



[www.minxcon.co.za](http://www.minxcon.co.za)



## Caledonia Mining Corporation Plc

### S-K 1300 Technical Report Summary on the Blanket Gold Mine, Zimbabwe

#### QUALIFIED PERSONS:

Mr. U Engelmann  
*BSc (Zoo. & Bot.), BSc Hons (Geol.)  
Pr.Sci.Nat., MGSSA*

Mr. D van Heerden  
*B Eng (Min.), MCom (Bus. Admin.), MMC,  
Pr.Eng., FSAIMM, AMMSA*

**Minxcon Reference:** M2022-005a Blanket

**Effective Date:** 31 December 2021

**Version:** Final

**Issue Date:** 13 May 2022

**Prepared by Minxcon (Pty) Ltd**

Suite 5 Coldstream Office Park,  
Little Falls, Roodepoort, South Africa  
Tel: +2711 958 2899

Directors: D v Heerden, NJ Odendaal, U Engelmann  
Company Registration No.: 2004/029587/07

---

## DATE AND SIGNATURE PAGE

This Report titled "S-K 1300 Technical Report Summary on the Blanket Gold Mine, Zimbabwe" was prepared for Caledonia Mining Corporation Plc. The Report is compiled in accordance with the United States Securities and Exchange Commission Part 229 Standard Instructions for Filing Forms Regulation S-K subpart 1300. The effective date of this Report is 31 December 2021.

The Qualified Persons ("QPs") responsible for this Report are Mr. Uwe Engelmann (Geology and Mineral Resources) and Mr. Daniel (Daan) van Heerden (Mineral Processing, Mineral Extraction and Mineral Reserves).



---

**U ENGELMANN**

BSc (Zoo. & Bot.), BSc Hons (Geol.)  
Pr.Sci.Nat., MGSSA  
DIRECTOR, MINXCON (PTY) LTD



---

**D VAN HEERDEN**

B Eng (Min.), MCom (Bus. Admin.), MMC  
Pr.Eng., FSAIMM, AMWSA  
DIRECTOR, MINXCON (PTY) LTD

Signed at Little Falls, Gauteng, South Africa, on 13 May 2022.

## INFORMATION RISK

This Report was prepared by Uwe Engelmann and Daniel van Heerden (the QPs) of Minxcon (Pty) Ltd ("Minxcon"). In the preparation of the Report, the QPs utilised information relating to operational methods and expectations provided to them by various sources. Where possible, the QPs have verified this information from independent sources after making due enquiry of all material issues that are required in order to comply with the requirements of the United States Securities and Exchange Commission Part 229 Standard Instructions for Filing Forms Regulation S-K subpart 1300. The authors of this report are not qualified to provide extensive commentary on legal issues associated with rights to the mineral properties and relied on the information provided to them by the issuer. No warranty or guarantee, be it express or implied, is made by the authors with respect to the completeness or accuracy of the legal aspects of this document.

## OPERATIONAL RISKS

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

## POLITICAL AND ECONOMIC RISK

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

## FORWARD LOOKING STATEMENTS

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

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



## TABLE OF CONTENTS

<b>Item 1</b>	<b>- Executive Summary .....</b>	<b>1</b>
I.	Geology and Mineral Deposit .....	1
II.	Status of Exploration .....	1
III.	Mineral Resource and Mineral Reserve Estimates .....	2
IV.	Development and Operations.....	4
V.	Economic Analysis.....	5
VI.	Conclusions .....	7
VII.	Recommendations.....	8
<b>Item 2</b>	<b>- Introduction .....</b>	<b>9</b>
Item 2 (a)	- Issuer Receiving the Report; Authors .....	9
Item 2 (b)	- Terms of Reference and Purpose of the Report.....	9
Item 2 (c)	- Sources of Information and Data Contained in the Report .....	9
Item 2 (d)	- Qualified Persons' Personal Inspection of the Property .....	9
<b>Item 3</b>	<b>- Property Description and Location.....</b>	<b>10</b>
Item 3 (a)	- Area of the Property .....	10
Item 3 (b)	- Location of the Property .....	10
Item 3 (c)	- Mineral Deposit Tenure .....	11
Item 3 (d)	- Royalties and Payments .....	13
I.	Government Royalties .....	13
II.	Net Smelter Royalties .....	13
Item 3 (e)	- Environmental Liabilities.....	14
Item 3 (f)	- Permits to Conduct Work.....	14
I.	Water Agreement .....	14
II.	Environmental Impact Assessment Certificates.....	14
III.	Additional Environmental Permits .....	15
Item 3 (g)	- Other Significant Factors and Risks .....	15
<b>Item 4</b>	<b>- Accessibility, Climate, Local Resources, Infrastructure and Physiography.....</b>	<b>16</b>
Item 4 (a)	- Topography, Elevation and Vegetation.....	16
Item 4 (b)	- Access to the Property.....	16
Item 4 (c)	- Climate and Length of Operating Season .....	17
Item 4 (d)	- Infrastructure .....	17
I.	Regional Infrastructure.....	17
II.	Mine Infrastructure .....	17
<b>Item 5</b>	<b>- History .....</b>	<b>17</b>
Item 5 (a)	- Prior Ownership and Ownership Changes .....	17
Item 5 (b)	- Historical Exploration and Development .....	18
<b>Item 6</b>	<b>- Geological Setting, Mineralisation and Deposit .....</b>	<b>18</b>
Item 6 (a)	- Regional Geology .....	18
Item 6 (b)	- Local and Property Geology.....	19
Item 6 (c)	- Mineralisation and Deposit Type .....	22
Item 6 (d)	- Geological Model .....	25
<b>Item 7</b>	<b>- Exploration .....</b>	<b>32</b>
Item 7 (a)	- Non-drilling Work.....	32
I.	Survey Procedures and Parameters.....	32
II.	Sampling Methods and Sample Quality.....	33
III.	Sample Data .....	33
IV.	Results and Interpretation of Exploration Information .....	33

Item 7 (b) - Drilling .....	33
I. Type and Extent of Drilling .....	33
II. Factors Influencing the Accuracy of Results .....	37
III. Exploration Properties - Drill Hole Details.....	37
Item 7 (c) - Hydrogeology.....	37
Item 7 (d) - Geotechnical .....	37
<b>Item 8 - Sample Preparation, Analyses and Security .....</b>	<b>38</b>
Item 8 (a) Sample Handling Prior to Dispatch .....	38
Item 8 (b) - Sample Preparation and Analysis Procedures .....	38
Item 8 (c) - Quality Assurance and Quality Control .....	38
I. Assessment Of Results .....	39
Item 8 (d) - Adequacy of Sample Preparation, Security and Analytical Procedures.....	42
<b>Item 9 - Data Verification .....</b>	<b>42</b>
Item 9 (a) - Data Verification Procedures .....	42
Item 9 (b) - Limitations on/Failure to Conduct Data Verification.....	44
Item 9 (c) - Adequacy of Data.....	44
<b>Item 10 - Mineral Processing and Metallurgical Testing .....</b>	<b>44</b>
Item 10 (a) - Nature and Extent of Testing and Analytical Procedures.....	44
Item 10 (b) - Basis of Assumptions Regarding Recovery Estimates .....	45
Item 10 (c) - Representativeness of Samples and Adequacy of Data .....	45
Item 10 (d) - Deleterious Elements for Extraction.....	45
<b>Item 11 - Mineral Resource Estimates .....</b>	<b>45</b>
Item 11 (a) - Assumptions, Parameters and Methods Used for Resource Estimates.....	45
I. Mineral Resource Estimation Procedures .....	45
II. Initial Assessment .....	57
III. Mineral Resource Classification .....	58
IV. Mineral Resource Statement.....	62
Item 11 (b) - Individual Grade of Metals .....	65
Item 11 (c) - Factors Affecting Mineral Resource Estimates .....	65
<b>Item 12 - Mineral Reserve Estimates .....</b>	<b>65</b>
Item 12 (a) - Key Assumptions, Parameters and Methods .....	65
I. Slope Shape Optimiser .....	66
II. Cut- Off Grade.....	66
III. Modifying Factors .....	67
IV. Mineral Resource to Mineral Reserve Conversion .....	68
Item 12 (b) - Multiple Commodity Reserve .....	70
Item 12 (c) - Factors Affecting Mineral Reserve Estimation.....	70
<b>Item 13 - Mining Methods .....</b>	<b>71</b>
I. Long-hole Stoping.....	71
II. Underhand Stoping.....	72
Item 13 (a) - Parameters Relevant to Mine Design .....	72
I. Geotechnical and Hydrological Parameters .....	72
II. Underground Access, Ore Flow and Material Handling .....	72
III. Ventilation .....	74
Item 13 (b) - Production Rates, Expected Mine Life, Mining Unit Dimensions, and Mining Dilution ...	74
I. Shift Cycle.....	74
II. Production Rates.....	74
III. Life of Mine Plan .....	75
IV. Mining Unit Dimensions.....	77



V. Mineral Reserve Conversion Factors .....	78
Item 13 (c) - Requirements for Stripping, Underground Development and Backfilling .....	79
I. Underground Development .....	79
II. Backfilling .....	81
Item 13 (d) - Required Mining Fleet, Machinery and Personnel .....	81
I. Mining Fleet and Machinery .....	81
II. Personnel .....	82
<b>Item 14 - Recovery Methods .....</b>	<b>83</b>
Item 14 (a) - Flow Sheets and Process Recovery Methods .....	83
Item 14 (b) - Plant Design, Equipment Characteristics and Specifications .....	85
Item 14 (c) - Energy, Water and Process Materials Requirements .....	86
I. Labour Requirements .....	86
II. Reagents and Consumables .....	87
<b>Item 15 - Project Infrastructure .....</b>	<b>87</b>
Item 15 (a) - Mine Layout and Operations .....	87
Item 15 (b) - Infrastructure .....	90
I. Surface Infrastructure .....	90
II. Mining Section .....	93
III. Dewatering .....	93
Item 15 (c) - Services .....	93
I. Power Supply and Reticulation .....	93
II. Water Supply and Reticulation .....	94
III. Ventilation .....	95
IV. Compressed Air .....	95
V. Logistics .....	95
<b>Item 16 - Market Studies .....</b>	<b>95</b>
Item 16 (a) - Commodity Market Assessment .....	95
I. World Gold Deposits and Reserves .....	96
II. Gold Supply and Demand Fundamentals .....	96
III. Gold Pricing .....	96
IV. Gold Outlook .....	97
Item 16 (b) - Contracts .....	97
<b>Item 17 - Environmental Studies, Permitting and Plans, Negotiations, or Agreements with Local Individuals or Groups .....</b>	<b>98</b>
Item 17 (a) - Relevant Environmental Issues and Results of Studies Done .....	98
Item 17 (b) - Waste Disposal, Site Monitoring and Water Management .....	98
Item 17 (c) - Permit Requirements .....	99
Item 17 (d) - Social and Community-Related Requirements .....	99
Item 17 (e) - Mine Closure Costs and Requirements .....	100
Item 17 (f) - Adequacy of Current Plans .....	101
Item 17 (g) - Local Procurement and Hiring .....	101
<b>Item 18 - Capital and Operating Costs .....</b>	<b>101</b>
Item 18 (a) - Capital Costs .....	101
Item 18 (b) - Operating Cost .....	103
I. Financial Costs Indicators .....	104
Item 18 (c) - Accuracy of Estimates .....	107
<b>Item 19 - Economic Analysis .....</b>	<b>107</b>
Item 19 (a) - Principal Assumptions .....	107
I. Basis of Evaluation of the Mining Assets .....	107

II.	Macro-Economic Forecasts .....	108
III.	Working Capital .....	108
IV.	Recoveries .....	108
V.	Discount Rate .....	109
VI.	Cash Flow Forecast .....	109
Item 19 (b)	- Net Present Value .....	114
Item 19 (c)	- Regulatory Items .....	114
I.	Government Royalties .....	114
II.	Corporate Taxes .....	114
Item 19 (d)	- Sensitivity Analysis .....	115
Item 19 (e)	- Economic Analysis Conclusions .....	117
Item 20	- Adjacent Properties .....	117
Item 21	- Other Relevant Data and Information .....	118
Item 21 (a)	- Upside Potential .....	118
Item 21 (b)	- Risk Assessment .....	118
Item 22	- Interpretation and Conclusions .....	119
Item 23	- Recommendations .....	120
Item 24	- References .....	122
Item 25	- Reliance on Information Provided by the Registrant .....	123

## FIGURES

Figure 1:	General Location of Blanket Mine .....	11
Figure 2:	Location of Blanket Mining Lease and Claims .....	12
Figure 3:	Stratigraphic Column of the Blanket Mine Area .....	20
Figure 4:	Local Geology of Blanket Mine .....	21
Figure 5:	Geological Cross Section of Blanket Mine at No 4 Shaft .....	22
Figure 6:	Plan View of BQR and Associated Orebodies .....	25
Figure 7:	Plan View of Updated Interpretation at Blanket 2 .....	27
Figure 8:	Cross Section of Updated Interpretation at Blanket 1, 2 and 3 .....	28
Figure 9:	Plan View of Blanket 6 and Blanket 4 and Associated Orebodies .....	28
Figure 10:	Plan View of Section of BF and BQR .....	29
Figure 11:	Section View of Lima and Eroica Orebodies .....	29
Figure 12:	Plan View of ARS and ARM Orebodies .....	30
Figure 13:	Mine Scale Geological Interpretation .....	31
Figure 14:	Long Section of Blanket Mine showing Location of 2018 and 2019 Exploration Holes .....	34
Figure 15:	Long Section of Blanket Mine Showing the Total Database .....	44
Figure 16:	Section View of Blanket 1, 2 and 3 Domains and Data .....	46
Figure 17:	Section View of Blanket 4 and 6 Showing Domains and Data .....	47
Figure 18:	Section View of BQR and Blanket Feudal Showing Domains and Data .....	48
Figure 19:	Section View of ARM and ARS Showing Domains and Data .....	49
Figure 20:	Section View of Lima and Eroica Showing Domains and Data .....	49
Figure 21:	Digital and Manual Estimates for Blanket 2 .....	52
Figure 22:	ERC, Lima, ARM and ARS Estimations .....	53
Figure 23:	ARS HW and ARS NSL Estimations .....	53
Figure 24:	ARS Extension and Blanket 1 Estimations .....	54
Figure 25:	Blanket 2 Estimations .....	54
Figure 26:	Blanket 3 and Blanket 4 Estimations .....	55



Figure 27: Blanket 6 and BF Estimations .....	55
Figure 28: BQR Estimation .....	56
Figure 29: Long Section of Blanket Mine showing Stopes, Drives, Haulages and Shafts .....	56
Figure 30: ERC, Lima, ARM and ARS Mineral Resource Classification .....	59
Figure 31: ARS Mineral Resource Classification .....	59
Figure 32: Blanket 1 Mineral Resource Classification .....	60
Figure 33: Blanket 2 Mineral Resource Classification .....	60
Figure 34: Blanket 3 and Blanket 4 Mineral Resource Classification .....	61
Figure 35: Blanket 6 Mineral Resource Classification .....	61
Figure 36: BQR Mineral Resource Classification .....	62
Figure 37: BF Mineral Resource Classification .....	62
Figure 38: Blanket Mine MSO Blocks at 2.1 g/t .....	66
Figure 39: Diluted Life of Mine Production Schedule by Mineral Resource Classification (2020) .....	68
Figure 40: Comparison Showing 2020 LoM Plan Tonnes and Grade vs Re-Aligned 2022 LoM Plan .....	69
Figure 41: Diluted Life of Mine Production Schedule by Mineral Resource Classification (2022) .....	70
Figure 42: Blanket Mine Shaft Infrastructure .....	73
Figure 43: Diluted Life of Mine Production Schedule by Mineral Resource Classification .....	75
Figure 44: Blanket Mine Content Delivered to the Plant .....	76
Figure 45: Monthly Stope Ore Tonne Production .....	76
Figure 46: Monthly Development Ore Tonne Production .....	77
Figure 47: Blanket Mine Design .....	78
Figure 48: Blanket Mine Development Design .....	80
Figure 49: Blanket Mine Development Profile .....	81
Figure 50: Crushing and Milling Process Flow Diagram .....	84
Figure 51: CIL and Elution Process Flow Diagram .....	84
Figure 52: Current Shaft Infrastructure - Blanket Mine .....	89
Figure 53: Surface Infrastructure Arrangement .....	91
Figure 54: Surface Infrastructure Arrangement - Central Main Shaft .....	92
Figure 55: Capital Schedule .....	103
Figure 56: Historic OPEX vs Budget (2021 Update) .....	104
Figure 57: Operating Costs vs. Feed Tonnes .....	106
Figure 58: AIC vs. Realised Gold Price .....	106
Figure 59: Real-term Historic Gold Price .....	108
Figure 60: Recovered Gold .....	110
Figure 61: Undiscounted Cash Flow .....	111
Figure 62: Mine Sensitivity (NPV <sub>10.8%</sub> ) .....	115
Figure 63: 2022 Planned Drilling Programme .....	121

## TABLES

Table 1: Mining Lease Details .....	11
Table 2: Blanket Mineral Title Areas and Status .....	12
Table 3: Blanket Mineral Title Areas and Ownership .....	14
Table 4: Environmental Permits .....	15
Table 5: Description of Deposits at Blanket Mine (after MSA, 2011) .....	23
Table 6: Exploration Holes and Meters by Year .....	33
Table 7: Standards Utilised at Blanket Mine from 2018 to 2019 .....	40
Table 8: Sample Database Summarised by Year .....	43



Table 9: Sample Database Summarised by Drillhole Type .....	43
Table 10: Hole and Sample Count .....	43
Table 11: Dimensions of Each Orebody Along with Depth from which the Digital Estimate Occurs.....	51
Table 12: Cut-off Derivation Factors.....	58
Table 13: Mineral Resource Classification Criteria for Blanket Mine .....	58
Table 14: In Situ Measured and Indicated Mineral Resources for Blanket Mine as at 31 December 2021 (Inclusive of Mineral Reserves).....	63
Table 15: In Situ Inferred Mineral Resources for Blanket Mine as at 31 December 2021 (Inclusive of Mineral Reserves).....	63
Table 16: In Situ Measured and Indicated Mineral Resources for Blanket Mine as at 31 December 2021 (Exclusive of Mineral Reserves) .....	64
Table 17: In Situ Inferred Mineral Resources for Blanket Mine as at 31 December 2021 (Exclusive of Mineral Reserves).....	65
Table 18: Cut-Off Grade Calculation .....	67
Table 19: Mineral Reserve Conversion Factors Summary.....	67
Table 20: January 2020 to December 2021 Mineral Reserve Depletions .....	69
Table 21: Blanket Mine Mineral Reserve Estimate as at 31 December 2021 .....	70
Table 22: Shaft Utilisation and Hoisting Capacity .....	74
Table 23: Blanket Mine Development Rates.....	74
Table 24: Blanket Mine Production Rates .....	75
Table 25: Mine Design Criteria for Blanket Mine .....	77
Table 26: Blanket Mine Average Dilution Calculation.....	79
Table 27: Blanket Mine - Mine Call Factor Calculation 2015 to 2020 .....	79
Table 28: Blanket Mine Current Mining Fleet .....	81
Table 29: Blanket Mine Mining Personnel.....	82
Table 30: Plant Labour Complement.....	87
Table 31: Reagent and Consumable Consumptions .....	87
Table 32: Blanket Mine Shaft Access .....	88
Table 33: Planned Shaft Infrastructure Development .....	90
Table 34: Gold Price Forecast (Nominal Terms).....	97
Table 35: Blanket Operation Project Capital Budget 2022.....	101
Table 36: Capital and Infrastructure Development Costs .....	102
Table 37: Capital Summary.....	102
Table 38: Management and Head Office Costs .....	104
Table 39: Project Cost Indicators.....	105
Table 40: Macro-economic Forecasts (Real Terms) .....	108
Table 41: Capital Asset Pricing Model Discount Rate Calculation.....	109
Table 42: Table 43: Southern African Gold Mining Companies' Beta Values.....	109
Table 44: Production Breakdown in Life of Mine .....	110
Table 45: Annual Cash Flow - Techno-economic Inputs .....	112
Table 46: Annual Real Cash Flow .....	113
Table 47: Blanket Mine NPV Summary - Real Terms .....	114
Table 48: Profitability Ratios.....	114
Table 49: Sensitivity Analysis of Commodity Prices and Grade to NPV <sub>10,75%</sub> (USDm).....	116
Table 50: Sensitivity Analysis of Cash Operating Costs and Grade to NPV <sub>10,75%</sub> (USDm) .....	116
Table 51: Blanket Mine Economic Analysis Summary - Real Terms .....	117
Table 52: Risk Assessment .....	119

## LIST OF UNITS AND ABBREVIATIONS

**Units:** The following units were used in this Report, and are in metric terms:-

Unit	Definition		
%	Per cent	ktpm	Kilo tonnes per month
/	Per	kV	Kilovolt (1,000 volts)
± or ~	Approximately	kVA	Kilovolt ampere
°	Degrees	kW	Kilowatt (1,000 W)
°C	Degrees Celsius	l	Litre
a	Year	m	Metre
cm	Centimetre	m <sup>2</sup>	Square metres
d	Day	m <sup>3</sup>	Cubic metres
g	Grammes	mm	Millimetre
g/cm <sup>3</sup>	Grammes per cubic centimetre	Moz	Million ounces (1,000,000 oz)
g/t	Grammes per tonne	Mt	Million tonnes (1,000,000 t)
Ga	Billion years (1,000,000,000 years)	Mtpa	Million tonnes per annum
ha	Hectares	MVA	Megavolt ampere
hr	Hour	oz	Troy Ounces
kg	Kilogram (1,000 g)	t	Tonne
kL	Kilolitres (1,000 l)	t/m <sup>3</sup>	Tonnes per cubic meter
km	Kilometre (1,000 m)	tpd	Tonnes per day
km <sup>2</sup>	Square kilometres	V	Volts
koz	Kilo ounces (1,000 oz)	x	By / Multiplied by
kt	Kilotonnes (1,000 t)		

**Computation:** It is noted that throughout the Report, tables may not compute due to rounding.

**Abbreviations:** The following abbreviations were used in this Report:-

Abbreviation	Description
AC	Asbestos Cement
amsl	Above Mean Sea Level
Au	Gold
BIF	Banded Iron Formation
Blanket Mine Company	Blanket Mine (1983) (Pvt) Ltd
Blanket or the Mine	Blanket Gold Mine
BQR	Blanket Quartz Reef
Caledonia or the Company	Caledonia Mining Corporation Plc
CAPM	Capital Asset Pricing Model
CBDZ	Colleen Bawn Deformation Zone
CIL	Carbon-in-Leach
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CMS	Central Main Shaft
CPI	Consumer Price Indices
CRM	Certified Reference Material
DCF	Discounted Cash Flow
DSR	Disseminated Sulphide Reefs
DSR	Disseminated Sulphide Reefs
EIA	Environmental Impact Assessment
EM Act	Environmental Management Act (Chapter 20:27) No. 13/2002
EMA	Environmental Management Agency
Epoch	Epoch Resources (Pty) Ltd
FCFE	Free Cash Flow to Equity
FCFF	Free Cash Flow to Firm
Fidelity	Fidelity Printers and Refiners Limited
FW	Footwall
G&A	General and Administrative
GGB	Gwanda Greenstone Belt
GMS	Greenstone Management Services (Pty) Limited
HG	High Grade
HW	Hanging Wall
IL	Intensive Leach
Kinross	Kinross Gold Corporation
KNA	Kriging Neighbourhood Analysis
LG	Low Grade
LIMS	Laboratory Information Management System
LoM	Life of Mine

Abbreviation	Description
Minxcon	Minxcon (Pty) Ltd
ML40	Mining Lease with registered number 40
MMA	Mines and Minerals Act (Chapter 21:05) of 1961
MMCZ	Minerals Marketing Corporation of Zimbabwe
MSO	Geovia Slope Shape Optimiser
NIEEF	National Indigenisation and Economic Empowerment Fund
NIR	Not-In-Reserve
NMD	Nominal Maximum Demand
NPV	Net Present Value
NSR	Net Smelter Royalty
NWGDZ	North West Gwanda Deformation Zone
OHL	Overhead Powerlines
PEM	Prospectivity Enhancement Multiplier
PPE	Personal Protective Equipment
PSA	Pressure Swing Absorption
QAQC	Quality Assurance and Quality Control
QP	Qualified Person
RoM	Run of Mine
RoR	Rate of Rise
SG	Specific Gravity
SGDZ	South Gwanda Deformation Zone
S-K 1300	United States Securities and Exchange Commission Part 229 Standard Instructions for Filing Forms Regulation S-K subpart 1300
SoR	Slope of Regression
The Act	Indigenisation and Economic Empowerment Act
TRS	Technical Report Summary
TSF	Tailings Storage Facility
WACC	Weighted Average Cost of Capital
ZESA	Zimbabwe Electricity Supply Authority
ZINWA	Zimbabwe National Water Authority
ZMDC	Zimbabwe Mining Development Corporation



## ITEM 1 - EXECUTIVE SUMMARY

---

The Blanket Mine is an operating underground gold mine situated on the Gwanda Greenstone Belt targeting shear zone hosted gold mineralisation. It is located in the southwest of Zimbabwe, approximately 15 km northwest of Gwanda, the provincial capital of Matabeleland South. Gwanda is located 120 km southeast of Bulawayo, 200 km northwest of the Beitbridge Border post with South Africa, and 560 km from Harare.

