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HARMONY GOLD MINING COMPANY LIMITED

Technical Report Summary of the Mineral Resources and Mineral Reserves for Target Gold Mine Free State Province, South Africa

Effective Date: 30 June 2022
Final Report Date: 31 July 2022

IMPORTANT NOTICE

This Technical Report Summary has been prepared for Harmony Gold Mining Company Limited in support of disclosure and filing requirements with the United States Securities and Exchange Commission's (SEC) under Regulation S-K 1300; 229.601(b)(96). The quality of information, estimates, and conclusions contained in this Technical Report Summary apply as of the effective date of this report. Subsequent events that may have occurred since that date may have resulted in material changes to such information, estimates and conclusions in this summary. No other party is entitled to rely on this report beyond its intended use and any reliance by a third party on this report is done so at that party's own risk.

Signature Page

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Units of Measure and Abbreviations

Unit / Abbreviation	Description or Definition
°	Degrees
°C	degrees Celsius
3D	Three-dimensional
AE	Abnormal expenditure
AMIS	African Minerals Standards
Au	Gold
Avg.	Average
Avgold	Avgold Limited
BP	Business plan
c.	Approximately
CBA	Core bedding angle
CIP	Carbon-In-Pulp
cm	Centimetre
cmg/t	Centimetre grams per tonne
CMS	Cavity Monitoring System
CODM	Chief Operating Decision-Maker
Company	Harmony Gold Mining Company Limited
COV	Coefficient of Variation
CRG	Central Rand Group
CW	Channel width
Datamine™	Datamine Studio RM or Datamine Studio OP
DMRE	Department of Mineral Resources and Energy
DSSI	Dilution Stress-Strain Index
DTM	Digital Terrain Model
DWS	Department of Water and Sanitation
EIA	Environmental Impact Assessment
EMPR	Environmental Management Programme
EMS	Environmental Management System
EPS	Enhanced Production Scheduling
ESG	Environmental Social and Governance
ETF	Exchange traded fund
Excl.	Excluding
FY	Financial year
g	Gram
g/t	Grams per tonne
ha	Hectare
Harmony	Harmony Gold Mining Company Limited
Heeversrust	van den Heeversrust
Incl.	Including
kg	Kilogram
km	Kilometre
km^2	Square kilometre
koz	Thousand troy ounces
LBMA	London Bullion Market Association
LHD	Load haul dump
LOM	Life of Mine
Loraine	Loraine Gold Mine
Ltd	Limited
m	Metre

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M	Million
MCC	Mining Charter Compliance
MCF	Mine Call Factor
Moz	Million troy ounces
MPRDA	Mineral and Petroleum Resources Development Act, 28 of 2002
MRO	Mine Reserve Optimiser
Mt	Million tonnes
Mtpa	Million tonnes per annum
Mtpm	Million tonnes per month
MW	Megawatts
NEMA	National Environmental Management Act, 107 of 1998
No.	Number
NPV	Net present value
NRM	Narrow reef mining
OCD	On-going capital development
OTC	Over the counter
oz	Troy ounce
oz/kg	Troy ounce per kilogram
PSGM	President Steyn Gold Mine
Pty	Proprietary
QAQC	Quality Assurance/Quality Control
QP	Qualified Person
RBE	Rail-bound equipment
RD	Relative density
ROM	Run-of-Mine
SABLE	SABLE® Data Warehouse
SACNASP	South African Council for Natural Scientific Professions
SAG	Semi autogenous grinding
SAMREC	The South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves
SANAS	South African National Accreditation System
SEC	Securities and Exchange Commission
SGS	SGS South Africa (Pty) Limited
SLOS	Sub-level open stope
SLP	Social Labour Plan
SR	Slope of Regression
SRM	Standard Reference Material
Sun	Sun Mining and Prospecting Company (Pty) Ltd
t	Metric tonne
t/m^3	Tonne per cubic metre
Target	Target Mine which includes the Target 1 deposit
tpd	Tonnes per day
TRS	Technical Report Summary
TSF	Tailings Storage Facility
UCS	Unilateral Compressive Strength
USD	United States Dollars
USD/oz	United States Dollar per troy ounce
WRG	West Rand Group
WUL	Water Use Licence
ZAR	South African Rand
ZAR/kg	South African Rand per kilogram

Glossary of Terms

Term	Definition
Cut-off grade	Cut-off grade is the grade (i.e. the concentration of metal or mineral in rock) that determines the destination of the material during mining. For purposes of establishing “prospects of economic extraction,” the cut-off grade is the grade that distinguishes material deemed to have no economic value (it will not be mined in underground mining or if mined in surface mining, its destination will be the waste dump) from material deemed to have economic value (its ultimate destination during mining will be a processing facility). Other terms used in similar fashion as cut-off grade include net smelter return, pay limit, and break-even stripping ratio.
Dilution	Unmineralized rock that is by necessity, removed along with ore during the mining process that effectively lowers the overall grade of the ore.
Head grade	The average grade of ore fed into the mill.
Economically viable	Economically viable, when used in the context of Mineral Reserve determination, means that the qualified person has determined, using a discounted cash flow analysis, or has otherwise analytically determined, that extraction of the Mineral Reserve is economically viable under reasonable investment and market assumptions.
Indicated Mineral Resource	Indicated Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of adequate geological evidence and sampling. The level of geological certainty associated with an Indicated Mineral Resource is sufficient to allow a qualified person to apply modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Because an Indicated Mineral Resource has a lower level of confidence than the level of confidence of a Measured Mineral Resource, an Indicated Mineral Resource may only be converted to a probable Mineral Reserve.
Inferred Mineral Resource	Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. The level of geological uncertainty associated with an Inferred Mineral Resource is too high to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Because an Inferred Mineral Resource has the lowest level of geological confidence of all Mineral Resources, which prevents the application of the modifying factors in a manner useful for evaluation of economic viability, an Inferred Mineral Resource may not be considered when assessing the economic viability of a mining project and may not be converted to a Mineral Reserve.
Kriging	A method of interpolation based on Gaussian process governed by prior covariances. It uses a limited set of sampled data points to estimate the value of a variable over a continuous spatial field
Mine Call Factor	The ratio, expressed as a percentage, of the total quantity of recovered and unrecovered mineral product after processing with the amount estimated in the ore based on sampling.
Measured Mineral Resource	Measured Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of conclusive geological evidence and sampling. The level of geological certainty associated with a Measured Mineral Resource is sufficient to allow a qualified person to apply modifying factors, as defined in this section, in sufficient detail to support detailed mine planning and final evaluation of the economic viability of the deposit. Because a Measured Mineral Resource has a higher level of confidence than the level of confidence of either an Indicated Mineral Resource or an Inferred Mineral Resource, a Measured Mineral Resource may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.
Mineral Reserve	Mineral Reserve is an estimate of tonnage and grade or quality of Indicated and Measured Mineral Resources that, in the opinion of the qualified person, can be the basis of an economically viable project. More specifically, it is the economically mineable part of a Measured or Indicated Mineral Resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted.
Mineral Resource	Mineral Resource is a concentration or occurrence of material of economic interest in or on the Earth’s crust in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction. A Mineral Resource is a reasonable estimate of mineralization, taking into account relevant factors such as cut-off grade, likely mining dimensions, location or continuity, that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable. It is not merely an inventory of all mineralization drilled or sampled.

Modifying Factors	Modifying factors are the factors that a qualified person must apply to Indicated and Measured Mineral Resources and then evaluate in order to establish the economic viability of Mineral Reserves. A qualified person must apply and evaluate modifying factors to convert Measured and Indicated Mineral Resources to Proven and Probable Mineral Reserves. These factors include but are not restricted to: mining; processing; metallurgical; infrastructure; economic; marketing; legal; environmental compliance; plans, negotiations, or agreements with local individuals or groups; and governmental factors. The number, type and specific characteristics of the modifying factors applied will necessarily be a function of and depend upon the mineral, mine, property, or project.
Pre-Feasibility Study	A pre-feasibility study (or preliminary feasibility study) is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a qualified person has determined (in the case of underground mining) a preferred mining method, or (in the case of surface mining) a pit configuration, and in all cases has determined an effective method of mineral processing and an effective plan to sell the product.
	(1) A pre-feasibility study includes a financial analysis based on reasonable assumptions, based on appropriate testing, about the modifying factors and the evaluation of any other relevant factors that are sufficient for a qualified person to determine if all or part of the Indicated and Measured Mineral Resources may be converted to Mineral Reserves at the time of reporting. The financial analysis must have the level of detail necessary to demonstrate, at the time of reporting, that extraction is economically viable.
	(2) A pre-feasibility study is less comprehensive and results in a lower confidence level than a feasibility study. A pre-feasibility study is more comprehensive and results in a higher confidence level than an initial assessment.
Probable Mineral Reserve	Probable Mineral Reserve is the economically mineable part of an Indicated and, in some cases, a Measured Mineral Resource.
Proven Mineral Reserve	Proven Mineral Reserve is the economically mineable part of a Measured Mineral Resource and can only result from conversion of a Measured Mineral Resource.
Qualified Person	A qualified person is:
	(1) A mineral industry professional with at least five years of relevant experience in the type of mineralization and type of deposit under consideration and in the specific type of activity that person is undertaking on behalf of the registrant; and
	(2) An eligible member or licensee in good standing of a recognized professional organization at the time the technical report is prepared. For an organization to be a recognized professional organization, it must:
	(i) Be either:
	(A) An organization recognized within the mining industry as a reputable professional association; or
	(B) A board authorized by U.S. federal, state or foreign statute to regulate professionals in the mining, geoscience or related field;
	(ii) Admit eligible members primarily on the basis of their academic qualifications and experience;
	(iii) Establish and require compliance with professional standards of competence and ethics;
	(iv) Require or encourage continuing professional development;
	(v) Have and apply disciplinary powers, including the power to suspend or expel a member regardless of where the member practices or resides; and
	(vi) Provide a public list of members in good standing.
Tailings	Finely ground rock of low residual value from which valuable minerals have been extracted is discarded and stored in a designed dam facility.

1 Executive Summary

Section 229.601(b)(96) (1)

The Qualified Person(s) ("QP") of Harmony Gold Mining Company Limited ("Harmony" or the "Company") have prepared this Technical Report Summary ("TRS") to disclose the Mineral Resource and Mineral Reserve estimates for the Company's Target Mine ("Target Mine" or "Target"), comprising the Target 1 deposit. The TRS has been prepared in accordance with the U.S. Securities and Exchange Commission ("SEC") property disclosure regulations, S-K 1300, with an effective date as at 30 June 2021. No material changes have occurred between the effective date and the date of signature of this TRS.

Property Description

Target is a deep-level underground gold producing mine situated in the Free State Goldfield, 30km north of the town of Welkom, Free State Province, South Africa. Most of the gold mineralisation is currently extracted by mechanised mining (massive mining techniques).

Harmony holds several mining rights for Target, which have been successfully converted and executed as new order mining rights. The mining rights that have been registered as new order mining rights include the following:

- FS30/5/1/2/2/14MR, which is valid from 30 November 2007 to 29 December 2025 and covers 4,237.00ha; and
- FS30/5/1/2/2/225MR, which is valid from 12 December 2013 to 11 December 2026 and 3,715.78ha.

All relevant underground mining and surface right permits, and any other permit related to the work conducted on the property have been obtained and are valid. There are no known legal proceedings (incl. violations or fines) against Harmony, which threaten its mineral rights, tenure, or operations.

Ownership

Target is 100% owned by Harmony, including the associated mineral rights, through its interest in Avgold Limited ("Avgold").

Geology and Mineralisation

Target is situated on the north-western margin of the Witwatersrand Basin of South Africa, one of the prominent gold provinces in the world. The major gold bearing conglomerate reefs are mostly confined to the Central Rand Group ("CRG") of the Witwatersrand Supergroup.

Folding forms the major structural feature within the lease is and is manifested as an asymmetric syncline whose axis trends N15°W, with a general plunge of 10° to 12° north, although this is variable due to local structural features. The dip of the western limb of the syncline is often more than 55° eastwards. Numerous minor faults are also present.

These faults, with a displacement generally of less than 15m and traceable over a strike distance of less than 150m are too numerous to classify. however, it can be said that the eastern limb of the trough is less faulted than the western limb.

Gold mineralisation currently exploited is hosted within a succession of Elsburg (EA) and Dreyerskuil (DK) quartz pebble conglomerate reefs hosted by the van den Heeversrust and Dreyerskuil (Uitkyk) Members of the Eldorado (Elsburg) Formation, respectively.

Additional mineralisation occurs in the Big Pebble Reef of the underlying the Kimberley (formerly Aandenk) Formation. All these units are within the Turffontein Subgroup of the CRG. Mineralisation is associated with the presence of medium to coarse, clast-supported oligomictic pebble horizons. The presence of allogenic (buckshot) pyrite and detrital carbon is also common.

Current Status of Exploration, Development and Operation

Target has a six-year life of mine ("LOM") plan and the planned reefs to be exploited include the Dreyerskuil (DK4 and DK1) and EA Reefs. The LOM plan is expected to produce 4.45Mt at a grade of 4.24g/t, reported as milled tonnes.

A total of seven drill holes with a total of 183m drilled length, was last completed in 2020. The drilling added an additional 23 zone code intersections to the estimation and geological databases. An underground infill drilling system is in place to improve the data density in specific areas and are drilled from the underground development access drives.

Mineral Resource Estimate

The current Mineral Resource estimate for Target was completed by the Harmony QP using wireframes of the mineralised reefs created in DatamineTM Studio RM ("DatamineTM") version 64-bit1.4.132.0 EN software. The QP created block models based on validated SABLE® Data Warehouse ("SABLE") and GEOLOG databases containing surface drillhole data, as well as underground drilling, mapping, and sampling data obtained until December 2021. Gold values were estimated using the ordinary kriging interpolation method.

The Mineral Resources were originally prepared, classified and reported according to the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves, 2016 edition ("SAMREC, 2016"). For the purposes of this TRS, the Mineral Resources have been classified in accordance with § 229.1302(d)(1)(iii)(A) (Item 1302(d)(1)(iii)(A) of Regulation S-K). The Mineral Resource estimate, as at 30 June 2022, exclusive of the reported Mineral Reserves is summarised in Table 1-1.

The QP compiling the Mineral Resource estimate is Mr D Fourie, Head of Department Geostatistician, and employee of Harmony.

Table 1-1: Summary of the Target Mineral Resources as at 30 June 2022 (exclusive of Mineral Reserves)[1-8]

METRIC

Mineral Resource Category	Tonnes (Mt)	Gold Grade (g/t)	Gold Content (kg)
Measured	4.374	8.89	38,860
Indicated	3.193	7.76	24,780
Total / Ave. Measured + Indicated	**7.567**	**8.41**	**63,640**
Inferred	4.028	5.96	24,007

IMPERIAL

Mineral Resource Category	Tonnes (Mt)	Gold Grade (oz/t)	Gold Content (Moz)
Measured	4.821	0.259	1.249
Indicated	3.520	0.226	0.797
Total / Ave. Measured + Indicated	**8.341**	**0.245**	**2.046**
Inferred	4.440	0.174	0.772

Notes:

1. Mineral Resources are reported with an effective date of 30 June 2022 were originally prepared, classified and reported according to SAMREC, 2016. For the purposes of this TRS, the Mineral Resources have been classified in accordance with § 229.1302(d)(1)(iii)(A) (Item 1302(d)(1)(iii)(A) of Regulation S-K). The Qualified Person responsible for the estimate is Mr D Fourie, who is Head of Department Geostatistician, and a Harmony employee.
2. The Mineral Resource tonnes are reported as in-situ with reasonable prospects for economic extraction.
3. No modifying factors or dilution sources have been included to in-situ Reserve which was subtracted from the SAMREC Resource in order to obtain the S-K 1300 Resource.
4. The Mineral Resources are reported using a cut-off grade of 3.05g/t determined at a 90% profit guidance, and a gold price of USD1,723/oz.
5. Tonnes are reported as rounded to three decimal places. Gold values are rounded to zero decimal places.
6. Mineral Resources are exclusive of Mineral Reserves. Mineral Resources are not Mineral Reserves and do not necessarily demonstrate economic viability.
7. Rounding as required by reporting guidelines may result in apparent summation differences.
8. The Mineral Resource estimate is for Harmony's 100% interest.

Mineral Reserve Estimate

The Mineral Reserves were originally prepared, classified and reported according to SAMREC, 2016. For the purposes of this TRS, the Mineral Reserves have been classified in accordance with § 229.1302(d)(1)(iii)(A) (Item 1302(d)(1)(iii)(A) of Regulation S-K).

Mineral Reserves are derived from the Mineral Resources, a detailed business plan and the operational mine planning processes. Mine planning takes into consideration historical technical parameters achieved as well as the Modifying Factors, such as cut-off grade, the Mine Call Factor ("MCF"), the stoping width, the mining width and the plant recovery factor.

The reported Mineral Reserve estimate as at 30 June 2022 is summarised in Table 1-2. In the opinion of the QP, given that Target is an established operation, the Modifying Factors informing the Mineral Reserve estimates would at minimum, satisfy the confidence levels of a Pre-Feasibility Study.

The declared Mineral Reserves are depleted to generate the Target cash flows. The economic analysis of the cash flows displays positive results and are deemed both technically and economically achievable.

The QP compiling the Mineral Reserve estimate is Mr S Motlatla, Ore Reserve Manager at Target, and employee of Harmony.

Table 1-2: Summary of Target Mineral Reserves as at 30 June 2022 [1-5]

METRIC

Mineral Reserve Category	Milled Tonnes (Mt)	Gold Grade (g/t)	Gold Content (kg)
Proved	2.722	4.32	11,744
Probable	1.726	4.11	7,096
Total (Proved + Probable)	**4.447**	**4.24**	**18,840**

IMPERIAL

Mineral Reserve Category	Milled Tonnes (Mt)	Gold Grade (oz/t)	Gold Content (Moz)
Proved	3.000	0.126	0.378
Probable	1.902	0.120	0.228
Total (Proved + Probable)	**4.902**	**0.124**	**0.606**

Notes:

1. The Mineral Reserves were originally prepared, classified and reported according to SAMREC, 2016. For the purposes of this TRS, the Mineral Reserves have been classified in accordance with § 229.1302(d)(1)(iii)(A) (Item 1302(d)(1)(iii)(A) of Regulation S-K). The Qualified Person responsible for the estimate is Mr S Motlatla, who is the Target Ore Reserve Manager, and a Harmony employee.
2. Tonnes, grade, and gold content are declared as net delivered to the mills.
3. Figures are fully inclusive of all mining dilutions, gold losses and are reported as mill delivered tonnes and head grades. Metallurgical recovery factors have not been applied to the reserve figures.
4. Gold content is recovered gold content after taking into consideration the modifying factors.
5. The NRM Mineral Reserves are reported using a cut-off value of 821cmg/t determined using a gold price of USD1,546/oz. The massive open stoping Mineral Reserves are reported using a cut-off grade of 3.40g/t determined using a gold price of USD1,546/oz.

Capital and Operating Cost Estimates

The capital cost estimates for Target are determined at a corporate level, using the business plan as the basis. The capital costs are associated with major equipment outside the main operating sections which is termed abnormal expenditure ("AE"), infrastructure development, as well as ongoing capital development ("OCD"), as presented in the Table to follow. Costs associated with the Mining Charter Compliance ("MCC"), as per South Africa's Social Labour Plan ("SLP") requirements are also included in the capital estimates. The capital and operating costs are reported in ZAR terms and on a real basis. The economic analysis, including the capital and operating costs are reported for the period comprising financial year ("FY") July - June.

The capital cost estimates for Target are presented in Table 1-3.

The operating cost estimates for Target are categorised into direct and re-allocated costs. A summary of the Target operating cost estimates is shown in Table 1-4.

Table 1-3: Summary of LOM Capital Cost Estimate for Target

Capital Cost Element (ZAR'000s)	Total LOM (FY2023 - FY2028)
AE	**211,852**
Shaft projects	**229,139**
Major projects	**117,329**
MCC	**50,527**
Total (excl OCD)	**608,847**
OCD	**662,321**
Total (incl OCD)	**1,271,168**

Table 1-4: Summary of Operating Cost Estimates for Target

Operating Cost Element (ZAR'000)	Total LOM (FY2023 - FY2028)
Wages - payroll 1	**2,961,604**
Wages - payroll 2	**1,295,226**
Stores and materials	**2,182,055**
Electric power and water	**1,815,259**
Outside contractors	**789,235**
Other	**265,685**
Direct Costs	**9,309,064**
Pumping	**235,548**
Refining charge	**29,791**
Backfill costs	**58,689**
Assay costs	**37,277**
Hostel costs	**27,962**
Plant treatment cost	**973,936**
OCD re-allocated	**-108,076**
Re-allocated costs	**1,255,127**
Mine overheads re-allocated	**567,533**
Total	**11,131,724**

Permitting Requirements

Target has the following valid permits, administered and managed by various departments, and does not require any additional permits to continue with their mining operations, except for the applications which have been submitted to amend the existing Environmental Management Programme ("EMPR") required for a slurry pipeline project and Water Use Licence ("WUL"). Target is awaiting approval from the regulator at the effective date of this TRS. These pending environmental permits and licences do not pose a material risk to the continuation of the operation. The permits and licences are summarised in Table 1-5.

Table 1-5: Status of Environmental Permits and Licences

Permit / Licence	Reference No.	Issued By	Date Granted	Validity
EMPR	FS 30/5/1/2/3/2/1(14) EM	DMRE	16-Apr-2010	NA
Atmospheric Emission Licence	LDM/AEL/YMK/013	Lejweleputswa District Municipality	05-Nov-2018	05-Nov-2023
Water Permit	789N	DWS	04-Nov-2008	Valid pending issue of new license
Water Permit	1046B	DWS	04-Nov-2008	Valid pending issue of new license

Note: DMRE - Department of Mineral Resources and Energy, DWS - Department of Water and Sanitation

Conclusions

Under the assumptions in this TRS, Target shows a positive cash flow over the life-of-mine which supports the Mineral Resource and Mineral Reserve estimates. The mine plan is achievable under the set of assumptions and parameters used.

Recommendations

The QP's recommendations include the following:

- the full potential of the Basal Reef, which produces 85% of the gold from the Free State Goldfield, has yet to be established on the Target property as initial drilling had focused on the shallower Eldorado (Elsburg) and Kimberley (Aandenk) reefs. Therefore, the QP recommends that delineation drilling be undertaken to establish this;
- exploration drilling is recommended to determine the potential of EA3 reefs in the inter-fan areas north of Eldorado fan in BLK12;
- data with regards to over-break/caving to be collected during mining of the sub-level open stope ("SLOS") to determine the amount of dilution for future planning process; and
- results of relative density tests taken on Dreyerskuil reefs were higher than 2.71 standard for Target Mine, and therefore more tests are required to verify the density of the Dreyerskuil reefs.

2 Introduction

Section 229.601(b)(96) (2) (i-v)

This TRS on Target has been prepared for the registrant, Harmony. The TRS has been prepared in accordance with the U.S. SEC Disclosure by Registrants Engaged in Mining Operations (disclosure regulations S-K 1300). It has been prepared to meet the requirements of Section 229.601(b)96 - Technical Report Summary. The purpose of this TRS is to provide open and transparent disclosure of all material, exploration activities, Mineral Resource and Mineral Reserve information to enable the investor to understand Target which forms part of Harmony's activities.

This TRS has been prepared from the following sources of information:

- Target Mining Operations - Competent Person's Report Ore Reserves, prepared by Mr S Motlatla, dated 30 June 2022;
- the 2021 and 2022 Harmony Corporate Business Plan; and
- published Harmony 2022 Mineral Resources and Mineral Reserves Report as at 30 June 2022.

The TRS was prepared by QPs employed by Harmony or Target, comprising the Target 1 deposit. The QPs qualifications, areas of responsibility and personal inspection of the properties are presented in Table 2-1.

Table 2-1: List of Responsible and Contributing Authors

Qualified Person	Professional Organisation	Qualification	TRS Section Responsibility	Personal Insp.
Mr S Motlatla	SACNASP (No. 400451/14)	BSc. (Hons) Geol, GDE (Mining), Project Management Cert NQF Level 5	All the sections	Full Time
Mr D Fourie	SAIMM (No. 706555)	MSc. Min Eng, GDE (Mining)	11	Regular
Mrs M Ncube	SACNASP (No. 123075)	BSc. (Hons) Geol	8, 9, 11	Full Time
Dr PJ Le Roux	ECSA (No. 200970121)	PhD. Min Eng	13.1 - 13.2, 13.10	Full Time
Mr M Gxekwa	AMIHRP	Dip HR Man, PgDip. (Labour law)	13.9	Full Time
Mr T Holl	AMRE	GCC Electrical	13.7-13.8	Full Time
Mr C Radebe	MMMA	B.Tech Metallurgy	14	Full Time
Mr A Relebona	-	BA (Hons) Env Sci	17	Regular
Mr D Graham	-	B.Com (Bus & Man Accounting)	18, 19	Full Time
Mr E Naude	-	MRM Certificate	13	Full Time
Mr J van Deventer	SACNASP	BSc. (Hons) Geol	6, 7	Full Time

This TRS is the first filing of such a document with the SEC and has an effective date as at 30 June 2022. No material changes have occurred between the effective date and the date of signature.

3 Property Description and Location

Section 229.601(b)(96) (3) (i-vii)

Target is an advanced, single-shaft, deep-level gold mine which has been operational for approximately 30 years. While most of the gold mineralisation extracted comes from mechanised mining (massive mining techniques), conventional stoping is still employed primarily to de-stress areas ahead of mechanised mining.

It is located in the Free State Province of South Africa, approximately 270km southwest of Johannesburg and 30km north of the town of Welkom (Figure 3-1).

3.1 Mineral Tenure

South African Mining Law is regulated by the MPRDA which is the predominant piece of legislation dealing with acquisitions or rights to conduct reconnaissance, prospecting and mining. There are several other pieces of legislation which deal with such ancillary issues such as royalties (the Mineral and Petroleum Resources Royalty Act, 2008), title registration (the Mining Titles Registration Act, 1967), and health and safety (the Mine Health and Safety Act, 1996).

The current mining rights encompasses an area of 7,952.78ha (Figure 3-2). Harmony holds several mining rights for the Target Mine, which were successfully converted and executed as new order mining rights. Certain of these rights are still to be registered at the Mineral and Petroleum Resources Titles Office ("MPRTO"). The summary of mineral tenure and the approved mining rights are shown in Table 3-1.

Table 3-1: Summary of the Mineral Tenure for Target

Licence Holder	Licence Type	Reference No.	Effective Date	Expiry Date	Area (ha)
Harmony	Mining Right	FS30/5/1/2/2/14MR	30-Nov-2007	29-Dec-2025	4,237.00
Harmony	Mining Right	FS30/5/1/2/2/225MR	12-Dec-2013	11-Dec-2026	3,715.78
Total					**7,952.78**

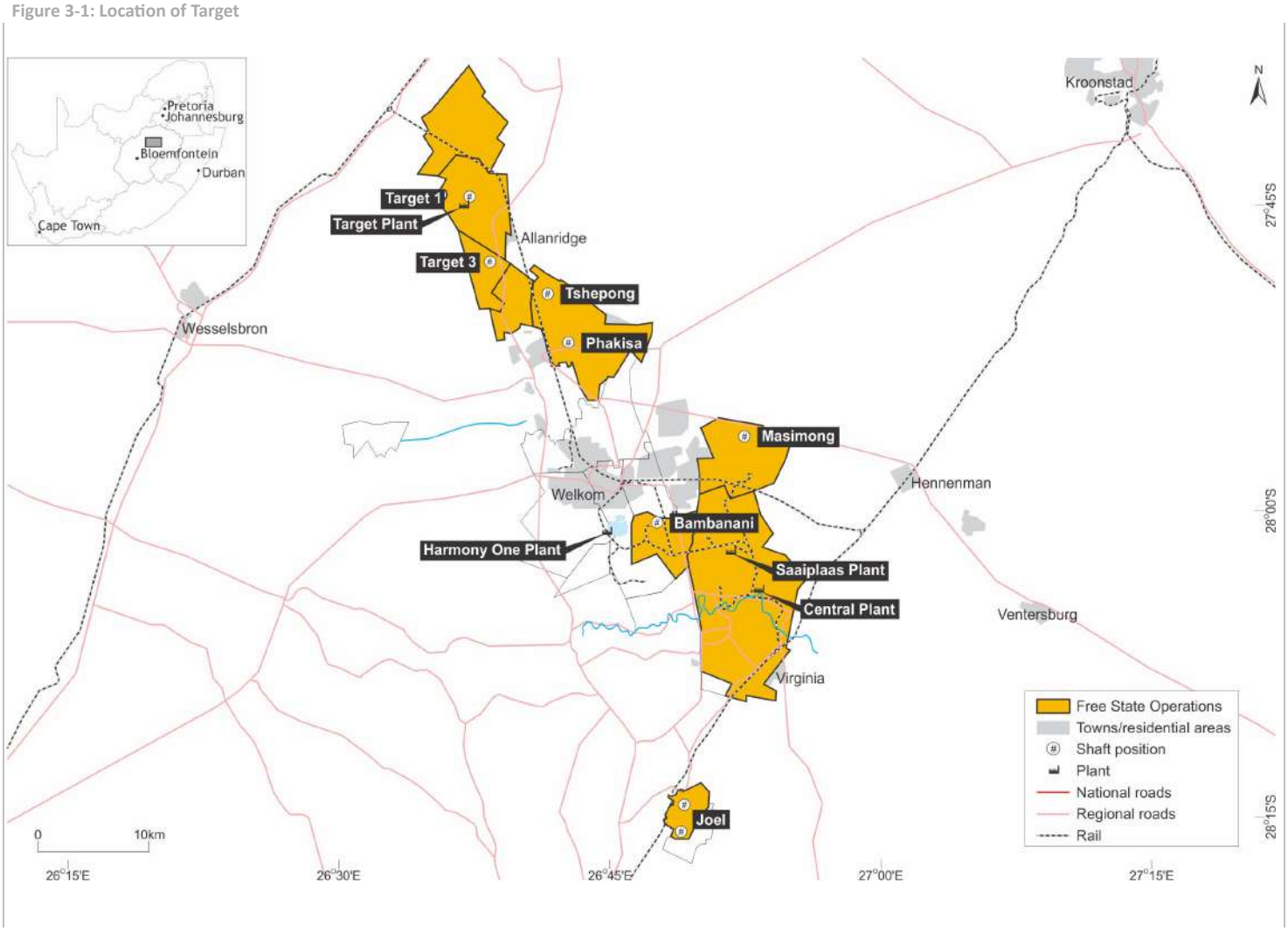
There are no known legal proceedings (including violations or fines) against the Company which threatens its mineral rights, tenure, or operations.

3.2 Property Permitting Requirements

All relevant underground mining and surface right permits, and any other permit related to the work conducted on the property have been obtained and are valid.

