angle that a structural surface, i.e. a bedding or fault plane, makes with the horizontal. It is measured perpendicular to the strike of the structure. |
| **Discount rate** | The interest rate used in discounted cash flow analysis to determine the present value of future cash flows. The discount rate takes into account the time value of money (the idea that money available now is worth more than the same amount of money available in the future because it could be earning interest) and the risk or uncertainty of the anticipated future cash flows (which might be less than expected). |
| **Discounted Cash Flow (DCF)** | In finance, discounted cash flow analysis is a method of valuing a project, company, or asset using the concepts of the time value of money. All future cash flows are estimated and discounted to give their present values (PVs) – the sum of all future cash flows, both incoming and outgoing, is the net present value (NPV), which is taken as the value or price of the cash flows in question. |
| **EMPR** | Environmental Management Programme Report. |
| **Exploration** | Prospecting, sampling, mapping, diamond drilling and other work involved in the search for mineralisation. |
| **Facies** | The features that characterise rock as being emplaced, metamorphosed or deposited in a sedimentary fashion, under specific condition. In the case of sediment host deposits, this infers deposition within a particular depositional environment. |
| **Faulting** | The process of fracturing that produces a displacement within, of across lithologies. |
| **Feasibility study** | A definitive engineering estimate of all costs, revenues, equipment requirements and production levels likely to be achieved if a mine is developed. The study is used to define the economic viability of a project and to support the search for project financing. |
| **Footwall** | The underlying side of a fault, Mineral Deposit or stope. |

| Term | Definition |
|---|---|
| **Grade** | The quantity of metal per unit mass of ore expressed as a percentage or, for gold, as grams per tonne of ore. |
| **Hanging wall** | The overlying side of a fault, Mineral Deposit or stope. |
| **Heap leaching** | A low-cost technique for extracting metals from ore by percolating leaching solutions through heaps of ore placed on impervious pads. Generally used on low-grade ores. |
| ***In situ*** | In place, i.e. within unbroken rock. |
| **Indicated Mineral Resource** | An “Indicated Mineral Resource” is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed (NI 43-101 definition). |
| **Inferred Mineral Resource** | An “Inferred Mineral Resource“ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. |
| **Internal Rate of Return (IRR)** | The internal rate of return on an investment or project is the "annualised effective compounded return rate" or "rate of return" that makes the net present value of all cash flows (both positive and negative) from a particular investment equal to zero. It can also be defined as the discount rate at which the present value of all future cash flow is equal to the initial investment or in other words the rate at which an investment breaks even. |
| **Intrinsic Value** | The amount considered, on the basis of an evaluation of available facts, to be the “true”, “real” or “underlying” worth of an item. Thus it is a long-term, Non-Market Value concept that smooths short term price fluctuations. In the case of real estate, this would be the value of the property taking into account the structure, size, location etc., as opposed to taking into account the current state of the market. In mining, the intrinsic value refers to the fundamental value based on the technical inputs, and a cash flow projection that creates a Net Present Value. Few of these inputs are market related, except possibly for metal price, benchmarked costs and the discount rate applied. |
| **Kriging** | An estimation method that minimises the estimation error between data points in determining mineral resources. Kriging is the best linear unbiased estimator of a mineral resource. |
| **Level** | The workings or tunnels of an underground mine which are on the same horizontal plane. |
| **Lithology** | The general compositional characteristics of rocks. |
| **Market Value** | The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion [IVSC, IFRS]. |
| **Measured mineral resource** | “Measured Mineral Resource“ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity. |
| **Metallurgical plant** | Process plant erected to treat ore and extract the contained gold. |
| **Metallurgical recovery** | Proportion of metal in mill feed which is recovered by a metallurgical process or processes. |
| **Metallurgy** | The science of extracting metals from ores and preparing them for sale. |
| **Milling/Crush** | The comminution of the ore, although the term has come to cover the broad range of machinery inside the treatment plant where the gold is separated from the ore prior to leaching or flotation processes. |
| **Mine call factor (MCF)** | The ratio of the grade of material recovered at the mill (plus residue) to the grade of ore calculated by sampling in stopes. |
| **Mineable** | That portion of a mineral resource for which extraction is technically and economically feasible. |
| **Mineral Reserve** | A Mineral Reserve is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. Adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for |