The Mine complex comprises a cluster of mines extending from Lima in the north, through Eroica, Sheet, AR Main, AR South, the currently defunct Feudal, Blanket Section (Blanket 1 to Blanket 6) and Jethro over a total strike length of some 3 km. Gold has been commercially mined at the Project Area from several closely-spaced orebodies defining a mineralised trend via several shafts since the early 1900s. The Mine covers the operating claims of Jethro, Blanket, Feudal, Harvard, Mbudzane Rock, Oqueil, Sabiwa, Sheet, Eroica and Lima, largely encompassed in a 2,120 ha Mining Lease. Ore is processed at an on-site plant.

The Blanket Mine operates under a mining lease ML40 issued to Blanket Mine (1983) (Pvt) Ltd, which is incorporated in Zimbabwe and a 64% owned, indirect subsidiary of Caledonia Mining Corporation Plc. The mine's claims under the lease cover an area of 2,120 ha.

### I. GEOLOGY AND MINERAL DEPOSIT

The Blanket Mine is situated on the north-western limb of the Archaean Gwanda Greenstone Belt along strike from several other gold deposits. In the Blanket Mine area, lithologies comprise non-mineralised basal felsic schists of igneous or sedimentary origin in the east. The felsics are overlain by a metabasaltic ultramafic to mafic unit with pillow basalts remnants.

Mining at Blanket occurs over a 3 km strike that includes from north to south, the deposits of Lima, Eroica, Sheet, AR Main, AR South, Feudal, Blanket Section (Blanket 1 to Blanket 6) and Jethro. The main Blanket underground workings are connected to Lima by a 2 km long haulage which follows the strike of the main fabric. Mineralisation occurs in near vertical shoots aligned along an approximately N-S axis. The ore shoots vary in shape from the tabular-lensoidal quartz reefs to the massive to pipe-like disseminated sulphide reefs (or DSR). Gold is deposited at crustal levels within and near the brittle-ductile transition zone. The deposits may have a vertical extent of up to 2 km, demonstrate extensive down-plunge continuity, and lack pronounced zoning. The ore mineralogy is dominated by gold, pyrite and arsenopyrite.

Two quartz-filled shear zones are mined, namely the Blanket Quartz Reef (or BQR) and the Eroica Reef, which have long strike lengths but are not uniformly mineralised although continuous pay shoots of over 100 m on strike are seen. Gold grade fluctuations are more extreme in the quartz reefs than in the DSR type reefs but on average these quartz shears have higher grades.

### II. STATUS OF EXPLORATION

Blanket Mine is planning on continuing with the down-dip exploration drilling (below 750 m Level) as soon as the underground infrastructure / development is in place. This drilling will confirm and improve the down-dip Inferred Mineral Resource. An electromagnetic survey may be considered; potentially delineating additional surface structural features and targets, which can be used in conjunction with and refinement of the geological concept being proposed.

The combination of the exploration drilling, geophysical survey and conceptual geological model (based on the sampling database) may increase the exploration targets and ultimately assist in increasing the Mineral Resource.

### III. MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

Measured, Indicated and Inferred Mineral Resources, based on ordinary kriging, can be declared for Blanket Mine due to the continuity of the geology and grade as well as a history of proven historical mining. The Inferred resources show geological continuity, while grade continuity requires improvement through additional drilling. The 2020 estimate includes a larger proportion of 3D digital estimates than the 2018 estimate; however, manual blocks are still considered in this estimate within stoped out areas. The in situ Measured, Indicated and Inferred Mineral Resources are shown in the table to follow.

*In Situ Measured and Indicated Mineral Resource Tabulation for Blanket Mine as at 31 December 2021 (inclusive of Mineral Reserves)*

Mineral Resource Classification	Orebody	Tonnes t	Au g/t	Content Oz
Measured	ARM	190 283	2.83	17 304
	ARS	386 663	3.12	38 770
	BF	10 786	2.90	1 006
	BLK1	1 922	5.76	356
	BLK2	88 397	3.29	9 351
	BLK3	107 125	2.63	9 052
	BLK4	6 365	3.82	782
	BLK6	7 799	3.55	889
	BQR	298 805	3.03	29 138
	ERC	13 130	3.69	1 557
	Jethro	5 198	3.99	666
	Lima	93 037	3.31	9 893
	Sheet	5 989	3.40	654
<b>Measured Total</b>		<b>1 215 498</b>	<b>3.06</b>	<b>119 418</b>
Indicated	ARM	786 707	2.72	68 825
	ARS	315 179	2.71	27 501
	BF	44 360	3.02	4 310
	BLK1	128 300	2.79	11 490
	BLK2	286 026	3.34	30 711
	BLK3	139 802	2.57	11 563
	BLK4	71 891	3.61	8 349
	BLK6	95 190	3.58	10 949
	BQR	741 269	3.40	81 104
	ERC	574 653	3.71	68 483
	Jethro	16 428	3.90	2 060
	Lima	62 712	3.19	6 433
	Sheet	84 310	3.87	10 477
<b>Indicated Total</b>		<b>3 346 827</b>	<b>3.18</b>	<b>342 255</b>
<b>M&amp;I Total</b>		<b>4 562 325</b>	<b>3.15</b>	<b>461 673</b>

**Notes:**

1. \* Manual Mineral Resource estimate from Block Plans only.
2. Cut-off applied 1.5 g/t.
3. No Geological loss applied for Measured, 5% for Indicated and Inferred.
4. Commodity price utilised: USD1,600/oz.
5. Mineral Resources are stated inclusive of Mineral Reserves.
6. Mineral Resources are reported as 64% attributable to Caledonia.
7. All orebodies are depleted for mining.



*In Situ Inferred Mineral Resource Tabulation for Blanket Mine as at 31 December 2021 (inclusive of Mineral Reserves)*

Mineral Resource Classification	Orebody	Tonnes	Au	Content
		t	g/t	Oz
Inferred	ARM	331 425	1.89	20 120
	ARS	278 380	2.68	23 975
	BF	297 519	2.60	24 836
	BLK1	879 307	2.64	74 747
	BLK2	974 983	4.05	126 908
	BLK3	412 612	3.36	44 637
	BLK6	252 085	2.95	23 899
	BQR	1 500 405	3.20	154 499
	ERC	313 242	3.71	37 351
<b>Inferred Total</b>		<b>5 418 826</b>	<b>3.17</b>	<b>552 450</b>

**Notes:**

1. Cut-off applied 1.5 g/t.
2. No Geological loss applied for Measured, 5% for Indicated and Inferred.
3. Commodity price utilised: USD1,600/oz.
4. Mineral Resources are stated inclusive of Mineral Reserves.
5. Mineral Resources are reported as 64% attributable to Caledonia.
6. All orebodies are depleted for mining.

*In Situ Measured and Indicated Mineral Resource Tabulation for Blanket Mine as at 31 December 2021 (exclusive of Mineral Reserves)*

Mineral Resource Classification	Orebody	Tonnes	Au	Content
		t	g/t	Oz
Measured	ARM	85 823	2.31	6 383
	ARS	219 056	3.10	20 392
	BF	6 455	2.46	511
	BLK1	1 922	5.76	356
	BLK2	16 209	2.73	1 421
	BLK3	44 794	2.17	3 120
	BLK4	1 502	4.75	230
	BLK6	1 751	2.92	165
	BQR	108 753	2.57	8 988
	ERC	7 104	3.93	898
	Jethro	5 198	3.99	666
	Lima	49 394	2.94	4 664
	Sheet	5 989	3.40	654
<b>Measured Total</b>		<b>553 949</b>	<b>2.80</b>	<b>48 447</b>
Indicated	ARM	286 136	2.12	19 515
	ARS	262 126	2.63	22 173
	BF	14 119	1.74	790
	BLK1	106 991	2.52	8 668
	BLK2	95 915	2.95	9 102
	BLK3	109 187	2.55	8 948
	BLK4	12 507	2.63	1 057
	BLK6	20 748	2.85	1 903
	BQR	327 854	2.98	31 439
	ERC	224 200	3.35	24 159
	Jethro	16 428	3.90	2 060
	Lima	24 479	3.29	1 465
	Sheet	84 310	3.87	10 477
<b>Indicated Total</b>		<b>1 585 001</b>	<b>2.78</b>	<b>141 757</b>
<b>M&amp;I Total</b>		<b>2 138 950</b>	<b>2.77</b>	<b>190 203</b>

**Notes:**

1. \* Manual Mineral Resource estimate from Block Plans only.
2. Cut-off applied 1.5 g/t.
3. No Geological loss applied for Measured, 5% for Indicated and Inferred.
4. Commodity price utilised: USD1,600/oz.
5. Mineral Resources are stated exclusive of Mineral Reserves.
6. Mineral Resources are reported as 64% attributable to Caledonia.
7. All orebodies are depleted for mining.



Inferred Mineral Resources inclusive and exclusive of Mineral Reserves are the same as there are no inferred Mineral Resources in the Mineral Reserve.

*In Situ Inferred Mineral Resource Tabulation for Blanket Mine as at 31 December 2021 (exclusive of Mineral Reserves)*

Mineral Resource Classification	Orebody	Tonnes	Au	Content
		t	g/t	Oz
Inferred	ARM	331 425	1.89	20 120
	ARS	278 380	2.68	23 975
	BF	297 519	2.60	24 836
	BLK1	879 307	2.64	74 747
	BLK2	974 983	4.05	126 908
	BLK3	412 612	3.36	44 637
	BLK6	252 085	2.95	23 899
	BQR	1 500 405	3.20	154 499
	ERC	313 242	3.71	37 351
	Lima	178 869	3.73	21 478
<b>Inferred Total</b>		<b>5 418 826</b>	<b>3.17</b>	<b>552 450</b>

Notes:

1. Cut-off applied 1.5 g/t.
2. No Geological loss applied for Measured, 5% for Indicated and Inferred.
3. Commodity price utilised: USD1,600/oz.
4. Mineral Resources are stated exclusive of Mineral Reserves.
5. Mineral Resources are reported as 64% attributable to Caledonia.
6. All orebodies are depleted for mining.

Mineral Resources in the Measured and Indicated Mineral Resource classifications have been converted into Proven and Probable Mineral Reserves respectively, by applying the applicable modifying factors.

The updated Mineral Reserve estimation as at 31 December 2021, is detailed in the table below. Mineral Reserves are stated as delivered to plant. Life of Mine (or LoM) as referred to in this TRS is remaining at 31 December 2021.

*Blanket Mine Mineral Reserve Estimate as at 31 December 2021*

Mineral Reserve Classification	Tonnes	Grade	Au Content	
	kt	g/t	kg	oz
Proven	656	3.11	2,042	65,651
Probable	1,751	3.30	5,774	185,652
<b>Total</b>	<b>2,408</b>	<b>3.25</b>	<b>7,816</b>	<b>251,304</b>

Notes:

1. Mineral Reserve cut-off of 2.1 g/t applied.
2. The gold price that has been utilised in the economic analysis to convert diluted Measured and Indicated Mineral Resources in the LoM plan to Mineral Reserves is an average real term price of USD1,622/oz over the LoM, using the forecast prices as per Economic Analysis.
3. The Mineral Reserve estimation utilises the depleted 2022 Mineral Resource estimation and the 2020 mine design and LoM plan.
4. Mineral Reserves are reported as 64% attributable to Caledonia Mining Corporation PLC.

An uneconomical tail containing 25.90 koz of gold has been excluded from the Mineral Reserve, since it is not economical on its own.

#### IV. DEVELOPMENT AND OPERATIONS

Blanket Mine employs two mining methods that are well suited to the nature of the of the mineral deposits. The extreme variation within the Blanket Mine mineral deposits necessitates modification of the exact mining methods that suit the specific characteristics of each deposit. The general practice on the Mine is to





implement one of two tailored mining methods, determined mainly by the width of the mineral deposit. Long-hole stoping is utilised in wider mineral deposits (orebody widths generally more than 3 m), and underhand stoping is utilised in narrow mineral deposits (orebody widths generally less than 3 m).

The planned thrust in development is aimed at opening up ground below 750 m Level which will be the primary production areas, as well as create the necessary exploration drilling platforms. In the Lima, ARS, Blanket and Blanket Feudal areas some mining activities will take place above 750 m Level. Blanket Mine plans to produce 80 koz (recovered) of gold per year.

Blanket Mine is an operational mine with well-established infrastructure and no major modifications or upgrades - with the exception of the Central Main Shaft expansion project - are necessary to sustain mining and processing operations. Sufficient capital has been allowed for the Central Main Shaft as well as the associated development, equipment and infrastructure. An upgrade of the ore handling infrastructure between Central Shaft and the Blanket Gold Plant is planned. Power and water supply allocation to the total Blanket operation, including the Central Main Shaft expansion project, is deemed to be sufficient.

The Blanket Gold Plant consists of crushing, milling, carbon-in-leach and batch elution electro-winning circuits. The plant has been treating an average of 55 ktpm at a recovery of 93.6% for the past 12 months. The recovery performance is expected to continue, while the processing rate could be increased when the milling upgrade has been completed. Construction of a new TSF should be completed in 2022 to enable uninterrupted production. A cost estimate for the new TSF has been completed at USD2.6 million.

## V. ECONOMIC ANALYSIS

The evaluator performed an independent mineral asset economic analysis on the Blanket Mine and the diluted Indicated and Measured Resources in the LoM plan, for conversion to Mineral Reserves. The Discounted Cash Flow, or DCF, is based on the production schedule and all costs and capital associated to develop, mine and process the orebody. Relevant taxation and other operating factors, such as recoveries and stay-in-business costs were incorporated into the economic analysis to produce a cash flow over the life cycle of the Mine. The effective date of the economic analysis is 31 December 2021.

USD commodity prices for the period 2022-2024 have been converted from nominal to real terms. The table below illustrates the forecasts for these three years as well as the long-term forecast used in the financial model. The price forecasts are based on the median of various banks, brokers and analyst forecasts and are in real-terms throughout the life of mine. The long-term gold price was estimated as the real term average between the high and low gold price trading range over the past 10 years, USD1,650/oz. The average price over the LoM equates to USD1,622/oz. The inflation rate was sourced from the International Monetary Fund.

### Macro-economic Forecasts (Real Terms)

Item	Unit	Year			Long-Term
		2022	2023	2024	
		1	2	3	
US Inflation Rate	%	3.50%	2.70%	2.60%	2.30%
Gold	USD/oz	1,716	1,567	1,525	1,650

Source: Median of various Banks and Broker forecasts (Minxcon) (Jan 2022)

Costs reported for the Blanket Mine, which consists of mining, plant and other operating costs, as well as government royalty payments are displayed in the table to follow. Other costs in the Adjusted Operating Costs category include the central and technical services, general and administration, human resources, and other services costs. Other costs for the AISC category include the corporate management costs. The costs are displayed per milled tonne as well as per recovered gold ounce. Budget costs for 2022 were considered for the financial analysis.

*Project Cost Indicators*

Item	Unit	Blanket Mine
<b>Net Turnover</b>	<b>USD/Feed tonne</b>	<b>156</b>
Mine Cost	USD/Feed tonne	23
Plant Costs	USD/Feed tonne	12
Other Costs	USD/Feed tonne	37
Royalties	USD/Feed tonne	8
<b>Operating Costs</b>	<b>USD/Feed tonne</b>	<b>80</b>
SIB	USD/Feed tonne	17
Reclamation	USD/Feed tonne	0
Other Costs	USD/Feed tonne	6
<b>All-in Sustaining Costs (AISC)</b>	<b>USD/Feed tonne</b>	<b>103</b>
Capital	USD/Feed tonne	1
Other Cash Costs	USD/Feed tonne	0
<b>All-in Costs (AIC)</b>	<b>USD/Feed tonne</b>	<b>104</b>
<b>All-in Cost Margin</b>	<b>%</b>	<b>33%</b>
EBITDA <sup>1</sup>	USD/Feed tonne	70
EBITDA Margin	%	45%
Gold Recovered	oz	367,140
<b>Average Gold Price</b>	<b>USD/Gold oz</b>	<b>1,622</b>
Payability - Off-take Agreement	%	98.5%
<b>Net Turnover<sup>2</sup></b>	<b>USD/Gold oz</b>	<b>1,596</b>
Mine Cost	USD/Gold oz	237
Plant Costs	USD/Gold oz	124
Other Costs	USD/Gold oz	374
Royalties	USD/Gold oz	80
<b>Operating Costs</b>	<b>USD/Gold oz</b>	<b>815</b>
SIB Capex	USD/Gold oz	177
Reclamation	USD/Gold oz	2
Other Costs	USD/Gold oz	58
<b>All-in Sustaining Costs (AISC)</b>	<b>USD/Gold oz</b>	<b>1,053</b>
Capital	USD/Gold oz	11
Other Cash Costs	USD/Gold oz	0
<b>All-in Costs (AIC)</b>	<b>USD/Gold oz</b>	<b>1,063</b>
EBITDA <sup>2</sup>	USD/Gold oz	721

*Notes:*

1. \*Earnings before interest, tax, depreciation and amortisation (excludes CAPEX).
2. Net turnover will be the realised income per produced gold oz, after 98.5% payability has been applied.

The total capital including the sustaining capital and contingencies amounts to USD69.1 million over the mine life. The Mine has no funding requirement as it has long been in operation. The cash flow dips in the final year when the current Mineral Reserve tonnes are depleted.

For the DCF, the gold price and grade have the most significant impact on the sensitivity of the Mine followed by the operating costs. The Mine is least sensitive to capital.

The value derived for the income approach only reflects the diluted Indicated and Measured Resources in the LoM plan, for conversion to Mineral Reserves. The Mineral Reserve is economically viable with a best estimated NPV of USD116 million at a real discount rate of 10.75%. No IRR could be calculated as Blanket is already in operation and no initial investment is required. The following table shows a summary of the economic analysis.



**Blanket Mine Economic Analysis Summary - Real Terms**

Item	Unit	Blanket Mine	Caledonia Attributable
NPV @ 0%	USDm	150	96
NPV @ 2.5%	USDm	141	90
NPV @ 5%	USDm	132	85
NPV @ 7.5%	USDm	125	80
NPV @ 10%	USDm	118	75
<b>NPV @ 10.8%</b>	<b>USDm</b>	<b>116</b>	<b>74</b>
NPV @ 12.5%	USDm	111	71
NPV @ 15%	USDm	106	68
IRR	%	N/A	N/A
All-in Cost Margin	%	33%	33%
Break-even Gold Price (AIC)	USD/oz.	1,063	1,063

**VI. CONCLUSIONS**

Over the past few years Blanket Mine have been in the process of upgrading their Mineral Resource estimation system from historical manual block listing methodology and to digital estimation processes. The historical sampling database has been captured and can be used for more sophisticated estimation methodologies in the 3D environment. In addition to this, the historical mining voids and development have been captured and can be utilised for the Mineral Resource depletions and mine planning for Mineral Reserve purposes. In time Blanket Mine will entirely eliminate use of manually estimated block Mineral Resources and only utilise the 3D environment to investigate potential in new as well as previously mined areas.

The 3D digital environment allows for the scrutiny and review of the geological data in a holistic fashion that was previously not possible. By doing so, geological trends and patterns can be identified for the development of geological concepts that can be utilised in the exploration targeting and the planning of drilling programmes.

This change in Mineral Resource estimation and management systems will result in some fluctuations in the Mineral Resource in the short term but will likely result in an increase in the Blanket Mine Mineral Resources due to improved geological understanding, geological modelling, estimation processes, and management and planning systems.

The life of mine plan is logical and the planned production rates are achievable. The mining strategy is focused on a thrust in development to open up ground for planned mining areas below 750 m Level in line with the planned production targets. Blanket mine plans to produce 80 koz (recovered) of gold per annum.

Existing and planned infrastructure at the Blanket Mine and Central Main Shaft extension projects are sufficient to sustain the current production profile and the planned increased production.

The process plant has been operating at a consistent recovery of 93.5%. Since the new oxygen plant was installed during the first quarter of 2020, the average recovery for 2020 went up to 93.8% - this is expected to continue. The plant has demonstrated a throughput of 55 ktpm for the past 12 months, and there are indications that higher throughputs are possible. Operating cost has been consistent at USD12/t ore treated.

The Blanket Mine plan including only the diluted Indicated and Measured Resources in the LoM plan, for conversion to Mineral Reserves is financially feasible. The updated Mineral Reserve can therefore be declared. The DCF value of USD116 million for the Blanket Mine (USD74 million attributable to Caledonia) was calculated at a real discount rate of 10.75%. No IRR could be calculated since the mine is in operation and no initial investment is required.

Blanket Mine financials are most sensitive to commodity prices, and grade. The Mine financials are least sensitive to capital expenditure.



The all-in sustaining costs for the Blanket Mine amount to USD103/milled t, which equates to USD1,053/oz. The all-in costs for the Blanket Mine was calculated as USD104/milled t, which equates to USD1,063/oz. The Mine therefore has a break-even gold price of USD1,063/oz including capital with an all-in cost margin of 33%, which is comparable to similar mines.

## VII. RECOMMENDATIONS

It is recommended that Blanket Mine continue with enhancements to the Mineral Resource estimation process in order to investigate potential increases in the Mineral Resources in areas above current infrastructure and enhance the planning down-dip. These digital modelling systems should be incorporated into the monthly planning system to ensure the Mineral Resource remains active and updated.

The QAQC data indicates an improvement in the QAQC of the sampling database but still requires additional focus on immediate remedial action if required, especially for the exploration drilling as this directs the Mineral Resources and thus requires the highest integrity.

It is recommended that additional drilling be conducted to determine the upside potential of Inferred Mineral Resources and Exploration Targets. A geotechnical study should be conducted to determine the geotechnical parameters for pillar extraction.

A new TSF needs to be designed and construction is anticipated be completed by the end of 2023.

## ITEM 2 - INTRODUCTION

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

Minxcon (Pty) Ltd ("Minxcon") was commissioned by Caledonia Mining Corporation Plc ("Caledonia" or "the Company") to compile Technical Report Summary ("TRS") on behalf of Blanket Mine (1983) (Pvt) Ltd ("Blanket Mine Company"), on the Blanket Gold Mine ("Blanket" or the "Mine"), situated in the Gwanda area, Zimbabwe.

The authors of this TRS are Uwe Engelmann and Daniel van Heerden, each of which is a Qualified Person ("QP"). Mr. Engelmann was responsible for Sections 1-11 and jointly for 20-25 of this TRS, while Mr. van Heerden was responsible for Sections 12-19 and jointly for 20-25 of this TRS.

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

Minxcon was commissioned to prepare the TRS on the Mine in accordance with the United States Securities and Exchange Commission Part 229 Standard Instructions for Filing Forms Regulation S-K subpart 1300 ("S-K 1300"). This TRS follows the guidelines as prescribed by S-K 1300, and only such terms as defined in §229.1300-1305 have been utilised. The TRS is structured in accordance with the format prescribed in §229.601(b)(96).