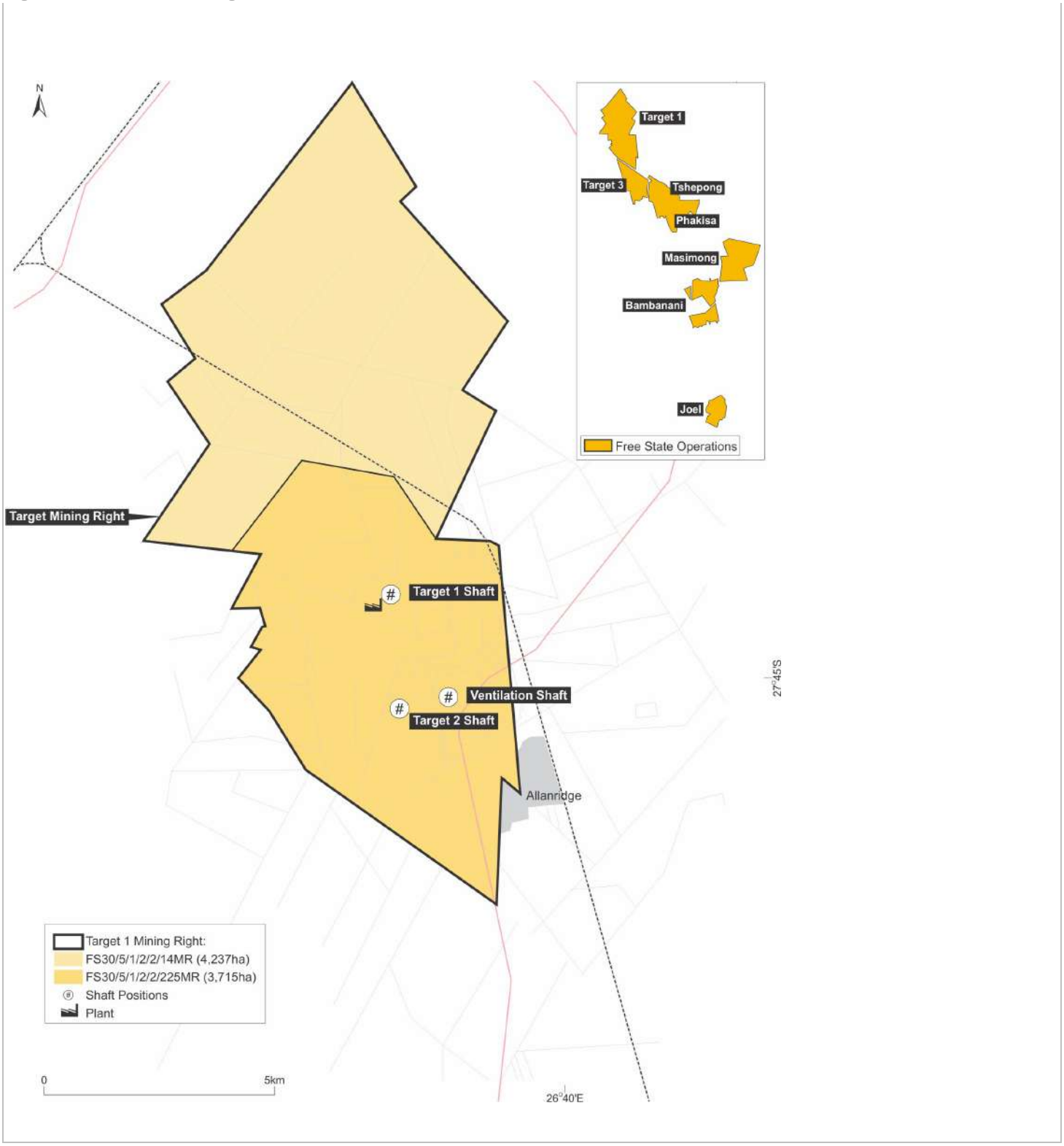
Harmony monitors complaints and litigation against the Company as part of its risk management systems, policies, and procedures. There is no material litigation (including violations or fines) against the Company as at the date of this report which threatens its property permitting. The Company is also not aware any land claims or other legal proceedings that may have an influence on the rights to mine the minerals.

Figure 3-1: Location of Target



Effective Date: 30 June 2022

Figure 3-2: Mineral Tenure for Target



4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Section 229.601(b)(96) (4) (i-iv)

4.1 Accessibility

The Target shafts (1, 2 and 5-ventilation) is accessible via the local R30 road between Allanridge and Odendaalsrus, (Figure 3-1). The area also has well-established rail links and an airfield within proximity.

Entry into the mining area is restricted by security fencing, security guards, booms and lockable gates at the main entrance. In addition, a communication system and access control system monitors personnel entering and leaving the mine property.

4.2 Physiography and Climate

The mine lease area is flat with an average elevation of approximately 1,320m above sea level (“asl”). The area is relatively flat with an overall slope to the southwest. There are no prominent topographical landmarks in the area.

No significant topographical disturbances are expected from mining operations. However, the topography is affected by slimes dams, waste rock dumps and solid waste disposal sites.

Target is situated in the Free State, a semi-arid region with an annual rainfall of between 400mm and 600mm. Local thunderstorms and showers are responsible for most of the precipitation during summer – from October to March with peak rainfall occurring in January. Hail is sometimes associated with thunderstorms.

January is the warmest month of the year. The temperature in January averages 19.2°C. July has the lowest average temperature of the year and is 7.7°C. Target Mine is not restricted by climatic or seasonal occurrences.

4.3 Local Resources and Infrastructure

The surrounding areas of Welkom and Virginia are well developed in terms of access and mining-related infrastructure supporting the numerous operational gold mines in the area. The regional infrastructure includes national and provincial paved road networks, power transmission and distribution networks, water supply networks and communication infrastructure. Target’s surface and underground infrastructure, including its power and water supplies, are sufficient for the LOM plan production requirements.

The Target operation includes a single underground mine constructed as an extension to the Loraine Gold Mine (“Loraine”) and uses a single shaft as access. The ore and development rock are hoisted together, with ore milled and processed at the Target plant adjacent to the mine (Figure 3-2). Target ‘s plant is also used for the treatment of a Harmony waste rock dump, monitored and managed by Surface Sources. Operations are powered by electricity from Eskom Holdings State Owned Company (“SOC”) Limited.

5 History

Section 229.601(b)(96) (5) (i-ii)

5.1 Historical Ownership and Development

Anglovaal previously held the mineral rights for the Target property. Target Exploration Company Limited, a company formed by Anglovaal specifically for the purpose of exploration, later acquired this area. Options to the mineral rights north of Target were acquired by Sun Mining and Prospecting Company (Pty) Limited ("Sun"). The formation of Avgold in 1996 was intended to further the gold mining and exploration interests of Anglovaal. Harmony acquired Target in 2002. The historical ownership and associated activities related to Target are summarised in Table 5-1.

Table 5-1: Summary of Historical Ownership Changes and Activities of Target

Year	Asset History Highlights
1890	Prospecting on the Loraine property, south of Target commences and is shortly abandoned.
1909	Prospecting on Loraine re-commences.
1933	Allan Roberts and associates execute exploration drilling in proximity to initial prospecting activity.
1946	Drillhole VDH1, located near the present Target 3 Shaft, intersects the Basal Reef.
1978	Chief geologist for Loraine recommends that Anglovaal investigate the possible northward extension of the Elsburg reefs.
1980s	Sun Mining and Prospecting Company (Pty) Limited ("Sun") acquires mining rights north of Target and demonstrate positive results for the Kimberley Formation and Ventersdorp Contact Reef.
1990	Target Exploration Company Limited acquires the Mining Rights and continue exploration, siting 17 drillholes. Drilling was aimed at and showed robust results for the EA, Kimberley and Basal Reefs, respectively.
1996	Avgold takes ownership of the Target operations and continues exploration into the early 2000s.
2002	Harmony acquired Target by acquiring 100% of Avgold's shares.

5.2 Historical Exploration

Prospecting on historical Loraine property, situated immediately south of Target, was first undertaken around 1890, with the beginning of a vertical and incline shaft. This was, however, soon abandoned with interest being revived in 1909 when promising gold values were reported.

In 1933, mainly on the initiative of Allan Roberts and associates, a diamond drillhole was started on the Farm Aandenk, not far from the site of the earlier prospecting. Consequent upon Roberts's work, further surface drilling and geophysical surveys (gravimetric) were undertaken.

Of particular interest was drillhole VDH1, which was started in 1946 on the Farm van den Heeversrust near the present Target 3 Shaft. This drillhole intersected the Basal Reef, but also intersected a series of high pay reef bands stratigraphically higher up than the Basal Reef. These were originally called the Rainbow reefs but are now correlated as the Eldorado (Elsburg) reefs.

In 1978, the Chief Geologist for Loraine recommended that Anglovaal investigate the possible northward extension of the Elsburg reefs, as they showed no sign of attenuating northward through Loraine. Consequently, the area north of what was termed the Loraine Mineral Holdings (now Target) was explored by the Sun, a wholly owned subsidiary of Anglovaal.

Encouraging gold values intersected in the Kimberley Formation and Ventersdorp Contact Reef by drillholes in the Sun project, which culminated in the formation of Target Exploration Company, specifically for the purpose of exploring the Loraine Mineral Holdings area.

5.3 Previous Mineral Resource and Mineral Reserve Estimates

The previous Mineral Resource estimate Target was declared as at 30 June 2021 by Harmony, according to the definitions stipulated in the SAMREC Code, 2016. The previous Mineral Resource estimate summarised in Table 5-2, is reported exclusive of Mineral Reserves, and has been superseded by the current estimate prepared by Harmony in Section 11 of this TRS.

Table 5-2: Summary of the Previous Target Mineral Resources as at 30 June 2021 (exclusive of Mineral Reserves)

METRIC

Mineral Resource Category	Tonnes (Mt)	Gold Grade (g/t)	Gold Content (kg)
Measured	4.706	8.67	40,817
Indicated	3.236	8.13	26,304
Total / Ave. Measured + Indicated	**7.943**	**8.45**	**67,121**
Inferred	4.453	5.50	24,513

IMPERIAL

Mineral Resource Category	Tonnes (Mt)	Gold Grade (oz/t)	Gold Content (Moz)
Measured	5.188	0.253	1.312
Indicated	3.567	0.237	0.846
Total / Ave. Measured + Indicated	**8.755**	**0.246**	**2.158**
Inferred	4.909	0.161	0.788

The previous Mineral Reserve estimate for Target was declared by Harmony on 30 June 2021 in accordance with the SAMREC Code, 2016. Modifying Factors were considered and applied to the Mineral Resource to arrive at the Mineral Reserve estimate. These factors included the cut-off grade, the MCF, the stoping width, the mining width and the plant recovery factor. The previous Mineral Reserve estimate is summarised in Table 5-3 and has been superseded by the current estimate prepared by Harmony as detailed in Section 12 of this TRS.

Table 5-3: Summary of the Previous Target Mineral Reserves as at 30 June 2021

METRIC

Mineral Reserve Category	Milled Tonnes (Mt)	Gold Grade (g/t)	Gold Content (kg)
Proved	2.903	4.46	12,933
Probable	1.846	3.89	7,183
Total (Proved + Probable)	**4.748**	**4.24**	**20,116**

IMPERIAL

Mineral Reserve Category	Milled Tonnes (Mt)	Gold Grade (oz/t)	Gold Content (Moz)
Proved	3.200	0.130	0.416
Probable	2.035	0.113	0.231
Total (Proved + Probable)	**5.234**	**0.124**	**0.647**

5.4 Past Production

The Target mining area is a continuation of the adjacent Loraine Mine. Loraine hoisted approximately 51Mt of ore at a grade of 7.2g/t. At the end of 1997, approximately 75% of the hoisted ore came from the basal and B reefs, combined. The remaining 25% of gold production (approximately 13Mt) was mined from numerous horizons within the EA reefs. The feasibility was concluded in May 1998 and during the next two years the project progressed to the stage where access to the orebody and infrastructure to support production was completed. Production commenced in May 2002 until April 2004 under Anglo-Vaal, and a total 2.8Mt of ore was milled at 9.02g/t, producing 24,857kg.

Target milled approximately 14.8Mt of ore at recovery grade of 4.59g/t since May 2004 from the EA reefs. The massives stoping section accounted for approximately 75% of the production and the remainder is divided between trackless development and NRM stoping sections. Past production for Target over the last five years is presented in Figure 5-1 and Figure 5-2.

Figure 5-1: Graph of Past Production – Tonnes and Grade

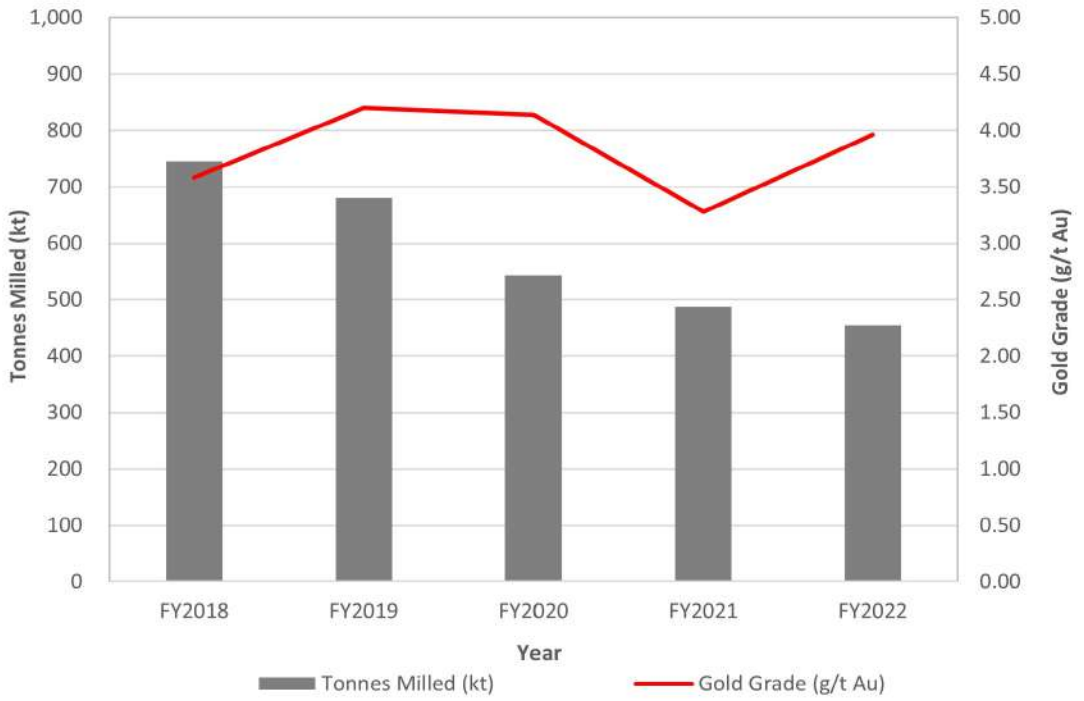
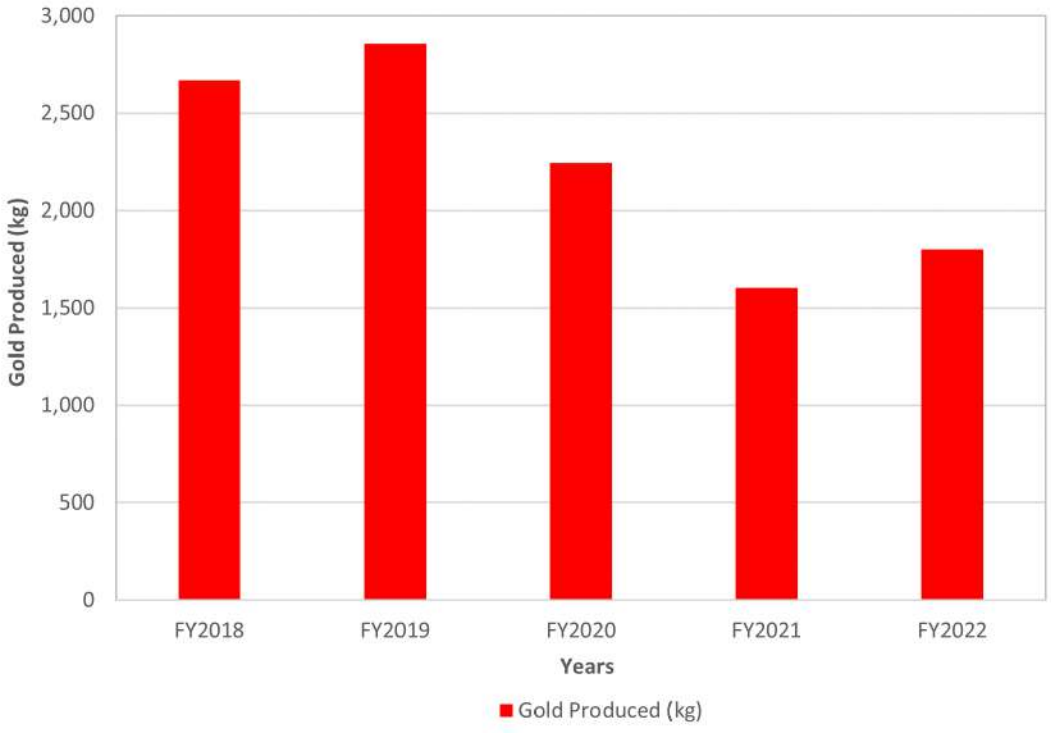


Figure 5-2: Graph of Past Metal Production



Effective Date: 30 June 2022

6 Geological Setting, Mineralisation and Deposit

Section 229.601(b)(96) (6) (i-iii)

6.1 Regional Geology

Target is located on the south-western margin of the Archean Witwatersrand Basin, one of the prominent gold provinces in the world. The Witwatersrand Basin is an approximately 7,000m thick terrigenous sequence comprising mainly of arenaceous and argillaceous, together with minor rudaceous, lithologies deposited in a fluvio-deltaic environment in the centre of the Archaean Kaapvaal Craton of South Africa (Robb and Meyer, 1995). The regional geology of the Witwatersrand Basin is shown in Figure 6-1.

The Witwatersrand Basin hosts the Witwatersrand Supergroup, which either conformably or unconformably overlies the metamorphosed volcanic and minor clastic sediments of the Dominion Group (Tucker et al., 2016). The Dominion Group overlies the older granite-greenstone basement.

Majority of the Witwatersrand Supergroup is capped by the volcano-sedimentary sequence of the Ventersdorp Supergroup through an angular unconformity. The Ventersdorp Supergroup is in turn overlain by the dolomitic and quarzitic sequence of the Transvaal Supergroup, and sediments of the Karoo Supergroup (Tucker et al., 2016). Several suites of dykes and sills cut across the Archaean basement and the Witwatersrand, Ventersdorp, Transvaal and Karoo supergroups, and form important geological time-markers.

The Witwatersrand Supergroup is subdivided into the basal West Rand Group (“WRG”) and overlying CRG (Robb and Robb, 1998). The WRG extends over an area of 43,000km^2 and is up to 5,150m thick. It is sub-divided into three subgroups, namely, from bottom upwards, the Hospital Hill Subgroup; Government Subgroup and Jeppestown Subgroup. The stratigraphic succession of the WRG mainly consists of shale sediments, with occasional units of banded iron formation and conglomerate.

The CRG is up to 2,880m thick and covers an area of up to 9,750km^2, with a basal extent of c.290km x 150km. It is sub-divided into the lower Johannesburg Subgroup and upper Turffontein Subgroup. These subgroups are separated by the Booysens Shale Formation. The stratigraphic succession of the CRG comprises coarse-grained fluvio-deltaic sedimentary rocks.

The major gold bearing (auriferous) conglomerates are mostly confined to the CRG, and these conglomerate horizons are known as reefs. The most important reefs within the CRG are at six stratigraphic positions, three within the Johannesburg Subgroup and three within the Turffontein Subgroup. The reefs are mined in seven major goldfields, and a few smaller occurrences, which extend for over 400km in what has been called “The Golden Arc”. This arc is centred on the prominent Vredefort Dome (Figure 6-1), which is thought to be a major meteorite impact site in the centre of the Witwatersrand Basin (Therriault et al., 1997). The seven major goldfields (Figure 6-1) include East Rand, South Rand, Central Rand, West Rand, West Wits, Klerksdorp, Free State (Welkom) and Evander.

6.2 Local Geology

Target is located within the Free State Goldfield (Figure 6-1). The stratigraphic column of the Free State Goldfield is presented in Figure 6-2. The Johannesburg Subgroup comprises the Virginia, St Helena, Welkom, Harmony and Dagbreek formations.

The Virginia Formation is up to 800m thick and is composed of a transition from the underlying finer-grained Jeppestown Quartzites into an alternating sequence of grayish green argillaceous quartzites with pebble lags.
The first pebble layer may be characterized by kerogen (carbon) known as the Beisa Reef. The St Helena Formation is a ±300m sequence of alternating mature quartzites and argillaceous, pebbly protoquartzites, with a distinct change from the khaki yellow sericitic quartzites (LF1) of the underlying Virginia Formation to coarse grained, light grey siliceous quartzites (MF4) at the base of the St Helena Formation. The top of this formation is marked by mineralized gravels up to 2m thick known as the Intermediate Reef or UF4 (base of Welkom Formation).

The Welkom Formation comprises approximately 250m of argillaceous quartzites, gritty and pebbly quartzites, with polymictic clast composition of yellow silicified shales, green siliceous quartzites and black chert.

Figure 6-1: Geological setting of the Witwatersrand Basin

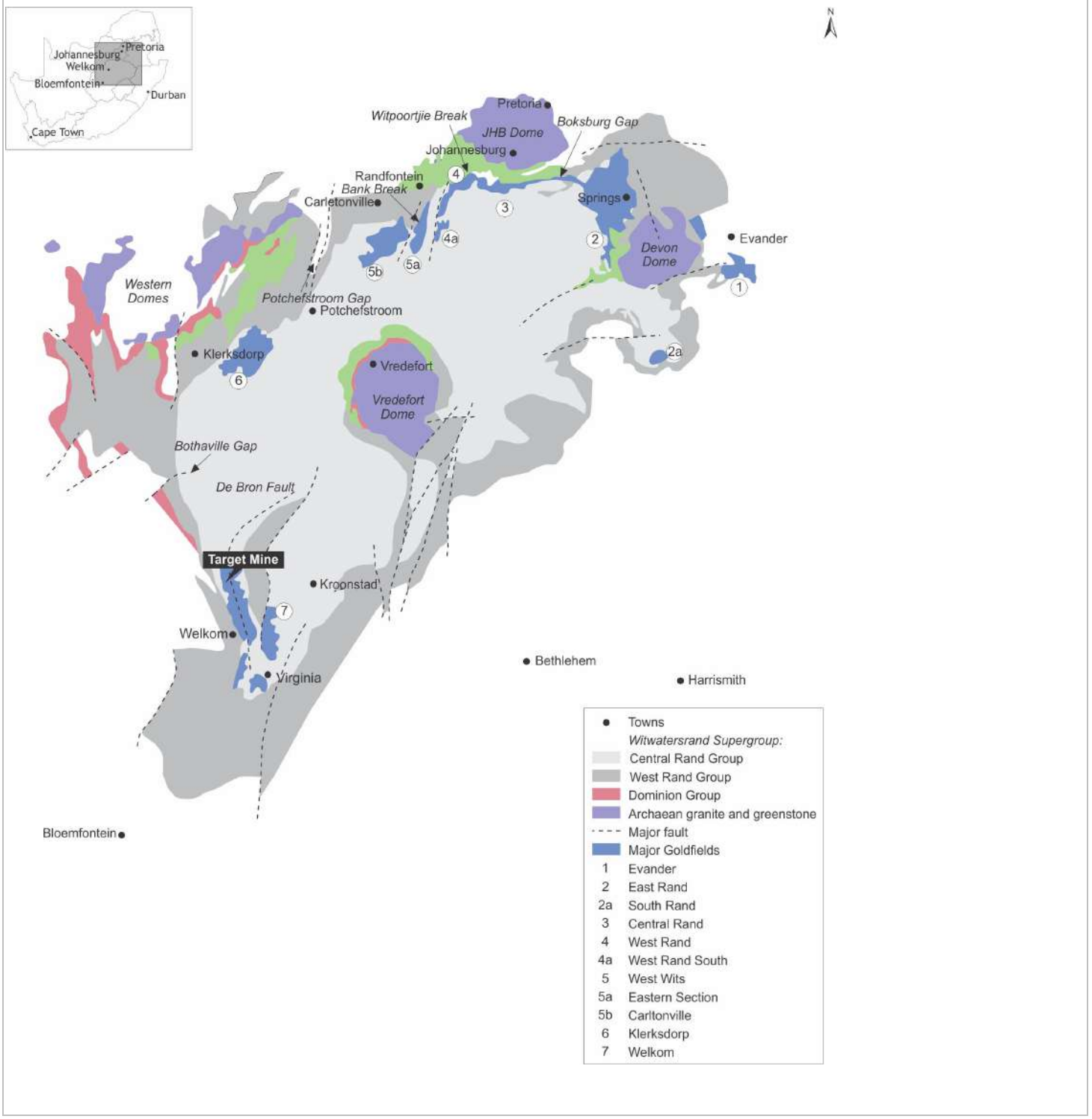


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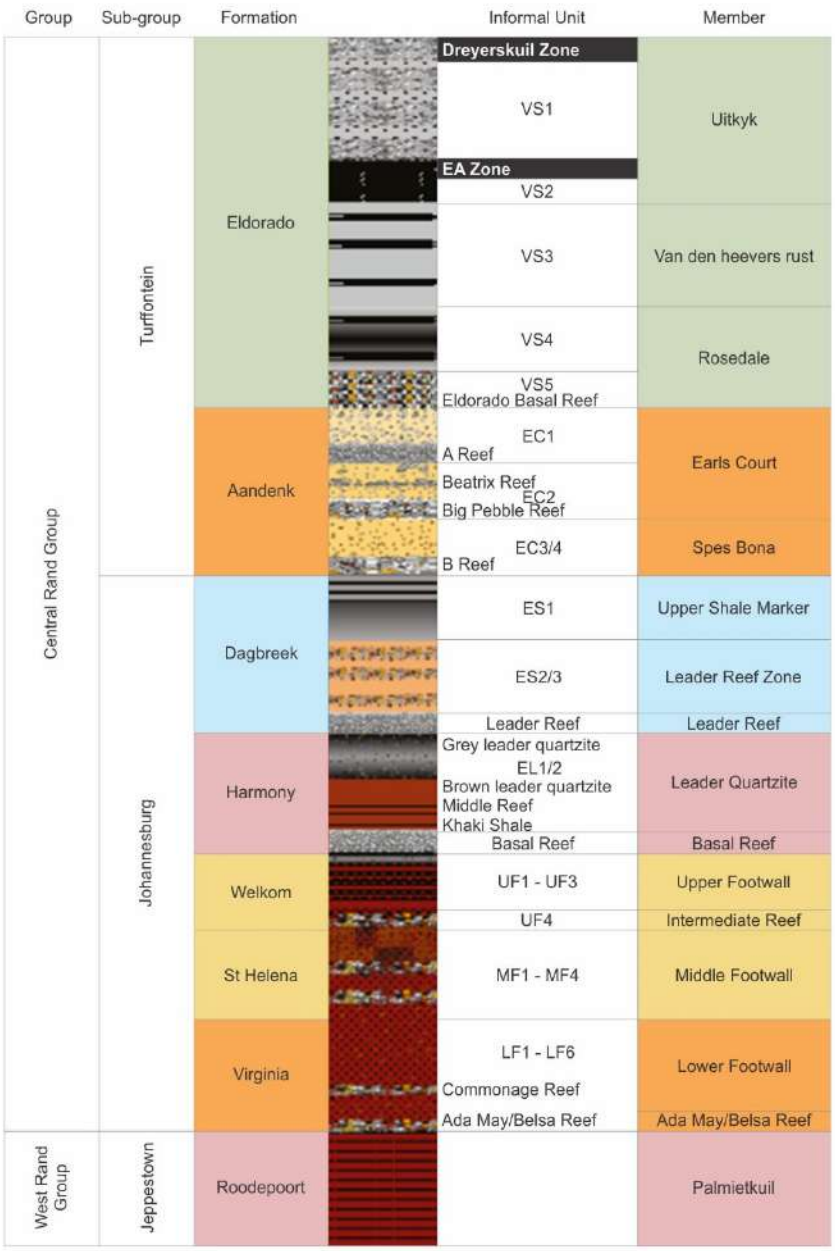
Figure 6-2: Stratigraphic Column of the Free State Goldfield



This unit both thins from west to east with a corresponding grain size decrease. The Harmony Formation contains the most important gold-producing reef in the Free State Goldfield, namely the Basal Reef representing the Basal and Steyn placers. It varies from a single pebble lag to channels of more than 2m thick. It is commonly overlain by shale, which thickens northwards. The Dagbreek Formation comprises a composite of oligomictic and polymictic conglomerate termed the Leader Reef, which caps the Harmony Formation. This is overlain by interbedded siliceous and argillaceous quartzites with lithic fragments (Leader Reef Zone).

The Turffontein Subgroup comprises the Kimberly (formerly Aandenk) and Eldorado (Elsburg) formations. The Kimberly Formation is sub-divided into the lower Spec Bona Big Pebble and upper Big Pebble (Earls Court) members. The Spec Bona Member consists of a basal polymictic conglomerate which may have associated kerogen (carbon) - B Reef, overlain by khaki-yellow coarse pebbly argillaceous quartzites with polymictic conglomerate horizons. The Big Pebble Member hosts two main conglomerate reefs, namely the basal Big Pebble Reef and the A Reef, referred to at Target as the BP1a and BP6a reefs, respectively. These placers occur with a sequence of khaki to brown argillaceous quartzites with interbedded pebbly quartzites.

The Eldorado Formation is sub-divided into three members, namely the Rosedale, Heeversust and Uitkyk members. These members consist of argillaceous quartzwacke with interbedded siliceous quartzite. The Rosedale Member consists of a basal, polymictic immature conglomerate (VS5), overlain by immature dark grey, gritty quartzite, which increases in maturity northwards.

The Heeversrust Member consists of a basal polymictic conglomerate overlain by yellowish argillaceous quartzite. The Uitkyk Member underlies the Ventersdorp lavas and is locally referred to as the Dreyerskuil (or Boulder Beds) which consist of a polymictic coarsening-up sequence with heterogeneous pebbles/cobbles of black, yellow and green shale, greenstones, porphyritic lava, chert quartzite and quartz.

The Free State Goldfield is structurally divided into two sections, cut by the north-south striking De Bron Fault (Figure 6-1). This major structure has a downward vertical displacement to the west of about 1,500m in the region of Bambanani, as well as a dextral shift of 4km. This known lateral shift allows a reconstruction of the reefs to the west and east of the De Bron Fault. Several other major faults lie parallel to the De Bron Fault.

Target lies to the west of the De Bron Fault. Dips of the reef are mostly towards the east, averaging 30° but become steeper approaching the De Bron fault. Between the east and west blocks lies the uplifted Horst block of WRG sediments with no reef preserved.

6.3 Property Geology

The reefs currently exploited at Target are the conglomerates in the Heeversrust (Elsburg) and Uitkyk (Dreyerskuil) members of the upper Eldorado (Elsburg) Formation (Figure 6-2). These Elsburg-Dreyerskuil conglomerates form a wedge-shaped stacked package, comprising 35 separate reef horizons, often separated by quartzite beds.

The Elsburg (EA) reefs are truncated by an unconformity surface at the base of the overlying Uitkyk (Dreyerskuil) Member (Figure 6-3). Below the sub-outcrop, the Elsburg reefs dip steeply to the east, with dips becoming progressively shallower down dip.