| Term | Definition |
|---|---|
| | losses that may occur when the material is mined. (NI43-101 definition). Mineral reserves are reported as general indicators of the life of mineral deposits. Changes in reserves generally reflect:<br>i. development of additional reserves;<br>ii. depletion of existing reserves through production;<br>iii. actual mining experience; and<br>iv. price forecasts.<br><br>Grades of mineral reserve actually processed from time to time may be different from stated reserve grades because of geologic variation in different areas mined, mining dilution, losses in processing and other factors. Neither reserves nor projections of future operations should be interpreted as assurances of the economic life of mineral deposits or of the profitability of future operations. |
| **Mineral Resource** | A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilised organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. |
| **Mineralisation** | The presence of a target mineral in a mass of host rock. |
| **Mineralised area** | Any mass of host rock in which minerals of potential commercial value occur. |
| **Net Present Value (NPV)** | The difference between the present value of cash inflows and the present value of cash outflows. NPV is used in capital budgeting to analyse the profitability of an investment or project. |
| **Notional Cost** | All in cost which includes total cash costs (net of by-product credits), capital spending, general and administrative expenses, and exploration expenses. |
| **Ore** | A mixture of valuable and worthless minerals from which at least one of the minerals can be mined and processed at an economic profit. |
| **Mineral Deposit** | A continuous well defined mass of material of sufficient ore content to make extraction economically feasible. |
| **Outcrop** | The exposure of rock on surface. |
| **Participation interest** | The interest that a party holds in any benefits arising from the development or sale of a project. In order to earn this interest the party may, or may not, be required to contribute towards the exploration and development costs. The definition of this term may differ between agreements. |
| **Pay limit** | The breakeven grade at which the Mineral Deposit can be mined without profit or loss and is calculated using the gold price, the working cost and recovery factors. |
| **Plant recovery factor** | The gold recovered after treatment processes in a metallurgical plant. It is expressed as a percentage of gold produced (in mass) over the mass of gold fed into the front of the plant (i.e. into the milling circuit). |
| **Probable Mineral Reserve** | "Probable Mineral Reserve" is the economically mineable part of an Indicated and, in some circumstances, a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. (NI43-101 definition). |
| **Proven Mineral Reserve** | A "Proven Mineral Reserve" is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified. (NI43-101 definition). |
| **Recovered grade** | The actual grade of ore realised or produced after the mining and treatment processes. |
| **Reef** | A narrow gold-bearing lithology, normally a conglomerate in the Witwatersrand Basin that may contain economic concentrates of gold and uranium. |
| **Refining** | The final stage of metal production in which final impurities are removed from the molten metal by introducing air and fluxes. The impurities are removed as gases or slag. |
| **Reserve LoM Plan** | The Life of Mine that are based only on Measured and Indicated Mineral Resources and only for the area "Above 750 m Level". The Reserve LoM plan will be used to state Mineral Reserves. |
| **Rehabilitation** | The process of restoring mined land to a condition approximating to a greater or lesser degree its original state. Reclamation standards are determined by the South African Department of Mineral and Energy Affairs and address ground and surface water, topsoil, final slope gradients, waste handling and re-vegetation issues. |
| **Sampling** | Taking small pieces of rock at intervals along exposed mineralisation for assay (to determine the mineral content). |

| Term | Definition |
|---|---|
| **Sedimentary** | Formed by the deposition of solid fragmental material that originates from weathering of rocks and is transported from a source to a site of deposition. |
| **Semi-variogram** | A graph that describes the expected difference in value between pairs of samples as a function of sample spacing. |
| **Slimes** | The finer fraction of tailings discharged from a processing plant after the valuable minerals have been recovered. |
| **Slurry** | A fluid comprising fine solids suspended in a solution (generally water containing additives). |
| **Smelting** | Thermal processing whereby molten metal is liberated from beneficiated ore or concentrate with impurities separating as lighter slag. |
| **Spot price** | The current price of a metal for immediate delivery. |
| **Stockpile** | A store of unprocessed ore or marginal grade material. |
| **Stope** | Excavation within the Mineral Deposit where the main production takes place. |
| **Stratigraphic** | A term describing the chronological sequence in which bedded rocks occur that can usually be correlated between different localities. |
| **Strike length** | Horizontal distance along the direction that a structural surface takes as it intersects the horizontal. |
| **Stripping** | The process of removing overburden to expose ore. |
| **Sulphide** | A mineral characterised by the linkages of sulphur with a metal or semi-metal, such as pyrite (iron sulphide). Also a zone in which sulphide minerals occur. |
| **Syncline** | A basin shaped fold. |
| **Syndepositional** | A process that took place at the same time as sedimentary deposition. |
| **Tailings** | Finely ground rock from which valuable minerals have been extracted by milling. |
| **Tailings dam** | Dams or dumps created to store waste material (tailings) from processed ore after the economically recoverable gold has been extracted. |
| **Tonnage** | Quantities where the tonne is an appropriate unit of measure. Typically used to measure reserves of gold-bearing material *in situ* or quantities of ore and waste material mined, transported or milled. |
| **Total cost per ounce** | A measure of the average cost of producing an ounce of gold, calculated by dividing the total operating costs in a period by the total gold production over the same period. |
| **Transgress** | Systematic inundation of an erosional surface by sedimentary deposition. |
| **Unconformity** | A surface within a package of sedimentary rocks which may be parallel to or at an angle with overlying or underlying rocks, and which represents a period of erosion or non-deposition, or both. |
| **Waste rock** | Rock with an insufficient gold content to justify processing. |
| **Weighted average Cost of Capital** | A company's assets are financed by either debt or equity. WACC is the average of the costs of these sources of financing, each of which is weighted by its respective use in the given situation. |
| **Working costs** | Working costs represent production costs directly associated with the processing of gold and selling, administration and general charges related to the operation. |