Blanket is an operating underground mine with ore processed at an on-site plant. The purpose of this TRS is to present the Mineral Resources and Mineral Reserves of the Mine as at the Company financial year end 31 December 2021. The Mineral Resources and Mineral Reserves are stated at the effective date of 31 December 2021.

The basis for the Mineral Reserves stated in this TRS is a life of mine plan, which constitutes a study with detail and accuracy levels better than the requirements for a pre-feasibility study. The QP has reviewed the life of mine plan and is satisfied that it has demonstrated that, at the time of reporting, the extraction of the Mineral Reserve is economically viable under reasonable investment and market assumptions. The life of mine plan is technically achievable and is the basis of determining the Mineral Reserve.

No TRS has previously been filed by Caledonia for Blanket Mine in terms of S-K 1300.

All monetary figures in this TRS are expressed in United States Dollars ("USD").

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

The following sources of information, all from Caledonia, were used to compile this TRS:-

- Legal aspects and tenure: Messers Paul Matthews and Patrick Hill;
- The life of mine ("LoM") plan and supporting information that forms the basis of the revised plan: Mr Dana Roets, Ms Janet Hobkirk and Mr Caxton Mangezi;
- Metallurgical information: Mr Gibson Kadzikano;
- Engineering information: Mr Deon Niemand; and
- Financial information: Mr Chester Goodburn.

Additional information was sourced from those references listed in Item 24 and is duly referenced in the text where appropriate.

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

The Qualified Person ("QP", as such term is defined S-K 1300) for this TRS are Mr U. Engelmann and Mr D. van Heerden.

Mr Engelmann has visited the operation on several occasions with the most recent being 2 to 3 November 2021 to review the progress in the upgrading of the Mineral Resource systems on the operation which included a visit to the on-site laboratory. In addition to Mr Engelmann's visit, Mr Keith Osburn, Senior Resource Geologist at Minxcon, also visited the Geology Department at the Blanket operation from 9 to 11 March 2020 to review the geological modelling, estimation process (digital and manual), QAQC as well as inspecting some of the exploration core. The mine laboratory was also inspected during the site visit.

Mr van Heerden visited the Mine property on 22 on 24 October 2014 during which the mine, treatment plant, waste dumps, sample assay laboratory and data management sections were investigated. A site visit for completion of this TRS was deferred due to international travel restrictions imposed by government in response to the COVID-19 pandemic.

### **ITEM 3 - PROPERTY DESCRIPTION AND LOCATION**

---

#### **Item 3 (a) - AREA OF THE PROPERTY**

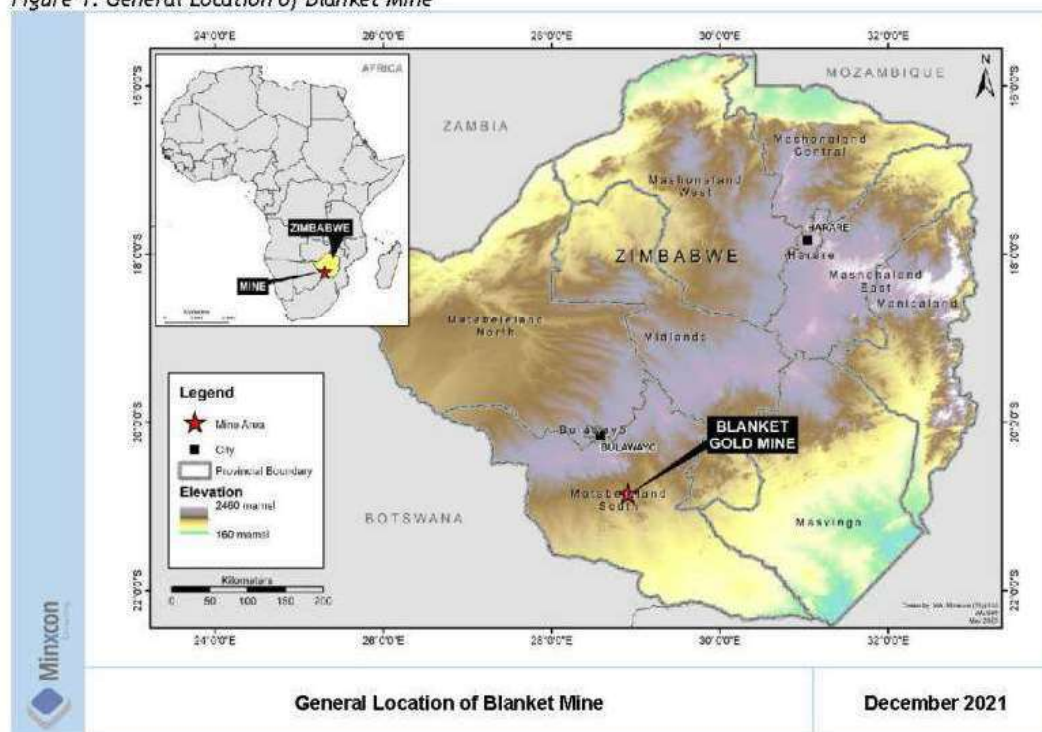
The Blanket Mine is an operating underground gold mine situated on the Gwanda Greenstone Belt ("GGB") targeting shear zone hosted gold mineralisation. The Mine complex comprises a cluster of mines extending from Lima in the north, through Eroica, Sheet, AR Main, AR South, the currently defunct Feudal, Blanket Section (Blanket 1 to Blanket 6) and Jethro over a total strike length of some 3 km. Gold has been commercially mined at the Project Area from several closely-spaced orebodies defining a mineralised trend via several shafts since the early 1900s. The Mine covers the operating claims of Jethro, Blanket, Feudal, Harvard, Mbudzane Rock, Oqueil, Sabiwa, Sheet, Eroica and Lima, largely encompassed in a 2,120 ha Mining Lease. Ore is processed at an on-site plant.

#### **Item 3 (b) - LOCATION OF THE PROPERTY**

As illustrated in Figure 1, the Mine is located in the southwest of Zimbabwe, approximately 15 km northwest of Gwanda, the provincial capital of Matabeleland South. Gwanda is located 120 km southeast of Bulawayo, 200 km northwest of the Beitbridge Border post with South Africa, and 560 km from Harare, Zimbabwe's capital city. The Mine is centred on the coordinates (WGS84 system) 20° 52' S, 28° 54' E.



Figure 1: General Location of Blanket Mine



### Item 3 (c) - MINERAL DEPOSIT TENURE

The Blanket Mine's interests in Zimbabwe include a Mining Lease, operating claims (*i.e.*, on-mine), non-operating claims and a portfolio of brownfields exploration projects (satellite projects), as illustrated in Figure 2 as blocks of claims.

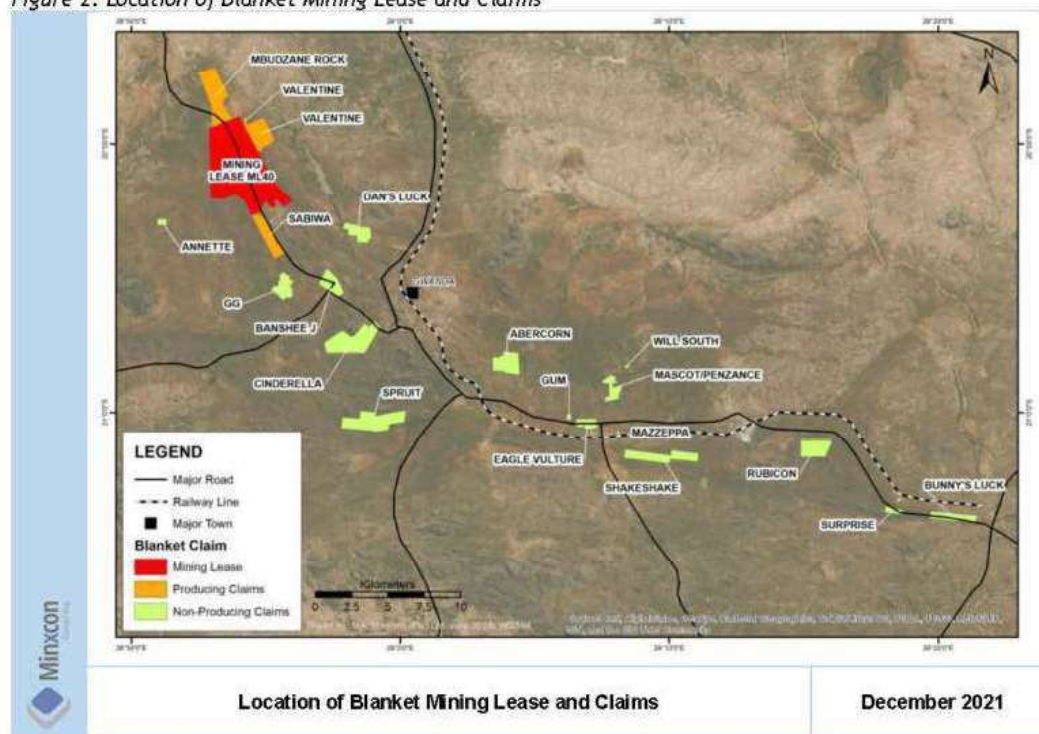
The Blanket Mine operates under a mining lease with registered number 40 ("ML40") which was issued under the Mines and Minerals Act (Chapter 21:05) of 1961 ("MMA") as detailed in Table 1. The mine's claims under the lease cover an area of 2,120 ha, and include Lima, Sheet, Oqueil, Feudal, Sabiwa, Jethro, Harvard and Blanket claims. The ML40, in which boundaries all current mining activities occur, is issued to Blanket Mine Company.

Table 1: Mining Lease Details

Mining Lease Number	Holder	Mining District	Area	Principal Mineral	Other Minerals	Date of Issue	Validity Period
			ha				
ML40	Blanket Mine (1983) (Pvt) Ltd	Matabeleland South	2,120.00	Gold	Silver, Copper, Arsenic	24 May 2019	1 year, renewable. Renewed annually by the Company.

Blanket Mine also has several registered claims, not incorporated under the lease. The 59 claims contiguous to the mining lease comprise a total area of approximately 994 ha. Blanket Mine provided a separate list of non-operating claims located away from ML40 and the adjoining claims described above, that form a portion of their Gwanda portfolio. These non-producing claims (satellite projects) consist of 217 blocks of registered base metal (Ni, Cu and As) and precious metal claims covering a total area of 2,672 ha.

Figure 2: Location of Blanket Mining Lease and Claims



A summary of the Blanket mineral titles is provided in Table 2 and corresponds to the Figure 2.

Table 2: Blanket Mineral Title Areas and Status

Claim Block	Status	Claim Block	Status
ML40	Operating	Gum	Non-operating
Valentine	Operating	Banshee J	Non-operating
Sabiwa	Operating	Mazeppa	Non-operating
Mbudzane Rock	Operating	Will South	Non-operating
GG	Non-operating (was under development for gold mining, currently on hold)	Spruit	Non-operating
Mascot	Non-operating (was under development for gold mining, currently on hold)	Shakeshake	Non-operating
Penzance	Non-operating	Rubicon	Non-operating
Annette	Non-operating	Surprise	Non-operating
Cinderella	Non-operating	Bunny's Luck	Non-operating
Dan's Luck	Non-operating	Abercorn	Non-operating
Eagle Vulture	Non-operating		

A number of claims are subject to active tribute agreements between the Mine and local small scale miners as part of the Company's Corporate Social Responsibility. This is further discussed in Item 17 (d).

Annual payments (non-material) are due to government authorities for each of the claims and lease areas in order to continue the validity of the licences.

In accordance with paragraph 178(2)(a)(b)(c) of the MMA, the owners of the claims of this project possess the following respective surface rights:-



- use of any surface within the boundaries for all necessary mining purposes;
- the right to use, free of charge, soil, waste rock or indigenous grass situated within the claims boundaries for all necessary mining purposes;
- the right to sell or dispose of recovered waste rock.

The QPs believe that this clause provides sufficient rights to use the surfaces of the claim blocks that have been consolidated into the ML40. The MWA Amendment Bill makes instruction for landowner compensation in case of land loss due to mining activities in the form of land reallocation or outright purchase. Blanket Mine activities have not triggered this compensation and are not foreseen to do so.

Blanket Mine (1983) (Pvt) Ltd is held 64% by Caledonia Holdings Zimbabwe (Pvt) Ltd, which is a wholly owned subsidiary of Greenstone Management Services Holdings Limited ("GMS"), which in turn is wholly owned by Caledonia. Blanket Mine Company is incorporated in Zimbabwe and is the owner and operator of the Blanket Mine. 16% Share in Blanket Mine Company is held by the National Indigenisation and Economic Empowerment Fund, 10% by Gwanda Community Share Ownership Trust, and 10% by an Employee Trust for the benefit of the present and future employees of Blanket Mine.

Pursuant to an arrangement agreed in February 2020, the Gwanda Community Share Ownership Trust receives 20% of its dividends declared by Blanket and the remaining 80% is set off against the advance dividends. Previously, all dividends were applied against the advanced dividends.

### **Item 3 (d) - ROYALTIES AND PAYMENTS**

#### **I. GOVERNMENT ROYALTIES**

Mining royalties are charged in terms of the Mines and Minerals Act (Chapter 21:05). The royalties are collectable from all the minerals or mineral-bearing products obtained from any mining location and disposed of by a miner or on his behalf. The royalties are chargeable whether the disposal is made within or outside Zimbabwe.

Zimbabwean tax laws and international pricing have pushed deliveries in the gold sector to decline by 26% within the first-half of 2014. A decision was made by the Government of Zimbabwe in its 2014 Mid-Year Fiscal Policy Review Statement to reduce the royalty on Zimbabwean gold producers from 7% to 5%, effective 1 October 2014. The royalty rate was further reduced to 3% only if the gold price is below USD1,200/oz effective 1 August 2019, with the rate remaining at 5% if the gold price exceeds USD1,200/oz. The royalty of 3% - 5% is also tax deductible, with the tax rate applied on the earnings after royalty deductions.

#### **II. NET SMELTER ROYALTIES**

Blanket Mine does not have any net smelter royalties applicable to its current operations.

A number of claims were held under option agreements between Blanket Mine Company and the claim holders. Blanket Mine Company has exercised all its options and purchased the claims under conditions outlined in the option agreements. Each of these has a net smelter royalty ("NSR") associated with it. The remainder of claims are 100% held by Blanket Mine Company. A summary of the ownership of each claims area is provided in Table 3.

Table 3: Blanket Mineral Title Areas and Ownership

Claim Block	Ownership	Royalty Condition
ML40	Blanket Mine (1983) (Pvt) Ltd	
Valentine	Blanket Mine (1983) (Pvt) Ltd – Option exercised	3.0% NSR
Sabiwa	Blanket Mine (1983) (Pvt) Ltd	
Mbudzane Rock	Blanket Mine (1983) (Pvt) Ltd	
GG	Blanket Mine (1983) (Pvt) Ltd – Option exercised	2.5% NSR
Mascot	Blanket Mine (1983) (Pvt) Ltd – Option exercised	2.5% NSR
Penzance	Blanket Mine (1983) (Pvt) Ltd – Option exercised	2.5% NSR
Annette	Blanket Mine (1983) (Pvt) Ltd – Option exercised	3.0% NSR
Cinderella	Blanket Mine (1983) (Pvt) Ltd – Option exercised	3.0% NSR
Dan's Luck	Blanket Mine (1983) (Pvt) Ltd – Option exercised	2.5% NSR
Eagle Vulture	Blanket Mine (1983) (Pvt) Ltd – Option exercised	3.0% NSR
Gum	Blanket Mine (1983) (Pvt) Ltd – Option exercised	3.0% NSR
Banshee J	Blanket Mine (1983) (Pvt) Ltd – Option exercised	3.0% NSR
Mazeppa	Blanket Mine (1983) (Pvt) Ltd – Option exercised	2.5% NSR
Will South	Blanket Mine (1983) (Pvt) Ltd – Option exercised	2.5% NSR
Spruit	Blanket Mine (1983) (Pvt) Ltd	
Shakeshake	Blanket Mine (1983) (Pvt) Ltd	
Rubicon	Blanket Mine (1983) (Pvt) Ltd	
Surprise	Blanket Mine (1983) (Pvt) Ltd	
Bunny's Luck	Blanket Mine (1983) (Pvt) Ltd	
Abercorn	Blanket Mine (1983) (Pvt) Ltd	

### Item 3 (e) – ENVIRONMENTAL LIABILITIES

Operating mines in Zimbabwe are required to set aside money as part of the closure plan and fulfilment of the provisions of the MMA and Environmental Management Act (Chapter 20:27) No. 13/2002 (“EM Act”). The Ministry of Mines is working on amendments to the MMA in which there will be conditions for protection of the environment through the Safety, Health and Rehabilitation Fund.

As far as the QPs are aware, no statutory instrument has been gazetted implementing an environmental fund as yet, thus so no fees are currently due. In addition, The QPs are not aware of any requests being made to Blanket Mine Company by the Minister to implement an environmental fund. As such, no environmental rehabilitation trusts and guarantees have been established for Blanket. In addition, the author is not aware that the liabilities have been calculated or budgeted for. However, a closure liability has been calculated (although not currently provided for) and is presented in Item 17 (e).

### Item 3 (f) – PERMITS TO CONDUCT WORK

The Mine is compliant in terms of authorisations and adheres to all government protocols and regulations as required.

#### I. WATER AGREEMENT

Water for the operations is sourced from the Blanket Dam that is situated on the Mtshabezi River and owned by the Zimbabwe National Water Authority (“ZINWA”). The use of this water is authorised through a contract agreement between Blanket Mine Company and ZINWA in terms of the Zimbabwe National Water Authority Act (Chapter 20:251). In terms of this agreement, Blanket Mine Company is allowed to extract 1,200,000 m<sup>3</sup> of water for the period 1 April 2020 to 31 March 2021. The agreement is valid for one-year periods and is renewed annually. ZINWA annually send to Blanket the renewable agreement for signing. Blanket continues to extract water in the interim at a rate of ZWL18.00/m<sup>3</sup>.

#### II. ENVIRONMENTAL IMPACT ASSESSMENT CERTIFICATES

In Zimbabwean mining legislation, an Environmental Impact Assessment (“EIA”) is not required in order to issue a mining licence, and in terms of the EM Act and its First Schedule is only required prior to



commencement of mining and forms part of the planning process. Blanket Mine was established in the early 1900s, long prior to the implementation of governing mining and environmental laws. As such, it appears that an EIA is not required for the Blanket Mine. However, the Company is in constant communication with the Environmental Management Agency (“EMA”) regarding environmental permitting requirements and an EIA was completed for the Mine in 1995. Should the EMA communicate that an EIA certificate for the Mine be obtained, the Company will submit all relevant and associated applications to obtain such and remain fully compliant.

### III. ADDITIONAL ENVIRONMENTAL PERMITS

In order for operations to continue, the EMA has issued a number of additional environmental licences to Blanket Mining Company as listed in Table 4 - dates and licence numbers have been supplied by the Client. The certificates are valid for 1 year and renewed annually. Applications for hazardous waste generation (oils, chemicals, etc.) licences have been submitted and are pending EMA review. New environmental disturbances will require additional permits further to those listed in Table 4, and currently no further disturbances have been identified.

Table 4: Environmental Permits

Licence Type	Licence Number	Activity	Validity
Air Emissions	8000097040	Diesel generator emission	04 Mar 2021 – 31 Dec 2021
Air Emissions	8000097042	Clinic incinerator	04 Mar 2021 – 31 Dec 2021
Air Emissions	8000097044	Blacksmith	04 Mar 2021 – 31 Dec 2021
Air Emissions	8000097043	Assay laboratory	04 Mar 2021 – 31 Dec 2021
Air Emissions	8000097038	Smelter	04 Mar 2021 – 31 Dec 2021
Effluent Disposal	8000095834	Car wash	04 Mar 2021 – 31 Dec 2021
Effluent Disposal	8000095832	Ablution facilities (sewage, 15 kLpm, disposal : irrigation)	04 Mar 2021 – 31 Dec 2021
Hazardous Substance Importation	8000098441	Sodium cyanide, sodium hydroxide, acids	18 May 2021 – 17 May 2022
Hazardous Substance Storage and Use	8000098442	Sodium cyanide, diesel, acids, caustic soda	18 May 2021 – 17 May 2022
Hazardous Substance Transportation	8000098443	Sodium cyanide, caustic soda, acids, diesel	18 May 2021 – 17 May 2022
Hazardous Waste Generation	8000089162	Used oils, clinical waste (0.5 t, salvage yard)	21 May 2020 – 17 May 2021
Solid Waste Disposal	8000095839	Domestic waste (land filling, 1,500 t)	04 Mar 2021 – 31 Dec 2021
Solid Waste Disposal	8000095838	Tailings storage facility (24,453 kL)	04 Mar 2021 – 31 Dec 2021
Waste Management-Sanitary Landfill	8000092448	Blanket Mine Sanitary Landfill	07 Aug 2021 – 06 Aug 2022
Energy-Solar	8000101044	Blanket Mine Solar PV Plant	07 Sep 2021 – 06 Sep 2022

The QPs are not aware of any past material violations or fines.

### Item 3 (g) - OTHER SIGNIFICANT FACTORS AND RISKS

The QPs are not aware of any factors or risks that may affect access, title or right or the ability to perform work on the property.

## **ITEM 4 - ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

---

### **Item 4 (a) - TOPOGRAPHY, ELEVATION AND VEGETATION**

The area around the Blanket Mine is hilly and lies at an altitude of about 1,000 m to 1,300 m above mean sea level ("amsl"). Drainage is to the northeast, into the Mtshabezi River on which the Sheet Dam and the Blanket Dam are located (some 5 km to the east of the Mine). The main natural water sources include the Tuli River, with its main tributaries (in the east bank running in a north-south direction) being the Mnyabetsi River in the Dibilashaba Communal Area, the Sengezane River in the Garanyemba Communal Area, and the Ntswangu and Pelele Rivers in the Gwanda Bolamba Communal Area.

The indigenous vegetation is dominated by savannah with Marula (*Sclerocarya birrea*), a variety of Combretum species, Terminalia sericea, Mopane groves and patches of grassland. Around the mine and local settlements, vegetation has been cut down and invaded by secondary thorny scrub dominated by Dichrostachys cinerea. Agriculture is limited to subsistence farming of maize and vegetables.

### **Item 4 (b) - ACCESS TO THE PROPERTY**

Access to the Blanket Mine is by an all-weather single lane tarred road from Gwanda. Gwanda is linked by national highways to Bulawayo, Harare and the Beitbridge Border post. Earlier, Zimbabwe had good road infrastructure. However, lack of investment over the past ten to fifteen years resulted in its deterioration; substantial investment is required country-wide. The railway line connecting the Zimbabwean national network to South Africa passes through Gwanda.

Gwanda Town is the provincial capital of Matabeleland South Province and district capital of Gwanda District. The village of Vubachikwe lies immediately adjacent to the southeast of ML 40. Blanket Mine labourers and their families are accommodated in a mine village about 1 km from the Mine. Gwanda offers a number of lodges and alternative accommodation options. Gwanda offers limited hospitals and medical services, business and financial services, educational facilities, shops, recreational facilities and amenities. Larger hospitals and establishments are offered in Bulawayo, in addition to more skilled service industries. Neighbouring towns and villages to the Mine provide skilled and unskilled labour.

Major economic activities in the district include gold mining, cement production, livestock production, game ranching and tourism. A number of dams and irrigation schemes are established. The population in the district is mostly rural, with the majority of employed people servicing the agriculture and related industries.

The district is serviced by telecommunication services, and Blanket Mine provides its own Wi-Fi and communication systems.

The A6 highway, forming part of the Trans-African Highway network, is orientated roughly northwest-southeast and links Bulawayo with the Beitbridge border post and Musina in South Africa. The highway runs through the town of Gwanda. A major sealed road, the Old Gwanda Road, branches off from the A6 in Gwanda and runs directly through the ML 40 to Bulawayo. The Blanket claims are all located along these major roads and are thus easily accessible. The roads are sealed and although potholing is frequent, the surfaces are navigable by all vehicles. The Beitbridge Bulawayo Railway runs roughly parallel to the A6 through Gwanda Town.