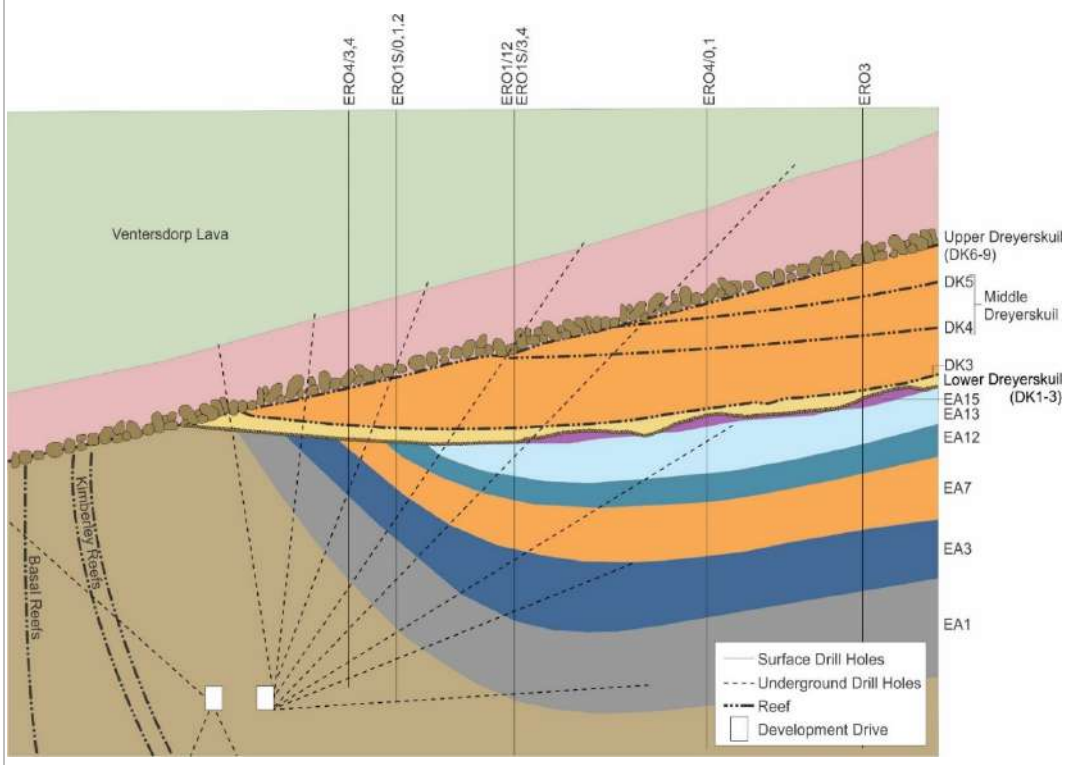
Close to the sub-outcrop, the thickness of the intervening quartzites reduces, resulting in the Elsburg reefs merging to form composite reef packages that are exploited by massive mining techniques at Target. The Dreyerskuil (DK4, DK5 and DK6)-reefs also consists of stacked reefs dipping shallowly to the east. These reefs tend to be less numerous, but more laterally extensive than the underlying Elsburg reefs.

6.3.1 Heevenrust Member (“EA Zone”)

The EA Zone comprises interbedded green to black, coarse to medium grained argillaceous quartzwackes (referred to on Target as subgreywackes) interbedded with polymictic to oligomictic conglomerates and locally quartzites.

In the south greywacke and polymictic conglomerates predominate while in the north, a relatively high proportion of quartzites with interbedded oligomictic conglomerates exist. A combination of facies variations, local differences in source areas and tectonics are proposed as a possible explanation for the difference.

Figure 6-3: Schematic Cross-Section through the Heeversust and Uitkyk Members at Target



Source: Avmin

The EA Zone contains most of the Eldorado Reefs mined at Target, namely the EA1 at the base and, ranging up through the succession, the EA2, EA3, EA4, EA5, EA7A, EA7B, EA8 bottom and top, the EA12, EA13 and EA15 (Figure 6-3). Except for the EA1 with its EB footwall, and the EA8 and EA15 bands, there are no distinctive markers, which can be used for identifying the different reefs.

6.3.2 Uitkyk Member

The Uitkyk Member covers the entire Target lease area. It commences as a sericitized polymictic large pebble agglomerate varying in thickness from 2m to 12m. This unit was often referred to as the Lower Agglomerate (“L.A.G”) or lower Dreyerskuil at Target. Above the L.A.G., up to 18m of argillaceous quartzwackes intercalated with light grey quartzites and polymictic, loosely packed conglomerate bands are developed. The upper portions of the member are characterized by the presence of cobble and boulder beds of varying composition ranging from greenstones, granites, black, yellow and green shales, altered porphyritic rocks, cherts, quartzites and quartz.

6.3.3 Structure

Within the Target Mining Right, folding forms the major structural feature and is manifested as an asymmetric syncline whose axis trends N15°W, with a general plunge of 10° to 12° north (Chapman, 1969), although this is variable due to local structural features. The dip of the western limb of the syncline is often in excess of 55° eastwards. However, due to local faulting and minor folding, the reefs may be vertical in places. Below the EA1 reef, all zones and reefs sub-outcrop against either the Dreyerskuil (Uitkyk) or against EA (Heeversrust) reefs.

The lower lying EA reefs (EA1-EA8) sub-outcrop against either higher EA reefs or Boulder Beds, while the upper reefs (EA12-EA15) generally appear to become more conformable with the Dreyerskuil. Below the EA1 Reef the underlying Rosedale Member of the Eldorado Formation, the Kimberley Formation and the Dagbreek Formation all appear conformable with one another, although subtle very low angle unconformities exist between each one. The eastern limb of the syncline has an almost constant dip of 10° to 15° to the west, similar to that of the Uitkyk Beds.

Olivier (1965) considered the major episodes of faulting to have occurred during CRG, lower Ventersdorp Supergroup and post Ventersdorp times. CRG events are characterized by north-south trending thrust faults (Rheedersdam Fault), which are confined to the western margin of the Free State Goldfield and may have formed in response to either compression forces (Callow & Myers, 1986) or extensional forces (Winter, 1986).

At Target these events are manifested by the Spec Bona faults, two major reverse faults which both plunge to the north. Geological information south of PSGM 3 Shaft indicates that these systems persist through the southern boundary of PSGM 3 Shaft, and tie up with the Phillipi Fault, encountered near the western boundary of PSGM 7 Shaft and eventually the Rheedersdam Fault (Chapman, 1969).

The earliest faulting correlated with the lower Ventersdorp times, consists of east-west reverse faults. These are thought to be of Late Klipriviersberg age as the Merriespruit fault displaces the Klipriviersberg lavas. The major fault system correlated with this event is that of the major north-south trending normal faults, namely the Eldorado and Border faults. These faults have an associated right lateral movement that in some cases is greater than the vertical movement (Minter, 1986).

Two main fault systems are evident in post Ventersorp times. The first being vertical north-west and north-east trending wrench faults, and the second being reactivation of the major strike faults with a reverse movement (Minter, 1986). Late Ventersdorp dykes or intrusions strike consistently north or east and are usually near vertical in dip.

The Damn Fault is a normal down throw fault dipping towards north, and striking SW-NS. The throw on the fault ranges between 25m-35m. Fault 76X is striking SW-NE and dipping towards north. The fault has a 5m strike slip component, and 15m down-throw component.

Blast dyke has a downthrow of 35m on the northern side. The dyke has a thickness of 25m-35m, and is striking SW-NE and dipping towards north.

Bedding Plane Fault is an N-S striking fault in the western margin of the orebody which cuts off the lower reefs in all the mining blocks.

The presence of numerous minor faults is of more practical mining related interest. These faults, with a displacement generally of less than 15m and traceable over a strike distance of less than 150m are too numerous to classify.

It is believed that the eastern limb of the trough is less faulted than the western limb. Thus, they are mainly of Witwatersrand age, (pre-Ventersdorp in that they are related to the folding). Downthrows to the west appear to be more abundant in the north-south striking faults.

6.4 Mineralisation

Exploitable mineralisation within the EA reefs, as developed in the Target Mine area, is associated with the presence of medium to coarse, clast-supported oligomictic pebble horizons. The presence of allogenic (buckshot) pyrite and detrital carbon is also common.

Although the lithostratigraphic location of the reef zone can generally be recognized throughout the mine, reef development and hence payability has no definable lateral contiguity, with favourable reef development being restricted to channelized zones of reworking. In this regard the laterally most persistent (dip and strike extent) reefs are the EA1, EA3, EA7 and EA12.

A further important point to note is that the minable extents of most reefs are generally restricted to the western limb of the asymmetric syncline and, in addition, to within 40m of the sub-outcrop areas. Payable extensions of reefs east of the trough axis have been encountered for selected reefs.

In the northern portions of Target, the exploitable mineralisation within the EA reefs is associated with medium to coarse clast to matrix supported oligomictic pebble horizons. However, allogenic (buckshot) pyrite along with free milling gold can be associated with oligomictic grit horizons especially east of the trough axis, representing distal facies of the above assemblage.

In limited exposures towards the south of the lease area, allogenic (buckshot) pyrite is associated with medium to coarse grained, clast supported polymictic pebble horizons, with clasts of yellow, black and green shale, black chert and quartzite and white vein quartz. This may represent a localized influx of unsorted material into an area of reworking.

It is proposed that the Heeversrust (Eslburg) Member comprises several, locally overlapping alluvial fans with entry, in general, from the west. Beyond the present position of the trough axis (80m to 100m east of sub-outcrop against the EA12 reef), it is envisaged that a lower energy braided fluvial environment predominated.

6.5 Deposit Type

The Target deposit is an alluvial fan-type deposit. The bulk of the mineralisation is specifically within the Eldorado Fan, a structure with dimensions of approximately 135m vertically, 450m down-dip and 500m along strike. This fan is connected to the subsidiary Zuurbron Fan, located between Target and Loraine, by a thinner and lower grade sequence of Elsburg (EA) reefs termed the Interfan area. To the north of the Eldorado Fan, several fans are known, including the Siberia and Mariasdal fans.

6.6 Commentary on Geological Setting, Mineralisation and Deposit

The Target geological model is based on the stratigraphy as determined through the mining and drilling. The geological model has been well tested through years of mining and exploration drilling. New drilling does not result in significant changes to the geological model; however, it does improve the data density, which improves the delineation of the geological blocks.

The full potential of the Basal Reef, which produces 85% of the gold from the Free State Goldfield, has yet to be established on the Target property because initial drilling has focused on the shallower Eldorado (Elsburg) and Kimberley (Aandenk) reefs.

7 Exploration

Section 229.601(b)(96) (7) (i-vi)

Geological data has been obtained through initial surface drilling, followed by underground drilling, mapping and channel (chip) sampling.

7.1 Geophysical Surveys

A 3D seismic survey covering 13 x 5km was conducted by French company, CGG, in 1997. Seismic attributes from the acquired 3D seismic data were used for the interpretation of structure, and to image lithological variations in the reef zones, and continuity of fault structures on a macroscale. Reflective amplitude plots showed the base of the Klipriviersberg lavas as a major reflection unit above lower reflection amplitudes of conglomerates. Linear amplitude lows were interpreted as faults or potential dykes.

7.2 Underground Mapping

Stope and development mapping is undertaken by the geologists. Strike tape is setup along gullies (strike) and base tape along the stope face, and both are fixed using the latest survey pegs installed in the workplaces.

Reef position and other lithological and stratigraphic information are recorded and measured relative to the base tapes (strike tape). In trackless development, the base tape is fixed parallel with the end using two survey pegs, while the second tape is used to measure and record information from base tape to the side-walls. The lithological units and geological features are identified and marked before mapping commences. Stratigraphic interpretation is made easy by the presence of numerous distinctive quartzwacke, and multi-colour markers.

Mapping sections are identified and marked at intervals (3 – 10m) depending on the level of detail required in line with the complexity of geology on the face. Inclined development includes raises, winzes, boxholes, travelling ways, slushers and inclined shafts are also mapped applying the same principle as in the flat ends. The base tape must therefore provide the reference line from which both horizontal and vertical measurements are made during mapping. The base tape must be located in three dimensions relative to the two survey pegs.

Once on surface, the geologist transfers the information from the field-book to compile a geological mapping report. The mapping reports depict the geological information graphically relative to the survey measurement points. Data from the mapping is captured into StopeCad, and subsequently get exported into Datamine for geological modelling.

Geological mapping and interpretation of stratigraphy is done by the geologist, and interpretation goes through internal peer reviews and is signed off by the section geologist and head of geology to ensure consistency. Data from the mapping is subsequently incorporated into the geological models.

7.3 Topographic Surveys

No topographic survey has been completed in the past, and in the opinion of the QP, these surveys are not necessary as the information in this TRS relates to an underground operation.

7.4 Channel Sampling Methods and Sample Quality

Channel sampling is undertaken according to industry best practice, as well as the Mine's underground sampling procedure.

Two parallel lines, 4cm apart are drawn at right angles to the dip of the reef, across the reef exposure, from hanging wall to the footwall of the stope panel or development end. Another line is also drawn parallel to the average reef dip at the base of the reef package.

Sample intervals are marked beginning at the base of the reef. The samples extend the full height of the face and extended beyond the parallel lines to ensure that the sampled position can be located after sampling is completed. Reef bands are marked off by drawing lines parallel to the reef contact, 2cm below and above the reef contacts. The inclusion of such waste is essential to avoid loss of any gold, which may be concentrated on the contact between reef and waste. Samples are chipped from the rock face at 2cm intervals. Samples

are weighed and submitted to the designated laboratory for assay. A detailed description of the sampling process is provided in Section 8.1.1.

7.5 Surface Drilling Campaigns, Procedures and Results

Initial surface drilling carried out during the 1980s, under the auspices of Sun, was designed to delineate the northward continuation of the synclinal axis, around which most of Loraine Mine's gold deposits are located. Following the incorporation of Target Exploration Company in 1990, a total of 17 drillholes and three long deflections from existing drillholes were drilled in three arrays parallel to the western margin, namely the Western, Central and Eastern arrays. The location of the drill holes is presented in Figure 6-3 and Figure 7-1.

The Central Array targeted the EA reefs, while the Western and Eastern arrays focused on definition of the proximal (steep west limb) and distal Kimberley and Basal reefs, respectively (Figure 7-1).

7.5.1 Drilling Methods

Surface diamond core drilling was undertaken using Sulliman 50 drill rigs, which typically drilled CHD (58.7mm diameter) core size to depths of 4,000m. The drill grid spacing of the surface drill-holes intersections is up to 500m on original holes and deflections typically intersected reefs from 170m to 250m away from the original holes.

No surface drilling activities were undertaken since the completion of ERO4 drill hole in 1995.

7.5.2 Collar and Downhole Surveys

Both surface and underground exploration drill holes are surveyed to confirm both collar position and trajectory. Surveying of exploration drillholes at Target is outsourced to Digital Surveying (Pty) Limited.

7.5.3 Logging Procedure

Upon arrival at the core yard, drilled core is cleaned and marked at every meter interval. The core is then orientated so that the low point of bedding is coincident with the edge of the angle iron. The core splitting line is defined and drawn by following low point of the bedding at the base of the reef units from left to right in the direction of increasing drillhole depth. The core is then rotated 90° and a yellow split line is drawn prior to the cutting. All drill cores are photographed prior to logging and sampling. The logs are checked by the Senior Geologist prior to sampling.

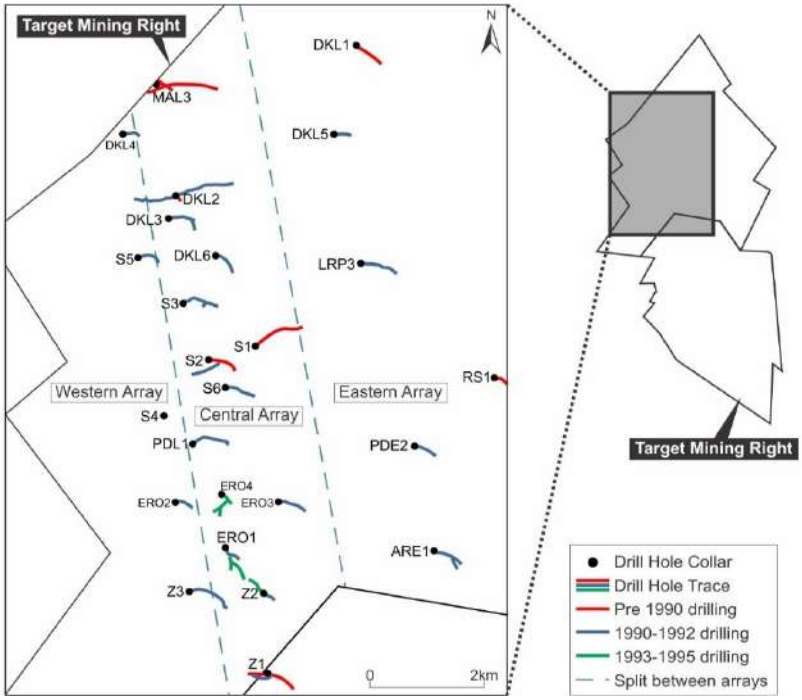
Drill core logging is quantitative and qualitative. The following information is recorded:

- lithology;
- packing density;
- roundness;
- sorting;
- contact type, grain/pebble size;
- sediment maturity; and
- mineralisation; and alteration.

The geologist responsible for logging the core keeps the original paper record. Internal peer reviewing is undertaken on the interpretation of the stratigraphy and spatial correlation of drill holes. The logs are checked by the Senior Geologist prior to sampling once stratigraphic interpretation is agreed upon and signed off by the section geologist or head of geology. Data from core logging is then captured into Sable Database Management System by the geologist responsible for logging.

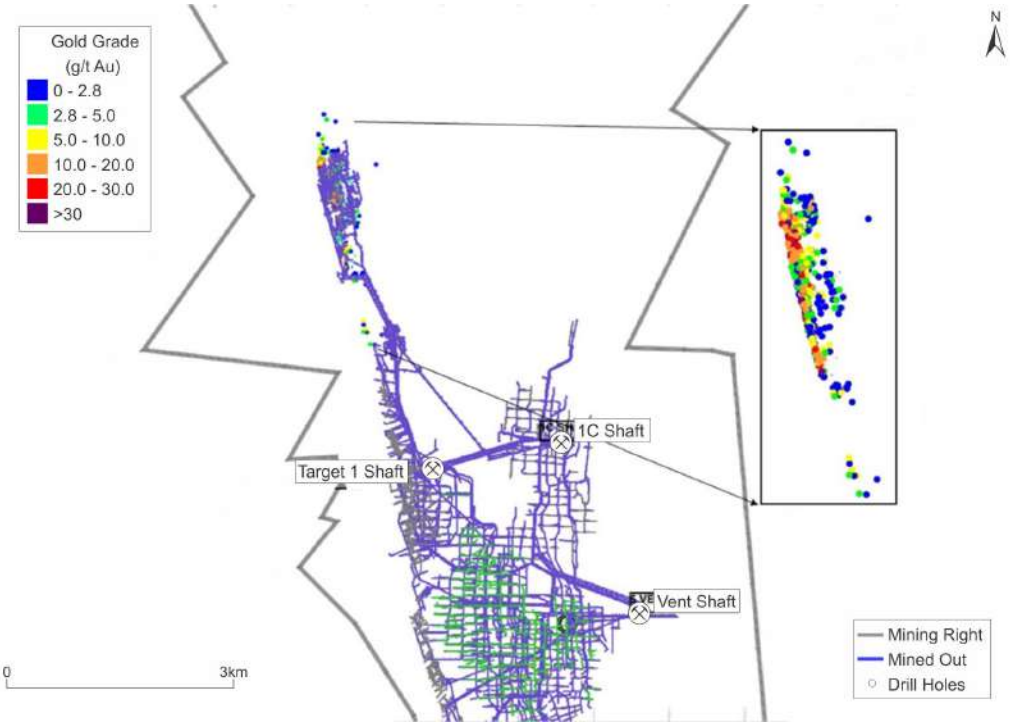
All drill cores are photographed prior to logging and sampling. Drill core logging is qualitative, and all pertinent features are logged, including stratigraphy, lithology, structure, alteration and mineralisation characteristics.

Figure 7-1: Location of Target Surface Drill Holes



Source: Avgold

Figure 7-2: Location of Target Underground Drill Holes



7.5.4 Drilling Results

Drill hole ERO1 in the Central Array (Figure 6-3, Figure 7-1) was collared over the predicted position of the next EA reef fan. A well-mineralised package of vertically superimposed conglomerates in the Eldorado Formation was intersected between 2,194m and 2,353m below surface, yielding a gold grade of 6.42g/t over a true interval of 128.63m. More than 17 individual conglomerate reefs are superimposed in this section.

Subsequent long deflections from the primary drill hole were aimed at substantiating the tonnage and grade potential of the newly discovered ERO1 mineralisation. Drill holes on the periphery of the proposed fan outline were deflected toward the fan to establish areal continuity of the reefs (Z2NW, ERO1SE, ERO1S). These deflections intersected the EA reefs at distances of 250m south-southeast, 170m south-southeast and 130m south-southwest of the original ERO1 intersection. Gold values returned from the drill holes constrained the outline of the fan.

The encouraging gold grades obtained from the surface drilling programme led to the decision to drill a high-density pattern from an underground drilling platform. A summary of the drill holes drilled at Target is presented in Table 7-1.

Table 7-1: Summary of Surface Drill Holes Drilled at Target

Year	Company	No. Drill Holes	Surface (m)	Underground (m)
1981-1992	Anglovaal	177	134,418	
1992-1995	Anglovaal	2	3,445	
1995-1998	Anglovaal	189		84,992
1997-2000	Anglovaal	80		123,484
2002-2004	Anglovaal	43		11,548
2006-2007	Harmony	18	6,933	599
2007-2021	Harmony	351		25,695
Total		**860**	**144,796**	**246,248**

With over 499,233 samples having been taken since 1980, the results are too voluminous to be reported in this report. The results have, however, been included into the geological modelling and Mineral Resource estimation process.

7.5.5 Core Recovery

Upon delivery to the core yard, and prior to logging and sampling, the drill core is checked to ensure 100% core recovery. Core recovery is determined by dividing the measured length of the recovered core by the total length of the core run.

An intersection is complete and representative if core recovery is greater than 99%. Drill holes with poor core recovery are not sampled. Extra caution is taken during the drilling process to ensure maximum core recovery on reef intersections, to prevent sample bias.

7.5.6 Sample Length and True Thickness

Sample lengths were taken at 25cm intervals within the reef which is a representative sample. Mineralisation is perpendicular or at an angle to the drill holes. In the case of angled holes, all drill hole reef intersection widths are corrected to true thickness for gold value calculation.

7.6 Underground Drilling Campaigns, Procedures and Results

The positive surface drilling results led to the construction of an underground drilling platform. Twin declines, of sufficiently large dimensions to support a man/rock conveyor system and to provide adequate ventilation, with connecting crosscuts at 100m intervals, have been developed from the 67 level at Loraine. The total length of the decline system is sufficient to provide geological information along the entire strike length of the Eldorado Fan.

Underground exploration drilling has been on-going throughout the operational life of Target as the mine deepens. Most of the underground drillholes are used in the geological modelling and estimation of the current Mineral Resources. (Figure 7-2)

7.6.1 Drilling Methods

Underground diamond core drilling is conducted using hydraulic driven drill rigs, which typically drill AXT core. The standard sample length is 25cm, where half a AXT core is sent for analytical analysis. Drill holes are typically short, rarely exceeding 300m in length.

Fans of drill holes are drilled from diamond drilling bays, which are developed at 50m intervals along the decline return airway ("RAW") decline. The drilling fans consist of up to ten individual drill holes at inclinations ranging from -15° East to +30° West of vertical, or as dictated by local geological structures. An example of a stretch of underground drilling is presented in Figure 7-2, in relation to the original surface drill holes.

Maximum drillhole lengths of 350m are required for complete Dreyerskuil intersections in the synclinal axis. Drill holes are stopped once the Ventersdorp lava has been intersected, or, in the case of flatter drill holes, once the trough axis has been identified and the drill hole is drilling parallel to the bedding.

Due to the divergent nature of individual drill holes away from their collars, intersection points on the numerous EA reefs vary in accordance with distance along the drill hole. Drill hole fans were originally constructed to obtain an optimum 50m x 50m grid on the base of the Dreyerskuil Reef (DK1a).

7.6.2 Collar and Downhole Surveys

Drill holes are surveyed to confirm both collar position and trajectory. Surveying of exploration drill holes at Target is outsourced to Digital Surveying (Pty) Limited. All underground drillhole surveys are conducted using an Electronic Multishot Survey instrument. The instrument is a magnetic based tool and as such all results are relevant to Magnetic North, utilizing normal mining conventions of Dip Positive Up (meaning a positive measurement on the inclination means a drillhole drilled with a positive plunge) and 0 = NORTH (meaning a direction / azimuth of 0 is Magnetic North).

7.6.3 Logging Procedure

Upon arrival at the core yard, drilled core is cleaned and marked off at every meter interval. The core is then orientated so that the low point of bedding is coincident with the edge of the angle iron. The core splitting line is defined and drawn by following low point of the bedding at the base of the reef units from left to right in the direction of increasing drillhole depth. The core is then rotated 90° and a yellow split line is drawn prior to the cutting. All drill cores are photographed prior to logging and sampling. The logs are checked by the Senior Geologist prior to sampling.

All drill cores are photographed prior to logging and sampling. Drill core logging is quantitative and qualitative. The following information is recorded:

- lithology;
- packing density;
- roundness;
- sorting;
- contact type, grain/pebble size;
- sediment maturity; and
- mineralisation; and alteration.

The geologist responsible for logging the core keeps the original paper record. Internal peer reviewing is undertaken on the interpretation of the stratigraphy and spatial correlation of drill holes.

Drill hole log data is then captured into Sable Database Management System by the responsible geologist.
A standard procedure for the underground sampling is used to ensure quality of sampling information and safety in its collection. All samplers and sampling crews are trained based on the rules of the sampling standard. Particular attention is given to quality of information captured, and planned task observations are routinely carried out to ensure adherence to the standard.

7.6.4 Drilling Results

By the end of December 2021, a total of 96,041m of drilling was completed. Data density and distribution for majority of reefs are generally 25m on strike and 40m on dip, with higher density in the western limb of the asymmetric syncline.

Exploration drilling was undertaken on 284 level for Block 3 and then 284 take over exploration for the more proximal western portion of Block 3. Exploration into Block 12 was done at various drives and a recent drilling programme was designed to improve Mineral Resource classification. The density of drillholes decrease towards the east because of limited access. Grade was also distance sensitive towards the east. A summary of the drill holes drilled at Target is presented in Table 7-1.

With over 499,233 samples having been taken since 1980, the results are too voluminous to be reported in this report. The results have, however, been included into the geological modelling and Mineral Resource estimation process.

7.6.5 Core Recovery

Upon delivery to the core yard, and prior to logging and sampling, the drill core is checked to ensure 100% core recovery. Core recovery is determined by dividing the measured length of the recovered core by the total length of the core run.

An intersection is complete and representative if core recovery is greater than 99%. Drillholes with poor recovery are not sampled. Extra caution is taken during the drilling process to ensure maximum core recovery on reef intersections, to prevent sample bias.

7.6.6 Sample Length and True Thickness

Sample lengths were taken at 25cm of the reef and is considered as representative of the mineral deposit. Mineralisation is perpendicular or at an angle to the drill holes. In the case of angled holes, all drill hole reef intersection widths are corrected to true thickness for gold value calculation.

For underground drillholes, all widths are measured at right angles to the dip of the reef. Individual sample widths are measured from bottom to top along the two parallel lines. All measurements are made to the nearest centimetre.

7.7 Hydrogeology

Throughout the mine, water and gas, usually in small quantities, may occur at the contact zones of dykes and sills. Intersections of water and gas in geological cover drilling account for most of the delays in the mine development due to sealing that must be done before mining activity can resume. Prominent East-West striking water dyke which carries significant amount of water was intersected at 272 RAW and 272 Cross Cut 96.

7.8 Geotechnical Data

Geotechnical issues related to underground workings are discussed in more detail in the Mining and Mine Design sections (Section 13).

7.9 Commentary on Exploration

Surface drilling was used as the initial exploration drilling, and this was later infilled to provide sufficient detail for geological modelling and Mineral Resource estimation. Subsequently more drilling was undertaken from underground between 1995 and 2000 to further improve confidence on the understanding of the orebody and geological modelling.

The underground infill drilling system is in place to improve data density in specific areas (planned massives) and are drilled from the underground development access drives.

The QP is of the opinion that the quality and quantity of the exploration methods and information gathered is sufficient to support the estimation of Mineral Resources and Mineral Reserves.

8. Sample Preparation, Analyses and Security

Section 229.601(b)(96) (8) (i-v)

This section summarises information relating to the sample preparation on site through to the laboratory preparation and analysis.

8.1 Sampling Method and Approach

Sample types used to support both production and geological exploration include diamond drill core samples and channel (chip) samples.

8.1.1 Channel Samples

A standard practice for the sampling of stopes and development ends is required to ensure quality of sampling information and safety in its collection. Such a document exists within Harmony, and all samplers and sampling crews are trained based on the rules of the sampling standard. The standard specifies all the steps and rules involved in the preparation of the face and the collection of samples, as well as all safety aspects of sampling.

The channel and sample lines are chipped out using a standard chisel and mallet. An electric saw has previously been used for taking samples in some development sections and is considered an excellent method of taking samples as it allows for an evenly cut and more representative sample. Practical difficulties and safety issues forced an end to sampling with the diamond saw.

The samples are individually chipped out to an even depth (1-2cm to replicate the same amount of sample as would be recovered from half BX core), commencing from the bottom sample. The remainder of the samples are chipped in succession up the face. Contamination of samples is reduced to a minimum by starting at the bottom.

A sampling dish is used to collect the chipped samples. If any contamination occurs from the surrounding rock, the sample is discarded and the section re-sampled. The samples are transferred from the sample dish to the sample bag. The sample dish is cleaned thoroughly before using it for the next sample.

All geological data (faults, dykes) between sampling sections are measured and recorded in the sampler's field book. The sampler also records the numbering and positions of samples.

Samples are taken from underground by the samplers and delivered to Steyn laboratory. All inter-person transfers are recorded. This process continues until the samples are delivered to the laboratory, where the chain of custody form is signed evidencing the date and time of sample receipt.

8.1.2 Core Samples

Once core logging is completed, exploration drill-holes core is split into two halves prior to sampling, while in many cases full core is sampled on infill drill holes. The guideline is that all exploration drill core, as well as those drill holes where interpretation of stratigraphy is complex, should be split. The HOD Geology and Section Geostatistitian must ratify holes that full core is sampled and those that core is split.

Core that has to be split is marked off and sampled. Reefs are sampled in such a way that the samples overlap the top and bottom contacts by 2cm to prevent dilution of the reef samples and to determine existence of mineralisation on contacts.

The core yard assistants use the contacts marked by the Senior Geologist to demarcate the samples. The standard sample length is 25cm (±10cm) and the core is split along the apparent dip direction (low point) to preserve the apparent dip angles for the geologist to record. The split also follows-on from one tray to the next.

Details of the samples are captured on hard-copy log sheets and include the drillhole name, samples numbers, sample depths, from and to interval, and date on which the samples were submitted for assay. The log sheet is captured on the electronic database pending results from the designated laboratory.

8.2 Density Determination

A relative density ("RD") of 2.71 has been determined for Target based on a comprehensive study undertaken by Avgold in early 2000, under supervision of Dr B Northrop. A process to determine the specific gravity using Snowrex Precision NHV-3 density scale (Archimedes method) was re-started in 2013, which validated the specific gravity of 2.71 within the current mining blocks, including Block 3 and Block 12.

A total of 19 drill holes in different strategic locations (mining blocks 3 and 12) were measured until 2017. The measurements were performed on the remaining half of the samples sent to the laboratory for analysis. The sample sizes used for RD measurements were the same as the sample sizes sent to the designated laboratory for assays (half BX core ±25cm length).

During 2018, a total of four exploration drill holes (GBH2210, GBH 2216, GBH 4028 and GBH4034) in Block 12, consisting of 520 samples, were measured for RD using the Archimedes method. The scale was calibrated regularly according to the prescribed procedure. The RD of 2.71 was measured on EA reefs.

8.3 Sample Security

Chip samples are put in sample bags, sealed and transported to the core yard on the same day as they are collected. The core yard is a secure facility with access control measures in place. Samples are subsequently delivered to the laboratory by the mine.

Cores are delivered to the core yard at the end of each day for secure storage. Sampling only takes place at the core yard. The samples are put in the bags and sealed and stored until they are delivered to the laboratory.

Samples can only be transported by a permit holder for transporting gold bearing material. Waybills and registers are checked and signed off by security prior to transporting samples to the laboratory. The samples are received at the laboratory from the mine in locked containers with seals.

The sample labels are scanned at the designated laboratory and the batches are compared to the submitted sample sheets. The scanned bar codes are kept at the laboratory and compared to the work sheets automatically created by the system. Sample lists submitted by the mine are used to compare samples received by the laboratory.

8.4 Sample Storage

All pulp samples of exploration drill hole intersections and underground chip sample are kept for a few months at the laboratory and later discarded. The remaining half of the sampled core of exploration holes is kept at the core yard for future references.

8.5 Laboratories Used

Both the underground and surface exploration samples were historically sent to the SGS South Africa (Pty) Limited ("SGS") independent laboratory, with Anglo American Laboratories used as a secondary independent laboratory.