# APPENDIX

*Appendix 1: Qualified Persons' Certificates*

## CERTIFICATE of QUALIFIED PERSON – D v Heerden

I, Daniel (Daan) van Heerden, do hereby certify that:-

1. I am a Director of **Minxcon (Pty) Ltd**
   Suite 5, Coldstream Office Park,
   2 Coldstream Street,
   Little Falls, Roodepoort, South Africa
2. I graduated with a B Eng (Mining) degree from the University of Pretoria in 1985 and an MCom (Business Administration) degree from the Rand Afrikaans University in 1993. In addition, I obtained diplomas in Data Metrics from the University of South Africa and Advanced Development Programme from London Business School in 1989 and 1995, respectively. In 1989 I was awarded with a Mine Managers Certificate from the Department of Mineral and Energy Affairs.
3. I have worked as a Mining Engineer for more than 30 years with my specialisation lying within Mineral Reserve and mine management. I have completed a number of Mineral Reserve estimations and mine plans pertaining to various commodities, including gold, using approaches described by the Canadian Code for reporting of Resources and Reserves – National Instrument 43-101 (Standards of Disclosure for Mineral Projects), Form 43-101F1 and the Companion Policy Document 43-101CP ("NI43-101").
4. I am affiliated with the following professional associations, which meet all the attributes of a Professional Association or a Self-Regulatory Professional Association, as applicable (as those terms are defined in NI43-101):-

| Class | Professional Society | Year of Registration |
|---|---|---|
| Member | Association of Mine Managers of SA | 1989 |
| Fellow | South African Institute of Mining and Metallurgy (FSAIMM Reg. No. 37309) | 1985 |
| Professional Engineer | Engineering Council of South Africa (Pr.Eng. Reg. No. 20050318) | 2005 |

5. I am responsible for all Items of the technical report titled "A Technical Report on the Galaxy Gold Mine, Mpumalanga Province, South Africa" prepared for Galaxy Gold Mining Limited with an effective date of 1 September 2015 ("the Report").
6. I have read the definition of "Qualified Person" set out in NI43-101 and certify that by reason of my education, affiliation with professional associations and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of the Report.
7. I have read NI43-101 and the Report has been prepared in compliance with it.
8. As of the effective date, to the best of my knowledge, information and belief, the Report contains all scientific and technical information required to be disclosed to make the Report not misleading.
9. The facts presented in the Report are, to the best of my knowledge, correct.
10. The analyses and conclusions presented in the Report are limited only by the reported forecasts and conditions.
11. I have neither prior involvement, nor present or prospective interest in the subject property or asset. I have no bias with respect to the assets that are the subject of the Report, or to the parties involved with the assignment.
12. My compensation, employment or contractual relationship with the Commissioning Entity is not contingent on any aspect of the Report.
13. I undertook a personal inspection of the subject property on 19 June 2015 and visited the surface mine site and infrastructure, treatment plant and waste dumps.