An airstrip and informal airport building are located in Gwanda along the A6. The Joshua Mqabuko Nkomo International Airport is located in Bulawayo. The Mine can be accessed either via the Beitbridge-Bulawayo road, or by flying into Bulawayo and driving two hours via the Old Gwanda Road or the A6 to the site.



#### **Item 4 (c) - CLIMATE AND LENGTH OF OPERATING SEASON**

The climate in Gwanda is hot and semi-arid, classified as *BSh* type (extremely hot summers and warm to cool winters, with minimal precipitation) by the Köppen climate classification system. Temperatures are as high as 40°C during summer months of November to February and average 13°C during winter (May to August). The climatic conditions make the area vulnerable to meteorological hazards such as droughts, floods, gusty winds, as well as lightening during the wet and hot season.

The region experiences short, variable rainfall seasons (averaging generally below 400 mm per year), and long, dry winter periods. Rainfall is usually associated with thunderstorms, producing rainfall of short duration and high intensity. The rainfall, in general, is less than half of the potential evaporation which has necessitated irrigation development and infield rainwater harvesting to improve crop production which complements animal husbandry as well as reclaims open access areas such as grazing lands. It also induces underground water recharge as part of improving the environment.

No appreciable mine production downtime is expected owing to unfavourable climatic or weather conditions. The mine is able to operate year-round.

#### **Item 4 (d) - INFRASTRUCTURE**

##### **I. REGIONAL INFRASTRUCTURE**

The Blanket mine area is supplied with power through the national grid operated by the Zimbabwe Electricity Transmission and Distribution Company. Power is supplied from the grid to the operations via two overhead powerlines (“OHLs”) energized at 11 kV and 33 kV respectively. The Zimbabwe Electricity Supply Authority (“ZESA”) currently allocates a capacity of 10 MVA to the operations.

Water supply to the Blanket Mine area is sourced from the Blanket Dam located 5 km east of the Mine, as well as groundwater. The Blanket Dam has a capacity of 15 Mm<sup>3</sup> and all water rights are held by ZINWA. Water users including Blanket Mine purchase all service and domestic / potable water from ZINWA.

Logistics infrastructure in the Blanket Mine area consists mainly of the local road network, national rail network and an airstrip located northwest of the town of Gwanda. All of the above-mentioned infrastructure is easily accessible from Blanket Mine.

##### **II. MINE INFRASTRUCTURE**

Mine infrastructure comprises of underground workings, various shaft with head gear and hoisting facilities, a process plant, workshops and a tailings storage facility (“TSF”). Stores, workshops and offices, as well as an assay laboratory, are located adjacent to the mine shafts. There is adequate surface area for any potential future expansion.

With regards to the accessibility to personnel, services and supporting industries refer to Item 4 (b).

#### **ITEM 5 - HISTORY**

##### **Item 5 (a) - PRIOR OWNERSHIP AND OWNERSHIP CHANGES**

The Blanket Mine is part of the Sabiwa group of mines within the GGB from which gold was first extracted in the 19<sup>th</sup> century. The Blanket Mine is a cluster of mines extending some 3 km from Jethro in the south through Blanket itself, Feudal, AR South, AR Main, Sheet, and Eroica, to Lima in the north. Blanket Mine has produced over a million ounces of gold during its lifetime.

Following sporadic artisanal working, the Blanket Mine was acquired in 1904 by the Matabele Reefs and Estate Company. Mining and metallurgical operations commenced in 1906 and between then and 1911, 128,000 t were mined. From 1912 to 1916 mining was conducted by the Forbes Rhodesia Syndicate who achieved 23,000 t. There are no reliable records of mining for the period between 1917 and 1941 and it is possible that operations were adversely affected by political instability during World Wars I and II. In 1941 F.D.A. Payne produced some 214,000 t before selling the property to Falconbridge in 1964 (Blanket Mine, 2009). Under Falconbridge, production increased to 45 kg per month and the property yielded some 4 Mt of ore up until September 1993. Kinross Gold Corporation ("Kinross") then took over the property and constructed a larger Carbon-in-Leach ("CIL") plant with a capacity of 3,800 tpd. This was designed to treat both run of mine ("RoM") ore and an old TSF.

Caledonia completed purchase of the mine from Kinross on 1 April 2006. The Blanket Mine re-started production in April 2009 after a temporary shut-down due to the economic difficulties in Zimbabwe. In late 2010, Blanket Mine successfully completed an expansion project which increased production capacity from 24 koz of gold per annum to 40 koz of gold per annum.

#### **Item 5 (b) - HISTORICAL EXPLORATION AND DEVELOPMENT**

Exploration was conducted between 1997 and 2006 around the GG and Mascot areas with follow-up exploration drilling in 2013 around these same areas. Currently, there are exploration shafts at these two sites.

Production from Blanket Mine was first recorded in 1906. Over its life to December 2019, the Mine produced some 1.4 Moz gold from 11.42 Mt ore milled.

### **ITEM 6 - GEOLOGICAL SETTING, MINERALISATION AND DEPOSIT**

#### **Item 6 (a) - REGIONAL GEOLOGY**

The majority of Zimbabwe's known gold mineralisation occurs in host rocks of the Zimbabwe Craton, which is comprised of Archaean-aged basement lithologies. The Archaean basement consists of supracrustal greenstone belts surrounded by granitoid rocks of various ages. The greenstones consist dominantly of meta-basalts with smaller proportions of ultramafic and felsic extrusives and intrusives, and sedimentary rocks. Various combinations of these rock types often occur in association with adjacent granitoid or internal granitoid bodies (Kalbskopf and Nutt, 2003). The Craton is flanked along the northern, eastern and southern sides by mobile belts of varying ages.

The Blanket Mine is situated on the north-western limb of the Archaean GGB in south-western Zimbabwe, along strike from several other gold deposits. The GGB is approximately 70 km in length (west to east) and 15 km wide (north to south). The belt is typical of greenstone belts of the Zimbabwe Craton consisting of mafic to felsic volcanics with intercalated sedimentary units.

Repeated strong deformation affected all lithologies. Structurally, the GGB is dominated by a major periclinal synform, plunging 60° NW in the western half of the belt. It is flanked on both sides by two major deformation zones, namely the North West Gwanda Deformation Zone ("NWGDZ") on the north-western limb and the South Gwanda Deformation Zone ("SGDZ") along the southern limb. The SGDZ forms part of a regional structure bounding the southern margin of the belt. In the convergence zone of the NWGDZ and the SGDZ, the Colleen Bawn Deformation Zone ("CBDZ") splays off the SGDZ eastwards, following the north-eastern arm of the belt. The NWGDZ is approximately 2 km wide and 18 km long with a general northwest to north-northwest trend, from the town of Gwanda to the north-western extremity of the belt (Campbell and Pitfield, 1994).



Four phases of deformation have been defined by Fuchter (1990). Repetition of lithological units, particularly in the north-west, is interpreted as evidence of D1 thrusting. The D2 event produced wide zones of intense schistose deformation, considered to be associated with the gold mineralisation. The D1 thrust phase has a coincident trend and may be an early part of the D2 event (AGS, 2006).

The large fold structures of the D3 deformation event dominate the eastern and western ends of the GGB. Blanket Mine mineralisation lies on the northern limb of the large western fold (the North West Mineralised Camp). The final D4 deformation event produced major lineaments which dominate the southern margin of the GGB (Fuchter, 1990). Owing to the close proximity of the GGB to the high-grade metamorphic Limpopo Mobile Belt, GGB metamorphism reaches upper greenschist to amphibolite facies and is higher than in the typical Zimbabwean greenstone belts.

#### **Item 6 (b) - LOCAL AND PROPERTY GEOLOGY**

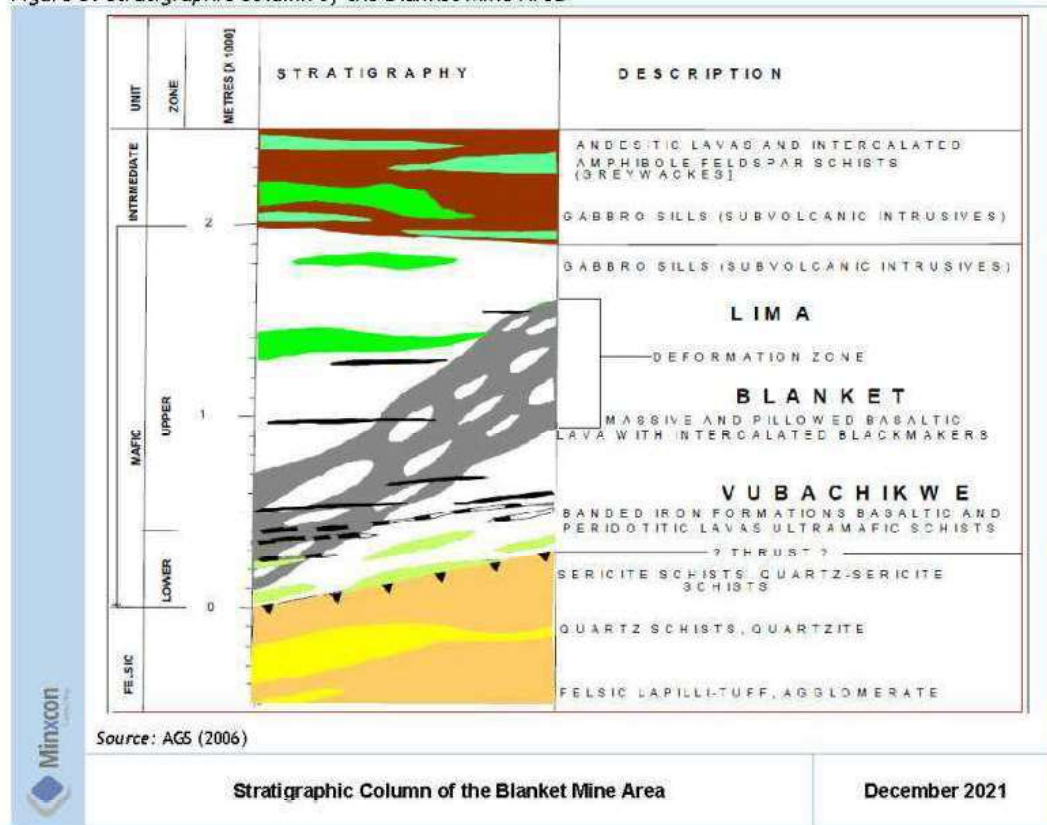
As described by AGS (2006), in the Blanket Mine area, lithologies comprise non-mineralised basal felsic schists of igneous or sedimentary origin in the east. Tailings facilities are generally sited on this Felsic Unit.

The felsics are overlain by a metabasaltic ultramafic to mafic unit with pillow basalts remnants. This Mafic Unit is subdivided into a lower zone and upper zone. Ultramafics and BIFs comprise the lower zone, while massive to pillowed lavas with intercalated interflow sediments (cherty argillites) comprise the upper zone (or Black Markers; MSA, 2011). Mineralisation at the adjacent Vubachikwe Mine is hosted in the BIF unit, while Blanket mineralisation occurs in the overlying mafics. Regionally, the rock is a fine-grained massive amphibolite with localised shear planes. A low angle transgressive shear zone characterised by biotite and a well-developed fabric, cuts through the mafic zone is the locus of the gold ore shoots. The shear zone may be up to 50 m wide (AGS, 2006).

Intruding this package is a younger, barren olivine-gabbro sheet. The entire sequence is capped by andesitic lavas with amphibolite feldspar schists of the Intermediate Unit (MSA, 2011).

The generalised stratigraphic column for the area is shown in Figure 3.

Figure 3: Stratigraphic Column of the Blanket Mine Area



The entire sequence is cut by a regional dolerite sill from the south at Vubachikwe, through the Blanket Mine, to the Smiler deposit which lies approximately 3 km north of the Blanket Mine. Although no significant displacement is caused by the sill, it truncates all the ore shoots, but below the sill continuity of mineralisation is observed (AGS, 2006).

The geology at the Blanket Mine, including the shaft locations, is illustrated in Figure 4. A geological cross section at No 4 shaft is presented in Figure 5.



Figure 4: Local Geology of Blanket Mine

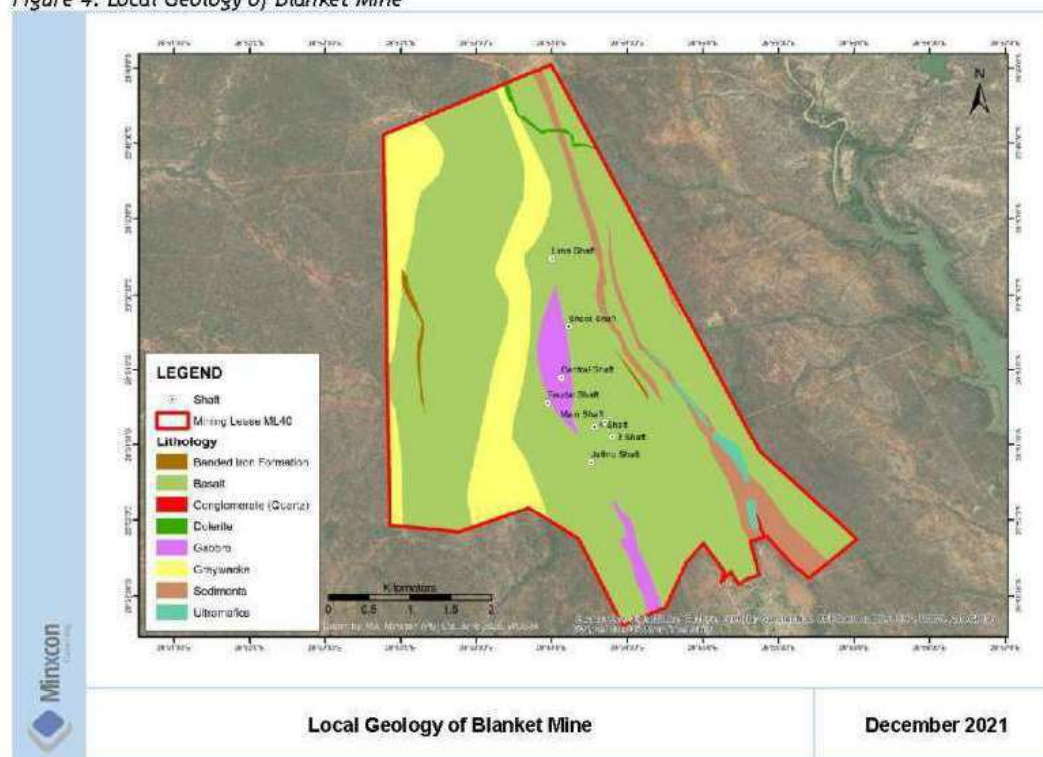
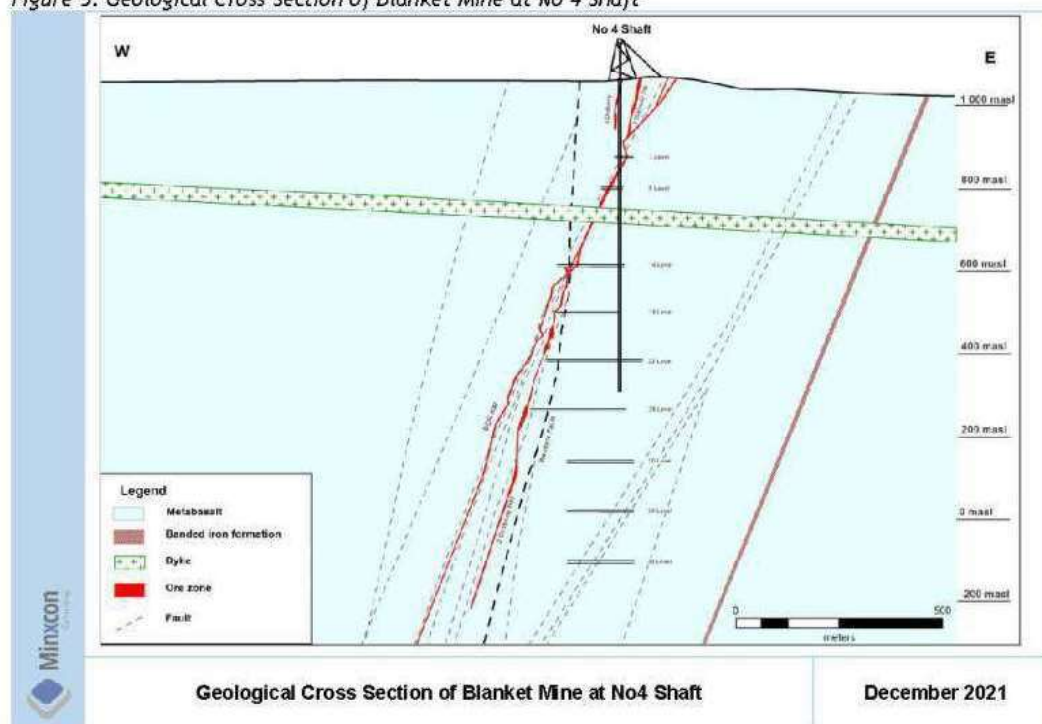


Figure 5: Geological Cross Section of Blanket Mine at No 4 Shaft



#### Item 6 (c) - MINERALISATION AND DEPOSIT TYPE

Mining at Blanket occurs over a 3 km strike that includes from north to south, the deposits of Lima, Eroica, Sheet, AR Main, AR South, Feudal, Blanket Section (Blanket 1 to Blanket 6) and Jethro. The main Blanket underground workings are connected to Lima by a 2 km long haulage which follows the strike of the main fabric.

Varying strikes are recorded for the deposits. As described by AGS (2006), mineralisation occurs in near vertical shoots aligned along an approximately N-S axis. The ore shoots vary in shape from the tabular-lensoidal quartz reefs to the massive to pipe-like disseminated sulphide reefs ("DSR").

Wall rock alteration typically comprises silica-pyrite-muscovite within a broader carbonate alteration halo. Quartz-carbonate altered rock forms the most commonly recognised alteration assemblage. Gold is deposited at crustal levels within and near the brittle-ductile transition zone.

The deposits may have a vertical extent of up to 2 km, demonstrate extensive down-plunge continuity, and lack pronounced zoning. The ore mineralogy is dominated by gold, pyrite and arsenopyrite. Subordinate minerals such as galena, chalcopyrite, pyrrhotite, sphalerite, tellurides, scheelite, bismuth and stibnite also occur. Sulphide mineralogy commonly reflects the litho-geochemistry of the host rock with arsenopyrite being the most common sulphide mineral in metasedimentary host rocks and pyrite or pyrrhotite being more typical in metamorphosed igneous hosts. The gangue and alteration mineralogy are dominated by quartz and carbonate (ferroan dolomite, ankerite, siderite, calcite) with subordinate albite, fuchsite, sericite, muscovite, chlorite and tourmaline.



Two quartz-filled shear zones are mined, namely the Blanket Quartz Reef ("BQR") and the Eroica Reef, which have long strike lengths but are not uniformly mineralised although continuous pay shoots of over 100 m on strike are seen. Gold grade fluctuations are more extreme in the quartz reefs than in the DSR type reefs but on average these quartz shears have higher grades and are used as a sweetener of ore to the mill (MSA, 2011).

Table 5 provides a description of the mineralised sections at Blanket.

**Table 5: Description of Deposits at Blanket Mine (after MSA, 2011)**

Name	Description
<b>Blanket Quartz Reef</b>	The BQR strikes some 500 m on surface and is up to 5 m wide, diminishing with depth, dipping 55°W. It displaces the DSR type orebodies with an apparent reverse movement of up to 250 m. The reef texture varies from typical quartz reef at depth through sheeted and boudinaged veinlets to ankentic carbonate in schist and a sulphide replacement ore zone. This is interpreted as a transition from brittle ductile to a more ductile regime with depth. Towards the north of the reef outcrop, a Z-shaped inflection forms the thickest part of the reef, up to 5 m, compared to less than 1 m on the limbs. Similar inflections are found elsewhere in the Northwest Gwanda Shear Zone. Subsequent to mineralisation the reef was displaced by the north-striking vertical Wenlock Fault which has a dextral strike-slip component of about 60 m. Mineralisation in the BQR is not uniform and comprises native gold with galena. Arsenopyrite is more dominant down-dip. Economic mineralisation is restricted to three 90 m pay shoots.
<b>Lima</b>	Lima is situated 2 km north of the Blanket Section and an underground haulage links the two mines. Like the Blanket Section orebodies, the Lima orebodies developed in very high-strain areas. The main shoots are the Hanging Wall and Interlimb. Mineralisation in the Hanging Wall limb comprises pyrite with subordinate arsenopyrite in cleavage planes within pervasive biotite/chlorite alteration. The Interlimb is characterised by a centrally silicified core with pyrite and arsenopyrite constituting the main sulphides.
<b>Eroica</b>	The Eroica orebody lies approximately 1,300 m north of the Blanket Section orebodies and renowned for its high native gold content. It dips at 65°W and has a strike length of 300 m in a northerly direction. The Eroica orebody is hosted in a high-strain area where the shear is up to 15 m wide. Brown carbonate alteration characterises the shear in strong association with biotite development. The orebody is defined by thin silicified stringers that develop into swells of up to 5 m in width. The silicification shows pinch and swell both on strike and down-dip, resulting in a series of dismembered silicified pods developed within a particular shear. The biotite and carbonate alteration, together with the silicified stringers, form marker links between the dismembered pods. Finely-disseminated arsenopyrite, pyrite and pyrrhotite are associated with the gold mineralisation.
<b>Sheet</b>	<p>The Sheet orebody lies about 500 m south of Eroica and is a typical example of a fault controlled mineralisation. It comprises of at least three stepped-out, sinistrally displaced and highly silicified hornblende-chlorite schist fault blocks. The orebody was subjected to both strike and "east-west" dip faulting, resulting in major bifurcation of the orebody up-dip into highly fractured North and South orebodies with variable dips. As with the other DSR orebodies at Blanket Mine, the less disturbed Sheet orebody down-dip extension has a 60-65°W dip and a fabric that is sympathetic to the north-northwest regional shear.</p> <p>The orebody can attain widths and strike lengths of up to 15 m and 60 m respectively. Mineralisation is associated with finely disseminated arsenopyrite. Pyrite and pyrrhotite occur as accessory minerals and are generally indicative of poor mineralisation. The orebody is encompassed within a ductile metabasalt country rock. The orebody was mined between 230 m Level and 870 m Level on separate dismembered shear zones. Further exploration is ongoing to assess the resource growth potential of the down-dip extension.</p>
<b>AR Orebodies</b>	<p>AR is a "Z"-shaped mineralised zone and consists of two separate orebodies (AR Main and AR South) with widths up to 30 m as a result of tectonic thickening from faulting and folding. The mineralised zone has no known surface expression and appears to form a 'peak' under the regional dolerite sill just above 9 Level some 500 m north of the Blanket Section orebodies. From this point the body splits into two the ore shoots of AR Main and AR South, which plunge 55°W and 58°SW respectively.</p> <p><b>AR Main</b> AR Main is a DSR-type orebody and occurs within a broad shear envelope in pillowed metabasalts, which is generally irregular in plan and bounded by shears that assist in defining the limits of the mineralisation. At 750 m Level, a shear disrupts the bodies causing the plunge to flatten to the west. The orebody strikes between 40 m and 60 m with an average width of 30 m at the centre of the envelope.</p> <p>The ore is a silicified amphibolite predominantly comprised of quartz with minor carbonate and chlorite minerals. Gold mineralisation is associated with arsenopyrite and to a much lesser extent pyrrhotite and pyrite. Finely-disseminated arsenopyrite occurs within the orebody which form the high grade areas. Sulphide minerals seldom amount to more than 5% of the rock by volume. The orebody is massive and is exploited using the long-hole open stoping method.</p> <p><b>AR South</b> AR South plunges southwest, trending towards the Blanket 2 orebody at depth. AR South is also developed within a broad shear zone and is more pipe-like than AR Main. Its maximum thickness is approximately 50 m and high grade sections are defined by silicification and arsenopyrite.</p>
<b>Feudal</b>	Occurring in the hanging wall of the Blanket-Lima strike about 900 m northwest of Jethro is the almost mined out "outlier" Feudal orebody. The orebody is interpreted to be located at the focal point of two Blanket-Lima strike transgressing shears, namely the Blanket-Feudal and Jethro-Feudal shears. The rocks consist of intermediate to meta-basalt with hornblende chlorite schist hosting the mineralised quartz- sulphide (disseminated arsenopyrite and pyrrhotite) shear zones.