Currently, both core and chip samples are sent to are sent to the internal Steyn laboratory. Steyn laboratory is ISO/IEC 17025:2017 accredited for gold analysis by the South African National Accreditation System ("SANAS"). The SANAS accreditation number for Steyn Laboratory is T0520.

8.6 Laboratory Sample Preparation

Upon receipt at the laboratories, the samples are dried, crushed, pulverized and goes through the sorting process. Chip samples are pulverized, and the aliquot size of the samples is 25g. The core samples are milled to a pulp as per the internal Standard Operating Procedure document (reference no. M501). From the prepared pulp, an aliquot sample size of 50g is mixed with the prescribed flux and fused at a temperature ranging between 1,100°C to 1,200°C.

8.7 Assaying Methods and Analytical Procedures

All samples are assayed for gold using fire assay and gravimetric finish methods. Pulverised samples (85% passing 106 microns) are fused with a suitable flux. The flux combines with the gangue to form a fluid slag and the litharge in the flux is reduced to minute globules of lead.

The rain of lead globules, falling through the molten mass, collects the particles of precious metal and coalesces into a button at the bottom of the crucible. For effective collection, the composition of the flux, the temperature and its rate of increase is optimised. On cooling, the slag solidifies and is separated from the lead button containing the precious metals.

During cupellation, lead is oxidised to molten litharge, which wets the inner surface of the hot porous cupel and is absorbed. The molten precious metals are not absorbed because of their high surface tension, and because they do not oxidise. Parting is the separation of silver from gold alloys by acid dissolution of the silver. Where gold is not soluble, silver is readily soluble in hot nitric acid.

The prill after parting, has the black amorphous appearance of sponge gold which must be annealed at 800°C. After annealing, the gold contracts into the form of a coherent, malleable prill of the classic golden yellow colour. The mass of the prill is measured on an assay balance. To ensure that a high standard of analysis is maintained, each step of the analytical process and procedure, including the adherence to safety standards, is checked by a supervisor.

8.8 8.8 Sampling and Assay Quality Control (“QC”) Procedures and Quality Assurance (“QA”)

The assessment of assaying accuracy and precision is carried out using certified Standard Reference Materials (“SRM”), blanks and duplicates. SRMs, blank samples and duplicate samples are added to the underground chip samples and drill hole core samples sent to the assay laboratory.

If the SRM or blank sample has been deemed to have failed, the entire batch of samples assayed with this failed QAQC sample must be identified. A request must then be sent to the laboratory requesting the laboratory to repeat the assay procedure on all samples within the batch.

A second SRM or blank sample is provided to the laboratory to include with the batch of samples. Should the batch of samples fail the QAQC standards again, these samples are excluded from the sampling database (not captured in the sampling system), and the panel/drillhole will have to be resampled if necessary. In addition, regular audits of the laboratory processes and facilities are conducted by mine evaluators and regional experts to monitor compliance and quality controls.

8.8.1 Standards

A range of SRMs were sourced from the African Minerals Standards (“AMIS”) and inserted into the sample sequence by the logging geologist.

For analysis of underground chip samples, the total number of SRMs, blank samples and duplicate samples to be added to the daily underground samples equal approximately 5% of the total underground samples submitted for that day. Generally, this equates to approximately 2% of each type of QAQC sample.

For analysis of underground/surface drill holes one gold SRM is required for every 20 drill hole samples assayed, or 5% of the total drill hole samples analysed.

Laboratory statistical control is deemed acceptable should SRMs be within two standard deviations of the recommended value. Investigative action is taken when reference materials returned exceed the standard deviation limit.

A total of 166 SRM were submitted to Steyn during 2021, for which the results are summarised in Table 8-1. A total of eight (4%) SRMs failed with the first analysis but passed with second analysis, where samples were sufficient to repeat. Review of the QAQC performance of the SRM AMIS0430 sent to Steyn illustrates some outliers falling outside two Standard Deviations from the expected result.

Table 8-1: Summary of Steyn SRM Performance

SRM	No. Submitted	No. Failed	% Failed	% Bias
AMIS0428	48	0	0.00	-1
AMIS0429	53	1	2.00	2
AMIS0430	65	3	5.00	6
Total	**166**	**4**	**2.41**	

8.8.2 Blanks

A total of 72 blank samples were submitted to Harmony Laboratory during 2021. The lowest detection limit at the laboratory is 0.063g/t. A control chart for performance was assessed for the blank samples. The results indicated that two outliers (results outside two standard deviations) were observed out of a total of 72 observations (2.7%).

8.8.3 Duplicates

For the samples analysed at Harmony Laboratory during 2021, results of duplicate analysis indicated issues with precision for those samples assaying below 4.0g/t and higher than 7.7 g/t. The assay results for the grades within this range returned precision within the required limits.

8.9 Commentary on Sample Preparation, Analyses and Security

It is the opinion of the QP that:

- the chip sampling method is appropriate for the mineralisation styles encountered at Target;
- the drill core sampling method is appropriate for the mineralisation styles encountered at Target;
- the RD of most of the EA reefs indicate a 3% lower RD than the expected 2.71. This was, however, not considered material to the tonnage estimates;
- the RDs for the DK reefs were above 2.71, and it was expected because of the higher clay content and lavas;
- the sample preparation, security and analytical procedures followed for gold grade determination are adequate; and
- the results of the QAQC assessment have been appropriately addressed to ensure that the assay results of the primary samples are adequate for Mineral Resource estimation.

9 Data verification

Section 229.601(b)(96) (9) (i-iii)

9.1 Databases

Underground and surface drill hole data is stored in SABLE® Data Warehouse ("SABLE") database. The drill holes data is stored in real coordinate systems (True North is 0° and LO X, Y and Z above MSL). This standard is used to facilitate the presence of both surface and underground drill holes in one database.

SQL queries were run on the database allowing for the data transformation from the LO system into the mine local grid system, where True North is 90° (east bearing or True North plus 90°). The SQL queries also zero deflections and recalculate "From" and "To" values. Chip sampling data is stored in GEOLOG database. Both SABLE and GEOLOG databases are protected through administration rights allocated to an authorised administrator.

9.2 Data Verification Procedures

Data verification procedures included the following:

- the drillhole database is checked against the original logs;
- the database is checked for missing collar coordinates, collar position and elevation errors, downhole survey errors, interval errors and duplicate sample records;
- Assay results for drillholes when received from the laboratory, are captured into SABLE by the Data Manager (Senior Geostatistician). The QC sample results are assessed for performance before the primary sample results could be used for Mineral Resource estimation;
- the primary assay results captured in the database are validated by spot checking a selection of drillholes used in the current Mineral Resource estimate; and
- the assays results captured in the GEOLOG and SABLE databases are checked against the original laboratory certificates.

Duplicates, as well as any obvious inconsistencies were removed from the GEOLOG database. The extracted data is visually checked in DatamineTM modelling software to ensure that spatial position and elevation is correct.

9.3 Limitations to the Data Verification

Although every effort has been made to ensure the drillhole data is correct, accurate and valid, there are some risks to the data integrity, and below are some risks:

- Co-ordinates: The X and Y coordinates in many cases are very similar in nominal terms and the possibility exists that in occasional cases the co-ordinates may be reversed. Spatial verification of drill-hole in 3D by HOD Geology and Section Geologist minimizes this risks; and
- Zone Coding is a process whereby a STRAT code is assigned to package number of mineralised reef units into one zone in the drillholes. Process is reviewed and signed off by HOD Geology and Section Geostatistitian to ensure consistency.

The full reef exposures are the basic requirement to ensure zone coding is conducted properly and in the manner in line with the mine's procedure. In many occasions, underground chip sampling on EA reefs is done on partial reef exposures due to the recommended stoping widths and development height limitations, and as a results data collected from the EA chip sampling is not used for modelling process.

9.4 Comment on Data Verification

The QP is of the opinion that the Target drill hole and sample database is reliable and adequate for the purposes of Mineral Resource estimation.

10 Mineral Processing and Metallurgical Testing

Section 229.601(b)(96) (10) (i-v)

Target and its processing facility have been in operation since November 2001 as such the processing method is considered well established for the style of mineralisation processed. The plant therefore makes use of historical trends and data as a basis for their recoveries of the CRG of the Witwatersrand Supergroup. However planned projects aimed at optimisation, will have the appropriate test work performed.

11. Mineral Resource Estimate

Section 229.601(b)(96) (11) (i-vii)

The current Mineral Resources for Target have been estimated using Datamine™. A scripting/macro system has been generated, which is linked to a customised scripting menu. This scripting menu allows for professional and easy managing of the data and building of geostatistical models.

The Target orebody is comprised multiple reef packages. The mining area is divided into blocks delineated by major fault structures, where each block comprises of a series of reef packages.(Figure 11-1). Each of the reefs packages within these blocks is modelled separately.

Geological modelling, via wireframes of faults and lower surfaces of mineralized packages, is the primary control in the geostatistical evaluation. The estimation method used for local Measured, Indicated and Inferred Mineral Resource estimates at Target is ordinary kriging. A total of 23 reef packages are estimated individually without data from adjacent reefs. Estimates are generally kriged into parent cells and then assigned to sub-cells, using associated variograms and estimation parameters.

Distinctions between the Mineral Resource categories, based on data density and spatial relationships of gold grades, are defined through variography. Where block grades are estimated by data and separated by distances greater than the maximum grade continuity ranges, they have been classified as an Inferred Mineral Resource.

11.1 Geological Database

The Target Mineral Resource estimate is based on historic drill hole and chip sampling data collected since the mine began operation in the early 1990s. The drill hole and chip sampling information consists of only those portions of the sampled sections that are thought to be representative of a particular mineralized horizon or reef package. They therefore represent a sub-set of the drill hole and chip sampling database with the unrepresentative sections and the “waste” zones between the mineralized horizons removed, leaving only that data that is suitable for use in evaluation. All information has been de-surveyed so that it lies in the correct position and orientation relative to the mineralized horizons as it was drilled or sampled i.e., “un-faulted” to move it back into its original position relative to a reference point in the mineralized horizons.

Due to the complex nature of the lithostratigraphic units at Target, a system of defining the stratigraphy (Zone Coding) has been designed to assist in highlighting only the most obvious mineralized zones in the drill hole data. Several stratigraphic descriptions are captured during chip sampling and core logging and stored in the SABLE GEOLOG database.

11.2 Global Statistics

Histograms and statistics of the raw data are calculated for each geological domain for comparison purposes. The coefficient of variation ("COV"), calculated by dividing the standard deviation with the mean, gives a measure of the variability of the data. A high COV (>1) represents highly variable or highly skewed data, which may require some form of capping of extreme values to lower the COV to a more reasonable value (c.1).

The global statistics by geozone are presented in Table 11-1.

Histograms and statistics of the raw data are calculated for each Zone Code for comparison purposes. Outlying values for both g/t Au and channel width (“CW”) are calculated per geo-zone at an optimal percentile using the Quantile process.

Figure 11-1: Location of Structurally Defined Blocks

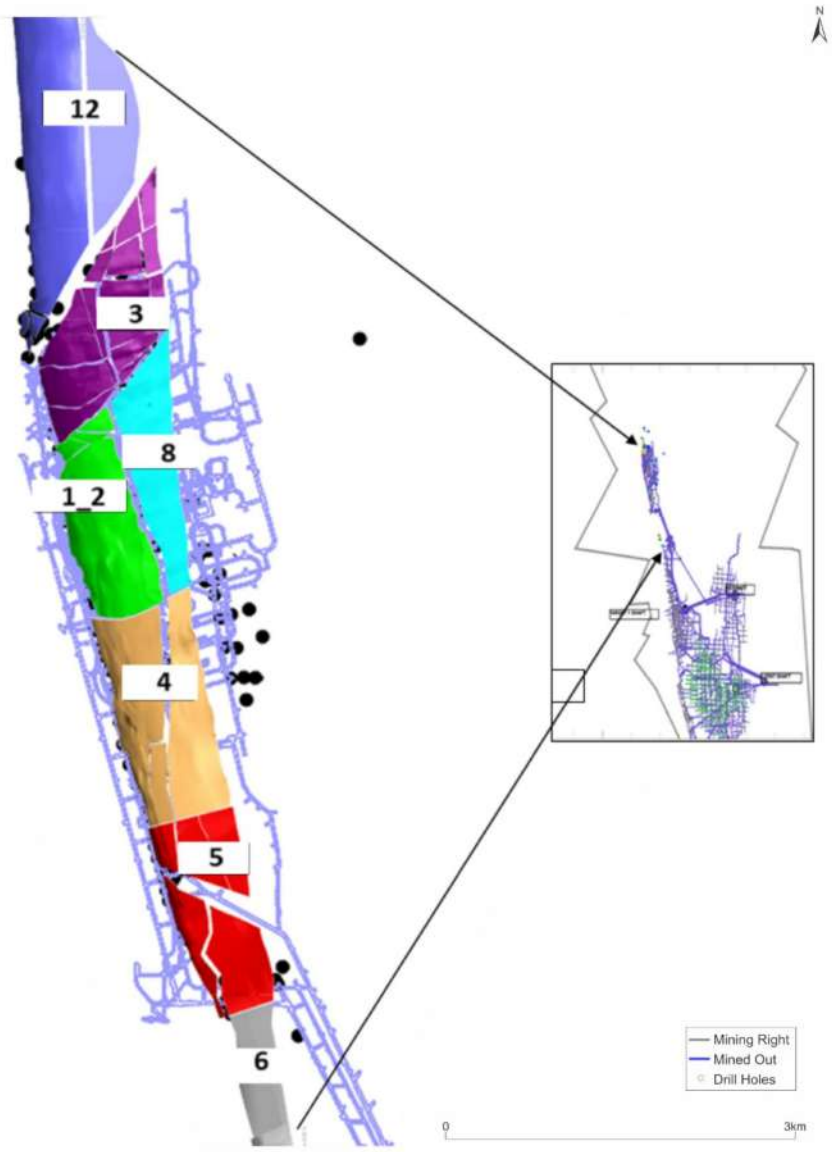


Table 11-1: Summary of the Gold Assay Descriptive Statistics

Block / Reef ID	No. Samples	Minimum (g/t Au)	Maximum (g/t Au)	Mean (g/t Au)	Variance	SD (g/t Au)	COV
1BC	5,273	0.001	341.330	6.48	281	16.76	259
1MC	8,715	0.001	653.400	4.03	208	14.44	358
1BC	4,476	0.001	351.000	5.62	246	15.67	279
2BC	2,100	0.005	423.000	5.26	254	15.94	303
3AC	2,628	0.005	280.280	4.82	314	17.72	368
3BBC	2,326	0.001	440.000	7.81	786	28.04	359
3BMC	14,331	0.001	1,133.333	9.53	1,485	38.53	404
3BTC	3,087	0.001	451.000	3.77	197	14.02	372
3CC	4,875	0.001	880.795	5.55	321	17.92	323
5BC	1,950	0.005	90.821	3.36	68	8.23	245
7ATC	6,616	0.001	689.300	6.89	412	20.29	295
7BMC	6,379	0.000	829.733	8.24	1,077	32.82	398
7BMH	4,067	0.001	1,433.333	7.15	1,259	35.48	497
8BC	4,437	0.005	463.000	9.71	943	30.71	316
8MC	3,745	0.001	255.015	6.34	445	21.11	333
9BC	2,732	0.005	1,087.700	6.21	961	31.00	499
12C	4,223	0.005	959.900	7.68	943	30.70	400
13AC	2,924	0.005	1,951.870	15.58	4,470	66.86	429
13BQW	1,877	0.005	569.500	12.35	1,463	38.24	310
13CC	2,331	0.000	564.700	6.48	615	24.79	383
D1AC	4,459	0.005	1,233.600	15.41	3,112	55.78	362
D4DC	24,004	0.000	3,116.020	32.03	14,391	119.96	375
D9A	10,180	0.000	572.440	4.02	340	18.43	458
Total	**127,735**						

11.3 Geological Interpretation

Geological sections orthogonal to strike were interpreted to form the basis of the geological model. The geological sections were orientated in logical positions relative to de-surveyed underground drillholes. Sections were created at intervals, selected so that each section lies along a series of drillholes. The strings falling along a particular field are assigned the same code in the “SECTION” field. The geological sections formed the basis of the geological wireframe model creation in Datamine™ version 1.4.132.0.

The structural and geological styles were propagated from section to section, by superimposing successive sections on one another. When constructing sections, the following datasets were be utilized:

- drillholes from SABLE;
- geological mapping from StopeCad; and
- structural mapping from StopeCad.

A great deal of information for the section creation was interpreted from drill hole information. Although underground geological mapping was also utilised more specifically for identifying structural traces and orientations.

Base intersection positions for individual Zone Codes were utilised. Due to the abundance of small-scale structures (less than 2m), it was also necessary to simplify the interpretation to honour major structural features only. All the sections were interpreted in Datamine™ wireframing.

The wireframes were checked in two ways. The first was a visual inspection of the wireframes to check that the upper and lower surfaces do not cross through each other and that the surfaces do correspond to the relevant horizons in the drill holes and the development

mapping.

11.3.1 Unfolding

The process of unfolding has remained unchanged for blocks 1, 2, 5, 6 and 9. The process of unfolding has, however, changed for blocks 4 and 8. Essentially the wireframe models are used to determine the relative displacements of the faults and to create the empty block models.

The drill holes and chip sample data sets are then moved back to their “original” positions according to the X, Y and Z displacements identified by the modelling process.

It became apparent that the previous unfold of data and estimation process developed by ExplorMine Consultants for block 4 and 8 also introduced bias, like Block 3, Block 12 changed in 2017. Block 5 was also identified to resemble similar bias and was converted in 2018. Initial testing done indicated that the estimation model in the 3D position was not corresponding to the data graphically. Somehow during the back transformation of the model, it artificially shifted the true position of the model blocks further to the east.

Since most of the western area contains higher grades the artificial shift of the model to the east caused the higher grades to smear or extend further than it should according to the data. After several attempts a simple unfold of the data managed to reduce the error and improved correlation between estimated grade and its corresponding data in the 3D space. The same methodology was applied to blocks 4 and 8 for 2017 and Block 5 for 2018 Mineral Resources.

11.3.2 Unfaulting

To accurately determine the relative displacement across a fault plane or fault zone two formerly contiguous points are identified (one on each side of the fault plane/fault zone) such as a line of intersection of two planar features.

In the absence of a feature such as this there are limited corrections that can be made with the data (such as correction for elevation differences) but a true reconstruction of the original data pattern may not be possible or at least there may be no evidence that the shifted data is in the correct position.

To reconstruct the “original” configuration of sample data, Blocks 1 and 2 are used as an “anchor” and the movements necessary to bring adjacent data back into the “original” position relative to a particular mining block are determined.

The only displacements evident are in the late-stage northeast-southwest trending normal faults defining the southern and northern boundaries of Mining Block 3, the Damn Fault and Blast Faults, respectively.

11.3.3 Structural Update

Major structural change occurred in Block 8, whereby direction and dip of the Border Fault changed resulting in the loss of Mineral Resources on DK4 Reef. The attitude changes of the fault structure did not affect other reef units.

These structural changes were only established late with new data collected from reef development mappings and thus confirming unpredictability nature of Border Fault’s dip. Special drilling program to mitigate risks posed by erratic nature of the Border Fault will be put in place in future exploration projects (i.e., BLK12 DK4 Exploration project).

In Block 12 strike direction change on 76X Fault was established with data collected from mapping of 287 EA3 North Reef Drive. The change resulted in minor loss of Mineral Resources on reefs such as EA1 and EA3 which forms part of major missives mining horizons at Target.

Structure has been identified as a major risk in Block 12 due to proximity or presence of major structures such as Blast Dyke, Border Fault and Bedding Plane Fault, and infill drilling will be done is to mitigate the risks posed by faulting.

11.4 Drill Hole De-survey

Drillholes are de-surveyed utilising the Datamine™ HOLES3D de-survey process. An error log is generated as part of this process and any identified errors are repaired accordingly. A DatamineTM script is utilised to prepare the downhole surveys to add in a zero-position survey, which DatamineTM requires to de-survey a drillhole.

A core bedding angle ("CBA") field is also created, which is sourced from both the Assay and Geology SABLE logs. Missing CBA values are populated using an algorithm which utilises existing data. True channel widths are determined in later processes using the CBA field. The average gold grade for each sample is determined from the SABLE Assay Log.

11.5 Compositing

Compositing at Target Mine starts with correlation of reef/lithological units of the same stratigraphic position over a significant amount of drill holes. The aim of the process is to identify stratigraphic positions of economic interests, and the process is primarily based on the consistency of gold mineralisation. The reef units of gold mineralisation on each hole are merged into one simplified mineralised package (Zone Code/Strat5) which will later be used as a full-length reef composite during estimation purposes. Chip sampling data, which is largely collected in the Narrow Reef mining section where DK reefs are mined, is composited over the full length of the intersection.

11.6 Capping

Capping allows for meaningful semi-variogram modelling and avoids potential over-estimation due to extreme sample values. aping parameters for both grade and CW are summarised in Table 11-2.

Table 11-2: Grade and CW Capping Parameters

Block / Reef ID	Au Cut (g/t) (Max)	CW Cut (cm) (Max)
12C	397	558
13AC	465	398
13BC	456	228
13BQW	456	331
13CC	422	287
1BC	199	820
1MC	164	950
1TC	187	686
2BC	196	449
3AC	207	419
3BBC	385	346
3BMC	548	950
3BTC	183	340
3CC	203	300
5BC	85	251
7ATC	257	610
7BMC	428	566
7BMH	441	458
8BC	392	391
8MC	236	437
9BC	300	519
D1AC	520	325
D4DC	603	335
D9A	204	306

11.7 Experimental Semi-Variograms and Fitted Models

The directions and magnitude of grade continuity for each reef were determined through modelling normal variograms. The data representing all the Zone Codes used to calculate the experimental variograms were converted to a standard elevation of -2,900m. There is also a very steep limb area in Block 12, which has been evaluated in the vertical plane.

The final modelled variograms and search volumes done on the horizontal plane were also used for the steep planes due to limited data available on the steep areas. Continuity directions are quite variable between individual reefs.

For some of the reefs (2bc, 3bbc, 3btc, 3cc, 5bc, 7bmc, 8bc, 8mc, 9bc, 12c, 13ac, 3bqw, 4d4c and d9a) it was necessary to apply a log transform to the sample values (g/t) to get a visible relationship in the spatial variability of the samples. Since natural log values can be back transformed to real values, the semi-variogram models derived from transformed sample values can be used to predict spatial variation.

The various search parameter files are based on the modelled semi-variograms. The defined search ellipse adheres to the direction of the associated semi-variogram, as well as the range distances. The minimum and maximum number of points used for kriging was optimised.

The current minimum and maximum is 4 and 10 for Measured Mineral Resource estimation, 3 and 8 for indicated Mineral Resource estimation and 1 and 20 for Inferred Mineral Resource estimation. For the search parameter files, the ellipsoid search is equivalent to the associate variogram angles and ranges.

11.8 Block Model

Pivot points defining a significant change in attitude of the wireframe reefs in estimation blocks were created, for the block model and data sets for each reef. This facilitated the rotation of the data into vertical and inclined (varied from 2° to 25°) planes for each reef.

The block specific pivot point was utilized to define where block would be filled in the X-Z plane for vertically orientated estimates and in the X-Y plane for inclined estimates. This block modelling process was used to facilitate the creation of a single cell in the true vertical orientation of the reef, so that true volume calculations could be estimated into the block model from estimated CW. The methodology allows for an estimated spatially variable reef CW and volume.

The vertically estimated block models were combined with the inclined estimated block models (the standard Target block model Proto412.dm was utilized). A 5m overlap between the two block models could ensure model continuity. The models were corrected for overlaps and gaps.

During the combination of the individual reef models an adding order (bottom to top) was established to ensure on lapping geological sub- outcrop relationships were honoured.

11.9 Grade Estimation

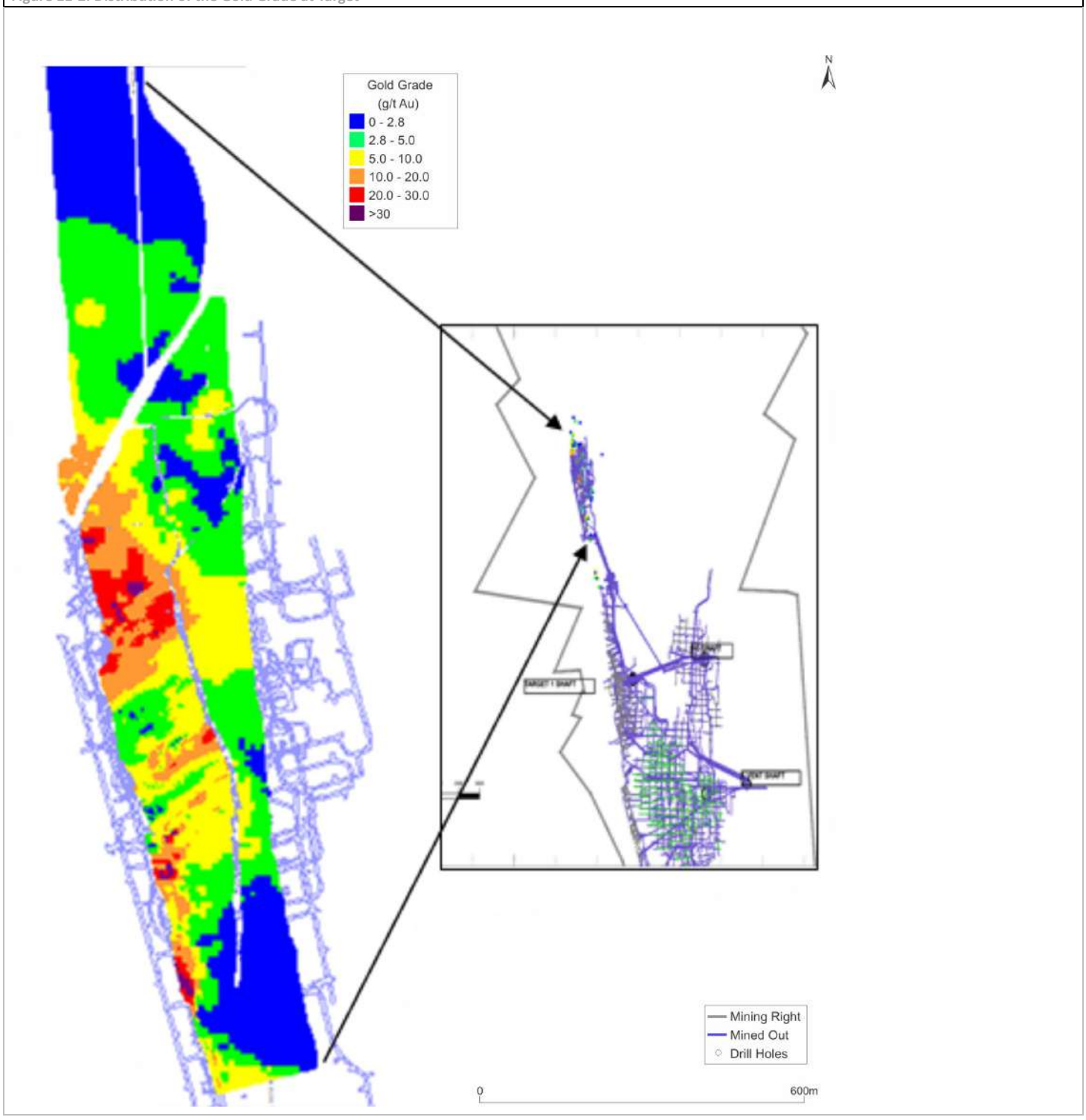
Gold grades have been estimated using Ordinary Kriging interpolations into the parent cells. This estimation is then assigned to the sub-cells. After estimation is done on the set position, the “SDIP” and estimated CW is used to calculate the true model thickness of the reef (CW_C). CW_C=CW_T/COS (SDIP).

Each model gets restored to its original elevation and combined with the rest of the fault blocks for that specific reef. The 23 individual reef models are combined for each block. The distribution of the gold grade is show in Figure 11-2.

11.10 Relative Density and Tonnage Calculation

An average specific gravity of 2.71 is applied to covert the model volume to tonnes.

Figure 11-2: Distribution of the Gold Grade at Target



11.11 Block Model Validation

The Target block model was also validated using the following:

- visual comparisons with the raw drillhole data;

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- comparisons of the raw drillhole data statistics with the model statistics;
- model volume; and
- visual assessment of the block model with drillhole intersections to ensure that the grades are locally honoured by the model.

The QP did not identify any critical errors in the block model.

11.12 Mineral Resource Evaluation

The Mineral Resource estimate is reported in-situ within the Target lease area, as determined through the analysis of the reasonable prospect for economic extraction by underground mining methods. The cut-off grade for the Mineral Resource is determined at 3.05g/t, based on the economic assumptions presented in Table 11-3 at the effective date 30 June 2022.

This cut-off grade represents typical costs for the mining method and preliminary mining and metallurgical recovery assumptions.

Table 11-3: Harmony Economic Assumptions (30 June 2022)

Description	Unit	Value
Gold Price	USD/oz	1,723
Exchange Rate	ZAR:USD	15.35
Gold Price	ZAR/kg	850,191
Plant Recovery Factor	%	94.36
Unit Cost	ZAR/t	2,461

Notes: Unit cos (ZART/t) includes cash-operating cost, royalty and on-going development capital.

The gold price was derived by the Harmony Executive Committee at Head Office. The QP considers the price to be appropriate for Mineral Resource estimation and is slightly higher than that used for estimating Mineral Reserves (USD1,546/oz). The operating costs (both mining and processing) are based on historical performance and budget.

11.13 Mineral Resource Classification and Uncertainties

The Target Mineral Resources have been classified into Measured, Indicated and Inferred categories. The classification for Mineral Resource blocks 1, 2, 3, 4, 5, 8 and 12 is based on search radius results and data spacing which is in line with the drilling grid. The classification criteria for blocks 3, 4 and 8 is summarised in Table 11-4 and, in general, the drill hole spacing used is based on the slope of regression (“SR”).

Table 11-4: Target Mineral Resource Classification Criteria

	Blocks 1, 2, 3, 4, 5, 8		Block 12
Mineral Resource Category	SR	Drill Grid (m)	SR
Measured	> 0.7	50 x 50	> 0.9
Indicated	> 0.6	150 x 150	> 0.8
Inferred	< 0.6	> 150	< 0.8

Note: SR - slope of regression

The classification criteria for Mineral Resource Block 12 is slightly more conservative due to limited information available. However, geological factors and understanding may affect the boundaries of the halos. The SR for Block 12 classification is presented in Table 11-4.

No geological discounts are applied to either the geological or estimation models. Geological losses are already built in the wireframes of individual reefs.

11.14 Mineral Resource Estimate

The Mineral Resources were originally prepared, classified and reported according to SAMREC, 2016. For the purposes of this TRS, the Mineral Resources have been classified in accordance with § 229.1302(d)(1)(iii)(A) (Item 1302(d)(1)(iii)(A) of Regulation S-K).

The Mineral Resource estimate, as at 30 June 2022, exclusive of the reported Mineral Reserves is presented in Table 11-5. The location and classification of the Mineral Resources is presented in Figure 11-3.

The QP compiling the Mineral Resource estimate is Mr D Fourie, Head of Department Geostatistician, and employee of Harmony.