Yours faithfully,

**D v HEERDEN**
B Eng (Min.), MCom (Bus. Admin.)
Pr.Eng., FSAIMM, AMMSA
**DIRECTOR, MINXCON**
**Date of Sign-off: 4 January 2016**

## CERTIFICATE of QUALIFIED PERSON – U Engelmann

I, Uwe Engelmann, do hereby certify that:-

1. I am a Director of **Minxcon (Pty) Ltd**
   Suite 5, Coldstream Office Park,
   2 Coldstream Street,
   Little Falls, Roodepoort, South Africa
2. I graduated with a BSc Honours (Geology) degree from the University of the Witwatersrand in 1991.
3. I have more than 18 years' experience in the mining and exploration industry. This includes eight years as an Ore Resource Manager at the Randfontein Estates Projects on the West Rand. I have completed a number of assessments and technical reports pertaining to various commodities, including gold, using approaches described by the Canadian Code for reporting of Resources and Reserves – National Instrument 43-101 (Standards of Disclosure for Mineral Projects), Form 43-101F1 and the Companion Policy Document 43-101CP ("NI43-101").
4. I am affiliated with the following professional associations which meet all the attributes of a Professional Association or a Self-Regulatory Professional Association, as applicable (as those terms are defined in NI43-101):-

| Class | Professional Society | Year of Registration |
|---|---|---|
| Member | Geological Society of South Africa (MGSSA No. 966310) | 2010 |
| Professional Natural Scientist | South African Council for Natural Scientific Professions (Pr.Sci.Nat. Reg. No. 400058/08) | 2008 |

5. I am responsible for Items 1-6, 7-14 and 23-27 of the technical report titled "A Technical Report on the Galaxy Gold Mine, Mpumalanga Province, South Africa" prepared for Galaxy Gold Mining Limited with an effective date of 1 September 2015 ("the Report").
6. I have read the definition of "Qualified Person" set out in NI43-101 and certify that by reason of my education, affiliation with professional associations and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of the Report.
7. I have read NI43-101 and the Report has been prepared in compliance with it.
8. As of the effective date, to the best of my knowledge, information and belief, the Report contains all scientific and technical information required to be disclosed to make the Report not misleading.
9. The facts presented in the Report are, to the best of my knowledge, correct.
10. The analyses and conclusions presented in the Report are limited only by the reported forecasts and conditions.
11. I have neither prior involvement, nor present or prospective interest in the subject property or asset and have no bias with respect to the assets that are the subject of the Report, or to the parties involved with the assignment.
12. I am independent of the issuer. My compensation, employment or contractual relationship with the Commissioning Entity is not contingent on any aspect of the Report.
13. I did not undertake a personal inspection of the subject property.

Yours faithfully,

UEngelmann

**U ENGELMANN**
BSc (Zoo. & Bot.), BSc Hons (Geol.)
Pr.Sci.Nat., MGSSA
**DIRECTOR, MINXCON**
**Date of Sign-off: 4 January 2016**

## CERTIFICATE of QUALIFIED PERSON - D Clemente

I, Dario Clemente, do hereby certify that:-

1. I am a Director of **Minxcon Projects SA (Pty) Ltd**
   Suite 5, Coldstream Office Park,
   2 Coldstream Street,
   Little Falls, Roodepoort, South Africa
2. I graduated with an NHD (Ext. Met.) from the University of the Witwatersrand in 1976. In addition, I have completed the Business Leadership Development Programme at Wits Business School.
3. I have more than 40 years' experience in the mining and metallurgical industry. This includes 15 years as a metallurgical manager and consultant as well as four years in mine management. I have completed various technical reports on metallurgical operations and have been co-author of a technical paper presented overseas. I have completed a number of assessments and technical reports pertaining to various commodities, including gold, using approaches described by the Canadian Code for reporting of Resources and Reserves – National Instrument 43-101 (Standards of Disclosure for Mineral Projects), Form 43-101F1 and the Companion Policy Document 43-101CP ("NI 43-101").
4. I am affiliated with the following professional associations, which meet all the attributes of a Professional Association or a Self-Regulatory Professional Association, as applicable (as those terms are defined in NI43-101):-

| Class | Professional Society | Year of Registration |
|---|---|---|
| Fellow | South African Institute of Mining and Metallurgy (FSAIMM Reg. No. 701139) | 1995 |
| Member | Mine Metallurgical Managers Association of South Africa (MMMA Reg. No. M000948) | 1988 |