Name	Description
	The known orebody (surface outcrop to 7 Level for a 200 m lift) is now mined out. Geological models are being pursued to re-establish the reef down-dip.
<b>Blanket Section</b>	The Blanket Section comprises six orebodies, namely Blanket 1 to Blanket 6, which occur some 500 m south of the AR orebodies. On average, the orebodies dip 80°SW. Blanket 1 and Blanket 4 are parallel and occur in north-south trending shear segments. Blanket 2 and Blanket 5, which are also parallel, strike northwest-southeast. Blanket 3 is cylindrical and lies in a shear segment parallel to Blanket 2 and Blanket 5. On surface, the BQR lies in the footwall of the DSR type orebodies. The reef has a shallower dip than the DSR bodies, but plunges in the same direction so that it progressively advances towards them with depth, displacing Blanket 2, 3, 1, 4. Blanket 2 reappears on the footwall of the BQR and is established on the 630 m Level through to the 870 m Level.
<b>Jethro</b>	The Jethro orebody is located some 400 m south of the Blanket Section. The north-south striking Jethro orebody dips near vertical in a westerly direction and tends to roll over locally.

In greenstone belts, gold mineralisation occurs mainly as vein type or shear zone hosted disseminations. Most of the larger deposits are found within the greenstone belts or their contacts with the granitoids. All mineralisation is hydrothermally emplaced and associated with the regionally developed D2 deformation characterised (at the Blanket Mine) by areas of high strain wrapping around relatively undeformed remnants of the original basaltic flows. It is within the more ductile tensional high strain areas that the wider of the orebodies are located.

These orogenic gold deposits are commonly associated with late syntectonic intermediate to felsic magmatism. Vein systems occur as a system of echelon veins on all scales. The Blanket orebodies comprise up to 10% of precious metals (AGS, 2006), so that the gold-rich model is applicable. The Blanket mineralisation is hydrothermally emplaced and associated with the regionally developed D2 deformation characterised by areas of high strain wrapping around relatively undeformed remnants of the original basaltic flows. Wider orebodies occur within the more ductile tensional high strain areas. The localisation of the mineralised shears conforms to a Riedel pattern (AGS, 2006).

Two main types of mineralisation are recognised at Blanket, namely DSR and quartz-filled reefs and shears. A third type of mineralisation may be evidenced in the form of auriferous sulphide minerals as a replacement of the iron-rich minerals along the hinges of the folds in BIF, as is present at the neighbouring Vubachikwe Mine.

#### Disseminated Sulphide Replacement Reefs

DSRs host the best grades and comprise the majority of the ore shoots. The zones have a silicified core with finely-disseminated arsenopyrite. Relatively high grades are found in a package of silicified biotite chlorite schist with irregular quartz stringers and disseminated and stringer arsenopyrite in the fabric planes. Due to lesser silicification, abundant biotite characterises the margins of these mineralised zones and as a result they have a lower gold content. Disseminated sulphide-replacement orebodies range up to 50 m in width with a strike of 60 m to 90 m. Free-milling gold constitutes up to 50% of the total metal content with the remainder locked in the arsenopyrite. The ore is not refractory despite its association with arsenopyrite. Generally, plant recoveries of 85% to 90% are achieved.

#### Quartz-Filled Reefs and Shears

Two quartz shears are mined at the Blanket Mine, namely the BQR and the Eroica Reef. These reefs have long strikes; however, they are not uniformly mineralised. Continuous pay shoots of over 100 m on strike are present. The Quartz Reef has a surface strike of approximately 500 m, but economic mineralisation is restricted to three 90 m long shoots.

Quartz-filled reefs display a much wider grade range compared to the DSR deposits. On average, these shears are of a higher grade and are used in blending the ore to the mill. Dominant ore minerals are native gold and galena although arsenopyrite becomes more prevalent below 470 m. Increasing levels of arsenopyrite association with depth confirm that the quartz shears represent higher level offshoots and plays with brittle deformation relative to the more ductile DSR-type core zone mineralised bodies.



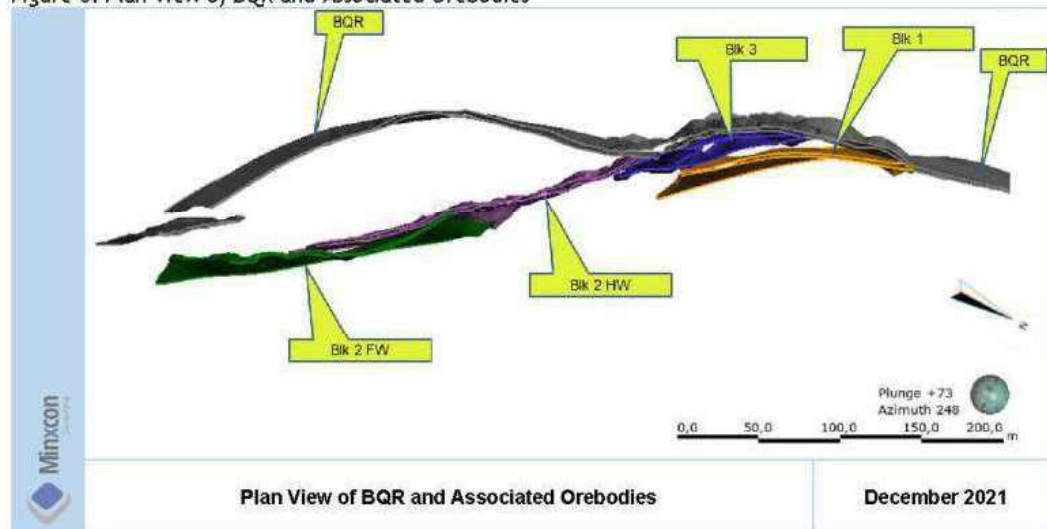
#### Item 6 (d) - GEOLOGICAL MODEL

The individual models were constructed by Blanket mine to honour the same 2.1 g/t cut-off that has been historically utilised for reporting Mineral Resources. The wireframes are constructed explicitly by manually honouring drillhole intersections and in stope sampling data in Surpac software. The process of manually creating the wireframes is subjective and can differ based on the user.

As part of this work, the QPs reconstructed Blanket 1, 2, 3 and created the new ARS extension utilising trends observed in the sampling database to honour the new 1.5 g/t cut-off that is being applied and test the influence of updating the wireframes based on updated cut-offs. The orebodies remained well constrained, with grade confined to specific narrow veins, and as a result, the change in cut-off had a minimal change to the extents of the wireframes, with local changes only to include new samples. During the QPs' work, it was observed that there was a consistent trend in Blanket 2 hanging wall ("HW"), Blanket 2 footwall ("FW") and Blanket 3. All these orebodies can also be interpreted to splay off of the BQR orebody. Typically, the higher-grade areas of BQR can be correlated to areas where other orebodies occur and may guide where potential orebodies join/splay off BQR such as Blanket 1 and ARS extension. Lithological descriptions are not present in the drillhole database; thus, all modelling is done performed on grade intersections. Geological modelling was performed from the known into the unknown, where mining activities assist to positively identify orebody intersections, trend and thickness that can be used as a guide for identifying and connecting that same orebody in grade intersections at depth.

Blanket 1, 2, 3, 4, 6, BQR, Feudal, ARS, ARM, Lima and Eroica have 3D geological models; all other orebodies currently do not have a 3D model or 3D estimation generated.

Figure 6: Plan View of BQR and Associated Orebodies



Blanket 1 was reconstructed by the QPs to honour the updated geological understanding. The trend of the previous Blanket 1 orebody was inconsistent with the local trends that are seen in other Blanket orebodies, the QPs updated Blanket 1 to reflect this. The previous versions of Blanket 1 have shown a large variance before the 2020 remodelling. During the course of the QPs' work it was interpreted that some of the intersections previously attributed to Blanket 1 are on a different trend that can be better associated with ARS - this led to the interpretation of the ARS extension, which will be discussed separately.

Blanket 2HW and Blanket 2FW was updated to include all 1.5 g/t samples. The orebodies remain tightly constrained and changing cut-off has only minor local changes to the wireframes where additional samples are included. The upper portions of the orebody remain very similar to previous interpretations, while to depth some intersections were changed to honour intersections that are more representative of the trend and dip that can be inferred from the upper well-informed areas. In addition, despite some pinching and swelling in thickness that is seen throughout all orebodies, the middling between these orebodies (particularly Blanket 1, 2 and 3) does remain fairly consistent and can be used as a guide to geological modelling, and assist when assigning intersections to the various orebodies. An additional update was performed for Blanket 2FW, previously interpreted as a standalone orebody, however by viewing grade intersections and following the same trends, the FW can be linked and interpreted to splay from Blanket 2HW (Figure 7). Orebodies are shown with a thick clipping of 10 m.

Blanket 3 was re-interpreted based on the updated geological understanding. The previous versions of Blanket 3 had been interchanged with Blanket 1 intersections as the Blanket 1 intersections had been reinterpreted from year to year. The upper portion of Blanket 3 where mining occurs remains consistent year to year, however the lower portion has varied significantly. The 2020 Model from Minxcon has attempted to follow the geological understanding from these well-informed areas into the poorer informed areas. As with the other orebodies, the trend and middling remain consistent and can be used with confidence in assigning intersections. It is for this reason that Blanket 1 and Blanket 3 were reinterpreted and remodelled, as Blanket 3 intersections have typically been assigned to Blanket 1 (Figure 8). The previous interpretations versus the updated 2020 model are shown in Figure 8. It must also be noted that for the Blanket 1 2020 model in this image, the drillhole intersections had not been honoured at this stage of wireframe creation and the wireframe generated is based only on the applied trend. By using the correct trend alone, it can be observed that corresponding drillhole intersections can be interpreted very easily.

Blanket 4 and Blanket 6 were generated by Blanket Mine. These two orebodies are interpreted to lie within a structurally disturbed area and Blanket 6 is separated into a HW and FW unit displaced by the Wenlock fault. A cross section is taken at an elevation of 206 amsl to show Blanket 4 and 6 in relation to neighbouring orebodies. Blanket 4 and 6 have not been updated at this stage, but it is recommended that they be re-interpreted using the same trends being observed.

Blanket Feudal is interpreted in the upper levels only of the Blanket section. This was not remodelled in 2020. This orebody occurs to the west of the BQR while Blanket 1, 2 and 3 all occur to the east (Figure 10). BQR is a continuous unit running through the Blanket section. It has been interpreted that all other Blanket orebodies are closely associated with the BQR and that grade in all orebodies can be correlated. This has not been remodelled in 2020. It is, however, recommended that Blanket Feudal be remodelled using the same principle as that applied to the Blanket models.

Lima and Eroica were modelled in 2019. It is recommended that these be remodelled using the same principle as that applied to the Blanket models. Eroica consists of ERCS and ERCN, while Lima consists of the main orebody (transparent in Figure 11), as well as a smaller inter reef orebody and a smaller FW body.

ARM and ARS occur to the north of the Blanket section. These orebodies have not been remodelled in 2020. It is however recommended that these be remodelled using the same principle as that applied to the Blanket models. An additional extension to ARS has been modelled that shows a continuous trend with the existing ARS. ARS and ARM are separated by a dyke, the structural controls of this dyke as well as the possible extension of the BQR into the ARM and ARS sections need to be tested (Figure 12). The samples used to generate ARS extension show a good correlation of the trend that is interpreted to exist over Blanket Mine.



Figure 7: Plan View of Updated Interpretation at Blanket 2

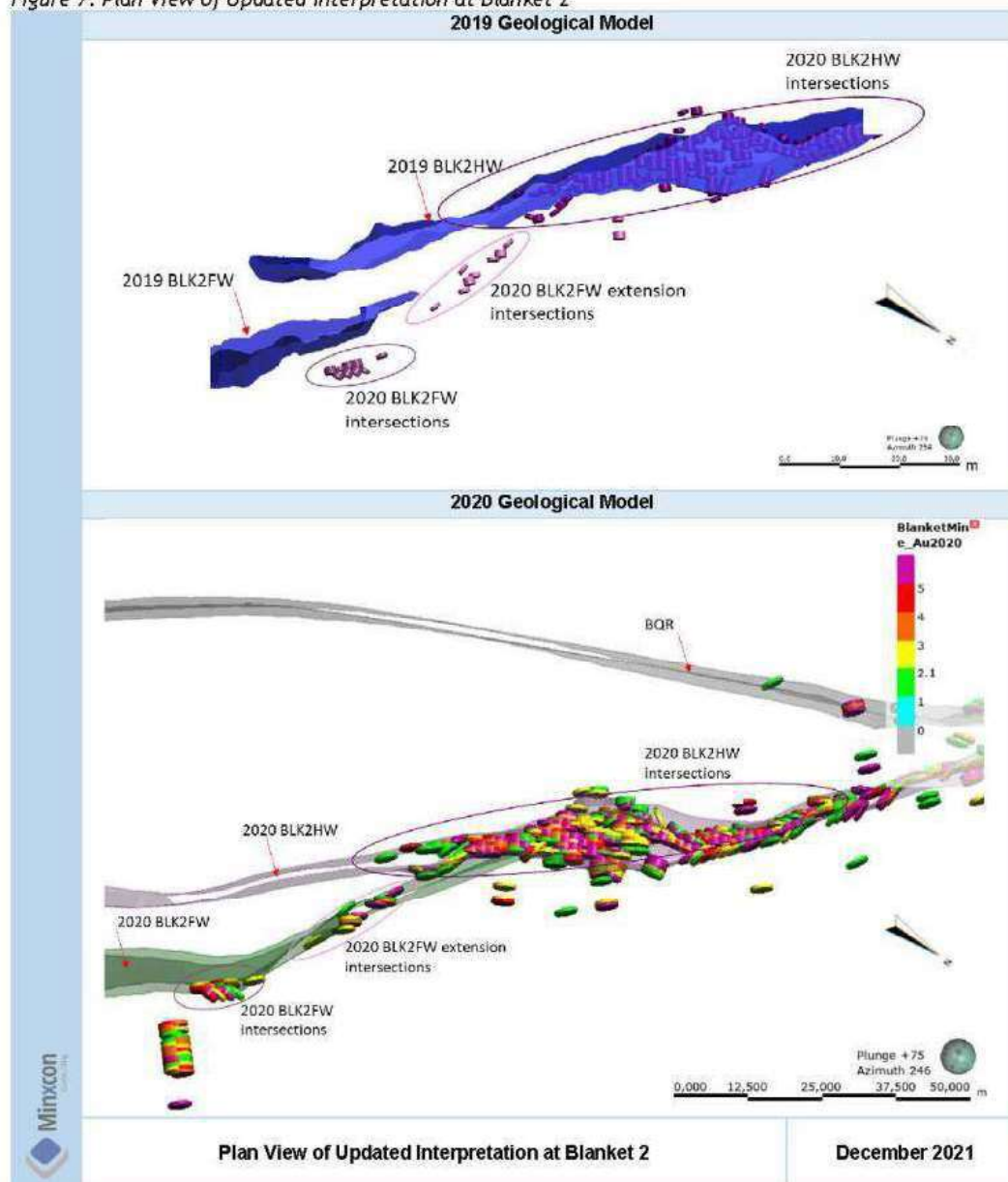


Figure 8: Cross Section of Updated Interpretation at Blanket 1, 2 and 3

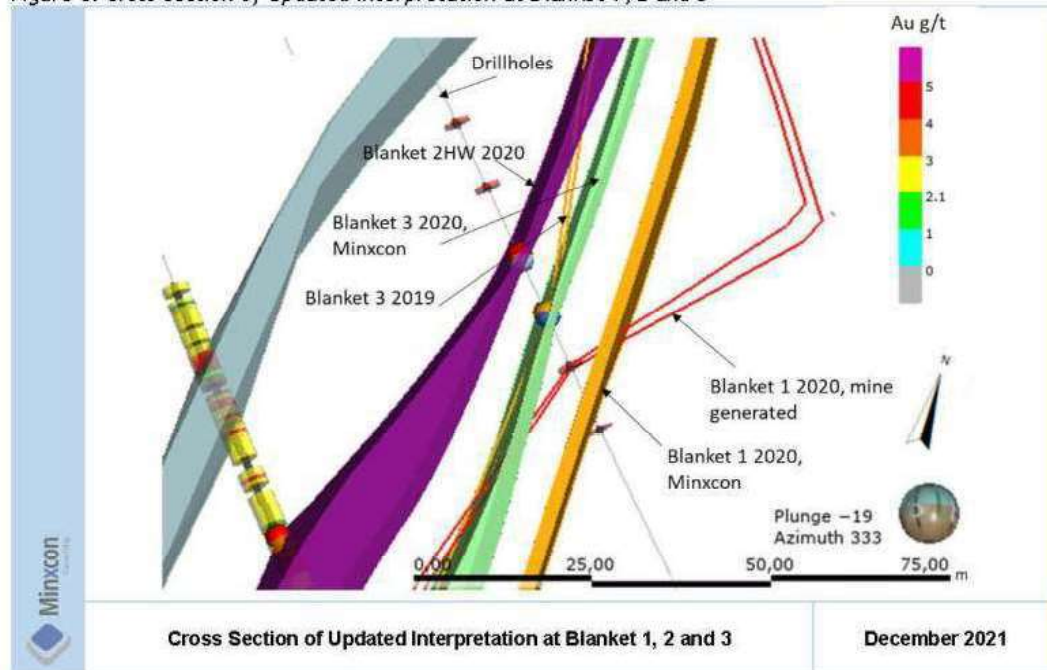


Figure 9: Plan View of Blanket 6 and Blanket 4 and Associated Orebodies

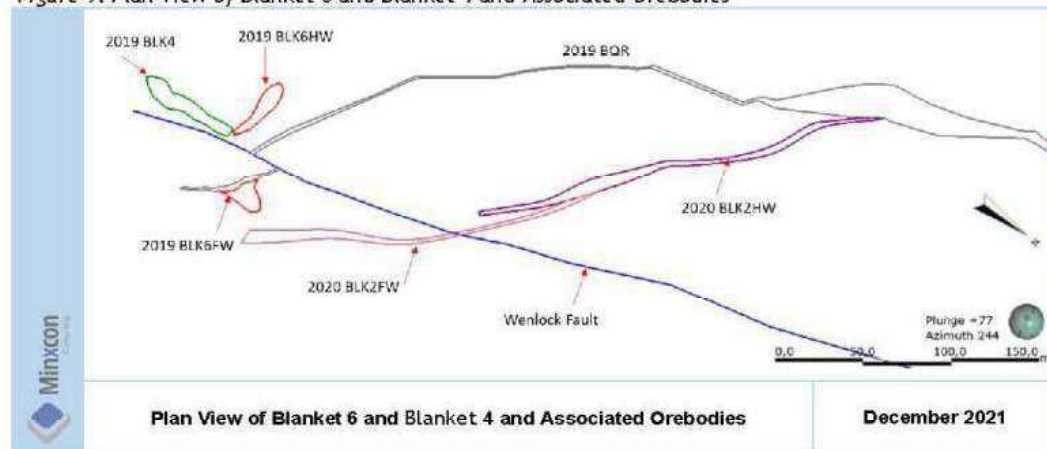




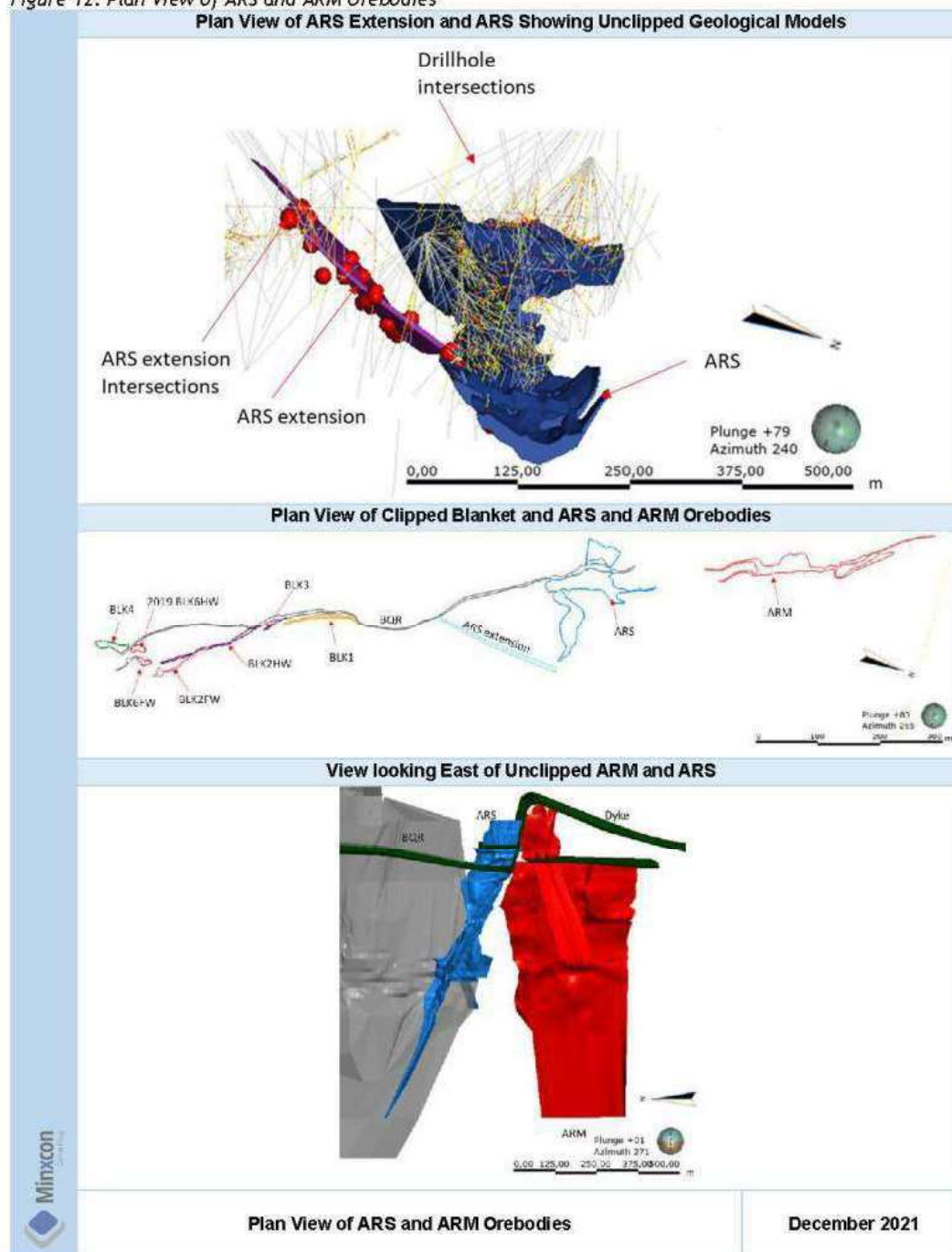
Figure 10: Plan View of Section of BF and BQR



Figure 11: Section View of Lima and Eroica Orebodies



Figure 12: Plan View of ARS and ARM Orebodies

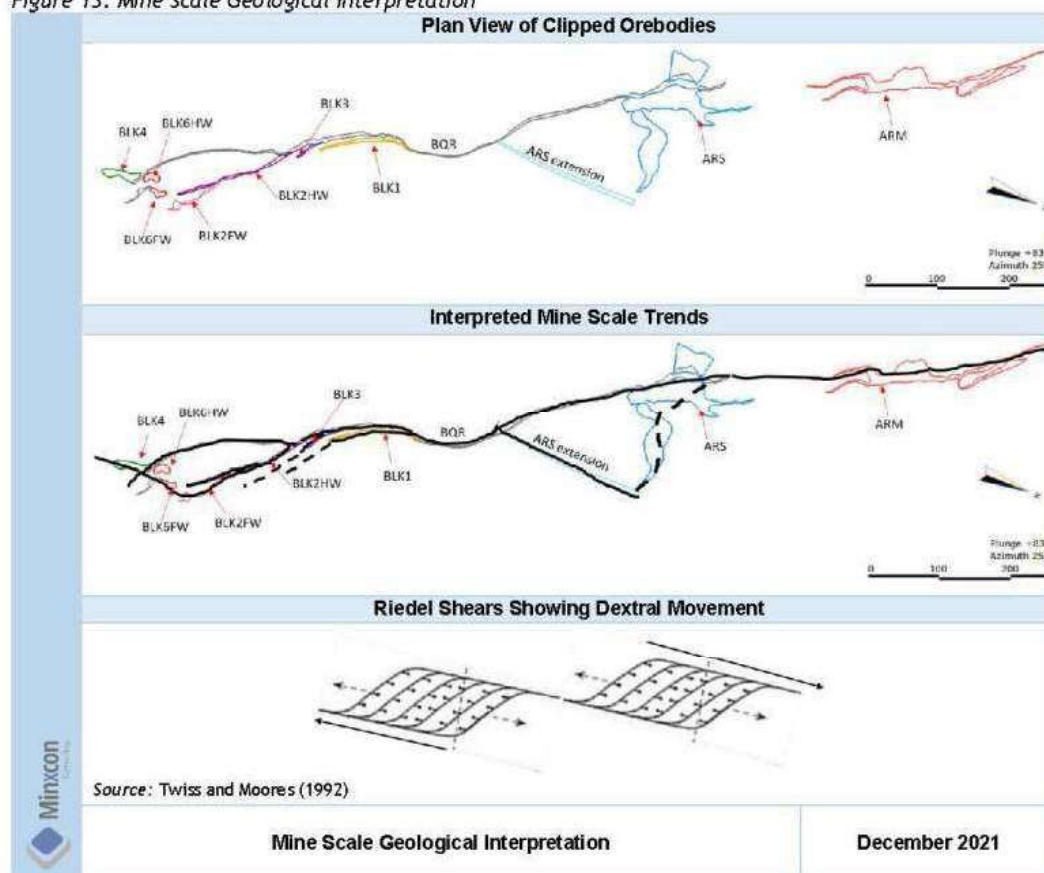


Based on the geological modelling performed on Blanket 1, 2, 3 and ARS extension the need for a mine scale geological model has become necessary as the basis of defining economic orebodies. Often what is seen on a regional or larger scale will be repeated in fractals on a smaller or orebody scale. In this case the trend



and associations seen between orebodies is consistently seen between all orebodies. The trend of the mineralisation seen at Blanket is likely resulting from dextral shear, opening up fractures (extensional gashes) for vein and mineralisation emplacement. This zone of shear fractures has also been described as an extensional or contractional duplex by other authors. These Riedel shears along with the expected structures can be seen in Figure 13. This could potentially explain why the BQR and Eroica reefs are different to the ARM and ARS orebodies, *i.e.*, the more tabular-lensoidal quartz reefs (BQR), which could be the main shear, to the massive pipe-like disseminated sulphide reefs ("DSR") of ARM, ARS and Jethro, which could be zones of Riedel shears.