Table 11-5: Summary of the Target Mineral Resources as at 30 June 2022 (exclusive of Mineral Reserves)[1-8]

METRIC

Mineral Resource Category	Tonnes (Mt)	Gold Grade (g/t)	Gold Content (kg)
Measured	4.374	8.89	38,860
Indicated	3.193	7.76	24,780
Total / Ave. Measured + Indicated	**7.567**	**8.41**	**63,640**
Inferred	4.028	5.96	24,007

IMPERIAL

Mineral Resource Category	Tonnes (Mt)	Gold Grade (oz/t)	Gold Content (Moz)
Measured	4.821	0.259	1.249
Indicated	3.520	0.226	0.797
Total / Ave. Measured + Indicated	**8.341**	**0.245**	**2.046**
Inferred	4.440	0.174	0.772

Notes:

1. Mineral Resources are reported with an effective date of 30 June 2022 were originally prepared, classified and reported according to SAMREC, 2016. For the purposes of this TRS, the Mineral Resources have been classified in accordance with § 229.1302(d)(1)(iii)(A) (Item 1302(d)(1)(iii)(A) of Regulation S-K). The Qualified Person responsible for the estimate is Mr D Fourie, who is Head of Department Geostatistician, and a Harmony employee.
2. The Mineral Resource tonnes are reported as in-situ with reasonable prospects for economic extraction.
3. No modifying factors or dilution sources have been included to in-situ Reserve which was subtracted from the SAMREC Resource in order to obtain the S-K 1300 Resource.
4. The Mineral Resources are reported using a cut-off grade of 3.05g/t determined at a 90% profit guidance, and a gold price of USD1,723/oz.
5. Tonnes are reported as rounded to three decimal places. Gold values are rounded to zero decimal places.
6. Mineral Resources are exclusive of Mineral Reserves. Mineral Resources are not Mineral Reserves and do not necessarily demonstrate economic viability.
7. Rounding as required by reporting guidelines may result in apparent summation differences.
8. The Mineral Resource estimate is for Harmony's 100% interest.

Factors that may affect the Mineral Resource estimates include the following:

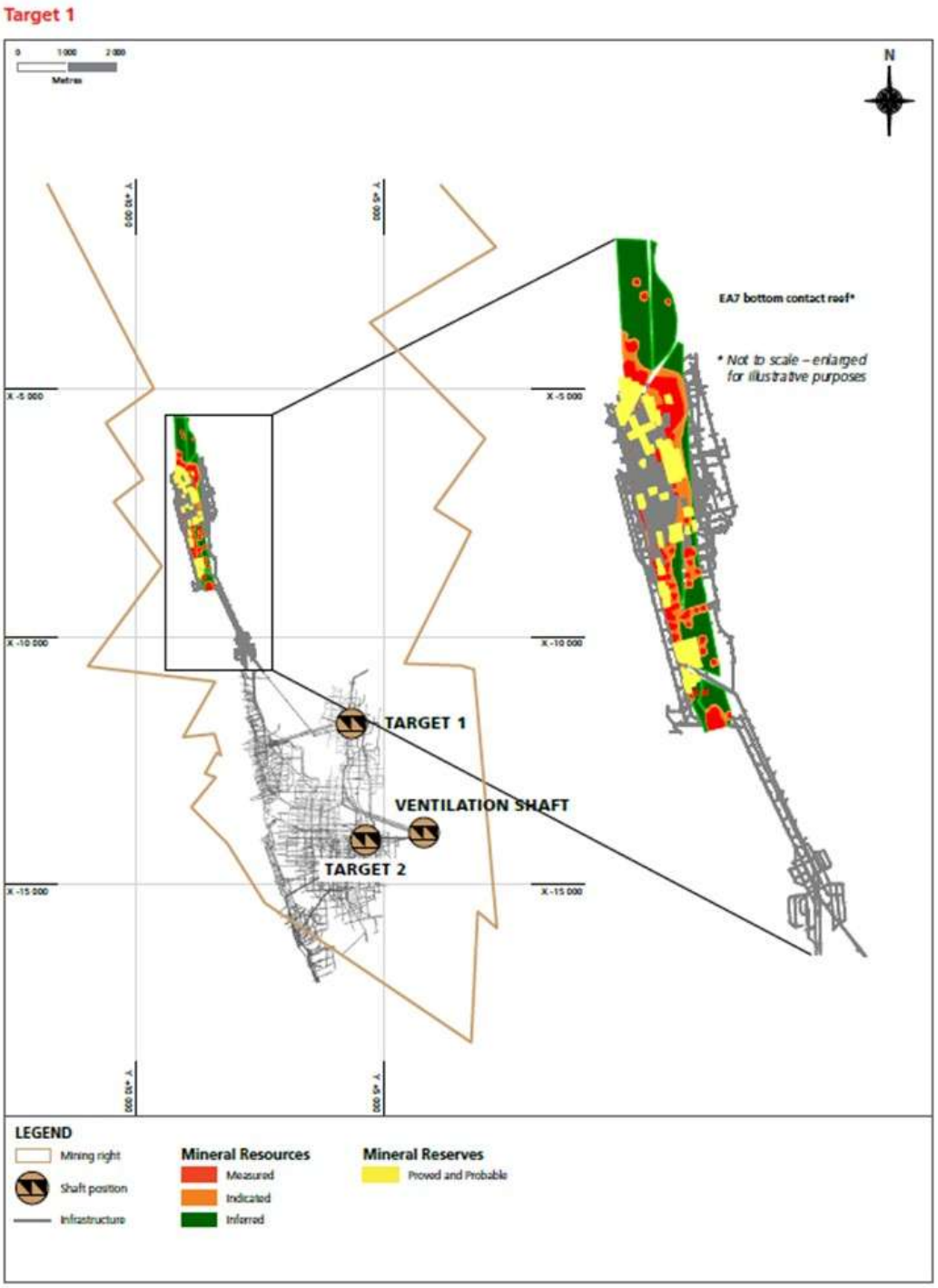
- actual RD values different to the single RD of 2.71 used;
- gold price assumptions;
- exchange rate assumptions;
- operating and capital cost assumptions; and
- gold recovery assumptions.

11.15 Audits and Reviews

The Mineral Corporation (Pty) Limited carried out a Mineral Resource audit for Target in 2017. It was recommended that the Mineral Resources should be declared including dilution. The remedial action

included diluting the reef horizons usually mined conventionally, different from the reefs mined through massive extraction. Dilution was done post estimation and only considered for a CW <140cm.

Figure 11-3: Location and Classification of Targets Mineral Resources and Mineral Reserves



Dilution for the massive mining method was based on historic massive mining shapes to calculate the average dilution. The historic dilution percentages were applied to the in-situ resources post the Mineral Resource estimation process, and the new diluted grade in g/t was used to determine Mineral Resources in relation the cut-off grades.

The methodology of estimating the Mineral Resources was agreed in conjunction with The Mineral Corporation. The new estimating technique showed a difference of approximately 19.44kg of gold content between the undiluted Mineral Resources available for 2018 versus the diluted Mineral Resources available for the same year.

11.6 Mineral Resource Reconciliation

The Measured Mineral Resource gold content estimate for 2022, exclusive of Mineral Reserves, decreased by 8%, from 1.353Moz as at June 2021 to 1.249Moz as at June 2022.

The Indicated Mineral Resource gold content estimate for 2022, exclusive of Mineral Reserves, decreased by 6%, from 0.846Moz as at June 2021 to 0.797Moz as at June 2022.

The Inferred Mineral Resource gold content estimate for 2022 exclusive of Mineral Reserves decreased by 2%, from 0.788Moz as at June 2021 to 0.772Moz as at June 2022.

The changes are mainly due to depletion and the Mineral Resource cut-off increase from 2.98 g/t to 3.05 g/t.

11.7 Commentary on Mineral Resource Estimate

All gold grades reported for Target were determined using data from the underground channel sampling and drillholes. Methodologies applied are based on historical operational parameters and infrastructure capacities.

The current Mineral Resource estimate is declared in-situ, including dilution. There is a risk that this may result in an overstatement of the Mineral Resources at cut-off. However, it may be considered as a more realistic expectation which is in line with the grade reflected in the Mineral Reserve estimate.

The RD of most of the EA reefs measured were 3% lower than the expected RD of 2.71. This was, however, not considered material to the tonnage estimates.

12 Mineral Reserve Estimate

Section 229.601(b)(96) (12) (i-iv)

The reported Mineral Reserves are derived through a business planning process and consideration by the Chief Operating Decision-Maker ("CODM"). The business planning process comprises multi-functional reviews inclusive of all mining, support and service departments that are involved in the verification of the inputs and the Modifying Factors. The CODM comprises various executive roles and responsibilities. These executives assess the profitability, the revenue and production costs. The CODM also considers capital expenditure, gold production and tonnes milled when assessing the overall economic sustainability.

12.1 Key Assumptions, Parameters, and Methods used to Estimate the Mineral Reserve

The results and assumptions derived from the business planning process extends over an 18-month period. The planning process carefully considers strategic plan directives; analysis of historical performance; realistic productivity, and cost parameters; Modifying Factors; and technical and economic studies that have demonstrated justified extraction, as applicable to specific portions of the Mineral Resources and Mineral Reserves.

All reported Mineral Reserves originate in situ from the underground exploitation of the EA reef package emanating from the Eldorado Formation and the Dreyerskuil Reef. The Mineral Reserves are considered based on several factors, including the:

- latest geological structure and associated Mineral Resource estimation models that constrain the layout for the mine design and LOM planning;
- mining methodologies. At Target Mine the predominant mining method is the massive open stoping which extracts the EA reef packages, while the Dreyerskuil reefs are mined through the Narrow Reef Mining ("NRM") method. Mineral Reserves are also supplemented by trackless on-reef development sections;
- identified mining areas referred to as Blocks. Respective mining reefs has a series of ascribed mining blocks;
- dilution, which is attributed to the non-selective nature of the open stope mining method. A dilution threshold of >10% is considered. The Dilution Stress-Strain Index ("DSSI") was developed to determine the dilution that can be expected to lie outside the designed tolerance level. The DDSI method, is associated to an equation, that considers a 13-year historic average of dilution data, rock mass quality, stress-strain state, and the size of stope hanging wall exposed;
- dilution, which is attributed to the NRM is predominantly attributed to the differences in CW and stoping width being mined;
- rock engineering design guidelines, which is guided by the results of the DSSI calculations and informs the mining methodologies. Rock engineering stability pillars are used for mining and geological support; and
- only Measured and Indicated Mineral Resources are used to derive the Mineral Reserves.

An updated Datamine™ Mineral Resource model forms the basis of identifying potential mining areas. The potential mining areas are refined to produce the Mineral Reserves model, using the Mine 2-4D Software script optimiser and the applicable Modifying Factors.

The Mineral Reserves model forms the basis of mine planning, for the different mining methods, including massive open stoping, NRM, and trackless on-reef development. These mineable areas are then planned and scheduled, as per Target Mine design parameters and layout. The location of the EA reef Mineral Reserve, in relation to the Target Mine boundary, is presented in Figure 11-3.

12.2 Modifying Factors

The Modifying Factors used to convert the Mineral Resource to a Mineral Reserve for Target are presented in Table 12-1.

The Modifying Factors are consistent with the modelling, planning and computing estimates used in determining the Mineral Reserves, which are also consistent with historical performance. Plant recovery (Table 12-1) is also consistent with the processing and available recovery as defined in Section 14.

Table 12-1: Target Mineral Reserves Modifying Factors (30 June 2022)

Modifying Factor	Unit	Value
Relative Density	t/m^3	2.71
Average Stoping Width	cm	196.00
Mine Call Factor	%	95.00
Plant Recovery Factor	%	94.36
Mineral Reserve Paylimit - NRM	cmg/t	821.00
Mineral Reserve Cut-off - Massive Open Stoping	g/t	3.40
Mineral Reserve Cut-off - Development	g/t	3.40
Dilution - Massive Open Stoping	%	6.00

12.3 Mineral Reserve Estimate

The Mineral Reserves were originally prepared, classified and reported according to SAMREC, 2016. For the purposes of this TRS, the Mineral Reserves have been classified in accordance with § 229.1302(d)(1)(iii)(A) (Item 1302(d)(1)(iii)(A) of Regulation S-K).

Mineral Reserves are derived from the Mineral Resources, a detailed business plan and the operational mine planning processes. Mine planning utilises and takes into consideration historical technical parameters achieved. In addition, Mineral Resource conversion to Mineral Reserves considers Modifying Factors, dilution, ore losses, minimum mining widths, planned mine call and plant recovery factors.

The reported Mineral Reserves, as at 30 June 2022, are declared as delivered to the plant, except for the recovered gold content. This gold content is calculated after factoring in the plant recovery as a Modifying Factor. The Mineral Reserve estimate for Target is summarised in Table 12-2. The location and classification of Mineral Reserve is presented in Figure 11-3.

The QP compiling the Mineral Reserve estimate is Mr S Motlatla, Ore Reserve Manager at Target, and employee of Harmony.

Table 12-2: Summary of Target Mineral Reserves as at 30 June 2022 [1-5]

METRIC

Mineral Reserve Category	Milled Tonnes (Mt)	Gold Grade (g/t)	Gold Content (kg)
Proved	2.722	4.32	11,744
Probable	1.726	4.11	7,096
Total (Proved + Probable)	**4.447**	**4.24**	**18,840**

IMPERIAL

Mineral Reserve Category	Milled Tonnes (Mt)	Gold Grade (oz/t)	Gold Content (Moz)
Proved	3.000	0.126	0.378
Probable	1.902	0.120	0.228
Total (Proved + Probable)	**4.902**	**0.124**	**0.606**

Notes:

1. The Mineral Reserves were originally prepared, classified and reported according to SAMREC, 2016. For the purposes of this TRS, the Mineral Reserves have been classified in accordance with § 229.1302(d)(1)(iii)(A) (Item 1302(d)(1)(iii)(A) of Regulation S-K). The Qualified Person responsible for the estimate is Mr S Motlatla, who is the Target Ore Reserve Manager, and a Harmony employee.

2. Tonnes, grade, and gold content are declared as net delivered to the mills.

3. Figures are fully inclusive of all mining dilutions, gold losses and are reported as mill delivered tonnes and head grades. Metallurgical recovery factors have not been applied to the reserve figures.

4. Gold content is recovered gold content after taking into consideration the modifying factors.

5. The NRM Mineral Reserves are reported using a cut-off value of 821cmg/t determined using a gold price of USD1,546/oz. The massive open stoping Mineral Reserves are reported using a cut-off grade of 3.40g/t determined using a gold price of USD1,546/oz.

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12.4 Mineral Reserve Reconciliation

The declared Mineral Reserve decreased from 0.647Moz as at 30 June 2021 to 0.606Moz as at 30 June 2022

12.5 Commentary on Mineral Reserve Estimate

The Mineral Reserve is estimated at 4.447Mt of milled ore containing 0.606Moz of gold as at 30 June 2022. The declared Mineral Reserves takes into consideration all Modifying Factors. The Mineral Reserves are depleted to generate the cash flows presented in Section 19 and are deemed by the relevant QP's to be appropriate and, both technically and economically achievable.

Any by-products that are recovered as part of the refining process, make up an immaterial component of the total metal inventory, and is thus not reported as part of the Mineral Reserve estimate. There are no obvious material risks that could have significant effect on the Mineral Reserves.

13 Mining Method

Section 229.601(b)(96) (13) (i-v)

The Target Mine deposit is made up of mineralised multiple reef bands overlying one another (Figure 6-3). The EA reef is composited into thick packages, whilst the Dreyerskuil reefs are separated into thinner discrete horizons. These differences have led to the application of multiple mining methods.

13.1 Mining Operations

Target Mine is essentially a trackless mining operation with a combination of highly mechanised mining, scattered mining and labour-intensive narrow reef stoping, the latter being more typical of South African gold mines' conventional stoping.

The primary ore extraction method adopted at Target Mine is massive mining of the thick mining horizons (EA1, EA3, EA7 and EA8) through a combination of scattered open stoping supplemented with the use of a 6%-cement backfill, and sub-level open stoping which does not make use of backfilling.

The balance of the ore is mined using an NRM method on the thinner Dreyerskuil reefs, which does not make use of backfilling either.

Massive open stoping accounts for ±70% of the ore production with ±20% coming from conventional narrow reef stoping. The ±10% balance of production comes from trackless on-reef development sections.

13.1.1 Scattered Massive Open Stoping

Massive open stoping is the preferred method for exploiting selected reef packages within the deposit. These open stopes are large, varying from 10m to 45m in width (span), 10m to 35m in height, and 10m to 100m in length. Ideally, massive open stopes can only take place in a de-stressed environment of no more than 50 MPa for rock with a Uniaxial Compressive Stress ("UCS") of 2,00MPa, which is achieved by de-stressing the area above the planned massive stopes by NRM unless stipulated otherwise by the Rock Engineering Department.

To establish an open stope, a reef drive is developed from the access drive on strike at the lowest point where the stope will be situated. This reef drive is developed to the mining limit of that specific open stope (Figure 13-1). At the end of the open stope, slot cubbies are developed, cutting across the dip of the strata. In one of the cubbies, a drop raise is developed to hole into the top drive for ventilation and to create a "free-face" for blasting of the initial slot. Once the drop raise has been developed the slot is drilled across the width of the stope and the blast rings for the open stope are drilled in a fan pattern from the reef drive to the limit of the mining cut (Figure 13-2).

When the drilling is completed, the slot is blasted. This is followed by successive drill rings which are blasted in retreat towards the haulage, until the full width of the deposit has been removed. A maximum of four rings are blasted at any one time. Cleaning of the ore takes place after the rings are blasted utilizing remote control loading, haul and dump ("LHD") mechanized equipment.

Once mined out, an open stope is backfilled with cement. This is done in 2m flights to prevent excess pressure on the bulkhead plugging the stope. The process generally takes 4-5 months to complete. Alternate stopes are mined out thus leaving the adjacent stopes intact. Once the cemented fill has cured (~28 days), the alternate stopes are mined. The last open stopes mined out are also backfilled to ensure there are no unfilled cavities remain which may destabilise the general mining area. The overall sequence is to mine the lower blocks first and work upwards to the higher blocks above the backfilled stopes.

13.1.2 Sub-level Open Stoping – Block 12

The initial massive mining design for Block 12 (below 287 level) was done in 2017 utilizing the scattered open stoping method. This was based on the expected development and available geological data at that time. This required a total of c.143,000m^2 of NRM de-stressing to implement the plan to mine the Block 12.

Figure 13-1: Schematic Plan View - Massive Open Stope Design

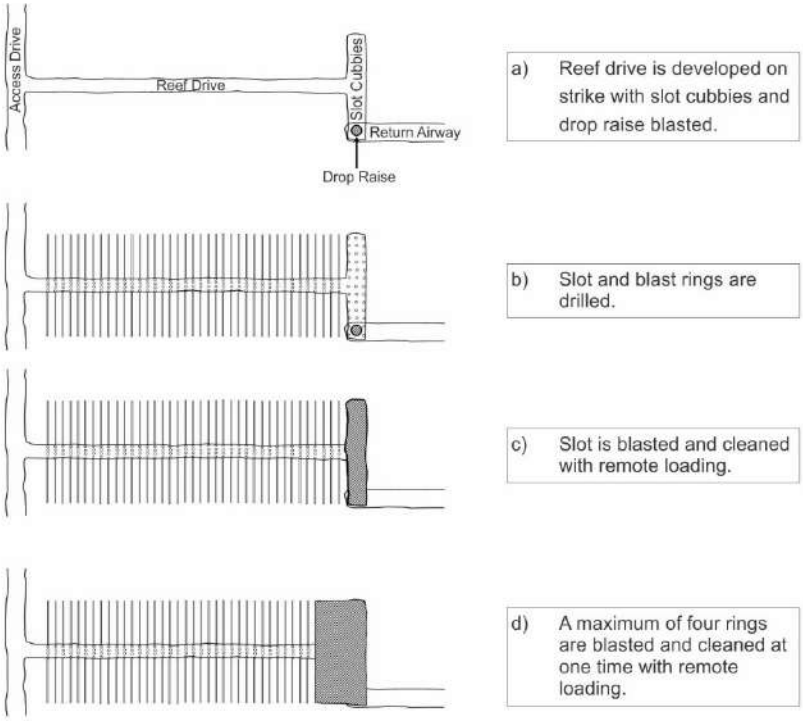
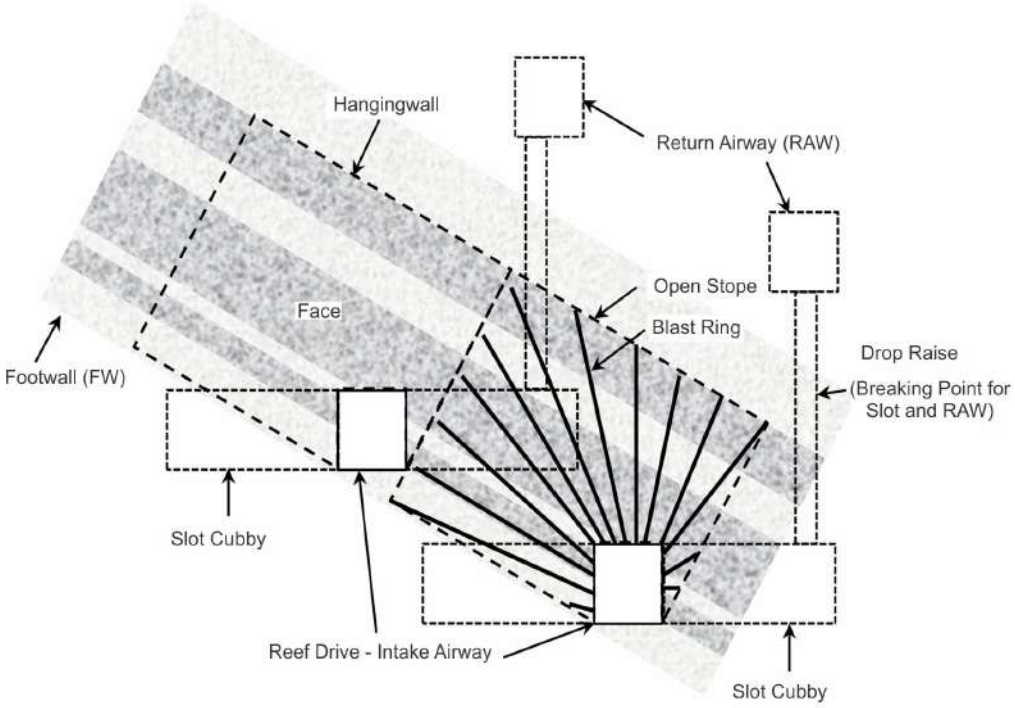


Figure 13-2: Schematic Section View - Massive Open Stope Design



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Prior to this de-stress mining, access development for Block 12 will have to be developed into virgin stress conditions, and in some areas, through high-stress abutments. When de-stressed, significant stress changes can be expected at these excavations and the installation of secondary support consisting of weld mesh is paramount to the stability of these access drives.

After further analysis and considering improved geological and geotechnical information now available as compared to 2017, an alternative mining method considered and subsequently adopted for Block 12 is a modified top-down sub-level cave mining method. This does away with the NRM de-stressing and the use of backfill. With this method the top massive stopes will create a de-stressed window which retreats ahead of the lower massive stopes below. A schematic representation of this method is presented in Figure 13-3 showing a similar development plan and use of drill rings from the reef drives as in the scattered open stopes. It should be noted that the drill rings only “fan out” to an angle of 50° to keep the drill holes roughly aligned with the direction of the primary in-situ stresses, and to create the drawbell loading points to assist with mucking the ore.

As the mining retreats and the open stope grows in extent stress-induced failure and caving of the hanging wall and sidewalls will ensue resulting in increasing dilution. The level of dilution has been estimated by making use of the DSSI which was developed from back analysis done on Target Mine.

Although the three-dimensional stress-strain environment plays a significant role in the stability of the massive open stopes in Block 12, the rock mass properties will also have a significant impact. Evaluations for Block 12 indicate the expected stand-up time and dilution can be determined for the hanging wall and sidewalls and the analysis delivered the results tabulated in Table 13-1.

These results indicate as the open stopes stand for extended periods, the stopes will start to cave, and the amount of dilution is expected to increase to an estimated 20% using the DSSI, during the life of the sub-level caving stopes. This is significantly higher than the estimated 6% for the scattered massive open stopes.

Table 13-1: Results of Sub-Level Caving Analysis

Component	Units	Measurement
Average induced stress at the centre line of open stope hanging wall	MPa	12.7
Estimated open stope stand-up time	months	1-2
Open stope volume	m^3	851,892
Dilution volume from DSSI	m^3	171,674
Calculated dilution from the modified stability number (N)	%	22
Calculated dilution from the hydraulic radius (HR)	%	98
Calculated dilution from DSSI	%	20

13.1.3 Narrow Reef Conventional Mining (“NRM”)

NRM stoping for de-stressing of the massive open stopes is necessary unless otherwise stipulated by the Rock Engineering Department. The need for de-stressing is the primary consideration when planning the NRM stopes with the consequence that some areas are mined which fall below the economic cut-off. These stopes are not cleaned completely of broken ore to minimise dilution whilst those that are above the cut-off are cleaned and swept to minimise gold losses.

The NRM stopes are typical of labour-intensive deep level South African gold mines, where panels are laid out either side of central raises and mined away from the raises with the broken ore being scrapped using electrically powered winches to tips that gravity feed mucking bays where the ore is loaded into load, haul dumpers (“LHDs”) (Figure 13-4 and Figure 13-5). The ore is then transported to the main tips on 282 level (Figure 13-6).

Drilling is done with compressed air driven hand-held rock drills and the support regime consists of timber packs, in-stope bolting and wooden elongates. Characteristically, there is a low level of mechanisation in the NRM areas of the mine compared with the open stoping areas.

Figure 13-3: Schematic Representation of the Modified Top-Down Sub-level Caving Mining Method

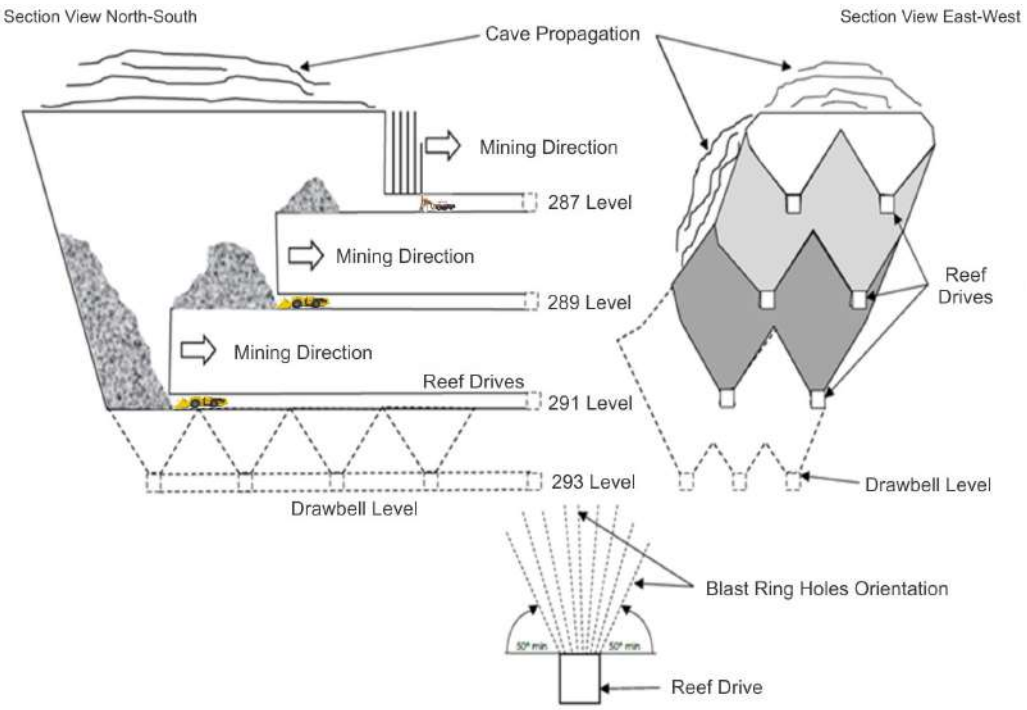

Figure 13-4: Section of a Typical Footwall Crosscut at Target

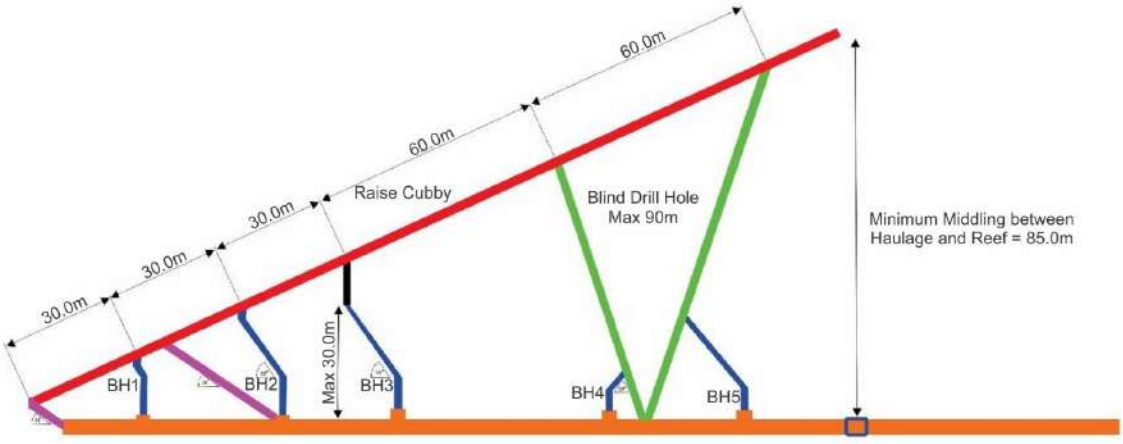

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Figure 13-5: Plan Showing the NPM Sequence at Target

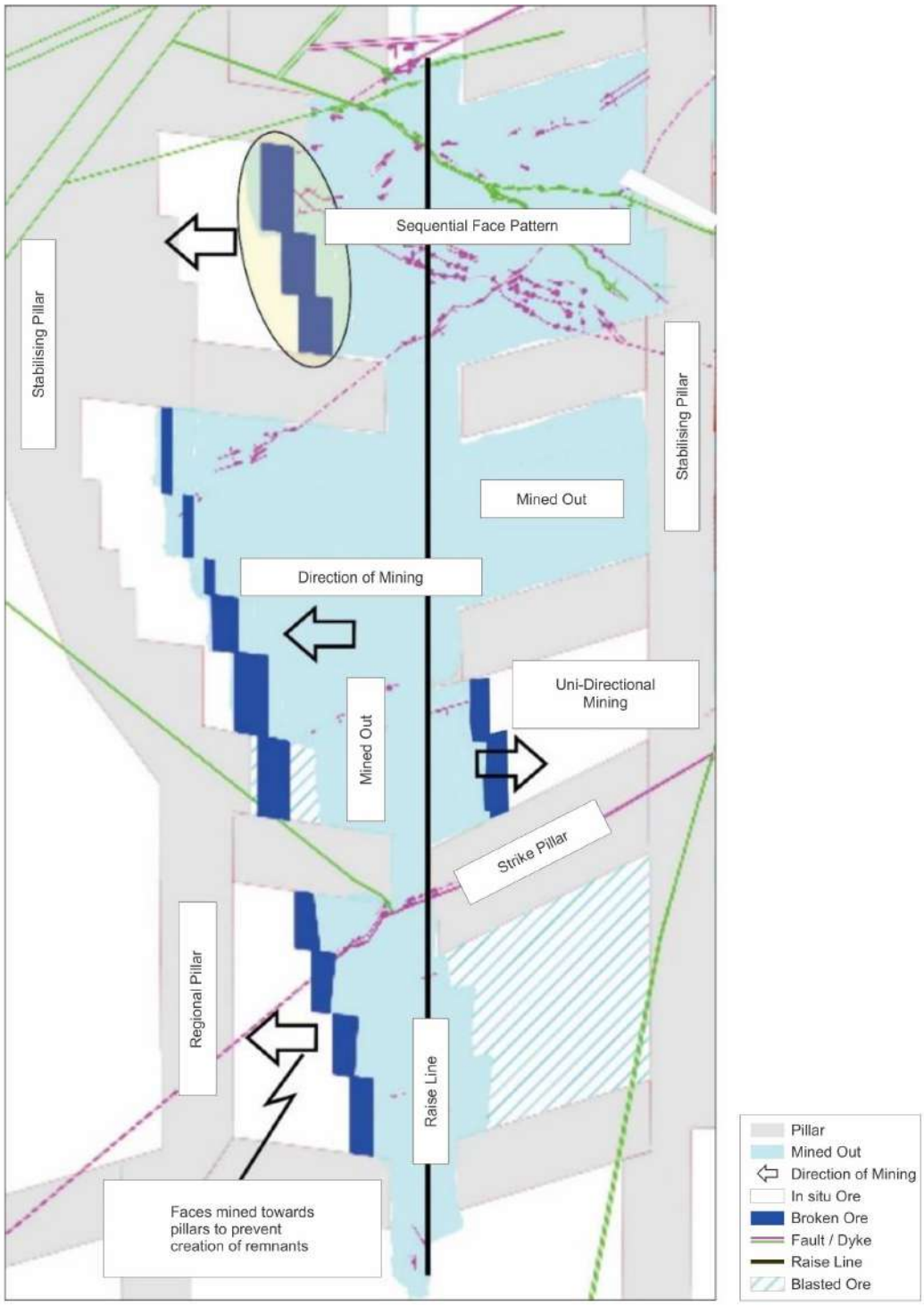
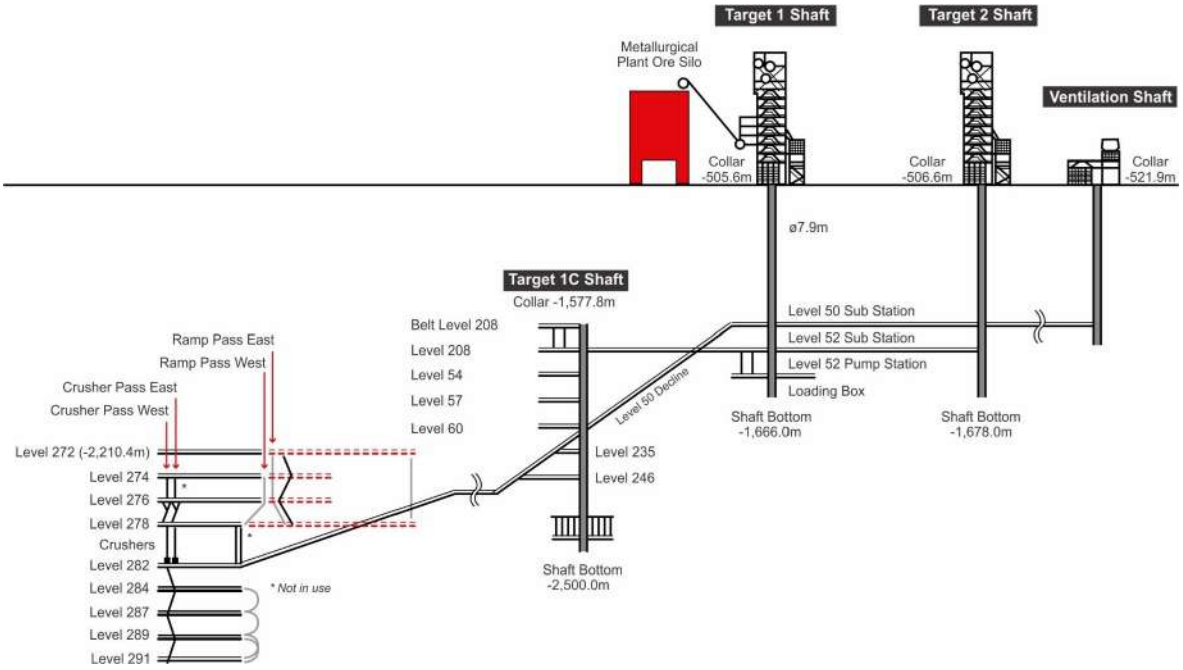


Figure 13-6: Schematic Mine Design Layout for Target Mine



13.2 Mine Design

Target Mine is a deep-level underground mine that was developed as an extension to the previously operational Loraine, maximising the use of Loraine's serviceable infrastructure. Loraine is connected to the Target mining area through a sub-vertical shaft and a system of decline shafts, ventilation connections and ore passes (Figure 13-6).