5. I am responsible for Items 1-6, 13, 17, 21, 25-27 of the technical report titled "A Technical Report on the Galaxy Gold Mine, Mpumalanga Province, South Africa" prepared for Galaxy Gold Mining Limited with an effective date of 1 September 2015 ("the Report").
6. I have read the definition of "Qualified Person" set out in NI 43-101 and certify that by reason of my education, affiliation with professional associations and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of the Report.
7. I have read the NI 43-101 and the Report has been prepared in compliance with it.
8. As of the effective date, to the best of my knowledge, information and belief, the Report contains all scientific and technical information required to be disclosed to make the Report not misleading.
9. The facts presented in the Report are, to the best of my knowledge, correct.
10. The analyses and conclusions presented in the Report are limited only by the reported forecasts and conditions.
11. I have neither prior involvement, nor present or prospective interest in the subject property or asset and have no bias with respect to the assets that are the subject of the Report, or to the parties involved with the assignment.
12. I am independent of the issuer. My compensation, employment or contractual relationship with the Commissioning Entity is not contingent on any aspect of the Report.
13. I undertook a personal inspection of the subject property on 19 June 2015 and visited the surface mine site and infrastructure, treatment plant and waste dumps.

Yours faithfully,

**D CLEMENTE**
NHD (Ext. Met.), GCC, BLDP (WBS)
MMMA, FSAIMM
**DIRECTOR, MINXCON PROJECTS SA**
**Date of Sign-off: 4 January 2016**

## CERTIFICATE of QUALIFIED PERSON - NJ Odendaal

I, Johan Odendaal, do hereby certify that:-

1. I am a Director of **Minxcon (Pty) Ltd**
   Suite 5, Coldstream Office Park,
   2 Coldstream Street,
   Little Falls, Roodepoort, South Africa
2. I graduated with a BSc (Geology) degree from the Rand Afrikaans University in 1985. In addition, I obtained a BSc Honours (Mineral Economics) from the Rand Afrikaans University in 1986 and an MSc (Mining Engineering) from the University of the Witwatersrand in 1992.
3. I have worked as a Geoscientist for over 30 years. As a former employee of Merrill Lynch, I was actively involved in advising mining companies and investment bankers on corporate-related issues, analysing platinum and gold companies. I have completed a number of valuations on various commodities, including gold, using approaches described by the Canadian Code for reporting of Resources and Reserves – National Instrument 43-101 (Standards of Disclosure for Mineral Projects), Form 43-101F1 and the Companion Policy Document 43-101CP ("NI 43-101") and using valuation approaches described by the Standards and Guidelines for Valuation of Mineral Properties recommended by the Special Committee of the Canadian Institute of Mining, Metallurgy and Petroleum or Valuation of Mineral Properties ("CIMVal").
4. I am affiliated with the following professional associations, which meet all the attributes of a Professional Association or a Self-Regulatory Professional Association, as applicable (as those terms are defined in CIMVal):-

| Class | Professional Society | Year of Registration |
|---|---|---|
| Member | Geological Society of South Africa (MGSSA Reg. No. 965119) | 2003 |
| Fellow | South African Institute of Mining and Metallurgy (FSAIMM Reg. No. 702615) | 2003 |
| Professional Natural Scientist | South African Council for Natural Scientific Professions (Pr.Sci.Nat. Reg. No. 400024/04) | 2003 |

5. I am responsible for Items 1-6 and 19-27 of the technical report titled "A Technical Report on the Galaxy Gold Mine, Mpumalanga Province, South Africa" prepared for Galaxy Gold Mining Limited with an effective date of 1 September 2015 ("the Report").
6. I have read the definition of "Qualified Person" set out in NI 43-101 certify that by reason of my education, affiliation with professional associations and past relevant work experience, I fulfil the requirements to be a Qualified Valuator for the purposes of the Report.
7. I have read NI 43-101 and CIMVal, and the Report has been prepared in compliance with these.
8. As of the effective date, to the best of my knowledge, information and belief, the Report contains all scientific and technical information required to be disclosed to make the Report not misleading.
9. The facts presented in the Report are, to the best of my knowledge, correct.
10. The analyses and conclusions presented in the Report are limited only by the reported forecasts and conditions.
11. I have neither prior involvement, nor present or prospective interest in the subject property or asset and have no bias with respect to the assets that are the subject of the Report, or to the parties involved with the assignment.
12. I am independent of the issuer. My compensation, employment or contractual relationship with the Commissioning Entity is not contingent on any aspect of the Report.
13. I did not undertake a personal inspection of the subject property.

Yours faithfully,

**NJ ODENDAAL**
BSc (Geol.), BSc (Min. Econ.), MSc (Min. Eng.)
Pr.Sci.Nat., FSAIMM, MGSSA
**DIRECTOR, MINXCON**
**Date of Sign-off: 4 January 2016**