Figure 13: Mine Scale Geological Interpretation



Further modelling of the remainder of the Blanket orebodies is required to confirm the trend and association of all other orebodies, in addition, modelling with a mine scale view of these expected Riedel shears will assist with modelling, and infer continuity that may aid in the generation of exploration targets. An additional focus with future geological modelling should be on identifying the continuation of the orebodies and structures even where it is not mineralised to create a comprehensive geological model. Domaining prior to Mineral Resource estimation must then be used to separate out high grade and low-grade domains.

## ITEM 7 - EXPLORATION

### Item 7 (a) - NON-DRILLING WORK

#### I. SURVEY PROCEDURES AND PARAMETERS

No recent trench or soil sampling or geophysics is available or considered during geological modelling or Mineral Resource Estimation.

#### Channel Sampling and Sludges

Underground channel/chip sampling and sludge sampling procedures are outlined as follows:-

- The distance from a known survey peg to the first sample section is noted. Subsequent sample sections are marked at 2 m intervals on the roof of the drives along strike. Jethro and Blanket Feudal sample sections are taken at 1.5 m intervals along strike.
- Sample sections are taken using a chisel and collection dish starting from the hanging wall to the footwall. Samples are generally taken in 0.6 m lengths but may vary depending on geology or the width to be sampled.
- In wider mineralised zones where not all the mineralisation is exposed by the primary development, sidewall sludge holes are drilled to a depth of 1.2 m. Sludge holes are drilled into the hanging wall and footwall along the same section line as the channel samples. Drill discharge water is collected in cloth bags and the water seeps out leaving a sludge sample. Samples are taken every 0.6 m. The hole is flushed between each sample to reduce contamination.
- A sample weight of about 2 kg is collected in each instance.
- A ticket tagging system is used with sketches drawn at the face showing the ticket numbers corresponding to the samples taken. This assists the data capture in that on receipt from the laboratory, results are plotted on the assay plan against the corresponding ticket numbers.
- Blanks and CRMs are inserted into the sample sequence.
- On receipt of assays, QAQC is carried out. Information for channel and sludge samples is both processed digitally (incorporation of all channel and sludge data into database, plotting in Surpac, 3D modelling, evaluation) and plotted manually on the level plans.
- 1:250 scale survey plans are generated as 'base plans' for assay, stope assay and geology plans for each 15 m sub-level.

Channel and sludge assay information is plotted manually on 1:250 scale assay plans for every 15 m sub-level. Within all of the mineralised zones, except the AR Main and AR South wider bodies, only 4.2 m is normally sampled (includes 1.8 m wide drive and 1.2 m of sludge sampling into both the hanging wall and the footwall) across the strike and any mineralisation beyond these limits is not included in the Mineral Resource. The unsampled payable sections outside of this width are mined but reported as coming from not-in-reserve ("NIR") blocks. While the accuracy of sludge sampling is debatable, it is considered to give a reliable indication of mineralisation. By the nature of the sampling methodologies the roof chip sampling and sampling of the evaluation drillholes would appear to have a higher confidence than the sludge sampling. However, an analysis of the different sample types has shown a minor decrease in grade (per orebody) with the inclusion of the sludge samples. This is expected as the sludge samples are taken at the periphery of the orebodies to tests the limits of the orebody of acceptable grade. Exclusion of these sludge samples would result in local over estimation as these sludge samples often record the transition from high grade to low grade. In the case of the underground chip sampling the high volume of samples reduces the impact of isolated sampling inaccuracies.



Sampling is undertaken underground, thus a plan view of sampling points is not appropriate for Blanket Mine.

## II. SAMPLING METHODS AND SAMPLE QUALITY

Blanket is an operational mine. Only underground Mineral Resource and exploration drilling are currently undertaken.

## III. SAMPLE DATA

Only ongoing underground drilling is currently undertaken at Blanket Mine.

## IV. RESULTS AND INTERPRETATION OF EXPLORATION INFORMATION

The results of the exploration drillholes as described in the section to follow - once checked and validated - were included into the existing database to inform the geological modelling process as well as Mineral Resource estimation.

### Item 7 (b) - DRILLING

#### I. TYPE AND EXTENT OF DRILLING

Blanket is an operating mine. Underground long-hole exploration drilling and evaluation drilling are undertaken to respectively investigate orebody depth extensions and delineate width of the mineralised body. To this end, a plan view of drilling collars is not appropriate for Blanket Mine. However, Figure 15 illustrates the distribution of the database.

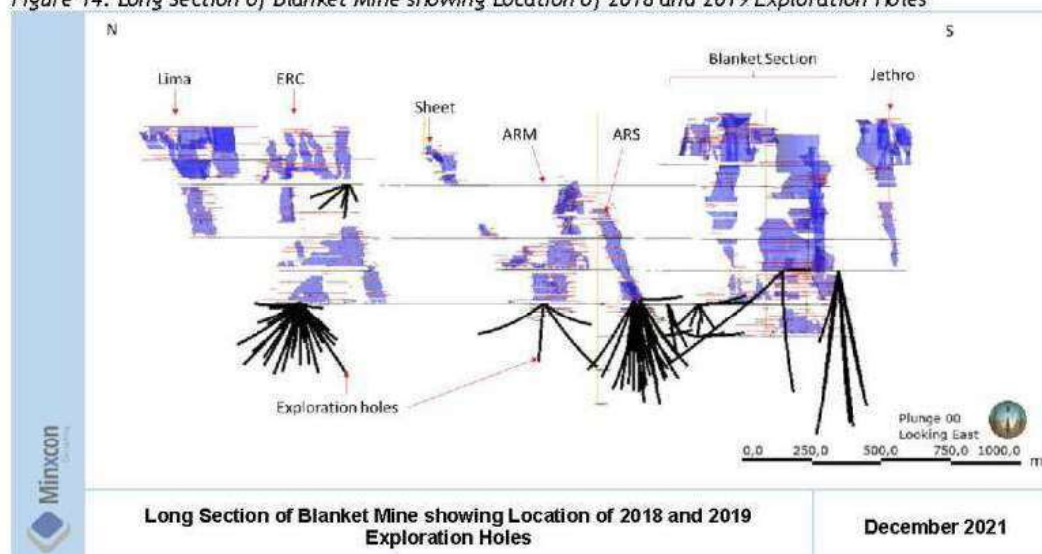
#### Long-hole Exploration Drilling

The current programme of down-dip drilling from underground crosscuts to test depth extensions of the various orebodies has been underway since 2013. To date 297 holes have been drilled comprising 94,389 m (Table 6). The exploration holes drilled in 2018 and 2019 are shown in Figure 14. The reduction of meters drilled in 2019 is directly related to the new Central Main Shaft ("CMS") progress and the need to create future drilling platforms.

Table 6: Exploration Holes and Meters by Year

Year	Number of Holes	Meters Drilled
2013	10	4,228
2014	25	8,685
2015	40	14,948
2016	58	19,768
2017	54	19,035
2018	68	18,269
2019	42	9,456
<b>Total</b>	<b>297</b>	<b>94,389</b>

Figure 14: Long Section of Blanket Mine showing Location of 2018 and 2019 Exploration Holes



The current (post 2013) phase of drilling has been focused on down-dip extensions to Blanket Section, AR Main and Eroica South orebodies with commencement of down-dip drilling at AR South orebodies in early 2017. While the programme commenced in 2013 with two refurbished rigs, productivity was significantly increased in 2015 with the introduction of additional rigs. Five Kempe “K600” rigs are now employed at Blanket Mine. Currently three rigs are drilling in high priority areas concurrently six days a week on day and night shifts. The other two rigs (when one of the rigs is not on surface for a major service) are kept in position on holes in lower priority areas on standby for times of breakdown or rig movement for the three ‘priority’ rigs in order to optimise overall production. Drilling coverage has been planned to initially scope out the wider area below 22 Level to bring areas to Inferred Mineral Resource category at a spacing of approximately 60 m along strike by 100 m down-dip. Once the areas are adequately covered at this spacing infill drilling is planned at a spacing of approximately 30 m along strike by 50 m down-dip to bring Mineral Resources to Indicated status.

Further upgrade to Measured Mineral Resource category using the down-dip exploration drilling is not practical because of the amount of drilling that would be required to reach the required intersection spacing of 7.5 m along strike by 15 m vertical. Measured Mineral Resource status from down-dip exploration drilling will only be achieved where holes inadvertently deviate so that their spacing is much closer than planned. Measured Mineral Resource status is achieved by development of sub-levels within the orebody at 15 m vertical distance with channel and sludge sampling along strike and evaluation drilling every 7.5 m along strike. Current exploration drilling coverage is limited by available drilling chambers. Drilling is conducted from chambers on crosscuts developed into the hanging wall. Development to new chambers at AR South and Eroica is ongoing.

Directional drilling techniques are not employed but holes are planned to incorporate a deviation based on knowledge from previous drilling. While this does not result in a perfectly regular intersection spacing due to irregular and unexpected deviations of holes, the areas are drilled until they are adequately covered. Drilling coverage to Indicated Resource category spacing is only practical for hole lengths of up to 300 m due to unpredictable hole deviations, with further upgrades of Inferred to Indicated only possible once drilling positions have been developed in the hanging wall on the deeper levels. Drilling is carried out



primarily by Blanket personnel but with a Contractor managing and overseeing the operation. The Contractor supplies key staff comprising Supervisors and trained drillers and provides ongoing maintenance requirements to ensure the smooth running of the operation. All drilling is currently being carried out by BQ (36.5 mm diameter) core.

The management of the drilling process rests with the responsible geologist. A summary of drilling procedures for exploration drilling is outlined as follows:-

- Planned hole collar set up information is provided by geologist.
- Hole azimuth is set up by surveyor. Hole dip is set up using built in rig clinometer. Set up is checked by Blanket Mine geologist or geotechnician. Hole collar is surveyed when rig is established in position and drilling.
- Drilling and core are monitored by geologist and geotechnician with checking to ensure core obtained attains a recovery of at least 95%. Hole is stopped based on geological observations.
- Downhole survey is carried out using Icefield Multi-shot M13 instrument. Survey readings are downloaded and checked for validity using quality assurance and quality control ("QAQC") procedure. If not acceptable, request for resurvey.
- Hole is capped with hole number clearly marked on cap.

Core handling procedures are as follows:-

- The drillhole identification number and box number are clearly marked onto the upper left side and face of each core tray.
- All core is packed into core trays as it is recovered from the hole with blocks indicating the depth placed at the end of each 'run' for each 3 m drill rod. Core trays are kept secure and guarded against possible mixing. All core boxes are transported to the core yard at the end of the drilling shift where their receipt is entered into a logbook.
- Core boxes are laid out in the correct sequence.
- Drill core is checked as orientated and assembled to ensure that all pieces fit, and that orientation lines are consistent.
- Core recoveries are measured between drill depth markings by the geologist or geotechnician to record the core recovery. The complete length of the hole is metre marked.
- RQD measurements are recorded by the geotechnician.
- Core is photographed dry and wet.
- Logging of core is carried out by the geologist.
- Mineralised zones are identified and selected for sampling. Sample boundaries are marked at 0.6 m intervals in nearly homogeneous mineralised zones. Selective sampling intervals are employed on mineralised units with unique features, e.g. colour, concentration of mineralisation, alteration, and mineralogy.
- The core is split into two equal halves with a diamond saw. One half is retained in the core tray.
- Specific Gravity ("SG") measurements are carried out for each sample prior to bagging and submission to mine laboratory for sample preparation and assay (Blanks and Certified Reference Material ("CRMs") are inserted into the sample sequence at this point).
- Split intersections retained in the core tray are photographed wet.
- On receipt of assays, QAQC is carried out. Drilling data is incorporated into the database. Plotting in Surpac, 3D modelling and evaluation are carried out.

## Evaluation Drilling

In addition to exploration drilling, evaluation drilling is performed within stope. Underground mining infrastructure in the form of development drives at 15 m vertical intervals within the orebody is required in order to achieve the required spacing of 7.5 m along strike by 15 m down-dip for the Measured Mineral Resource category. Evaluation drilling is normally only applicable to wider DSR orebodies, while Quartz Reef orebodies are either fully exposed by the actual development drives or can be fully evaluated with sludge holes where required to check for mineralisation in the immediate hanging wall or footwall.

A summary of evaluation drilling parameters and procedures is as follows:-

- Sub-level drives are mined within the orebodies along strike at 15 m vertical intervals. Drill cubbies are developed every 7.5 m for evaluation drilling.
- Planned hole collar set up information is provided by the geologist. Holes are drilled into the hanging wall and footwall of the development drive to establish the extent of the mineralisation. Holes are normally horizontal and drilled perpendicular to strike. Holes are drilled using an air driven “meter eater” machine with AXT (30.5 mm diameter) core.
- Drilling and core are monitored by the geologist and geotechnician with checking to ensure core obtained attains a recovery of at least 95%. Hole is stopped based on geological observations.
- Hole collar coordinates, azimuth and dip is surveyed (usually when hole is completed, and rig is off the hole using a drill rod inserted into the hole). Hole number is recorded by painting on sidewall.
- Handling and processing of core follows a similar procedure as for exploration core as detailed above. However, for evaluation holes whole core is sampled.
- Core is packed into 1 m long closable core trays as it is recovered from the hole with blocks indicating the depth placed at the end of each ‘run’ for each 3 m drill rod. Core trays are kept secure and guarded against possible mixing.
- All core boxes are transported to the core yard at the end of the drilling shift where their receipt is entered into a log book.
- Core is carefully repacked into 1.5 m long core trays. Drill core is checked as orientated and assembled to ensure that all pieces fit, and that orientation lines are consistent. The drillhole identification number and box number are clearly marked onto the upper left side and face of each core tray.
- Core boxes are laid out in the correct sequence.
- Core recoveries are measured between drill depth markings by the geologist or geotechnician to record the core recovery. The complete length of the hole is metre marked.
- RQD measurements are recorded by the geotechnician.
- Core is photographed dry and wet.
- Logging of core is carried out by the geologist.
- Mineralised zones are identified and selected for sampling. Sample boundaries are marked at 0.6 m intervals in nearly homogeneous mineralised zones. Selective sampling intervals are employed on mineralised units with unique features, e.g. colour, concentration of mineralisation, alteration and mineralogy.
- Whole core is sampled. SG measurements are carried out for each sample prior to bagging and submission to mine laboratory for sample preparation and assay (blanks and CRMs are inserted into the sample sequence at this point).
- On receipt of assays, QAQC is carried out. Information for evaluation holes is both processed digitally (incorporation of all drilling data into database, plotting in Surpac, 3D modelling, evaluation) and plotted manually on the level plans.



- 1:250 scale survey plans are generated as 'base plans' for assay, stope assay and geology plans for each 15 m sub-level.
- Drill assay information is plotted manually on 1:250 scale assay plans for every 15 m sub-level. Assay plans also record the chip and sludge sampling on the surveyed development and are the basis for orebody delineation in conjunction with the geology plans (stope assay plans are generated to show stoping progress and stope assays).
- Geological information for evaluation holes is plotted manually on 1:250 scale geology plans for every 15 m level. Geological plans provide the context of the mineralisation and validation of orebody shapes and structural discontinuities.

## II. FACTORS INFLUENCING THE ACCURACY OF RESULTS

QAQC data prior to 2014 is not available, and thus data from before this period is subject to some degree of uncertainty. However, more recent samples do cover the areas being considered adequately, thus higher confidence samples are also informing the areas informed by lower confidence samples, this assists in reducing the uncertainty in the database.

## III. EXPLORATION PROPERTIES - DRILL HOLE DETAILS

This section is not applicable to the Blanket Mine as it is an operating gold mine with sufficient drillhole data and underground sampling to declare a Measured and Indicated Mineral Resource and Mineral Reserve.

### Item 7 (c) - HYDROGEOLOGY

According to the Blanket Mine geological personnel no hydrogeological studies have been completed at the Blanket Mine.

### Item 7 (d) - GEOTECHNICAL

Prior to 2020, no previous geotechnical work was completed at the Blanket Mine. An investigation into rock strengths was completed, where core of the different rock types was sent to Rock Lab SA for UCS Brazilian disc test, in order to determine the geomechanical properties of various lithologies and the parameters to be applied in the geotechnical model and mine design going forward.

Subsequently, Point Load index (PLi) assessments were introduced on mine, where core from exploration or run-of-mine drilling can be tested to determine the UCS of the rock and an index that will be used to classify geotechnical areas based on the rock PLi.

Rock Quality Designation (RQD) is being determined to assess the quality of the rock and is used as a criterium in the rock mass classification for mine design and blast designs. No specific joint analyses were done on current core and this is an area of improvement that could form part of the analysis going forward where joint orientation, joint spacing, joint roughness and infilling would be used for Rock mass classification.

Blanket Mine has employed a rock engineering consultant as of February 2020 for the required geotechnical inspections and designs of the underground workings. All legal appointments pertaining to rock engineering requirements are in place. The geotechnical model for Blanket Mine is being revised and with this in mind support standards are continually reviewed and rock mechanics recommendations for the current mining operations are in place.

No new geotechnical, or rock engineering work has been conducted for the newly targeted mining areas below 750 m Level. The studies and work associated with these parameters will be addressed by the rock

engineering consultant as data is generated and access is obtained through development. This will further inform the geotechnical model.

## **ITEM 8 - SAMPLE PREPARATION, ANALYSES AND SECURITY**

### **Item 8 (a) SAMPLE HANDLING PRIOR TO DISPATCH**

All sample submissions to the laboratory are accompanied with clear instructions on a Sample Submission Sheet regarding sample preparation and assay methodology. The sample submission sheet contains spaces and selections to accommodate all necessary instructions for the laboratory. Each of the items on the Sample Submission Sheet is discussed below. QAQC procedures are constantly reviewed to ensure the best practices are followed. The sample preparation and analysis procedures outlined below describe the current information handling. All sampling and QAQC data are currently captured into access and excel. Samples are not released by the Geology department to the assay laboratory that do not satisfy all the required procedures. Each Section Geologist is responsible for ensuring that this is done for drilling, channel or sludge samples originating from their underground section. Samples are not accepted for assay by the laboratory if they do not satisfy the QAQC requirements. In the event of such an occurrence, it is reported to the Geology Manager or the Mineral Resource Manager.

### **Item 8 (b) - SAMPLE PREPARATION AND ANALYSIS PROCEDURES**

All samples are analysed by the Blanket Mine on-site Assay laboratory which is not accredited. The process is broadly as follows:-

- The sample is crushed to -10 mm and riffle split to produce a portion of approximately 400 g.
- The 400 g portion is pulverised in a Rocklabs ring mill. Blank samples are run in the pulveriser after every 10 samples for channel chip and sludge samples as per normal laboratory procedure. For evaluation holes after every five samples and for exploration holes after every sample.
- Pulp is measured into a crucible. For drill core samples, a new crucible is used for every sample. For other samples, it is acceptable for crucibles to be used multiple times but discarded when cracked or showing signs of absorbed impurities.
- A 50 g aliquot is used for all drill core samples. A 25 g aliquot is used for channel chip samples and sludge hole samples.
- All samples currently undergo Fire Assay analysis with gravimetric finish.

### **Item 8 (c) - QUALITY ASSURANCE AND QUALITY CONTROL**

#### **Blanks**

Blanks are inserted according to the sample type. For exploration drilling samples, two blanks are inserted for every 36 samples (the number of samples processed in a "batch" at one time in the laboratory). Exploration holes include deep drillholes but also include other surface drillholes. Evaluation Holes are holes which are used to define the limits of the orebody, generally at 7.5 m spacing along strike. The mass of a blank sample needs to be only slightly higher than the weight of the aliquot (50 g for drill core samples and 25 g for all other samples). Blanks are prepared in advance in sealable card packets to avoid any contamination. Blanks are inserted into the batch in random positions in the sequence within a mineralised zone. For samples submitted directly to the laboratory by the samplers (sludge and chip samples for both grade control and evaluation), blanks are currently inserted by the laboratory until a new procedure is in place. The blanks utilised are either a sourced from a local granite or from certified AWS blank standards. The results for the blanks and standards are monitored on a batch by batch basis with the blanks treated separately from the standards.

#### **Standards**





Standards are inserted according to the sample type. For exploration drilling samples, three standards are inserted for every 36 samples (the number of samples processed at one time in the laboratory). The mass of the standard needs to be only slightly higher than the weight of the aliquot (50 g for drilling samples and 25 g for all other samples). Standards are prepared in advance in sealable card packets to avoid contamination. The main purpose of Standards is to check the accuracy of the assay procedure. There are generally three groups of standards - very low grade ( $\pm 0.41$  g/t), low grade ( $\pm 1.74$  g/t) and high grade ( $\pm 2.44$  g/t). All three types of standards are used and are inserted into the batch in logical positions in the sequence within a mineralised zone. The standard is included in the number sequence, is not labelled as a standard and is not recorded as a standard on the sample submission sheet. For sludge and chip samples which are submitted directly to the laboratory by the samplers (samples for both grade control and evaluation), standards are currently inserted by the laboratory. Standards for Drillholes are inserted by the samplers. The results for the standards are monitored on a batch by batch basis and on a standard by standard basis.