The decline systems extend from the main vertical shaft approximately 6km to access the mining areas, some 2300m below surface. There are three vertical shafts (previous Loraine shafts) that support the mining in the Target mining block which has no direct connection to surface. The details of the Target shaft systems are discussed in Section 15.

Target Mine is essentially a trackless mining operation where conventional mining and sub-level open stope methods are practiced to mine the deposit. In the Target area the mining production levels are connected by a series of ramps. However, Loraine Mine was historically designed with all the service and transport systems based on rail-bound equipment ("RBE").

Therefore, there is an interface between the old Loraine Mine and the new Target Mine where equipment and material are re-handled from the RBE system to the trackless system. This occurs on 67 level which is referred to as the interchange-level which connects the sub-vertical shaft to the Target mining area. Historical levels of the mine are numbered according to old imperial feet elevations below surface (i.e., 30 level to 67 level) whereas the newer Target nomenclature is referenced in metres (208 level to 291 level).

The working shift is conveyed down Target 1 shaft to 50 level from where they travel on the dual-purpose man-riding conveyor belt all the way down to 282 level, c.6.5 km in length. The conveyor is split into six separate flights with stations at each section for the workers to onboard or disembark from the conveyor. From 282 level all workers travel on foot to their respective working areas. They reverse this trip at the end of the shift to return to surface. There is a fleet of light service vehicles to support engineering, survey and other service departments.

Material and equipment on RBE flatbeds are conveyed down Target 1 shaft to 52 level and transported across to 1C shaft where it is conveyed down to the interchange-level (67 level) for re-handling from RBE flatbeds to trackless flatbeds for transport down to the deeper levels within the Target mining block.

The dual-purpose conveyor belt system which runs between 282 level and 50 level is also used for the conveying of all rock from the Target mining area to the loading station at the bottom of the main vertical shaft.

Water reticulation around the mine has been designed to maximise water re-use minimise the amount of water pumped to surface. Pumping operations are done from various levels into skidams (small metal dams) and eventually into main settling dams on 266 level from where it is pumped to the hot water dam on 67 level. The hot water is fed to a refrigeration plant on 67 level for chilling and in turn into a cold-water dam from where it supplies chilled water to banks of bulk air coolers on 67, 276, 284 and 289 levels to provide cool air for the Target mining block. This is supplemented by a bulk air cooler on surface at 1 shaft.

Excess water from the 266 level settlers is transferred to a pump station on 53 level at the main vertical shaft and then to surface via a mid-shaft pump station on 30 level. On surface this water is pumped to a 4.5 mega litre dam where it is treated for re-use at the gold plant. The backfill plant is located near the mineral processing plant.

13.3 Mine Plan Development and Life of Mine Schedule

The LOM planning process is based on the resources available at a required mining value where cut-off values for massive open stopes and NRM are applied. Safety and practicality of the plan form the base for optimisation and execution of this plan.

Using an updated geological model, the planning department will run the model through Mine Reserve Optimiser (“MRO”) script applying prescribed reserve cut-offs of 3,49g/t for massive open stopes and 884cmg/t for narrow reefs.

The model is used as a base for open stope, narrow reef and development planning and design. The output product of the process will be a geological model showing only reserves above the 3,49g/t cut-off for open stopes and 884cmg/t for narrow reefs. For NRM CW and grade distribution along the reef profile are fundamental in optimisation, and a maximum stoping width of 230cm is applied in areas where CW is thick.

The LOM planning design process is undertaken using Mine2-4D software. Once the designs are completed and ratified by relevant departments (Rock Engineering, Mining, Ventilation, and Geology) scheduling and reporting processes will be completed using the Enhanced Production Scheduling (“EPS”) programme. Cut-off grades are derived by taking into consideration the available resource for the selected project areas, the operating cost as captured for the business plan, gold price and the required margin.

The 4.45Mt of Mineral Reserves are included in the LOM plan and are fully accessible through Target’s existing infrastructure. The mining rates used in determining the LOM plan are based on the current and expected operational performance, notwithstanding any unforeseen underground mining constraints. The remaining LOM for the operations is planned for seven years, with a planned mining rate averaging at approximately 696ktpa (milled tons) over the LOM period.

13.4 Geotechnical and Hydrological Considerations

Apart from the geotechnical risks that can be caused by the existence of geological structures and the presence of water and gas, there is also a seismicity risk at Target due to the depth of the current mining operations. Target maintains a working geotechnical model, with improved data quality post 2017.

This model is used to manage and control seismicity risk, consisting of primary data sourced from the Cavity Monitoring System (“CMS”), reinforced with data inputs from geohydrological and other seismic monitoring processes. The geotechnical model for Target takes the latest geological structural model and the selected mining method into account to design a suitable pillar layout.

The purpose of the pillar designs, regardless of the pillar type, is to customize them to the prevailing mining conditions, with the objective of making the mine design safe, practical, easy to implement, and profitable. Rock Engineers assess the hydraulic radius of the proposed mine designs to determine potential caving and pillar failures to make recommendations on mining sequence and stope dimensions.

The CMS also provides data from fresh blasts which allows engineers to check for adherence to design, in terms of under break and over break. The ring blast design versus. actual post-blast representations are shown in Figure 13-7 and Figure 13-8, respectively.

13.5 Dilution and Grade Control

Based on an 18-month mining history, a dilution factor of 6% is applied in planning of the massive open stopes to provide for dilution caused by over-break and under break during blasting of the drill rings. Alternatively, Rock Engineering has developed a method using 13 years of data and can predict the percentage dilution in open stoping considering rock mass quality, stress-strain state, and the extent of stope hanging wall exposed (hydraulic radius). The DSSI was developed which allows the user to calculate, with certainty, the stability of the open stope and determine if major dilution (>10%) can be expected.

Dilution in massive open stope mining is factored in early stages of the mining value chain with a thoughtful and realistic planning process carried out on a reliable geological model and the input of Rock Engineering. Rock Engineering will receive planning designs and assess hydraulic radius of the designs to determine potential caving and pillar failures to make recommendations on mining sequence and stope dimensions. After a ring has been blasted and loaded CMS (“Cavity Monitoring System”) will be done to check for under break and over break to ascertain the extent of the dilution (Figure 13-8).

For NRM, dilution controls are implemented through ongoing geology department observations during visits to the working stopes. This is followed by compilation of geology mapping, grade-loss and sampling reports which are circulated to Production Managers within 24 hours after the visit. The reports will highlight where footwall and hanging wall waste is exposed, off-reef mining if any, faulting, and sweeping compliance (where sweepings are required).

Figure 13-7: Schematic Cross Section of a Ring Blast Design

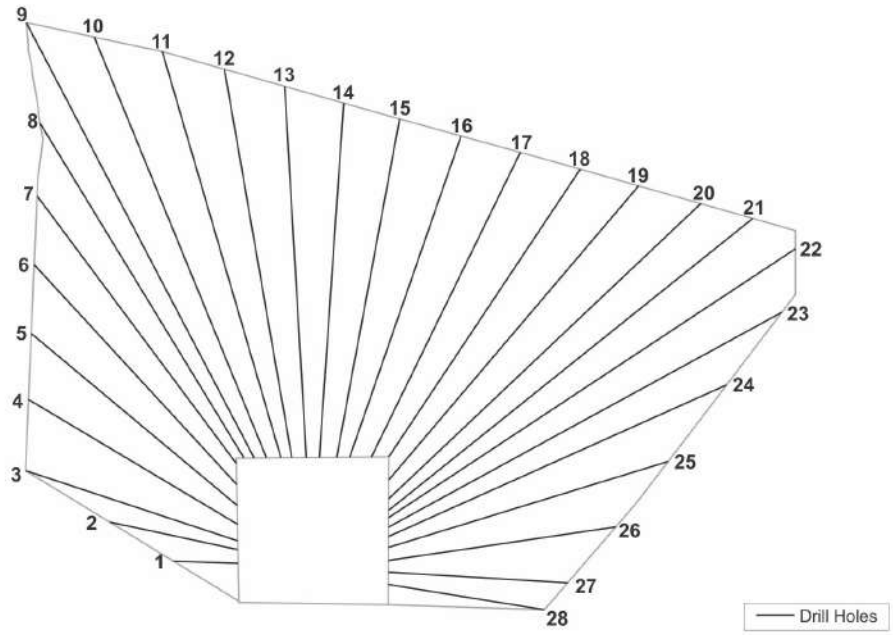
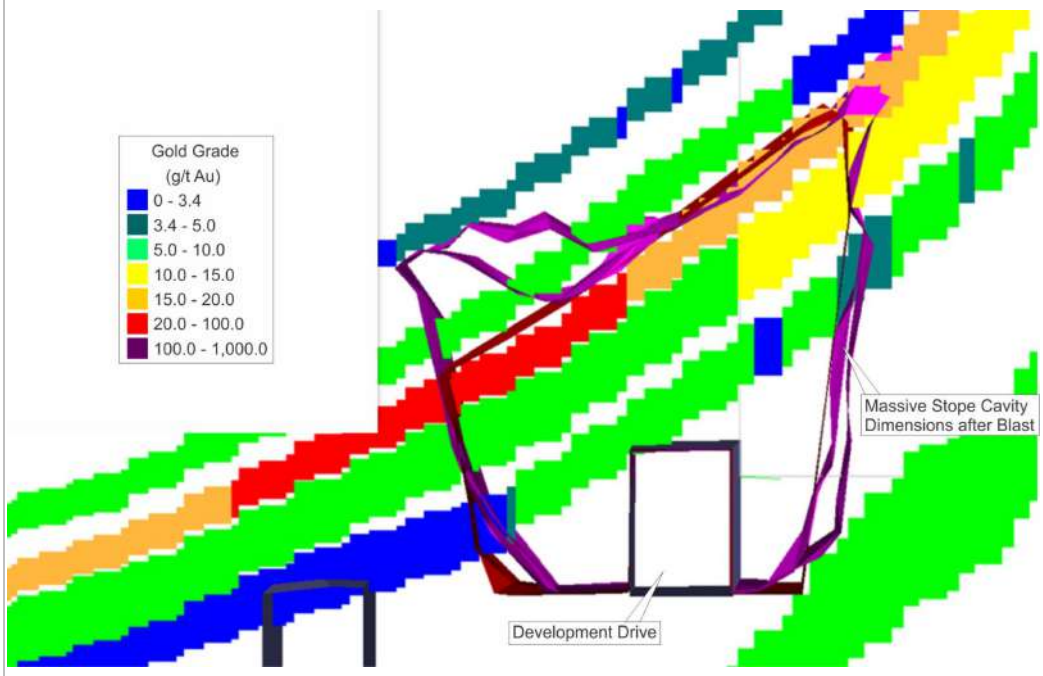


Figure 13-8: Cross Section Representation of the CMS Results



13.6 LOM Schedule

Mining production rates are based on an 18-month production history and expected underground conditions and identified constraints, whilst development advance rates are maintained to meet the mining production plan. Primary development ends are advanced using trackless mechanised mining while secondary

development to access and open up NRM panels on the reef plane is done with conventional non-mechanised methods.

Narrow reef stoping for de-stressing of the massive stopes is necessary regardless of payability unless stipulated otherwise by Rock Engineering. The extraction rate in NRM stoping is higher in stopes where the grades are above the cut-off grades and lower where the grades are below the cut-off because the stopes are not cleared fully of blasted rock and sweepings because of the low grade.

The mining rates and sources of ore show the significant contribution from the sub-level open stopes once they begin with a corresponding reduction from the scattered open stopes (Figure 13-9). Development tonnages from both trackless development and NRM development reduce over time, as the development to open-up Block 12 reached completion. The gold production for the LOM is presented in Figure 13-10.

The extent of the Target LOM plan for the massives, which represents 78% of the LOM tonnage, is presented in Figure 13-11.

13.7 Ore Transport

All mined rock is deemed ore and hence there is no separate ore and waste rock handling systems. All ore from the stoping and development areas, both above and below the 278 level reports to the east or west crushers passes on that level (Figure 13-6).

Ore from below 278 level is transported up to that level by dump truck. Ore is fed through jaw crushers and is loaded onto the same 6.5km man-riding conveyor belt system which transports the ore from 282 all the way up to 50 level at the main Target 1 shaft. The conveyor belt can handle 88ktpm (c.2,900tpd) running at a speed of 2.5m/sec and considering stoppage for 4 hours a day for maintenance and time for the bulk movement of the workers back up at the end of the shift.

The ore reporting to 50 level is fed into the pass to the loading boxes and flasks which load the skips on 53 level. The hoisting capacity of the main vertical shaft is approximately 90ktpm using light weight 8.5t aluminium skips which have a shorter life than the normal mild steel skips but provide a higher load capacity. Ore tipped into the headgear bins on surface which is conveyed to the gold plant ore silo.

13.8 Mining Equipment and Machinery

Most of the mining operations in the Target mining block are based on trackless development and mining. The equipment fleet to conduct mine development activities, mining operations and the vehicles for support services are listed in Table 13-2.

This equipment is typical for this type of mining with the LHD/dump truck combination for rock handling, electro-hydraulic rigs for development end drilling as well as drilling of the drill rings for the open stopes, and a roof bolter for support installation. The balance of the equipment is to assist support services and for the transport of material and equipment.

Figure 13-9: Graph of LOM for Target – Tonnes (by Mining Method) and Grade

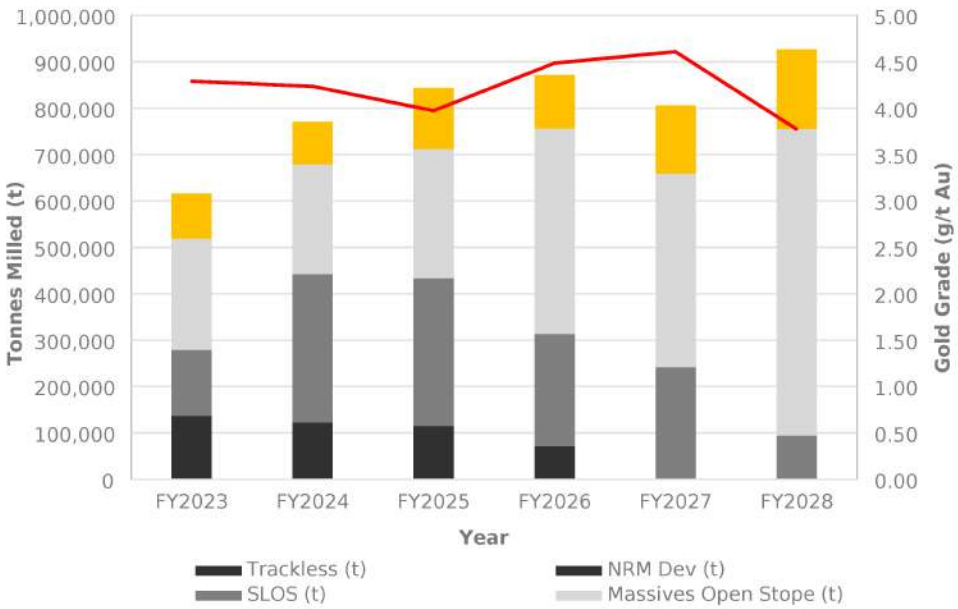


Figure 13-10: Graph of LOM for Target – Gold Produced

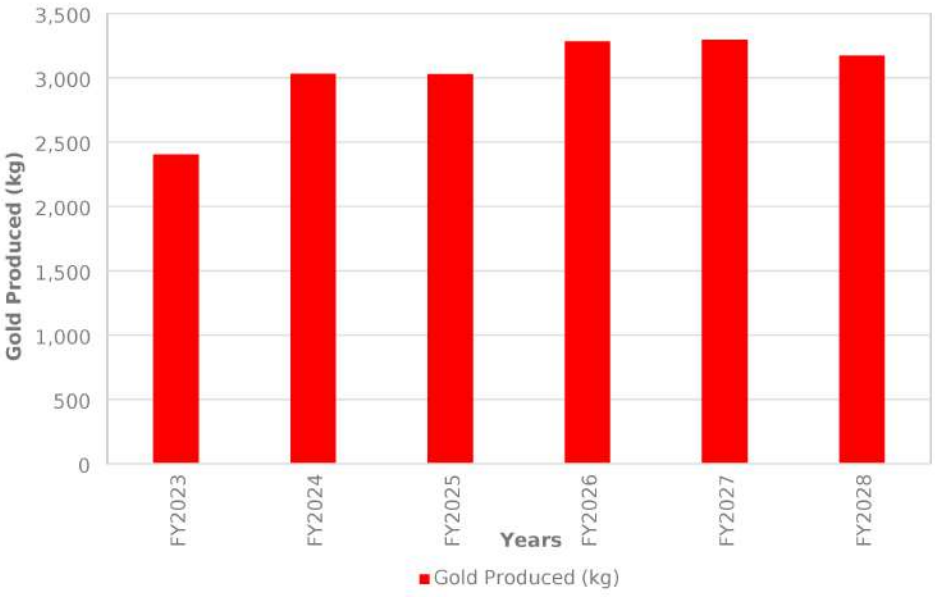


Figure 13-11: Plan Showing Target Massives LOM

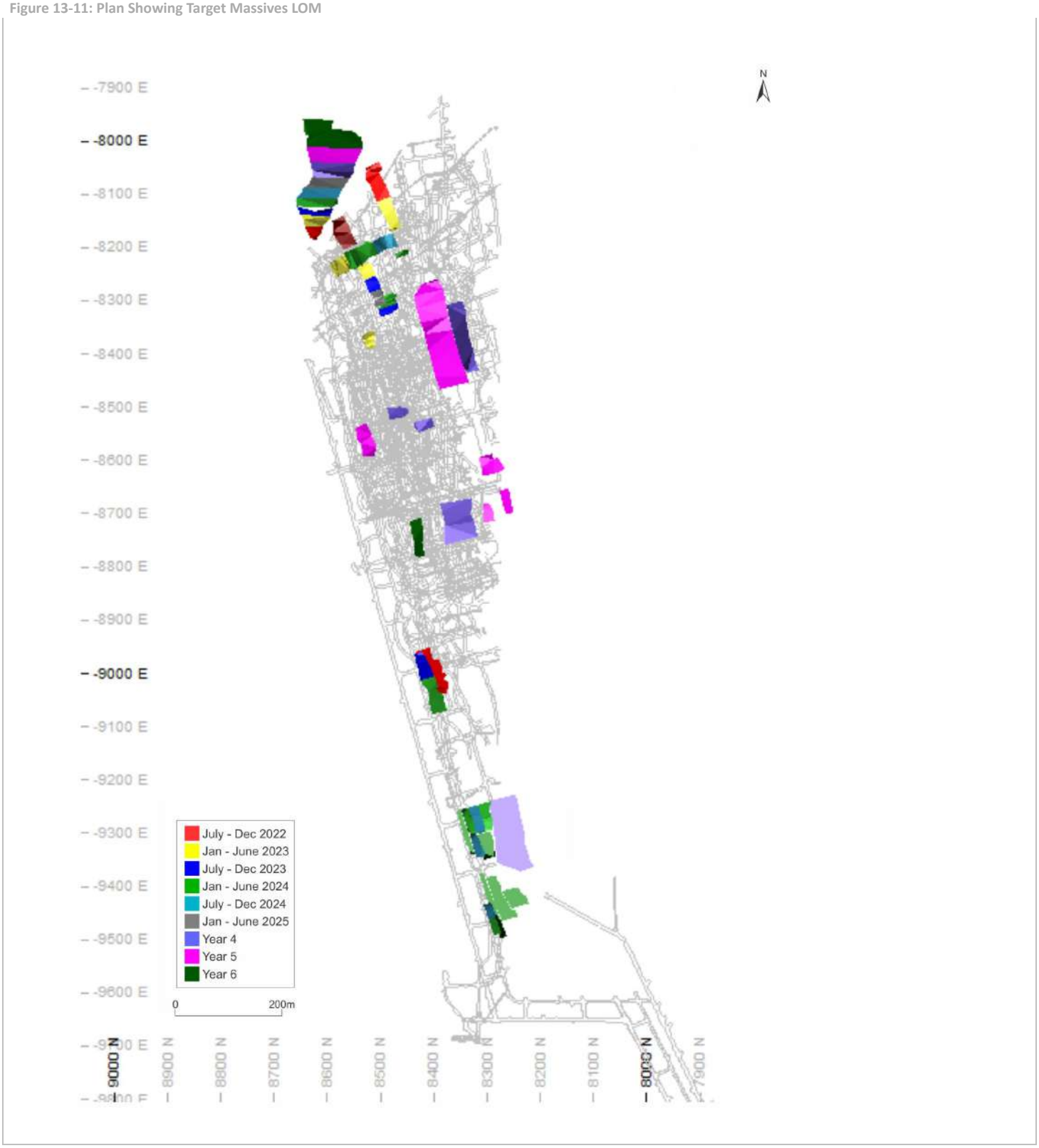


Table 13-2: Trackless Mining and Support Services Equipment

Manufacturer	Vehicle Type	Model	Quantity
Sandvik	LHD	LH 514	7
Sandvik	LHD	L 410	2
Epiroc	LHD	2D	1
Epiroc	LHD	2G	1
Epiroc	LHD	ST7	1
Epiroc	Dump Truck	MT 436 B	10
Fermel	Dump Truck	Liberator	1
Sandvik	Solo`s	DL 421 - 15 C	2
Sandvik	Solo`s	DL 420 - 10 C	1
Sandvik	Drill Rigs	DD420 - 60	4
Sandvik	Drill Rigs	DD421-60 C	2
Sandvik	Drill Rigs	DD321	1
Epiroc	Drill Rigs	282 Boomer	1
Sandvik	Roof Bolter	DS311	4
CAT	Roadway Grader	120 - G	2
Toyota	LDV	Land Cruiser 4.2L	29
Fermel	Cement Mixer	Agi Car	3
Fermel	Utility Vehicle	Scissor Lift / Flat bed	26
Mecalac	Forklift	AS90	3
Bobcat	Skid Loader	S220	4

13.9 Mining Personnel

The underground work force is essentially split into two categories that are either involved in production activities or they provide supporting services required underground. Production activities are directly related to the mining of ore and non-production personnel provide supporting services such as safety, engineering functions, maintenance, decline conveyor management and underground store controls (Table 13-3). In the trackless mechanised working areas and massive open stoping a large portion of the personnel are machine operators (LHD’s, drill rigs, dump trucks etc.). In the NRM stoping the lack of mechanisation gives rise to a different profile of mining crews with most of the personnel being supervisors, rock drill operators, winch operators and general stope team members who install support, conduct material handling and cleaning of the broken ore.

Table 13-3: Mining Personnel

Labour Requirement	No. of Employees
Production	
Underground	499
Contractors	70
Sub Total Production Employees	**569**
Underground Services	
Safety	20
Stores	20
Mineral Reserves	26
Vehicle Maintenance	130
Production Engineering	97
Engineering Decline	159
Engineering Services	335
Contractors	201
Total Services Employees	**988**
Grand Total Mining Employees	**1,557**

13.10 Commentary on Mining Method

The different types of mining methods employed at Target are appropriate for the characteristics of the ore body and the deep level mining conditions.

Although the NRM mining is sometimes carried out in areas which are below the cut-off grade this is necessary to de-stress the underlying high grade massive stopes for open stoping to be conducted.

The use of backfill in the massive open stopes is used to ensure the surrounding areas are stabilised to allow extraction to be maximised. The sub-level caving method has been designed to maximise extraction of Block 12's mineable ore although the resulting waste dilution is considerably higher than for the scattered massive open stopes. However, this method provides the benefits of doing away with potential uneconomic NRM mining and the need for the use of expensive cemented backfilling. This has been considered in the overall design and the resulting economic outcome.

14 Processing and Recovery Methods

Section 229.601(b)(96) (14) (i-iv)

The Target Plant was designed and commissioned in November 2001. The plant was designed to treat a total tonnage of 105ktpm with a potential to expand to 160ktpm for future demand. Currently the plant treats ore from Target, the Joel Mine plant clean-up and Target 2 waste dump.

14.1 Mineral Processing Description

The mineral processing flow sheet is presented in Figure 14-1. Shaft reef tons and waste rock dump material are both conveyed on the belt from their respective reception areas into the feed bin whereby they are first blended before moving to the ROM and semi autogenous grinding ("SAG") mills. By continuously triggering the silo overflow, the plant has ensured that in the case where the plant feed conveyor belt fails the flow of ore to the plant can be maintained.

The feed ore is ground down to a smaller particle size distribution by a SAG or ROM mill. The product from the mills is pumped to the cyclone for the classification of fine from course particles. The course particles from the cyclone underflow gravitate back to the mills for further comminution.

The fine particles report to cyclone overflow and then onto the gravity screen with a product estimated at 75% passing 75µm. This stream is then pumped out to the thickeners for dewatering prior to leaching. The underflow of the thickener, which is rich in gold reports to the pre-aeration tank for pre-conditioning prior to the addition of cyanide.

Once the gold is dissolved into the cyanide solution it has a higher ability to adsorb (attach) onto activated carbon through the application Carbon-In-Pulp ("CIP") technology. There are eight stages in the CIP process with an average of 96% of gold adsorbed onto activated carbon. Once the carbon loading in the head tank reaches the required gold loading, the stream is pumped to the load make-up screen for the elution process.

Target plant employs the Zadra elution process for gold recovery where the loaded carbon is treated with a hot caustic and cyanide solution. The pregnant solution is pumped into the electro-winning circuit, where the gold will "de-absorb" from the activated carbon and attach onto stainless-steel wool.

Activated carbon can be regenerated for use again and as such, once the gold has been removed from the activated carbon, the eluted carbon passes through the acid column to be treated with hydrochloric acid for the removal of inorganic material.

Acid-treated carbon is rinsed with high-pH water to neutralise the acid and transferred to the kiln for carbon regeneration. The regeneration process takes place at temperatures above 700°C in the absence of air to drive off the organic material.

The electro-winning cathodes are washed through the gold table and filtered through the press to retain the gold sludge, which is dried and smelted in the induction furnace, and then dispatched to Rand Refinery for refining. Tailings from the adsorption circuit is screened to remove fine carbon and then pumped to the tailings dam for storage.

14.2 Plant Throughput, Design, Equipment Characteristics and Specifications

The plant was designed to treat a total tonnage of 105ktpm with a potential to expand to 160ktpm for future demand. Currently the plant treats ore from Target, Joel Plant clean-up and Target 2 waste dump. The design parameters and equipment specifications are presented in Table 14-1.

Effective Date: 30 June 2022

Figure 14-1: Schematic Flow Diagram for Target Gold Plant

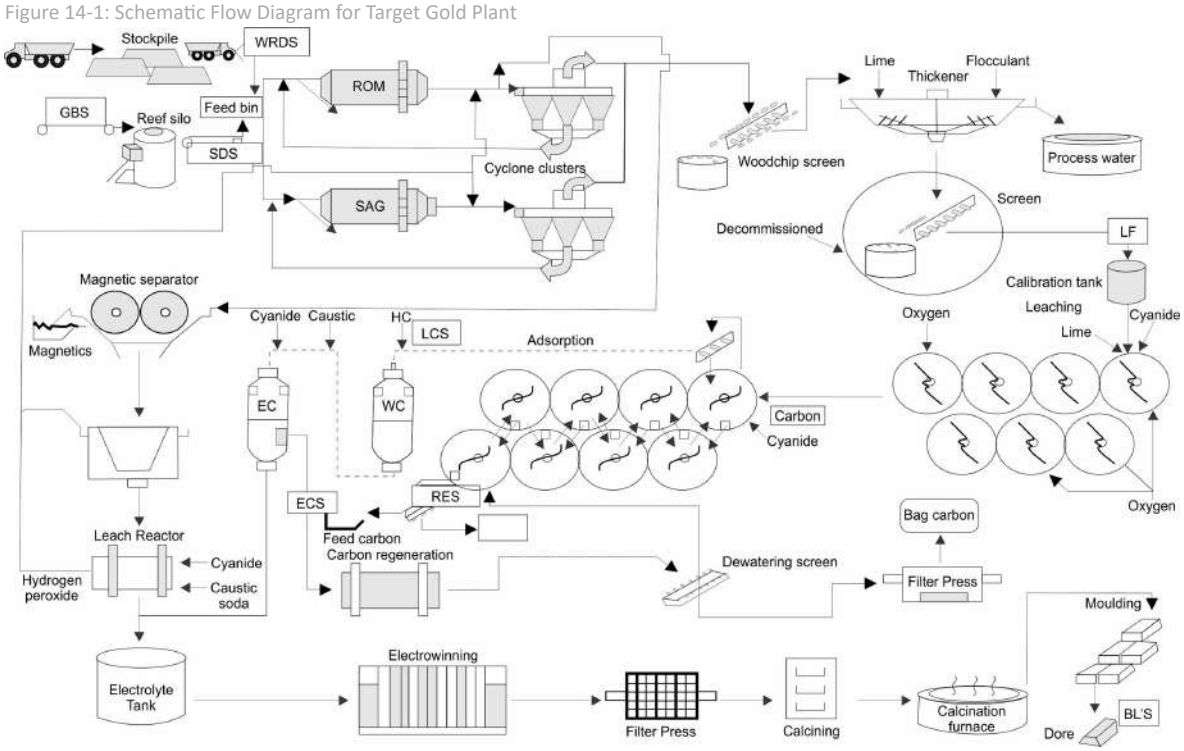


Table 14-1: Design Parameters and Equipment Specifications

Process	Parameter	Unit	Value
Overall Plant	Recovery	%	96
	Availability	%	94
Milling	Steel Ball Size for SAG Mill	mm	125
	Throughput SAG Mill	t/hr	70
	Steel Ball Size for ROM Mill	mm	100
	Throughput ROM Mill	t/hr	80
Densification	Desired pH	pH	10.5 – 11.0
	Desired Density	g/cm³	1.5
Leaching	Residence Time	hr	30
Acid wash and elution	Elution Temperature	°C	120
Tailings Dam	Solid Content	g/t	0.17
	Solution	g/t	0.01

14.3 Energy, Water, Process Material and Personnel Requirements

14.3.1 Energy

Current average energy consumption is 56.44kWhrs per tonne treated.