### Duplicates

Duplicates are split by the laboratory from pulps as per instructions on the Sample Submission Sheet completed by the geologist. Duplicates are requested for exploration drilling samples only. On the sample submission sheet, the "Sample No." is the sequential number for the duplicate and there will be a gap in the sequence of samples submitted for this duplicate. In the Sample Source column, the number of the sample from which the duplicate is sourced, is recorded. The splitting of a sample is carried out by the laboratory and the split fraction allocated the new sample number for the duplicate.

### I. ASSESSMENT OF RESULTS

A QAQC report for each batch is completed and saved (with the name of the batch) on the server. This report includes graphs showing the results for blanks, standards and duplicates and a short statement concluding whether the results are satisfactory or whether a re-assay is required. QAQC sample data is monitored on a monthly basis to ensure that sample batches with control sample data outside of acceptable limits are re-submitted for analysis in a timely manner.

### Blanks

All blanks with values greater than the detection limit are flagged. A decision is then made by the Geology Manager as to whether to re-assay or not. Results for blanks for all batches are compiled into one table on an ongoing basis, so that the general blank results can be monitored. This is done on a quarterly basis and finalised at the end of every quarter. This is done in MS Excel and includes a table indicating Batch No., Sample No. and Grade (Au g/t), together with a graph depicting the results for all the blanks. If more than one type of blank is used, then this is done separately for each blank. The report is given the name of the particular blank in question followed by the year and the quarter number (e.g. AMIS0439\_2016Q3) and saved on the Mine's computer server.

Sample blank material is comprised of un-mineralised granite sourced from the local area. A threshold of ten times the analytical detection limit (i.e. a threshold of 0.08 g/t) was used to discriminate samples showing evidence of cross-contamination. For 2018 and 2019 31 blanks failed out of 317 total blank samples for this standard. Although some instances of mislabelling of Blanks or Standards has been identified in the past, these poorly performing blanks returned values that did not match any of those of the certified reference material. It was therefore assumed that they were either a result of mix-up between Blanks and mineralised material or resulted from cross-contamination. In addition to the granite, blank standards from Amis have also been utilised for 2018 and 2019.

### Standards



Standards with values greater than two standard deviations are flagged. A decision can then be made by the Geology Manager as to whether to re-assay or not. For all batches, the results for each standard are compiled into one table on an ongoing basis, so that the trend and accuracy of each standard can be monitored over time. This is done on a quarterly basis and finalised at the end of every quarter. This is done in MS Excel and includes a table together with a graph depicting all the results for that particular standard. A separate report is done for each standard. The report is given the name of the standard in question followed by the year and the quarter number (e.g., AMIS0335\_2016Q3) and saved on the Mine's computer server. During the period 2018 to 2019, eight different standards were utilised (Table 7), the standards used are representative of the grade identified at Blanket and are thus suitable for QAQC purposes. The standards are sourced from Greenstone belts in South Africa and Tanzania. Care must be taken when selecting samples to ensure the standards relevant to the expected grade is used, particularly as the grade will differ slightly between orebodies.

*Table 7: Standards Utilised at Blanket Mine from 2018 to 2019*

Standards	Expected value	Count
AMIS359	3.89	5
AMIS420	0.41	13
AMIS440	1.74	695
AMIS441	2.44	607
AMIS473	0.41	223
AMIS492	4	160
AMIS526	1.03	216
AMIS558	5.45	27
AMIS681	0.005	45
AMIS439	0.005	580

The three most used standards for this period are addressed in more detail. For AMIS 526 versus the expected value and 2 and 3 standard deviations, it is recommended that 2 standard deviation be used as a flag to check certain results, while 3 standard deviations constitutes a failure of the batch and requires re-analyses. Significant failures are seen in this standard, this was only utilised in 2018 and not 2019. For these types of results, the batches with failures >3 standard deviations must be rerun, and possibly submitted to an umpire laboratory including the same standard to verify results. This will assist in confirming if this is an inconsistency with the standard or systemic error within the laboratory. For AMIS 526, 43% of the standards passed during 2018.

For AMIS 441 a fair number of failures are also observed. 77% of the samples analysed in 2018 and 2019 for AMIS 441 passed. It is recommended that this is followed up to ascertain the cause of these failures. It must be noted that 2018 had the bulk of the failures for this standard. For 2018 there was a 67% pass rate, and for 2019 an 87% pass rate is seen.

Many failures are seen in 2018 AMIS 440 samples as well. With 34% passed in 2018 and 62% passed in 2019. An improvement is seen with 2019 as with the other standards.

It is recommended that follow up activities are undertaken to identify the source of these failures in the standards and if this results from laboratory procedures or sampling activities. In addition, duplicates of the various stages of the sampling and analyses process can be taken. Field duplicates (in the core yard), course duplicates (following crushing) as well as pulp duplicates (following pulverisation), this will eliminate any sources of contamination or identify the potential problem areas. A bias is seen in 2018 with numerous failures in standards, 2019 results are an improvement with acceptable pass rates of standards. However, 2018 results are still included in the database. Where dense sampling exists (Reserve areas), the effect of this is minimised. However, where a larger area is informed by only one or two drillholes (Inferred or Target



areas), any uncertainty would have a larger influence. For this reason, QAQC procedures should be stricter for exploration holes and any failures in QAQC followed up with re-assays as well as umpire assays. The mine procedures with regards to inclusion or exclusion of samples due to QAQC results must be implemented to ensure these failures are considered during the course of QAQC.

Due to the high sample density the effects of these inconsistencies in results will be minimised, however this accuracy and repeatability of results and standards is most important for exploration areas where one drillhole informs a large area. A focussed study of the QAQC of these exploration holes is recommended.

### Duplicates

Duplicate results are plotted against each other and poor correlations are flagged by the QAQC geologist. Appropriate action is then taken when failures are identified. Results for all duplicates for all batches are compiled into one table on an ongoing basis, so that the overall repeatability of duplicates can be monitored. This is done on a quarterly basis and finalised at the end of every quarter. This is done in MS Excel and includes a table indicating Batch No., Sample No. and Grade (Au g/t), Duplicate No. and Duplicate Au g/t, together with a XY correlation graph showing all of the results for all the duplicates. The report is given the name "Duplicates" followed by the year and the quarter number and saved on the Mine's computer server. A good reproducibility of results is seen between the lower grade samples (<4 g/t), with some outliers and a bias towards a higher grade in the original samples above 4 g/t.

### Umpire Analyses

For exploration drillholes only, 20% of samples from the mineralised zone are resubmitted to a second accredited laboratory, which is currently Performance Laboratory in Harare. Blanks, standards and duplicates are submitted with the batch as per designated allocation for exploration drill core. Duplicates are prepared by the mine laboratory from the pulps prior to dispatch. Samples retain their original number. Duplicates are given a new number but a record is kept linking the duplicate number to the original sample. A report is prepared for each batch showing the results for blanks, standards and duplicates, as well as a report showing the correlation between the results for Blanket Mine laboratory and Performance laboratory.

Separate reports are compiled to assess the results for each of the blanks, standards and duplicates for Performance Laboratory as described above. The results of re-assays by Performance laboratory against Blanket assay laboratory's original assay are scattered and show better performance below 4 g/t.

Of the three standards analysed, one standard passed consistently with both laboratories, while with the other two standards the blanket laboratory plotted outside 3 standard deviations while Performance laboratory plotted within 3 standard deviations, with some failures. Both laboratories performed better with the higher-grade standard and less with the lower grade standards.

It is recommended that due to the number of failures seen in the standards and scatter seen in the duplicates that additional submissions are sent to umpire laboratories of evaluation holes as well. It is also recommended that the Umpire laboratory checks are run more regularly and with a higher number of samples, particularly where a batch fails the second re-analyses in the Blanket laboratory.

### Storage of Pulps

According to mine procedure, pulps are retained for all drill core samples (both evaluation holes and exploration holes). They are collected by Geology and stored at the facility at the Exploration department offices. Pulps are stored in strong, sealed boxes clearly labelled with the drillhole name, batch number and sample numbers.

### **Storage of Coarse Rejects**

Mine procedure is to retain all coarse rejects for all exploration drill core samples. They are collected by Geology and stored at the facility at the Exploration department offices.

### **Item 8 (d) - ADEQUACY OF SAMPLE PREPARATION, SECURITY AND ANALYTICAL PROCEDURES**

This section sets out the opinion of the QPs regarding the adequacy of sample preparation, security, and analytical procedures.

The mine laboratory was inspected by Mr Keith Osburn of Minxcon in 2020 and even though the mine laboratory is not accredited, a high standard is maintained with good level of housekeeping apparent. Standards and blanks are run as part of the routine procedures. Blind checks are done within a batch of a single sample. If any internal laboratory QC fails, the batch is repeated automatically.

In addition, as part of its external verification process the mine laboratory sends samples away to Duration gold laboratory, Zimlabs, Turk mine laboratory and Performance Laboratories (accredited), to test their precision and accuracy. The results of the internal laboratory standards were viewed and are within acceptable limits, with minor failures. An in-house system for sample receipt and sample tracking has been implemented on the mine in 2019. This significantly improves the analytical system and improves accuracy and tracking of samples in the laboratory. The sample preparation methodology is considered adequate for Mineral Resource estimation purposes given the good correlation between planned production grades and actual recovered grades in the plant. A further inspection of the mine laboratory by an independent consultant Mr Jeremy Eliot was conducted in June 2016. Conclusions were similar in that improvements could be made, but, overall, the facilities and processes were of a satisfactory standard.

The analytical procedures employed are appropriate for the orebodies.

## **ITEM 9 - DATA VERIFICATION**

### **Item 9 (a) - DATA VERIFICATION PROCEDURES**

The QPs have reviewed all data types from the sampling stage through to the resource block listing stage for the Mineral Resource manual and electronic data used for digital estimates which feed into the Mineral Resource statement.

Orebody interpretation for active areas (mostly above 22 Level) for Mineral Resource estimation purposes is carried out manually while digital models for the down-dip exploration areas (mostly below 22 Level) are being progressed to the standard required for digital Mineral Resource estimation. This is a phased approach, as for the 2018 estimate, only AR Main and Blanket Sections had Digital Mineral Resource Estimates. For 2020, all orebodies except Sheet and Jethro are estimated digitally (below 22 Level), while the manual proportion is still retained above 22 Level, except for Lima, which is digital in the upper levels as well. Proceeding sections cover this in more detail.

A representative portion of the manual block listings were compared to the original sample sheets and average grade calculation and area and volume calculations were successfully replicated.

In general, there are five types of samples considered at Blanket:-

- channel "chip" samples (evaluation and grade control);
- sludge hole samples (evaluation and grade control);
- grab samples (grade control);
- evaluation drill core samples; and



- exploration drill core samples.

Evaluation Holes are holes which are used to define the limits of the orebody, generally at 7.5 m spacing along strike. All other holes are defined as Exploration Holes. Exploration holes can be what are currently deep drillholes but will also include other drillholes.

#### Database Validation

The database validations and checks were performed on all data received to identify and remove errors where identified. The database per year is summarised in Table 8. The Database summarised by sample type is in Table 9.

Table 8: Sample Database Summarised by Year

Year	Drillhole Count
<1960	36,638
1960-1970	150
1970-1980	61
1980-1990	60
1990-2000	305
2000-2010	518
2010-2020	5,440
<b>Total</b>	<b>43,172</b>

Table 9: Sample Database Summarised by Drillhole Type

Hole Type	Drillhole Count
Channel	27,132
Evaluation	4,098
Exploration	673
Sludge	11,070
Stope	174
Trench	25
<b>Grand Total</b>	<b>43,172</b>

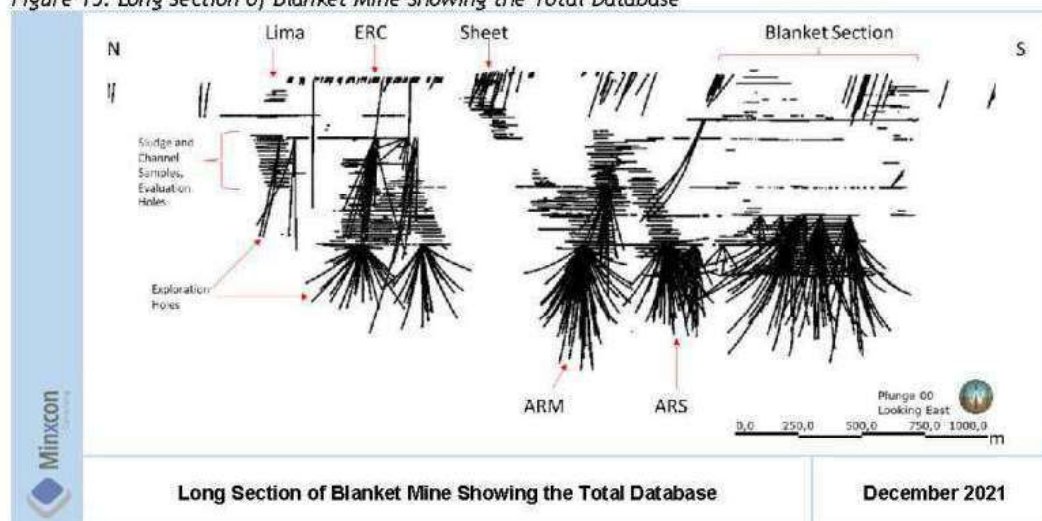
For the purposes of estimation, stope and trench samples were excluded from the database. All other hole types were used. For the assay results, some absent, 0 and -99 values were present. For Mineral Resource estimation purposes, all were assigned as half trace 0.0025 g/t. These all result from illegible entries during data capture (-99), absent or missing samples when capturing (0, absent). Assigning 0.0025 g/t is a conservative approach as it is assigned a low grade that will still form part of the database, leaving the values as absent or missing will allow estimation to occur over this samples position, possibly from a neighbouring high grade sample.

All samples noted here include the total database within and outside the orebodies. The individual samples used and clipped per domain is addressed in proceeding sections. The total database is shown in Table 10, all errors identified could be rectified. The total database for Blanket Mine is shown in Figure 15. Sludge and channel samples as well as Evaluation drillhole are typically in the mining areas, while exploration hole are the longer drillholes used to inform new areas.

Table 10: Hole and Sample Count

Item	BHID	Entries	Errors	Not Usable
Collar	43,172	43,172	-	-
Survey	43,172	11,314	2	-
Assay	36,583	279,903	98	-

Figure 15: Long Section of Blanket Mine Showing the Total Database



#### Item 9 (b) - LIMITATIONS ON/FAILURE TO CONDUCT DATA VERIFICATION

The data capturing process has not been reviewed. The original drillhole logs were not compared to the final access drillhole database due to the historical nature of the database from the various companies. The data as received from Blanket was accepted as received that all available drillholes have been captured and on-site checks pertaining to data capture on the database were performed. However, it is the QP's opinion that the database is reliable for Mineral Resource estimation due to the significant size of the database and the fact that the Blanket Mine has been operating successfully for many years and achieving the expected grades. All relevant QAQC procedures and error checks were performed on the data that was available. Also, the more recent drilling and sampling processes are being conducted using industry best practices.

#### Item 9 (c) - ADEQUACY OF DATA

The QPs deem the data to be adequate for the purposes of conducting meaningful Mineral Resource estimations with appropriate Mineral Resource classification as presented in this TRS. Proof of this statement is validated by the fact that the Mine has operated successfully for a number of years using the current Mineral Resource estimation systems with good historical conversion rates for Inferred Mineral Resources to Indicated and then on to Measured. The QP is of the opinion that the sampling database is acceptable for the Mineral Resource estimation methodology being utilised at the Blanket Mine and for the purposes used in the TRS because of the volume of sampling data from the mining operation as well as the historical reconciliation between the gold called for and the recovered gold which indicates a good correlation.

### ITEM 10 - MINERAL PROCESSING AND METALLURGICAL TESTING

#### Item 10 (a) - NATURE AND EXTENT OF TESTING AND ANALYTICAL PROCEDURES

The plant currently treats RoM from the main orebodies. The ore is free milling, and the mineralogy has not changed to a significant degree. Sufficient information from historic production is required to determine the expected production performance with reasonable confidence.



#### **Item 10 (b) - BASIS OF ASSUMPTIONS REGARDING RECOVERY ESTIMATES**

The expected processing efficiencies are based on historic production, and these are well in line with the budget. The budgeted recovery of 93.5% for 2020 can be assumed to continue and was used for the financial analysis.

#### **Item 10 (c) - REPRESENTATIVENESS OF SAMPLES AND ADEQUACY OF DATA**

The samples measured from historic production are considered reliable and representative. As a result, they can be used to adequately predict future performance.

The QPs are of the opinion the Blanket Mine plant recoveries are well understood as they are based on the actual historical production figures.

#### **Item 10 (d) - DELETERIOUS ELEMENTS FOR EXTRACTION**

The arsenopyrite content of RoM material currently being treated from Blanket Mine is sufficiently low enough not to pose a risk to economic extraction and deposition of tailings.

Blanket ores are free milling in that 93% of the gold is recovered via direct cyanidation with a further 1% achievable with the use of oxygen pre-treatment injection methods. Arsenic therefore reports to the mine residue deposit in the form of undecomposed arsenopyrite, constituting less than 1% of the ore. The ore contains approximately 35% carbonate minerals which results in the tailings having an alkaline chemistry which inhibits the decomposition of arsenopyrite which is not exposed to the atmosphere. Rainwater run-off from the tailings dam is channelled within bund walls to a sump from where it is returned to the plant as makeup water.

Blanket will be undertaking a pilot plant test work programme on the other more-refractory Mineral Deposits not currently being mined which may have a higher arsenopyrite content. Continuous testing and analysing of arsenic and other potential deleterious elements will be conducted as part of this test programme. Appropriate neutralisation steps will be included in the process design as required.

### **ITEM 11 - MINERAL RESOURCE ESTIMATES**

The Mineral Resources were estimated by the QP as at 1 January 2020 based on drilling and sampling data, as well as the mining faces received for the Mine as at that date. The QP has depleted the 1 January 2020 Mineral Resources with updated mining faces to the period ending 31 December 2021. In addition, the Mineral Resource was also depleted with the Mineral Reserve as at 31 December 2021. No new exploration drilling was undertaken during the period; however, underground chip sampling has been undertaken but in well-informed Measured and Indicated areas. The QP deems that this will not have a significant effect on the Mineral Resource grade, and thus deems the depletion to be appropriate.

Manual Mineral Resources are in the process of being converted into 3D digital format.

#### **Item 11 (a) - ASSUMPTIONS, PARAMETERS AND METHODS USED FOR RESOURCE ESTIMATES**

##### **I. MINERAL RESOURCE ESTIMATION PROCEDURES**

##### *i. Geological Modelling*

The construction of the geological models is comprehensively discussed in Item 6 (d) of this TRS.

## ii. Statistical Analysis

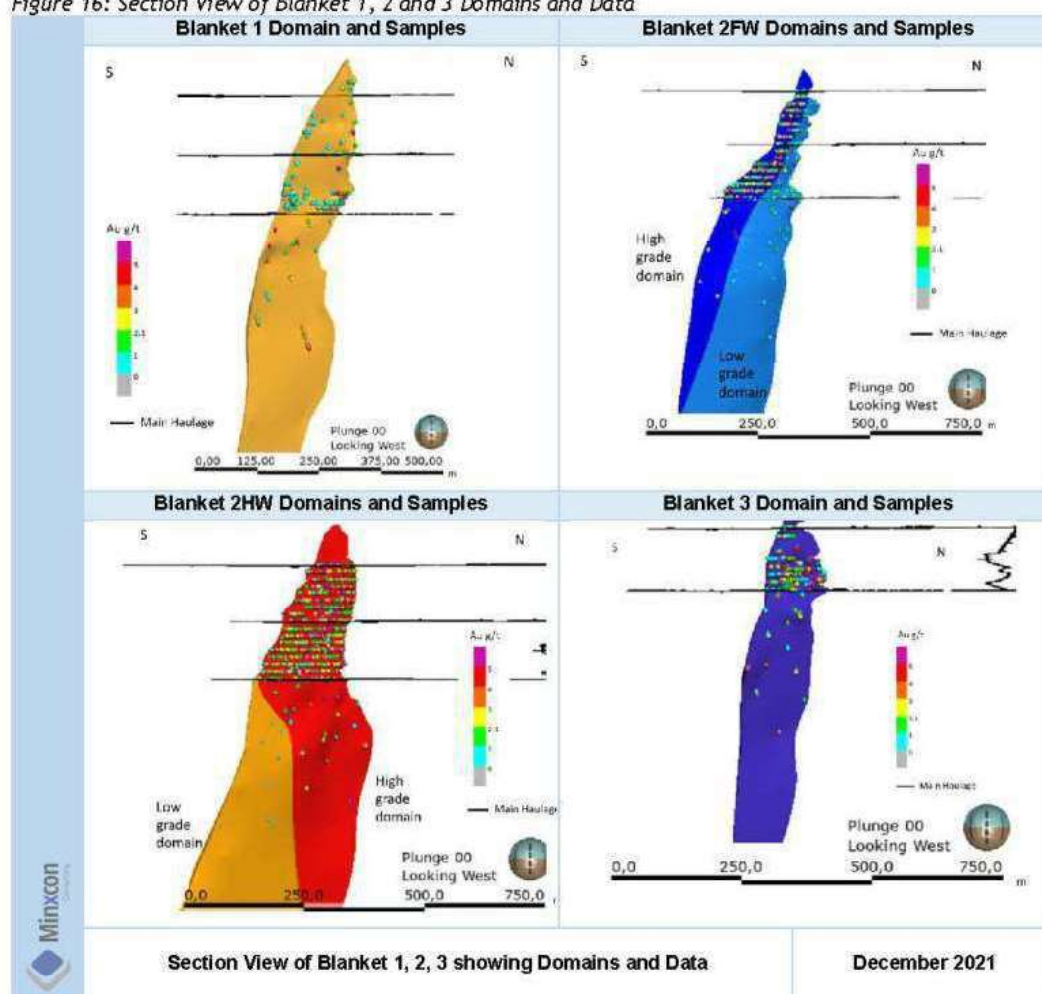
As part of the import into Leapfrog the samples and associated grade inside wireframes and grade outside is compared to display how closely the wireframes honour the data and shows where any possible grade exclusions occur.

## iii. Domaining

The wireframes were checked and imported into Leapfrog for estimation in Leapfrog Edge, a requirement for Leapfrog is that the wireframes are closed and have no cross overs. As part of this exercise all wireframes were verified and corrected so they were closed surfaces in Leapfrog. The domains applied per orebody is detailed below.

Blanket 1 and Blanket 3 have single domains. While Blanket 2 has a FW and a HW orebody both with two domains. These are separated into High grade (“HG”) and Low grade (“LG”) domains (Figure 16).

Figure 16: Section View of Blanket 1, 2 and 3 Domains and Data





Blanket 4 and Blanket 6 occur around the Wenlock fault. Blanket 4 has one domain and Blanket 6 a HW and FW domain (Figure 17). Blanket Feudal occurs in the upper levels of the Blanket section. BQR is divided into a FW and HW unit, and the HW is further divided into a Northern and southern domain based on grade (Figure 18).