14.3.2 Water

Current water consumption is 0.171kL of portable water per tonne treaded and 2.00kL of raw water per tonne treated.

14.3.3 Process Material

The reagents and their consumption rates per ton of rock milled, are presented in Table 14-2.

Table 14-2: Reagent Consumption

Reagent	Unit	Value
Lime use	g/t	1,200
Flocculant	g/t	35
NaCN addition	g/t	350

14.3.4 Personnel

The staff compliment is 108. The plant operates on an efficiency of 700t per man per month.

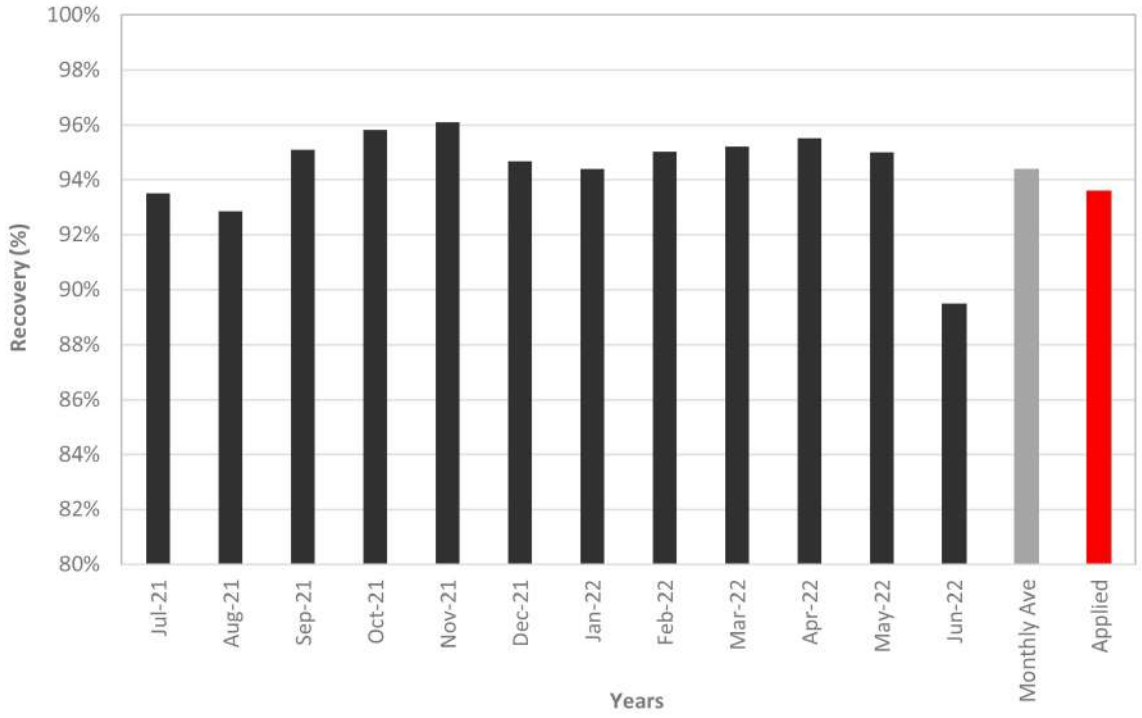
14.4 Commentary on the Processing and Recovery Methods

The metallurgical process is a well-tested technology which has been in operation at the mine since November 2001.

The plant was designed to obtain a recovery of 96% from both the gravity circuit treatment and leach treatment circuit and is designed to operate at 94% plant availability.

Recoveries used in the business plan were based on historic performance. The methodology applied considered the historical metallurgical recovery (18-month period) for the relevant ore source. The actual monthly head grades were reviewed and the relationship between the head grade and recovery were used as base for the Business Plan (“BP”) 2022/23 metallurgical recoveries, taking into consideration the relevant forecast head grades (Figure 14-2).

Figure 14-2: Graph of Historical Gold Recovery at Target Gold Plant



15 Infrastructure

Section 229.601(b)(96) (15)

Target has adequate access to the infrastructure required to meet the planned LOM production schedules.

15.1 Surface Infrastructure

The surface infrastructure associated with Target is presented in Figure 15-1, whilst Google Earth images are presented in Figure 15-2 and Figure 15-3. The Target mining area is well developed in terms of access and mining-related infrastructure. Access to the Target shafts (1, 2, 3 and 5) is via a well-maintained paved road. Adequately maintained roads is used to access other areas of the mine such as the explosives magazines, sewage works, slimes dam and the evaporation ponds. The area also has access to rail links and an airfield within proximity.

The infrastructural layout includes a safety COVID-19 control site; shaft headgear; logistical support for core handling, sampling, and transporting; emergency power generators; a mineral processing plant; training and medical centre; roads; water and power supply; stores and workshop support; electrical supply; offices; housing and security (Figure 15-1, Figure 15-2, Figure 15-3).

15.1.1 Ore and Waste Rock Storage Facilities

The ore is hoisted from underground via Target 1 Shaft to the adjacent processing plant (Figure 15-2, Figure 15-3). Waste mining at Target is minimal.

The backfill cement plant that produces the cemented fill required to backfill the stopes is located on surface and is part of the main processing plant. The capacity of the plant is 1,000m^3 per day and the fill is transported to the working areas through a system of pipe ranges down the shafts and declines.

Target shares its plant with a Harmony waste rock dump that is monitored and managed by Surface Sources. The plant's design capacity exceeds the maximum planned production from these sources.

15.1.2 Tailings Storage Facilities

The location of the tailings storage facility ("TSF") is shown in Figure 15-1 and Figure 15-2. The initial TSF operations began in 1955. The TSF is currently active and is owned and operated by Target.

The tailings from the adsorption circuit are screened to remove fine carbon and then pumped to the TSF. Slime solids are designed not to exceed 0.17g/t and the solution is designed not to surpass 0.01g/t. The TSF site has full engineering records including design, construction, operation, and maintenance plans. The design height is 39m on Dam 1 and 37m on Dam 2. The designed volume is 4.2Mm3 and has a planned utilization ending 2028. The current design capacity of the existing TSF site is sufficient to support the current LOM plan and production rate.

15.1.3 Power and Electrical

Power is supplied by the state-owned electricity supplier, an Eskom power station located northeast of the mine. Power onsite is distributed from the Grootkop electrical sub-stations facility (Figure 15-3). Power lines traverse the mine property to connect the shafts, reduction works, hostel complexes and the Allanridge township. In addition, Target has an onsite emergency power generator system, sufficient to support the critical mining and mineral processing activities in case of emergencies.

The operation has capacity to supply of 37MW, however currently only 25MW is utilised. No risks are identified related to continued power supply.

15.1.4 Water Usage

The primary source of bulk water supply is from Swartpan Dam (Figure 15-1 and Figure 15-2). The processing plant, refrigeration plant and underground mining activities are the three largest water consumers.

The shaft utilizes 54,631kL of water per month as make up for underground water, including drinking water, in a closed circuit. Target plant utilizes 126,000kL of raw water per month, and during the rainy season water

is sourced from Two Million Dam (9,092kL) and Freddies 9 Dam (4,546kL). During winter, additional water is sourced from Million Gallon Dam (4,546kL) and the shaft.

Target aims to recycle as much water as possible through a series of holding dams and evaporation ponds. Details of these dams, evaporations ponds and water reticulation is discussed in Section 1. The storage of make-up water is contained in Million Gallon Dam, the Two Million Dam and the Freddies 9 Dam. The storage facilities have sufficient water to supply water to the operation for up to 24 hours if the bulk water supply were interrupted.

15.1.5 Logistics and Supply

The procurement of supplies and equipment are handled centrally, via Harmony, and then delivered to Target. The Target Mine is accessed via dedicated, security controlled main entrances. The mine operates its own rail system which connects the shafts, reduction works, shaft stores, explosives magazine and the mine workshops. This system is used to transport material and consumables between the surface stores to the respective locations, as required, and is also a connected to the regional railway system.

15.2 Underground Infrastructure

Target operations include a single underground mine that was constructed as an extension to Loraine and uses the Target 1 Shaft as access. The present Target Mine is essentially a trackless scattered open stope mining operation where conventional mining methods are also practiced.

Target 1 is the main vertical shaft, used for men and material transport as well as hoisting rock to surface to 203 level (Figure 3-2, Figure 13-6 and Figure 15-1). It has decline systems off the sub-vertical shaft extending 6km to access the mining areas, approximately 2,300m below surface. The single decline, equipped with a conveyor belt, connects 203 level to 255 level. The decline splits at 255 level into a conveyor decline and a vehicle decline descending to the extent of development, currently at 291 level.

Target 2 is on care and maintenance and Target 3 which is currently on care and maintenance serves as a second escape way for Target 1.

Target 1 and 2 also act as downcast airways into the mine whilst the Ventilation Shaft also known as Target 5, (Figure 3-2 and Figure 13-6) is a dedicated upcast ventilation for all underground workings. Target 1C is a sub-vertical shaft that is used for services and material transport from 52 level down to 67 level (Figure 13-6).

15.3 Commentary on Infrastructure

The operational infrastructure including road, rail, offices, security services, water and power supply is adequate. Operations are powered by electricity from Eskom.

Overall, Target's surface and underground infrastructure as well as the power and water services are designed to fully meet the planned LOM plan and service capacity requirements.

Figure 15-1: Infrastructure Plan for Target

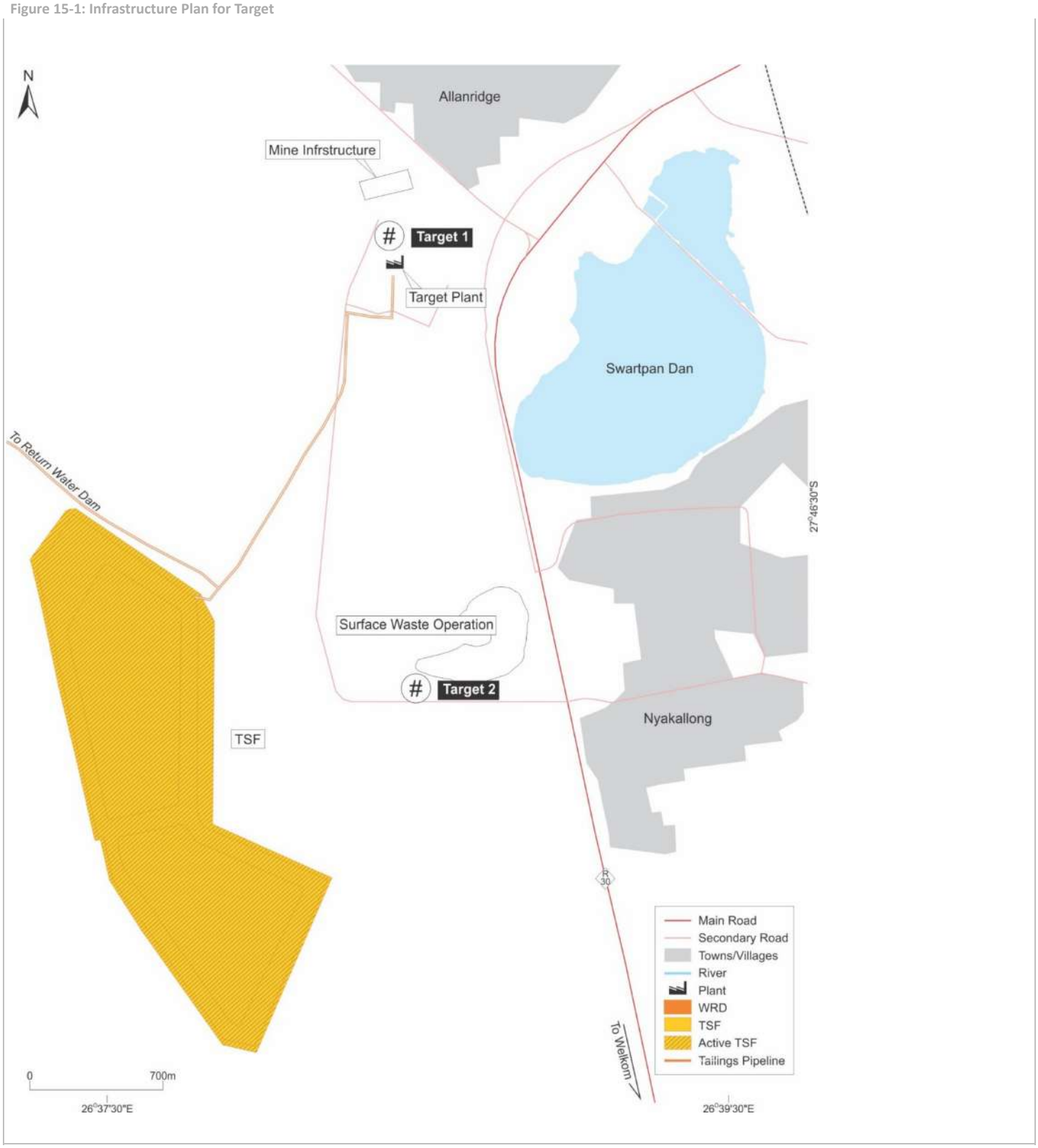


Figure 15-2: Target Location of Surface Infrastructure

Source: Google Earth Imagery Date July 2021

Effective Date: 30 June 2022

Figure 15-3: Target Mine Detailed Surface Layout

16 Market Studies

Section 229.601(b)(96) (16) (i-ii)

Gold is traded in a variety of markets/exchanges both in physical form through Over the Counter ("OTC") markets, bullion banks and metal exchanges etc., and through passive investments such as exchange traded funds ("ETF's"), which are based on gold prices and units representing physical gold which may be in paper or dematerialised form. Demand is driven by the jewellery market, bar and coin, use in technology, ETF's and other financial products, and by central banks. An overview of the gold market is given in the following sections based mainly on data from the World Gold Council and GoldHub websites.

16.1 Market Overview

Unlike almost all mineral commodities, the gold market does not respond the same way to typical supply and demand dynamics which are founded on availability and consumption, but rather on global economic affairs, particular those of the major nations, industrial powerhouses and economic regions, such as the Eurozone. The gold market is affected by government and central bank policies, changes in interest rates, inflationary or deflationary environments and events such as stocking and de-stocking of central reserves. It is also largely affected by global events such as financial crises, geopolitical trade tensions and other geopolitical risks. Price performance is linked to global uncertainty prompted by the prolonged Russia-Ukraine war (GoldHub, Accessed July 2022). It is an asset that can preserve wealth and deliver price outperformance in an uncorrelated way and that makes it extremely attractive.

16.2 Global Production and Supply

Gold production and supply is sourced from existing mining operations, new mines and recycling.

16.2.1 New Mine Production

Gold mining is a global business with operations on every continent, except Antarctica, and gold is extracted from mines of widely varying types and scale. China was the largest producer in the world in 2021 and accounted for around 9-12% of total global production (Gold.org, Accessed 2022; USGS Mineral Commodity Summaries, 2022). Overall, global mine production was 3,000t in 2021, slightly lower than production levels in 2020 (3,030t), and the second annual decline in production after 2016. Recent decline has been largely attributable to COVID-19 interruptions. In 2021, the major producing gold countries in the world were China (370t), Australia (330t), Russian Federation (300t), USA (180t), Canada (170t), Ghana (130t), Mexico (100t), and Uzbekistan (100t). Indonesia, Peru and Sudan produced 90t each, followed by Brazil (80t). South Africa produced 100t in the same year (USGS Mineral Commodity Summaries, 2022).

16.2.2 Recycling

Annual global supply of recycled gold was 1,143.5t in 2021, a decline from the 2020 figure of 1,291.3t. Recycling supply responds to the gold price and its rate of change but experienced a modest increase during the year even as prices increased to all-time highs. India and China play large roles in the recycling market. In the first quarter of 2022, when gold demand was 34% higher than the previous year, the supply of recycled gold increased to 310t (a 15% increase y-o-y), and highest amount of activity for six years (Gold Demand Trends Q1 2022, Gold.org, April 2022).

16.3 Global Consumption and Demand

Gold consumer demand is expected to be supported by gradual economic recovery. Gold has performed well as a consequence of a high-risk environment, low interest rates and a high price. While continued improvement in markets is expected post-COVID in 2022, economic slowdown among other factors is anticipated to place some downward pressure on consumer demand in China and India.

16.3.1 Jewellery

Global annual jewellery demand increased from 1,329.7t in 2020 to 2,229.4t in 2021, amid a recovery of markets from the COVID-19 pandemic. As with recycling, the two largest markets, India and China, were major contributors to the decline in 2020, and markets were expected to improve with economic recovery in these geographies. In Q1 2022, recovery of demand was soft, down 7% y-o-y, after new lockdowns to contain COVID-19 (Gold Demand Trends Q1 2022, Gold.org, April 2022).

16.3.2 Investment

The COVID-19 pandemic, high inflation and recent period of heightened risk and geopolitical uncertainty, has driven the value of gold as a 'safe haven' investment (www.gold.org/goldhub). Bar and coin investment was 20% lower in Q1 2022, but 11% higher than a five-year quarterly average (Gold Demand Trends Q1 2022, Gold.org, April 2022).

A total annual gold investment of 1,006.42t was noted by the World Gold Council for 2021, a decline of 43% from the 2020 figure. Weaker investor interest in 2021 was seen with a net outflow of gold ETFs (-173.6t). Gold demand has since increased in Q12022 (34% higher than Q1 2021), driven by strong ETF inflows, and safe-haven demand (Gold Demand Trends Q1, 2022, Gold.org, April 2022).

Investment drivers also include low interest rates, a weakened US Dollar, and an economic slowdown. A consequentially favourable price means even greater investment, but momentum has slowed with gold reaching a USD 1,800/oz marker (Recent moves in gold, Gold.org, July 2022).

16.3.3 Currency

Gold holds an inverse relationship with the USD and is usually traded relative to its USD price. During the current period of uncertainty, and the rising influence of Chinese currency, central bank asset managers may likely increase their interest in gold as a result. This has been a prominent trend since the economic downturn in 2008.

Future performance of the gold market is expected to be supported by investment demand (a need for effective hedges and a low-rate environment) and will be driven by the level of risk observed in the recovery of the global economy from the effects of COVID-19, which may offset any lag in recovery of consumer demand.

16.4 Gold Price

16.4.1 Historical Gold Price

In early August 2020, the London Bullion Market Association ("LBMA") gold price reached historical highs and remained relatively high for the rest of the year (Figure 16-1).

16.4.2 Forecast Gold Price

The minimum and maximum consensus gold price range for the year 2021 Q4 to year 2025 is presented in Figure 16-2. The long-term gold prices are considered from year 2025 onwards. Forecasts as advised from various financial institutions show that gold is expected to trade in a range of USD1,652/oz - USD1,728/oz, for the period 2022 to 2025 with a long-term outlook of USD1,521/oz.

The gold price forecast of USD1,546/oz is conservative if corroborated against a long-term broker consensus gold price outlook (Figure 16-2).

16.4.3 Harmony Group Gold Hedging Policy

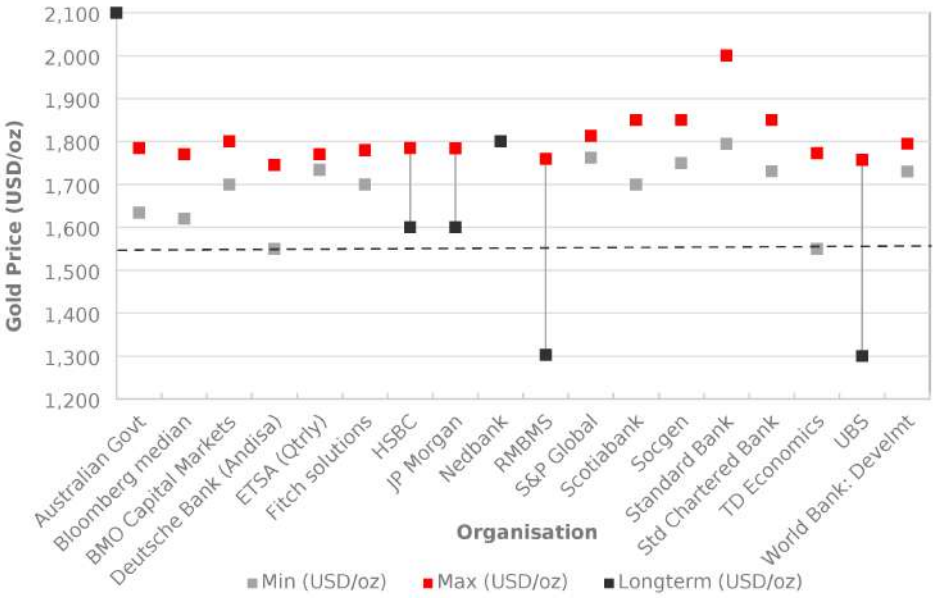
Harmony has a hedging policy which is managed and executed at Group treasury level on-behalf of its operating entities. The key features of the hedging programme are as follows:

- the policy provides for hedging (or forward selling) up to a maximum of 20% of expected gold production for a rolling 24-month period;
- the policy has no minimum quantity that should be hedged, and if an attractive margin above cost cannot be achieved (i.e., in a low gold price environment) then no hedges are entered into;
- Harmony enters into ZAR-denominated gold hedges for its South African operations (for the non-South African assets it enters into USD-denominated hedges);

Figure 16-1: Graph of Annual Gold Price History – ZAR/kg

Source: https://www.gold.org/goldhub/data/gold-prices

Figure 16-2: Graph of Consensus View of Forecast Gold Price



- Target does not enter into hedges in its own name but delivers bullion to Rand Refinery for refining on behalf of Harmony. Rand Refinery is one of the world's largest single-site precious metals refining and smelting complex in the world. Rand Refinery refine all of Harmony's gold to at least 99.5% purity, and acting as agent, sells the gold on the daily spot London fixing price and make payment to the Harmony two days later;

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- gains and losses realised from the hedging program are accounted for at Group level and the financial benefit (or downside) is distributed amongst the operations proportional to their levels of gold sales; and
- Target does its mine planning and financial forecasts based on the estimated future gold price provided by the Group treasury, but its year-end actual financial results reflect the received gold price inclusive of the benefit of the hedging programme. Therefore, in theory, Target receives a hedged gold price for a maximum of 20% of its gold sales with the balance attracting the spot price.

16.5 Commentary on Market Studies

The factors which affect the global gold market are well-documented as are the elements which influence the daily gold price. The gold price recorded all-time highs during both 2020 and 2022, and although it has since moderated and retracted, the price remains well above the 5-year historical average.

The positive outlook for gold will likely be sustained. Key headwinds for gold are interest rate hikes, currently at near historically low levels, but continued geopolitical risk and underperformance of stocks and bonds will support gold (Gold Mid-Year Outlook 2022, Gold.org, Accessed 2022). The gold price has experienced weaker momentum in Q2 2022, but stabilised. The gold market is expected to remain supported, and prices elevated for the balance of the financial year running into FY2023. Harmony has a relatively conservative gold hedging policy in place, and this is used to take advantage of the movements in the gold price to maximise the average gold price received, with the benefit of this hedging programme flowing through to Target.

16.6 Material Contracts

Harmony has contractual vendor agreements with various service providers and suppliers. Table 16-1 lists the most significant of these contracts which are currently in place to support Target. All of the listed contracts are currently valid and in good standing. Terms, rates and charges of contracts are considered consistent with industry norms. Contract management processes are in place and resourced so that contracts re-tendered and/or renewed as they approach expiry.

As with all major businesses, Harmony and Target enters into a multitude of vendor agreements for the provisions of supplies and services. These agreements are entered into on a competitive basis and typically are of a medium-term duration all with clauses providing for periodic updating of pricing, annual (or other) renewal or termination.

Table 16-1: Material Contracts

Vendor Name	Nature of Service / Supply
TWC Mining (Pty) Ltd	Backlog Support (Mining)
Sandvik (Pty) Ltd	Conventional, Solo and Development Drilling (Mining)
Improchem (Pty) Ltd	Water Treatment Services (Cooling and solids/liquid separation. Filtration and monitoring. 284 Settlers ph control and flocculation. 284 Settlers monitoring equipment upgrades).
CSA Fire and Safety	Quarter service and monthly inspection of fire equipment. Monthly rental of fire equipment. Supply and install new Ansul Automatic Vehicle Fire Suppression systems, automate existing manual systems and install blaze cuts.
Rand Air (Pty) Ltd	Rental of compressors underground.

17 Environmental Studies, Permitting and Plans, Negotiations, or Agreements with Local Individuals or Groups

Section 229.601(b)(96) (17) (i-vii)

The South African Government has an extensive legal framework within which mining, environmental and social aspects of the industry are managed. Harmony and Target are primarily regulated and managed by various principal Acts as well as corporate policies, management systems and certain industry-wide guidelines, including:

- Energy Efficiency and Climate Change Policy;
- Environmental Policy;
- Harmony Water Management Strategy;
- Biodiversity and Rehabilitation Position Statement;
- Socio-Economic Transformation Policy; and
- Corporate Social Responsibility Policy.

The latest sustainability policies and public environmental social and governance ("ESG") performance and disclosure report(s) are available on the corporate website. Harmony has identified the environmental risks for the business and has strategies and management systems in place to manage the risks.

17.1 Results of Environmental Studies

Target has prepared multiple environmental impact assessments ("EIA") for regulatory approval, which under the current legal framework, require stakeholder engagement. The most recent EIA was undertaken in 2012.
The results of the studies have been incorporated into the Harmony business planning process. The results of all the studies are too voluminous to include in this TRS and therefore the reader is directed to the Environmental Management Programme report dated 2019.

Harmony is committed to maintaining good relationships with regulatory authorities, industries, communities, business partners and surrounding stakeholders. A detailed environmental impact register has been developed to identify all potential environmental impact of the operations. The main impacts were rated, and mitigation measures were proposed to minimise their impact on environment.

17.2 Waste and Tailings Disposal, Monitoring & Water Management

The process of mining and beneficiation produce significant waste, typically consisting of 1) solid waste in the form of waste rock and overburden, 2) liquid wastes in the form of wastewater and tailings slurry and 3) gaseous emissions such as liquefied petroleum gas.

Measures have been put in place for the handling and disposal of all hazardous chemicals (e.g., cyanide), hydrocarbons (i.e., hydraulic oils and diesel) and other chemicals to ensure the protection of human health and its potential impact on the environment.

Harmony recognises that responsible and effective waste management can positively reduce its environmental impacts and mitigate associated environmental liabilities. Waste management is thus a priority focus area. Internally, guidelines on mineral, non-mineral and hazardous waste materials are included in the environmental management systems ("EMS") implemented at Target Mine.

Tailings comprises of crushed rock and process water emitted from the gold elution process in the form of slurry once gold has been extracted. As tailings contain impurities and pollutants, they are placed in TSF engineered to contain them, in line with Harmony's tailings management programme and the Global Industry Standard on Tailings Management.

Harmony's overall tailings management strategy is to ensure robust, meticulous engineering and dam design, along with a continual focus on management of risks through layered assurance and oversight.

The focus areas include, but are not limited to:

- freeboard control;
- water management;
- maintaining stability and the safety factor as advised by the engineer of record;
- erosion controls; and
- monitoring and control measures implemented to ensure continued compliance (including regular inspections, audits and meetings on varying intervals with subsequent actions, minutes and reports).

As part of its mining, environmental and water approvals and licences, Harmony is required to implement monitoring programmes and plans to establish the operations impact on the environment. The compliance limits for the monitoring variable are included in the applicable EMPR(s), Water Use Licence(s) ("WUL(s)") and environmental authorisations. The environmental monitoring implemented at Target includes:

- ground and surface water monitoring
- biodiversity monitoring;
- waste classification and quantification;
- integrated waste and water management plan updates;
- water balance reviews;
- licence and authorisation compliance reviews; and
- air quality (i.e., noise and dust) and greenhouse gas emissions monitoring.

Target has implemented Harmony's corporate water management standard which applies to water in the entire mining lifecycle, including prospecting, project design and commissioning, operation and closure. This standard has led to several positive outcomes with long-term target set to reduce the amount of water used for primary activities by 4.5%.

Water from underground is re-circulated to limit the amount of water that would need to be pumped to surface. Water is pumped from various levels into skidams and 20/21 dams and then into 266 settlers where it is treated for re-use. Excess water from 266 settlers is pumped to 30 Level pump station and then into the Million Gallon Dam for treatment and re-use at the plant.

A surface and groundwater water monitoring program and network is established to ensure compliance with certain regulatory requirements and industry standards. Ground and surface water monitoring is conducted on regular intervals from strategically placed boreholes and surface water streams and dams around the operation. The drinking quality of water is monitored daily to ensure compliance to the South African national drinking water quality standard (SANS 241).

17.3 Permitting and Licences

In respect of environment, the following national Acts and the regulations promulgated thereunder provide the regulatory framework for mine permitting and licencing in South Africa:

- Mineral and Petroleum Resources Development Act, 2002 ("MPRDA");
- National Environmental Management Act, 1998 ("NEMA");
- National Environmental Management: Waste Act, 2008 ("NEM:WA");
- National Environmental Management: Air Quality Act, 2004 ("NEM:AQA"); and
- National Water Act, 1998 ("NWA")

A summary of the status of all environmental permits and licences issued at the effective date related to Target is presented in Table 17-1.

Table 17-1: Status of Environmental Permits and Licences

Permit / Licence	Reference No.	Issued By	Date Granted	Validity
EMPR	FS 30/5/1/2/3/2/1(14) EM	DMRE	16-Apr-2010	LOM
Atmospheric Emission Licence	LDM/AEL/YMK/013	Lejweleputswa District Municipality	05-Nov-2018	05-Nov-2023
Water Permit	789N	DWS	04-Nov-2008	Valid pending issue of new license
Water Permit	1046B	DWS	04-Nov-2008	Valid pending issue of new license

Note: DMRE - Department of Mineral Resources and Energy, DWS - Department of Water and Sanitation

All relevant mining, environmental and water-use permits are in place that cover the environmental, archaeological, and hydrological components of Target Mine. All permits are audited regularly for compliance and no material risks to the operations have been identified.

There are applications submitted or being considered by the relevant authorities to ensure compliance and alignment with operations LOM requirements. To this end, applications have been submitted to amend the existing EMPR (required for the Freddies 9 TSF Slurry Pipeline Project) and WUL and are awaiting approval from the regulator at the effective date of this TRS. These pending environmental permits and licences do not pose a material risk to the continuation of the operation.

17.4 Local Stakeholder Plans and Agreements

Harmony strives to create sustainable shared value within the communities it operates. Local stakeholder plans and agreements are based on the results from socio-economic information, government development strategies and EIAs undertaken. The socio-economic development programme commits to:

- contribute to areas that will have the most meaningful socioeconomic impact on communities, namely infrastructure, education and skills development, job creation and entrepreneurial development;
- enhance broad-based local and community economic empowerment and enterprise development initiatives;
- facilitate socio-economic development in local communities by means of social and labour plan(s) (“SLP”) and corporate social responsibility programmes;
- support arts, culture, and sports and recreation; and
- build relationships based on trust within host communities.

In South Africa, mining companies are required to have a SLP which forms an important component of Harmony's community investment plan. It sets out the Company’s obligation to develop and implement comprehensive human resource development programs, community development plans, housing and living condition plans and employment equity plans.

The aim of the SLP is to promote employment and advance the social and economic welfare of all South Africans. Target's SLP was approved in June 2018 and is valid for a period of five years (i.e., until June 2022) in which the Company has committed to spend approximately ZAR40M this period.

The SLP has made the following main commitments related to socio-economic development within surrounding local communities:

- infrastructure development – roads, electricity and water;
- community training and recreation facilities; and
- youth entrepreneurial and business development support

The SLP will need to be renewed and resubmitted to the regulator for approval. Compliance is the SLP is a prerequisite to securing and maintaining a mining right, with progress required to be reported each year.

17.5 Mine Closure Plans

Harmony makes provision for closure and rehabilitation both for accounting purposes and as required under the MPRDA. The statutory obligation for all environmental rehabilitation at Target is administered by the DMRE and requires the preparation of a closure plan, the development of a cost estimate, and financial assurance. The Company makes an annual submission to the DMRE setting out the cost of closure in accordance with the MPRDA and the regulations issued thereunder.

This amount was approximately ZAR132m as of 30 June 2022, which includes an allowance for management and contingency costs. The funding has been provided in the form of a trust fund and guarantees to satisfy the total regulatory liability.

17.6 Status of Issues Related to Environmental Compliance, Permitting, and Local Individuals Or Groups

Most of the required environmental authorisations are in place and only require amendments to be made to reflect the planned infrastructure at Target.

17.7 Local Procurement and Hiring

Harmony is committed to investing in the future of local communities beyond the LOM and not to only empower them, but also to mitigate the impacts its activities to ensure a positive legacy. The 2014 Mining Charter serves to guide the south African mining industry in socio-economic transformation. Local procurement (goods and services) and human resource management are key measures set under the Mining Charter and are reported on annually.

Portable skills are developed through expanded learning programmes, learnerships and other programmes opened only to operating communities and areas where labour is sourced. Local procurement is being supported where there is a skills shortage.

17.8 Commentary on Environmental Studies, Permitting and Plans, Negotiations, or Agreements with Local Individuals or Groups

Periodic inspections are conducted by the DMRE to verify compliance with applicable environmental laws, regulations, permits and standards. In addition, Target has implemented an EMS in line with the ISO 14001 standard. The EMS is audited on an annual basis by a third party and includes the needs and expectations of interested parties.

As part of Harmony, Target conducts its operation based on policies and systems that are aligned to its corporate sustainable development framework. Although Harmony is not a signatory to the International Council on Mining and Metals or the UN Global Compact, these form the guiding principles of the framework. Harmony discloses its sustainable development voluntarily in accordance with the guidelines issued by the Global Reporting Initiative (“GRI”).

Further to this, Harmony discloses environmental information on the Carbon Disclosure Project (“CDP”) for both climate change and water. The CDP runs the global environmental disclosure system that supports companies to measure and manage their risks and opportunities on climate change, water security and deforestation.

Harmony has a good understanding of the environmental and social aspects of the operations through baseline and specialist studies previously conducted. Risk management and mitigation measures were adequately addressed in the environmental management plans and will be effective to mitigate risks and impacts to acceptable levels should the measures be implemented according to the specialists’ recommendations.

Most of the required environmental authorisations are in place and only require amendments to be made to reflect the planned infrastructure at Target. Based on current industry norms, a realistic timeframe to obtain relevant authorisations is estimated between 12 and 18 months.

18 Capital and Operating Costs

Section 229.601(b)(96) (18) (i-ii)

Economic parameters for the Harmony Group, including capital and operating costs, are determined, and signed off by the CODM, before distribution to the business units, including Target. The capital and operating costs are reported in ZAR terms and on a real basis. Rounding of figures may result in minor computational discrepancies.

18.1 Capital Costs

The estimated capital costs for Target are reported according to costs associated with major equipment outside the main operating sections which is termed abnormal expenditure ("AE"), infrastructure development, as well as ongoing capital development ("OCD"), as presented in Table 18-1.

Costs associated with the MCC are determined because of Target's SLP requirements and modelled as such. These costs are extracted from the SLP model.

An average contingency of 10% is applied where the capital cost estimates have a level of uncertainty, for example, where a capital project is an isolated occurrence. Where the capital cost estimates have a reasonable basis, there is no contingency applied. The estimated capital costs are carried forward and modelled in the Target cash flow.

18.2 Operating Costs

A summary of the direct and indirect operating costs for Target are presented in Table 18-2. Operating costs are based on historic performance while applying any changes expected within the new financial year (such as electricity requirements, increased/decreased labour) and are used as an input into the Target cash flow model.

18.3 Comment on Capital and Operating Costs

The capital and operating cost estimates for Target are based on actual historical data, as well as budget forecasts. Therefore, the forecasted costs are reliable, and at minimum meet the confidence levels of a Pre-Feasibility Study. This approach of estimating capital and operating costs is consistent with industry practice. A record of the forecast and budget costs is maintained by the operation, allowing for an assessment of the alignment of the forecast and actual costs.

Table 18-1: Target Capital Cost Estimates

Capital Cost Element (ZAR'000s)	Total LOM	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
AE	**211,852**	44,120	54,347	38,216	38,216	34,978	1,975
Shaft projects	**229,139**	23,044	56,367	45,962	45,962	38,536	19,268
Major projects	**117,329**	117,329	0	0	0	0	0
MCC	**50,527**	9,487	8,208	8,208	8,208	8,208	8,208
Total (excl OCD)	**608,847**	**193,980**	**118,922**	**92,386**	**92,386**	**81,722**	**29,451**
OCD	**662,321**	185,570	168,318	164,887	143,546	0	0
Total (incl OCD)	**1,271,168**	**379,550**	**287,240**	**257,273**	**235,932**	**81,722**	**29,451**

Table 18-2: Target Operating Cost Estimates

Operating Cost Element (ZAR'000)	Total LOM	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
Wages - payroll 1	**2,961,604**	501,718	497,856	503,109	499,669	497,730	461,522
Wages - payroll 2	**1,295,226**	230,137	223,807	214,692	211,741	210,078	204,771
Stores and materials	**2,182,055**	388,810	375,667	371,601	360,751	340,613	344,613
Electric power and water	**1,815,259**	250,989	264,549	295,576	334,004	331,433	338,708
Outside contractors	**789,235**	160,544	151,582	148,078	113,980	109,572	105,479
Other	**265,685**	44,247	42,916	42,336	42,177	46,748	47,261
Direct Costs	**9,309,064**	**1,576,445**	**1,556,377**	**1,575,392**	**1,562,322**	**1,536,174**	**1,502,354**
Pumping	**235,548**	41,028	39,852	41,105	39,154	36,143	38,266
Refining charge	**29,791**	4,340	4,946	5,126	5,008	4,942	5,429
Backfill costs	**58,689**	17,702	13,423	11,743	7,787	5,349	2,685
Assay costs	**37,277**	5,571	6,193	6,378	6,257	6,189	6,689
Hostel costs	**27,962**	4,848	4,483	4,568	4,645	4,669	4,749
Plant treatment cost	**973,936**	152,492	161,134	164,818	163,402	163,851	168,239
OCD re-allocated	**-108,076**	-29,953	-28,560	-26,583	-22,980	0	0
Re-allocated costs	**1,255,127**	**196,028**	**201,471**	**207,155**	**203,273**	**221,143**	**226,057**
Mine overheads re-allocated	**567,533**	93,419	92,609	95,378	93,564	92,542	100,021
Total	**11,131,724**	**1,865,892**	**1,850,457**	**1,877,925**	**1,859,159**	**1,849,859**	**1,828,432**

19 Economic Analysis

Section 229.601(b)(96) (19) (i-iv)

19.1 Key Economic Assumptions and Parameters

The CODM forms, reviews, signs-off and distributes economic assumptions to its various business units. On an annual basis, during the period October to November, long-term commodity prices and exchange rates forecasts', are received from various financial institutions. In addition, a specialist in Economics from a reputable economics company based in South Africa, provides expert views on the global markets, forward looking commodity prices, exchange rates, consumer price index, production price index, electricity cost and consumable increases. All factors are analysed, cognisance is taken of the requirements of the NYSE and JSE markets, and a proposal is presented to the CODM for recommendation and approval. These assumptions are then applied at Target, along with specific operational considerations.

19.1.1 Metallurgical Recoveries

Plant recovery factor of 94.36 % at plant call factor of 100% was used in the LOM planning cycle and formed key basis for the assumption used in the Cash flow analysis for Target Mine.

19.1.2 Gold Price

The proposed gold price (USD1,546/oz) is the price that is used by Harmony for Target's annual planning cycle and forms the basis for the gold price assumptions used in the Target cashflows. The reader is referred to Figure 16-2 for the consensus forecast gold price. The conversions used in the calculation of the various gold prices is presented in Table 19-1.

Table 19-1: Conversions Used in Gold Price Calculations

Economic Factors	Gold Price (USD/oz)	Conversion Factor (oz/kg)	Exchange Rate (ZAR:USD)	Gold Price (ZAR/kg)
2022 Mineral Resource	1,723	32.15	15.35	850,191
2022 Mineral Reserve	1,546	32.15	15.35	763,000
2023 Forecasted Gold Price	1,546	32.15	15.35	763,000

Notes: Forecasted gold price as used in the Target cash flow.

19.1.3 Exchange Rate

The consensus minimum and maximum ZAR:USD exchange rate for the year 2021 Q4 to year 2025 is presented in Figure 19-1. The long-term exchange rates are considered from year 2025 onwards. The volatility in the ZAR has continued against the USD resulting in the ZAR:USD exchange rate fluctuating. Forecasts as advised from various financial institutions show that the ZAR/USD is expected to trade in a range of ZAR15.13:USD – ZAR15.83:USD for the period 2022 to 2025 with a long-term outlook of ZAR15.83:USD in the short term.

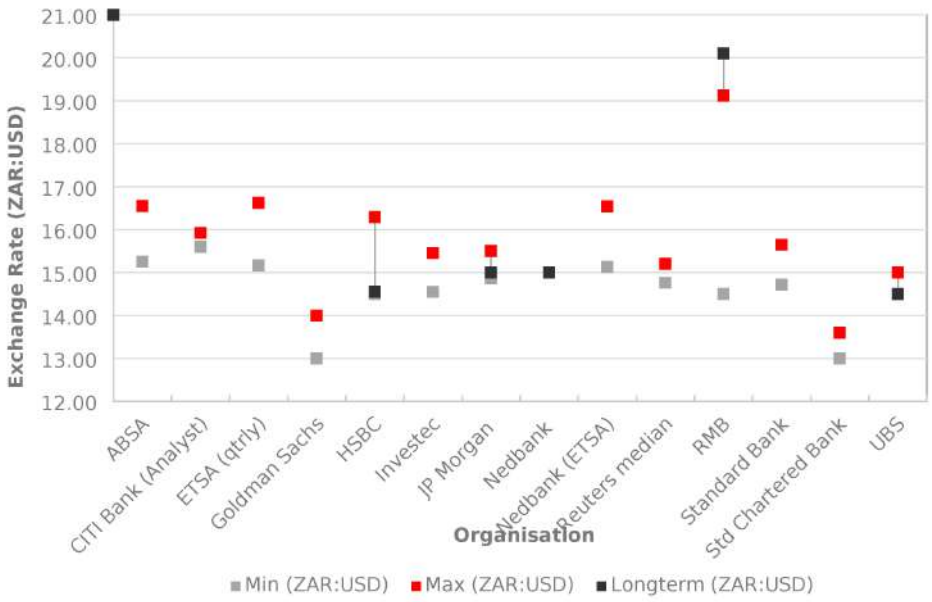
In addition, the CODM has reviewed the ZAR:USD exchange rate performance over the past three years, for the period July 2019 - June 2022 (Table 19-2). The proposed spot exchange rate of 15.35 ZAR:USD is the exchange rate that is used by Harmony for the Target annual planning cycle and forms the basis for the ZAR:USD exchange rate assumptions used in the Target cash flow.

Table 19-2: ZAR:USD Exchange Rate Performance (June 2019 – June 2022)

Period	Average Exchange Rate (ZAR:USD)
July 2019 to June 2020	15.68
July 2020 to June 2021	15.41
July 2021 to June 2022	14.75
3-Year Avg. (not weighted)	**15.28**

Effective Date: 30 June 2022

Figure 19-1: Graph of Consensus ZAR : USD Exchange Rate Forecast



19.1.4 Royalties

Royalty is an expense paid to the government of South Africa and is accounted for in the Target cash flow models. In terms of the mining ring-fencing application, each ring-fenced mine is treated separately, and deductions can normally only be utilised against mining income generated from the relevant ring-fenced mine.

19.1.5 Capital Expenditure

At Harmony, capital is allocated to the mines with a longer life. Target currently has a relatively short LOM model, and therefore has small amounts dedicated to capital expenditure. Detailed capital costs are presented for Target in Table 18-1.

19.1.6 Operating Expenditure

The operating costs are determined as a function of the cash working costs of the mining and mineral processing plant activities, and ongoing capital development for mining. Whereas, total costs are a function of the operating costs, capital costs, and royalties. Detailed operating costs can be found for Target in Table 18-2.

19.1.7 Working Capital

Working capital is calculated at a Harmony Group level and not at an operational level.

19.1.8 Taxes

Mining tax on gold mining taxable income in South Africa is determined according to a formula, based on the taxable income from mining operations. Of that, 5% of total revenue is exempt from taxation while the remainder is taxable at a higher rate (34%) than non-mining income (28%). Accounting depreciation is

eliminated when calculating the South African mining tax income. Excess capital expenditure is carried forward as unredeemed capital to be claimed against future mining taxable income.

19.1.9 Closure Cost and Salvage Value

The closure cost estimates are provided in Section 17.4. No account has been taken of any potential salvage values.

19.1.10 Summary

The key assumptions used in the cash flow are summarised for Target in Table 19-3.

Table 19-3: Key Economic Assumptions and Parameters

Parameter	Unit	Value
Production Rate	ktpa	636
Gold Recovery	%	94.36
Royalty	% of xx	Formula
Tax Rate	%	Formula
Gold Price	ZAR/kg	763,000
Exchange Rate	USD:ZAR	Variable
Discount Rate	%	9.00

19.2 Economic Analysis

Harmony's respective business units and its associated operating sites consider the economic assumptions discussed in Section 19.1 during their respective planning and analysis processes. The LOM financial model for Target is presented in Table 19-4.

Table 19-4: Target Cash Flow

Item	Units	Total LOM	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
Mining advance	m^2	**126,311**	14,880	14,864	21,256	21,339	25,278	28,694
Ongoing Capital Development (OCD)	m	**8,979**	2,604	2,299	2,235	1,841	0	0
Milled Tons	t ('000)	**4,585**	593	759	808	776	758	891
Yield	g/t	**3.97**	4.05	3.99	3.75	4.23	4.35	3.56
Gold Recovered	kg	**18,220**	2,403	3,032	3,030	3,285	3,296	3,174
Revenue	ZAR'000	**13,901,585**	1,833,145	2,313,313	2,311,547	2,506,739	2,514,729	2,422,112
Working Costs	ZAR'000	**9,281,266**	1,865,892	1 850 457	1,877,927	1,859,159	1,849,858	1,828,430
OCD	ZAR'000	**662,321**	185,570	168,318	164,887	143,546	0	0
Sub-total Costs (including OCD)	**ZAR'000**	**11,863,550**	**2,060,628**	**2,030,341**	**2,054,372**	**2,015,238**	**1,862,431**	**1,840,540**
Abnormal Expenditure (AE)	ZAR'000	**211,852**	44,120	54,347	38,216	38,216	34,978	1,975
Shaft Projects	ZAR'000	**229,139**	23,044	56,367	45,962	45,962	38,536	19,268
Major Projects	ZAR'000	**117,329**	117,329	0	0	0	0	0
Mining Charter Compliance (MCC)	ZAR'000	**50,527**	9,487	8,208	8,208	8,208	8,208	8,208
Capital (excluding OCD)	ZAR'000	**608,845**	193,980	118,922	92,385	92,385	81,722	29,451
Royalty	ZAR'000	**69,510**	9,166	11,567	11,558	12,534	12,574	12,111
Total Costs (including capital and royalty)	**ZAR'000**	**12,472,397**	**2,254,608**	**2,149,263**	**2,146,757**	**2,107,624**	**1,944,153**	**1,869,992**
Profit (after OCD)	ZAR'000	**2,769,864**	-32,747	462,857	433,620	647,580	664,872	593,682
Profit (after capital and royalty)	ZAR'000	**1,429,188**	-421,463	164,050	164,790	399,115	570,576	552,120
Unit Costs (working costs)	ZAR/t	**2,428**	3,145	2,438	2,323	2,396	2,441	2,052
Unit Costs (working costs)	ZAR/kg	**610,974**	776,630	610,336	619,870	565,890	561,270	575,982

Unit Costs (total costs including OCD)	ZAR/t	**2,587**	3,473	2,300	2,251	2,125	2,128	2,165
Unit Costs (total costs including OCD)	ZAR/kg	**651,141**	857,684	608,643	561,184	561,935	528,808	539,978
Unit Costs (total costs including capital and royalty)	R/t	**2,720**	3,800	2,832	2,656	2,716	2,565	2 099
Unit Costs (total costs including capital and royalty)	ZAR/kg	**684,558**	938,423	708,891	708,606	641,517	589,880	589,074
NPV - (low discount rate - 9%)	@9%	**861,453**						
NPV - (medium discount rate - 12%)	@12%	**728,894**						
NPV - (high discount rate - 15%)	@15%	**616,478**						

The discounted cash flow model is used to calculate the Net Present Value ("NPV") of the investments. The NPV for the metal price, for Target is approximately ZAR861m at a discount rate of 9%. The NPV is calculated on a cash flow that accounts for factors such as:

- mining and ore processing working costs;
- royalty payments;
- capital costs, including costs allocated to ongoing development;
- any significant project work considered as major projects; and
- costs deemed as abnormal expenditure.

In response to the challenges faced by companies during the COVID-19 pandemic, the South African government has implemented various stimulus packages to provide tax relief to companies. In 2020, the South African Parliament passed the Disaster Management Tax Relief Act, 2020 and the Disaster Management Tax Relief Administration Act, 2020, containing exceptional tax measures. Certain tax relief measures have been further delayed, including limited assessed loss deductions currently ending 1 January 2022 (South African Revenue Services, 2021).

19.3 Sensitivity Analysis

The economic assumptions, cash flow breakdown and economic analysis contribute to the basis for the sensitivity analysis. The sensitivities are calculated and analysed, as shown in Table 19-5, Table 19-6 and Table 19-7. The sensitivity analysis is completed for variations in commodity price (ZAR/kg), working costs and royalties paid (ZAR); and a combined analysis considering variations in commodity price, total operating costs, and changes in production.

Harmony has reviewed its exposure in terms of South Africa's political instability, the COVID-19 pandemic, the currency exchange rate, and the gold price, on its financial assets and financial liabilities, and has determined the sensitivities for a ±10% variance. Management considers this range to be a reasonable change given the volatility in the market.

Capital investments in Target are relatively low and not expected to have any significant impact on the NPV and therefore not included in a sensitivity analysis. The base case in the analysis below is the economic results emanating from the LOM plan.

Table 19-5: Target Gold Price Sensitivity on NPV

Sensitivity (%)	Production (kg)	Gold Price (ZAR/kg)	Revenue (ZAR'000)	Operating Cost (ZAR'000)	Profit / Loss (ZAR'000)	NPV (ZAR'000)
+10%	18 220	839,300	15,291,744	12,472,397	2,819,348	1,888,278
+5%	18 220	801,150	14,596,665	12,472,397	2,124,268	1,374,866
LOM plan	18 220	763,000	13,901,586	12,472,397	1,429,189	861,453
-5%	18 220	724,850	13,206,506	12,472,397	734,110	348,040
-10%	18 220	686,700	12,511,427	12,472,397	39,030	-165,373

Table 19-6: Target Operating Cost Sensitivity on NPV

Sensitivity (%)	Production (kg)	Gold Price (ZAR/kg)	Revenue (ZAR'000)	Operating Cost (ZAR'000)	Profit / Loss (ZAR'000)	NPV (ZAR'000)
+10%	18 220	763,000	13,901,586	13,719,636	181,949	28,551
+5%	18 220	763,000	13,901,586	13,096,017	805,569	445,002
LOM plan	18 220	763,000	13,901,586	12,472,397	1,429,189	861,453
-5%	18 220	763,000	13,901,586	11,848,777	2,052,809	1,277,903
-10%	18 220	763,000	13,901,586	10,663,899	3,237,687	1,694,354

The sensitivity analysis shown in Table 19-5 and Table 19-6 is based on a change in a single assumption while holding all other assumptions constant. From this is it evident that Target is most sensitive to changes in the gold price (ZAR/kg).

In practice, this is unlikely to occur, as risks and/or opportunities will have an impact on the cash flows, and changes in some of these assumptions may be correlated. The impact of one or a combination of risks and opportunities occurring at the same time cannot be specifically quantified so an analysis considering multi-parameters is considered. In this way the general risks, with the aid of the sensitivity table (Table 19-7) are adequately covered. The sensitivity analysis considering the three variations of gold price (ZAR/kg), operating costs (ZAR) and variation in production (kg gold) show that the lowering of working costs, improvement in productivity and the benefits of a higher gold price can have positive impacts for Target.

Table 19-7: Target Gold Price, Operating Costs, And Production Variation Sensitivity on NPV

Sensitivity (%)	Production (kg)	Gold Price (ZAR/kg)	Revenue (ZAR'000)	Operating Cost (ZAR'000)	Profit / Loss (ZAR'000)	NPV (ZAR'000)
+10%	20 042	839,300	16,820,919	13,719,636	3,101,282	2,130,792
+5%	19 131	801,150	15,326,498	13,096,017	2,230,482	1,470,452
LOM plan	18 220	763,000	13,901,586	12,472,397	1,429,189	861,453
-5%	17 309	724,850	12,546,181	11,848,777	697,404	303,795
-10%	15 578	652,365	10,162,407	10,663,899	-501,492	-202,522

20 Adjacent properties

Section 229.601(b)(96) (20) (i-iv)

The present-day Target is located includes a single underground mine constructed as an extension to the Loraine gold mine. The EA Reefs have been mined extensively at Loraine. The history of the production achieved at Loraine is detailed in Section 5.4.

The Jeannette Project is located further southeast from Target Mine. In 2008 Taung Gold entered into an agreement to acquire 100% of the Jeanette Project from Harmony. The prospecting right was registered in the company's name in November 2013. On 9 March 2017, the Company announced the results of the Pre-Feasibility Study for the Jeanette Project of 7.24Moz of gold, at an average all-in-sustaining-capital of USD392/oz, over the project's 24-year life-of-mine.

21 Other Relevant Data and Information

Section 229.601(b)(96) (21)

Other relevant information includes public disclosure reports on Target's operational, financial and environmental performance are available on the Company's corporate website. The following reports are relevant to this TRS:

- Integrated annual report 2022;
- ESG report 2022;
- Financial report 2022;
- Report to shareholders 2022;
- Operational report 2022;
- TCFD report; and
- SLP Project FY22.

22 Interpretation and Conclusions

Section 229.601(b)(96) (22)

Target is a well-established mine and has been in operation since the early 1990's. Harmony has no known risks to conduct mining activities over the permitted mining rights' areas, incorporated as Target. In addition, no known risks are posed over surface access and activities, regarding mining related activities.

Target's regional geological setting, mineralisation and deposit is well understood. The geology is supported by historical geophysical surveys, surface diamond core drilling and underground channel (chip) sampling and mapping. The bulk of the mineralisation is specifically within the Eldorado Formation. However, the full potential of the Basal Reef, has yet to be established on the Target property. The geological anomalies are identified, defined, and managed by the Target Geology Department. Recommended delineation drilling will further enhance the understanding of the potential of the Basal Reef on the Target Mines property.

The sampling approach and management, density assumptions, laboratory procedures, and assaying and analysis are in keeping with industry standards and practices and is appropriate for the conglomerate type of mineralisation at Target. The holistic understanding of the regional geology, lithological and structural controls of the mineralisation at Target is sufficient to support the estimation of Mineral Resources.

Ore mined at Target is processed at the Target processing facility which has been in operation since xxx, as such the processing method is considered well established for mineralisation at Target. Target makes use of historical trends and data as a basis for the ore recovery. However, metallurgical test work will be adopted for optimisation and Mineral estimation projects.

The data pertaining to the mineralisation, regional and geological setting, exploration findings, sample collection, preparation, and testing, inclusive of data verification and metallurgical test work gives rise to the Mineral Resource estimate. The combined Measured and Indicated Mineral Resource, exclusive of Mineral Reserves, as at 30 June 2022 is 7.56Mt at 8.41g/t Au, containing 2.046Moz of gold, and the Inferred Mineral Resource contains is 4.03Mt at 5.96g/t Au, containing 0.77Moz of gold

Mineral Reserves are derived from the Mineral Resources, a detailed business plan and operational mine planning processes. Mine planning utilises and takes into consideration actual historical technical parameters. In addition, conversion of the Mineral Resources to Mineral Reserves considers Modifying Factors, such as cut-off grade, the MCF, the stoping width, the mining width and the plant recovery factor. The Mineral Reserve estimate is 4.45Mt of milled ore containing 0.61Moz of gold as at 30 June 2022.

Target is currently operating profitably, and the Mineral Reserve estimates show positive cash flows. Any other by-products that are recovered as part of the refining process, make up an immaterial component of the total metal inventory, and is thus not reported as part of the Mineral Reserve estimates. There are no obvious material risks that could have significant effect on the Mineral Reserves.

The Mineral Reserves are extracted via essentially through trackless mining operations, with a combination of highly mechanised mining, scattered mining and labour-intensive narrow reef stoping which is more typical of South African gold mines. Massive open stoping accounts for ±70% of the ore production with ±20% coming from the exploitation of the overlying Dreyerskuil reefs through conventional narrow reef stoping. The ±10% balance of the production contribution comes from trackless on-reef development sections.

Extracted minerals from Target are recovered at an onsite mineral processing plant. The plant treats the extracted minerals via the Zadra elution process for gold recovery.

The mine's regional and local infrastructure is capable of fully supporting the mining and other surface related mining activities. Target is accessed via national and provincial road networks, has key power transmission and distribution networks provided by the National electricity regulator, water supply and recycling networks and communication infrastructure. Overall, Target is well-established with sufficient logistics and infrastructure support for the existing and planned mining operations.

Harmony and Target are exposed to market risks such as exchange rate and gold price fluctuations which are partially offset by the Harmony Group hedging policy. The hedging programme considers factors affecting the global gold market and these, along with macro-economic conditions, are used to determine planning and forecasting inputs at group level for all of Harmony's operating business units. Other non-gold related risks are addressed to some extent by Target when entering into vendor agreements for the provisions of supplies and services, which are done on a competitive basis with customary price adjustment, renewal, and termination clauses.

To successfully operate a mining operation in South Africa the state requires compliance with applicable environmental laws, regulations, permits and standards. Target adheres to said compliance and regulatory standards. As part of Harmony, Target conducts its operations based on policies and systems that are aligned to its corporate sustainable development framework. This is guided by the principles of the framework from the International Council on Mining and Metals or the United Nations Global Compact. Harmony discloses its sustainable development voluntarily in accordance with the guidelines issued by the GRI. Further to this, Harmony discloses environmental information on the CDP for both climate change and water.

Harmony has a good understanding of the environmental and social aspects through baseline and specialist studies previously conducted. Risk management and mitigation measures were adequately addressed in the environmental management plans. All the required environmental authorisations are in place, and only require amendments to be made to reflect the planned infrastructure at Target 1 shaft, which is pending at the effective date of this report. Based on current industry norms, a realistic timeframe to obtain relevant authorisations is estimated between 12 and 18 months. There is reasonable expectation that the permits will be granted, as it is part of expansion of the current mining footprint within the approved mining lease area.

The economics of Target is based on the discounted cash flow model, with a gold price of ZAR763,000/kg. The NPV for the metal price, is ZAR861m, at a discount rate of 9%. The NPV is calculated on cash flows that consider factors such as: capital and operating costs; and royalties. The capital and operating cost estimates for Target are based on historical data, as well as budget forecasts. This estimation technique allows for the forecast and actual costs to be aligned.

Royalties and taxes are paid to the South African government and accounted for in the Target cash flow and NPV analysis. There are also specific tax relief benefits that apply to gold mining companies, where 5% of total revenue is exempt from taxation, amongst other benefits. In addition, in response to challenges faced by companies during the COVID-19 pandemic, the government have implemented various stimulus packages to provide some tax relief to companies.

The economics of Target are tested for its sensitivity to commodity price (ZAR/kg), operating costs (ZAR) gold production (kg). The insights provided by the sensitivity analysis is that Target Mine is most sensitive to changes in the gold price (ZAR/kg).

The TRS provides sufficient information as required and there is no other relevant data and information. The TRS was prepared by a team of experienced professionals. The TRS provides a summary of the material scientific and technical information concerning the mineral exploration, Mineral Resources, Mineral Reserves, and associated production activities of the mineral asset, including references to the valuation for Target. Each QP was responsible for specific sections of this TRS which they have personally supervised and reviewed. This TRS contains the expression of the QP opinions, based on the information available at the time of preparation.

23 Recommendations

Section 229.601(b)(96) (23)

23.1 Recommendation 1

Results of relative density tests taken on Dreyerskuil reefs were higher than 2.71 standard for Target Mine, and therefore more tests are required to verify the density of the Dreyerskuil reefs.

23.2 Recommendation 2

The full potential of the Basal Reef, which produces 85% of the gold from the Free State Goldfield, has yet to be established on the Target property as initial drilling had focused on the shallower Eldorado (Elsburg) and Kimberley (Aandenk) reefs. Therefore, the QP recommends that delineation drilling be undertaken to establish this. In addition, further exploration drilling is recommended to determine the potential of EA3 reefs in the inter-fan areas of BLK12.

23.3 Recommendation 3

The SLOS mining method will be tested for the first time in deep level mining. Therefore, actual data regarding dilution due to caving or under-breaks must be collected for reconciliations and future planning process.

24 References

Section 229.601(b)(96) (24)

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25 Reliance on Information Provided by the Registrant

Section 229.601(b)(96) (25)

Further to Section 24, in the preparation of this TRS, the principal QPs and authors relied upon information provided by the Registrant and other internal specialists with regards to mining rights, surface rights, contractual agreements, historical operating expenditures, community relations and other matters. The work conducted by these specialists was completed under the supervision and direction of the respective QPs. The specialists who assisted the principal authors and QPs are listed in Table 25-1.

Table 25-1: Other Specialists

Name	Specialist	Area of Responsibility	Association / Company
E Malaola	Manager ORM Audit and Survey	Mineral Resources and Reserves Audit	Harmony Central
T v Dyk	Senior Ore Reserve Manager	Mineral Resources and Reserves Audit	Harmony Central
J Boshoff	Executive: Ore Reserves	Mineral Resources and Reserves Audit	Harmony Central
S Green	General Manager	Mining	Target
R Phaladi	Metallurgist	Gold processing	Target
Z Hadebe	Engineer	Water Reticulation	Target