Figure 17: Section View of Blanket 4 and 6 Showing Domains and Data

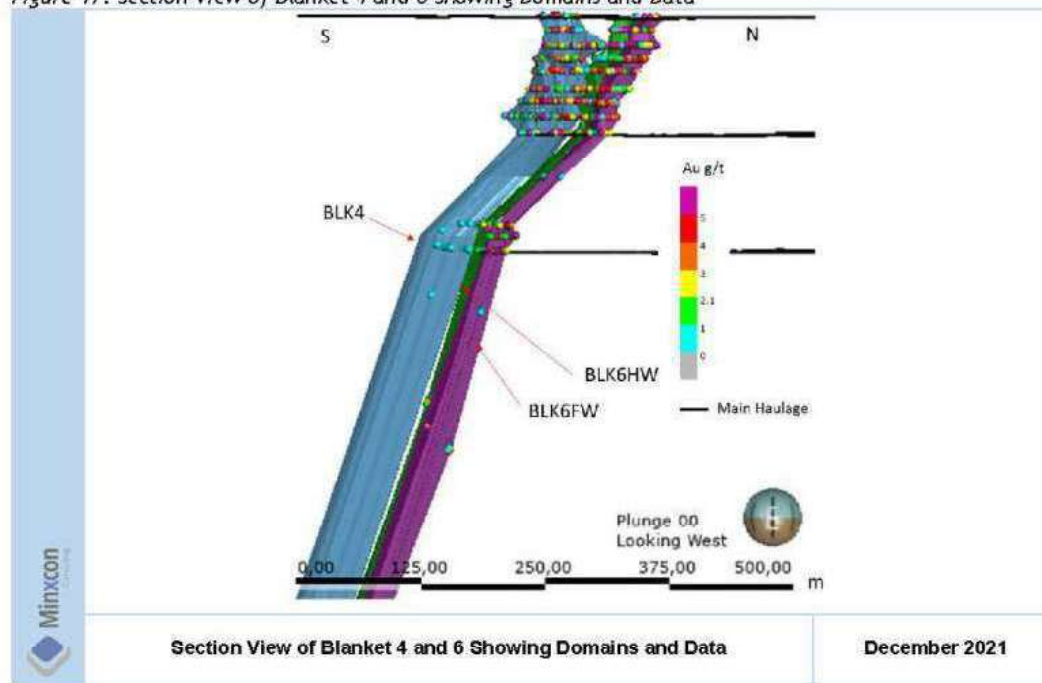
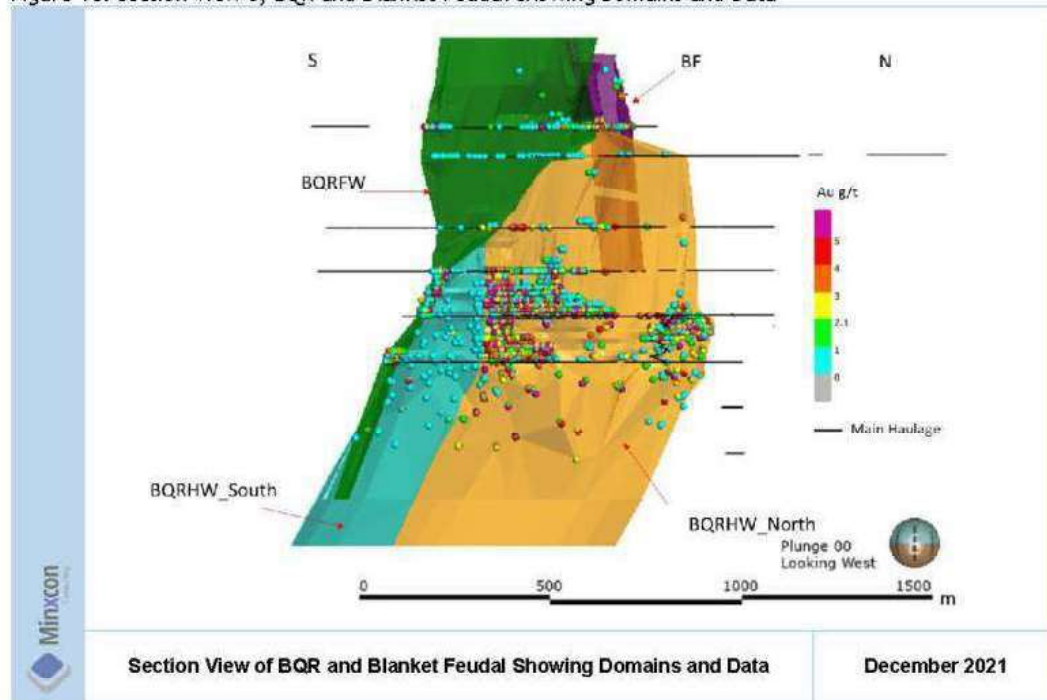


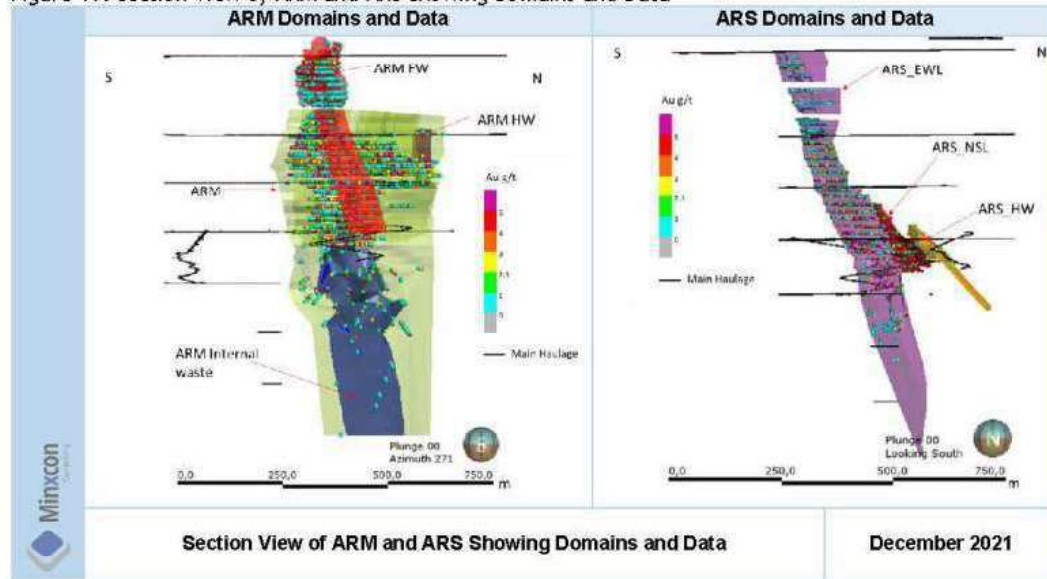
Figure 18: Section View of BQR and Blanket Feudal Showing Domains and Data



ARM contains multiple domains, however due to the digital limit applied to the 3D estimates, only ARM main has been estimated and reported, everything above this reverts to manual estimates. Both the manual estimates and digital limits applied will be discussed in proceeding sections (Figure 19). For the main ARM orebody, an internal waste unit is present, this is clipped out and excluded from the ARM estimate. ARS has three domains, EWL, NSL and HW, all three are estimated separately (Figure 19).

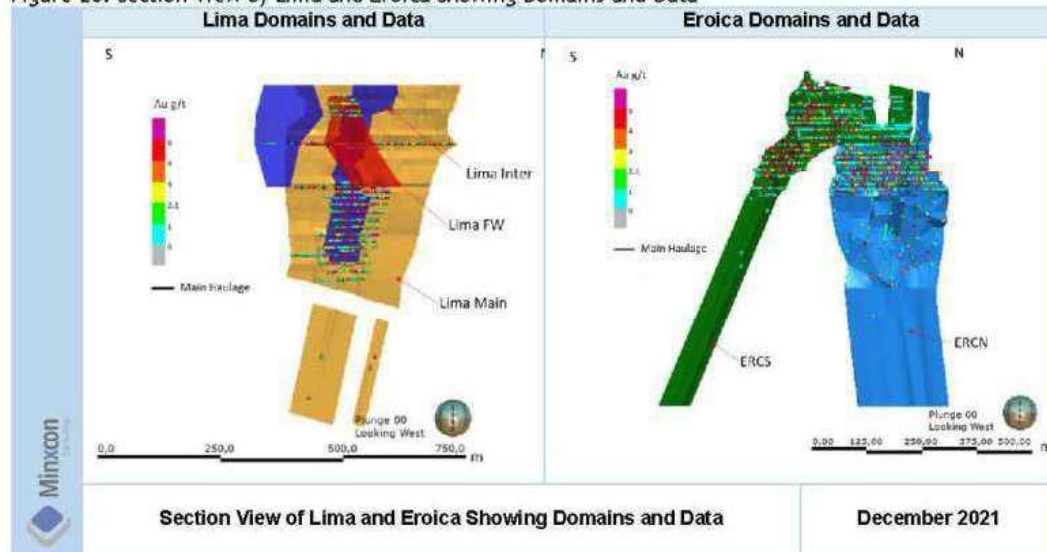


Figure 19: Section View of ARM and ARS Showing Domains and Data



Lima is divided into three domains, Main, Inter-reef and FW, all three domains were estimated (Figure 20). Eroica is divided into two domains, ERCN and ERCS (Figure 20).

Figure 20: Section View of Lima and Eroica Showing Domains and Data



#### iv. Outlier Analysis

Capping is carried out during the kriging stage to limit the influence that the ultra-high grades may have on the estimation of the surrounding areas. Top cuts were applied during the variography stage to prevent the excessive variances of the anomalously high grade from skewing the distribution away from the representative variance of the data distribution. Leapfrog Edge applied a top cut to estimation and a top

cap for variography. For this estimation the same value was utilised for both. In addition, cutting curves are utilised as a test for the value applied for capping / cutting to check the effect the applied sample would have on the total metal within the dataset. Likewise, applying a large percentage of the value to 1-2 samples will guide the definition of the limit applied.

v. *Data Compositing*

Compositing is performed for all orebodies based on the most common sample length. The QPs agree with the compositing strategy employed for the resource estimation dataset. The composite applied was 0.6 m.

vi. *Geostatistical Analysis and Variography*

All variography was carried out in Leapfrog Edge. For ERCN and BQR HW a vertical pitch was specified by the mine geologists, the data continuity as suggested by the data suggested a more inclined pitch, however testing various options showed this change in pitch had a minimal effect on the estimate.

Kriging neighbourhood analysis ("KNA") was undertaken to assess the optimal parameters for estimation in each of the separate domains. Different scenarios of minimum and maximum samples are run and the results plotted to define the estimation parameters for which the highest quality result can be kriged, this quality is measured by Slope of Regression ("SoR"), and kriging variance. The block sizes utilised for parent cell estimation were 3 m in x, 10 m in y and 10 m in z. This block size was chosen based on the requirements to enable an accurate representation of the data. The smaller block size in x was chosen to capture the variability in the shortest orientation of the orebodies. Sub-celling to 1 m was performed on the block models.

At lower search volumes, more samples are available (typically mining areas) and a higher minimum and maximum can be used, while further from the well informed areas, the minimum and maximum samples will decrease to ensure more weighting is applied to nearby samples. An ordinary kriging was employed where possible. Where the estimate did not inform the block model due to an increasing distance from sample data, a simple kriging was employed. A de-clustered mean run with a shifting origin was utilised to determine the mean value per domain where required. The distance from samples and search volume used to inform the block model is reflected in the Mineral Resource Classification.

vii. *Block Model Creation and Grade Interpolation*

Parent cell estimation with sub-celling was applied. The parent cell estimate size was 3 m(x) X 10 m(y) X 10 m(z). With sub-celling down to 1 m to capture the resolution that exists in the geological models. The Y direction is along strike and the Z direction is down-dip, the smallest parent cell size in the X direction (3 m) is orientated along the thinnest direction of the orebody.

For all domains estimated, a variogram could be generated thus ordinary kriging was performed for all estimates. Where the estimate needed to extend far beyond the range of the data a simple kriging was employed. This is detailed per domain along with the estimation parameters employed. Domained estimation with hard boundaries was used for estimation, where only samples falling within the wireframe's extents were utilised in estimation. The QPs utilised Leapfrog Edge software for running the estimates of all domains.

viii. *Bulk Density*

Between May 2016 and February 2020 32,633 SG samples were taken for Blanket Mine. Only the orebodies under review and valid samples (totalling 25,260) were considered. The average for all orebodies is 2.88 and this was applied in tonnage calculations for all orebodies.



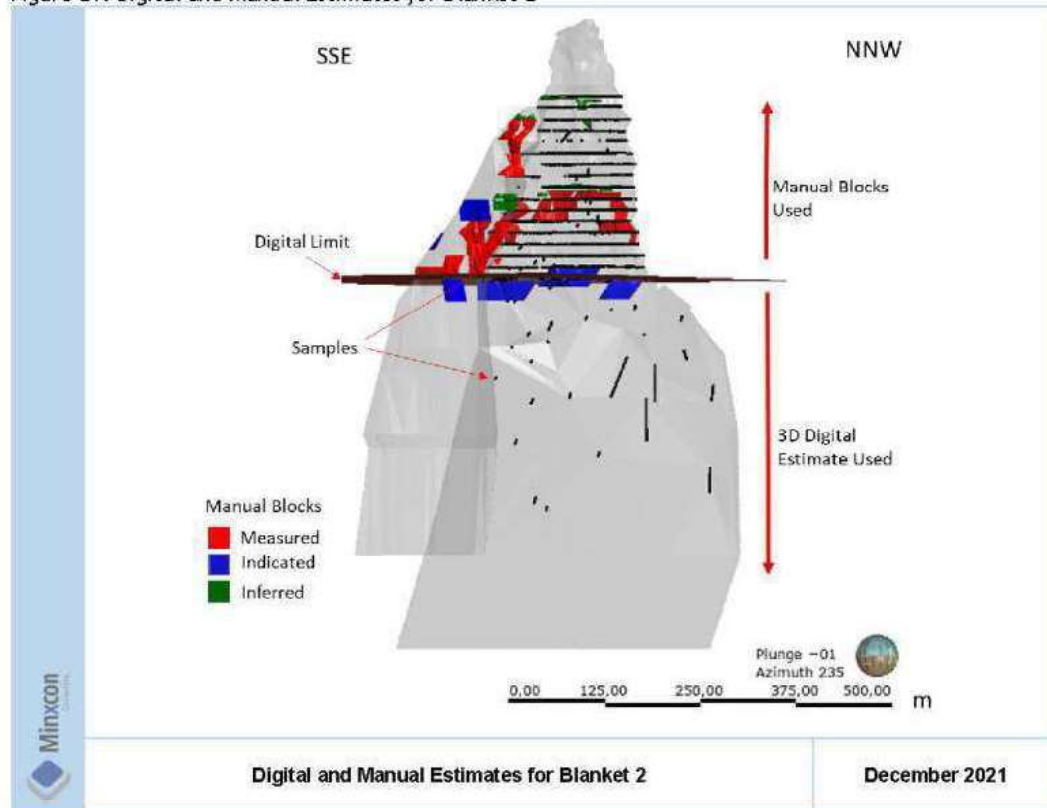
ix. *Grade Estimation*

Digital Estimation in 3D was performed using Leapfrog, in addition manual estimation in some areas was used. The Manual block listing were utilised for the older areas where mining has already occurred, with the exception of Lima, while digital estimates are for the new areas down-dip, typically beyond current mining areas. The level at which digital estimates begin is detailed in Table 11. During the course of 2020, the block listings were digitised and brought into 3D space, this assisted to verify no overlaps were occurring with the digital estimate, as well as no internal overlaps of manual blocks were occurring (Figure 21). The current manual blocks are correct as up to July 2020.

Table 11: Dimensions of Each Orebody Along with Depth from which the Digital Estimate Occurs

Orebody	Strike m	Width m	Depth m	Digital from Level Down	Digital from Elevation down (amsl)
Blanket 1	173	3	-215	22 Level	389
Blanket 2HW	351	3.5	-214	26 Level	269
Blanket 2FW	244	2.7	-215	22 Level	389
Blanket 3	165	3.8	-215	22 Level	389
Blanket 4	35	7	-93	22 Level	389
Blanket 6HW	35	8.2	-91	22 Level	389
Blanket 6FW	34	10.5	-94	22 Level	389
BQR HW	660	3	-215	22 Level - manually edited limit	389- manually edited limit
BQR FW	520	2.5	-94	22 Level	389
BF	390	2.6	508	7 Level	878
ARS NSL	174	15	312	22 Level	389
ARS EWL	147	15	-95	22 Level	389
ARS HW	60	15	229	22 Level	389
ARS Ext	210	4.5	-215	22 Level	389
ARM Main	395	12	-97	22 Level	389
ARM HW	45	12	497	22 Level	389
ARM FW	81	12	383	22 Level	389
Lima Main	285	2	324	Total Digital	
Lima FW	98	2	814	Total Digital	
Lima Inter	235	2	654	Total Digital	
ERCS	105	5	-91	22 Level	389
ERCN	255	5	-92	22 Level	389

Figure 21: Digital and Manual Estimates for Blanket 2



Utilising the assay plans, the grade of each block was calculated by averaging the length weighted grades of all the samples in the bottom and top drives of the block. The area is then measured to get the area per level. The upper and lower level is then averaged and the perpendicular distance between the levels is used to determine the volume. The SG was then used to get the tonnes for the block.

Due to the use of averages, the physical volumes created in 3D differ to the volumes calculated manually. At this stage, the digitally created manual blocks are qualitative only and serve as a check to ensure only relevant blocks are included in tabulations.

In future estimations it is recommended that digital estimates replace all manual blocks. It is possible to estimate the same area covered by all manual estimates in 3D. The potential for errors and overlaps is minimised if all estimates are in the same format. In addition, the lengthy process of checking and comparing all individual manual blocks to the digital estimate will be eliminated. Especially if there is increased confidence in the 3D depletion solids, there is reduced risk in performing digital estimates and accurately depleting the result. Due to the manual blocks being generated as a separate exercise to the 3D depletion solids, there is some minor overlap with the mined-out areas. This is not a significant error, however converting the total estimate to 3D will eliminate any of these overlaps. In addition, mine planning can easily use 3D digital estimates to run mining optimisation, however having separate 3D manual blocks means that a separate exercise needs to be performed to consider these individual blocks for mine planning.

The estimation results were compared visually to the data to confirm continuity between the data and model. All images shown are of the un-depleted models with no additional filters applied. The Lima and



Eroica estimates are shown in Figure 22 and reflect the data well. ARS and ARM orebodies are also shown in Figure 22. The individual orebodies for ARS are shown in more detail in Figure 23.

Figure 22: ERC, Lima, ARM and ARS Estimations

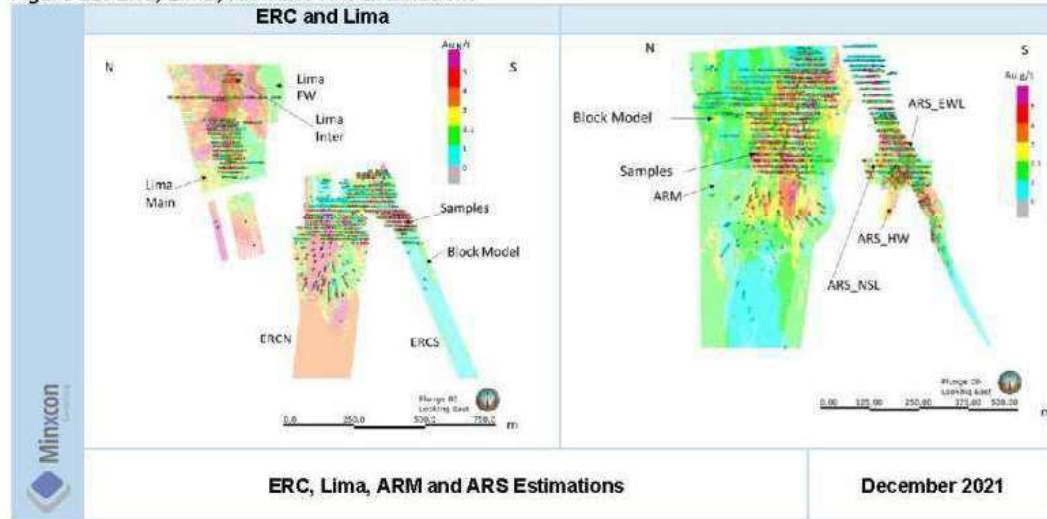
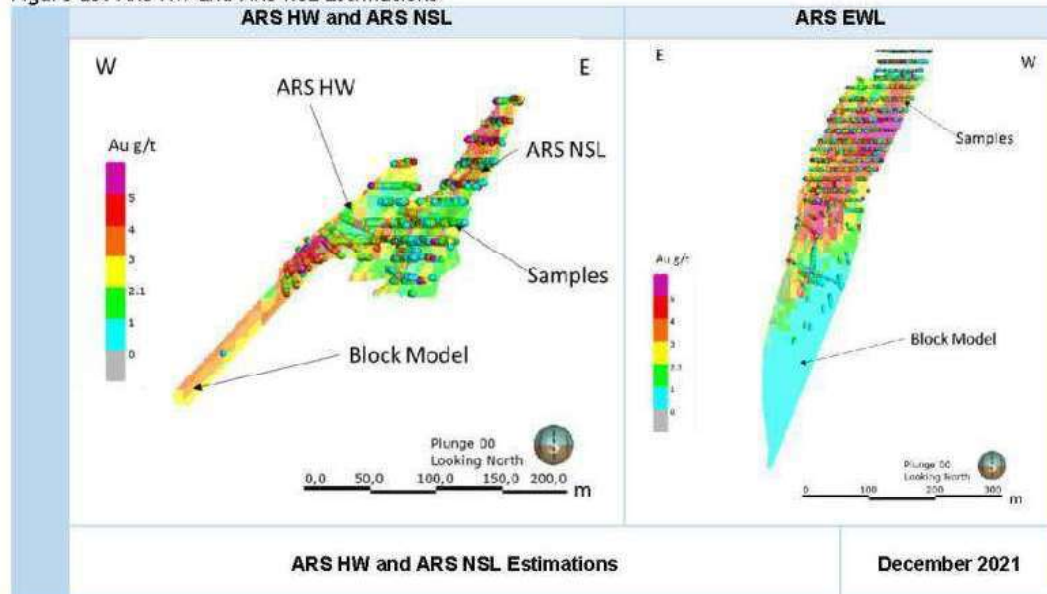


Figure 23: ARS HW and ARS NSL Estimations



The estimations for ARS extension and Blanket 1 are shown in Figure 24. Blanket 2HW and Blanket 2FW estimations are shown in Figure 25.

Figure 24: ARS Extension and Blanket 1 Estimations

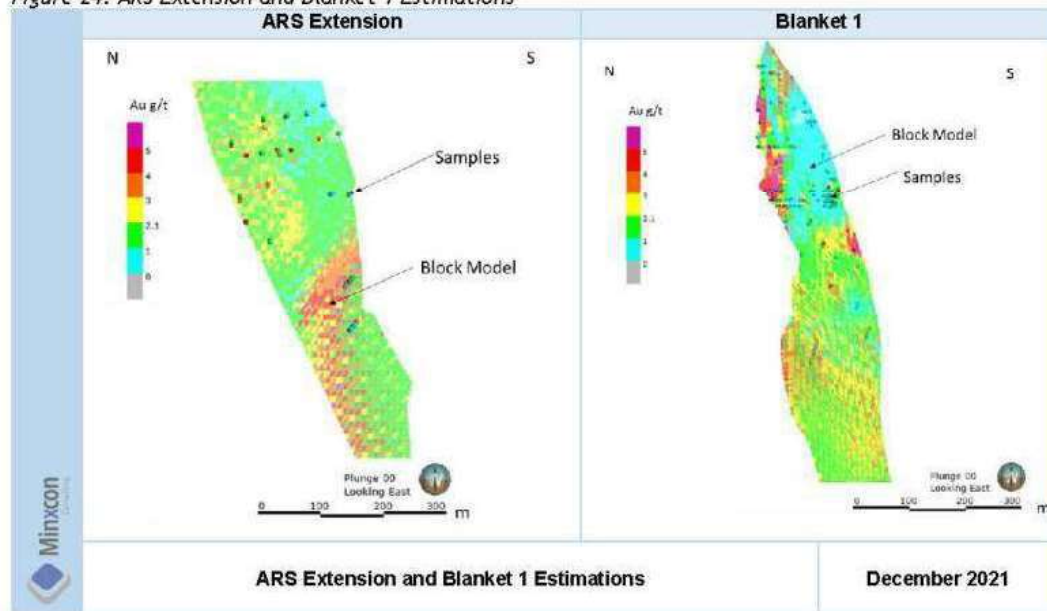
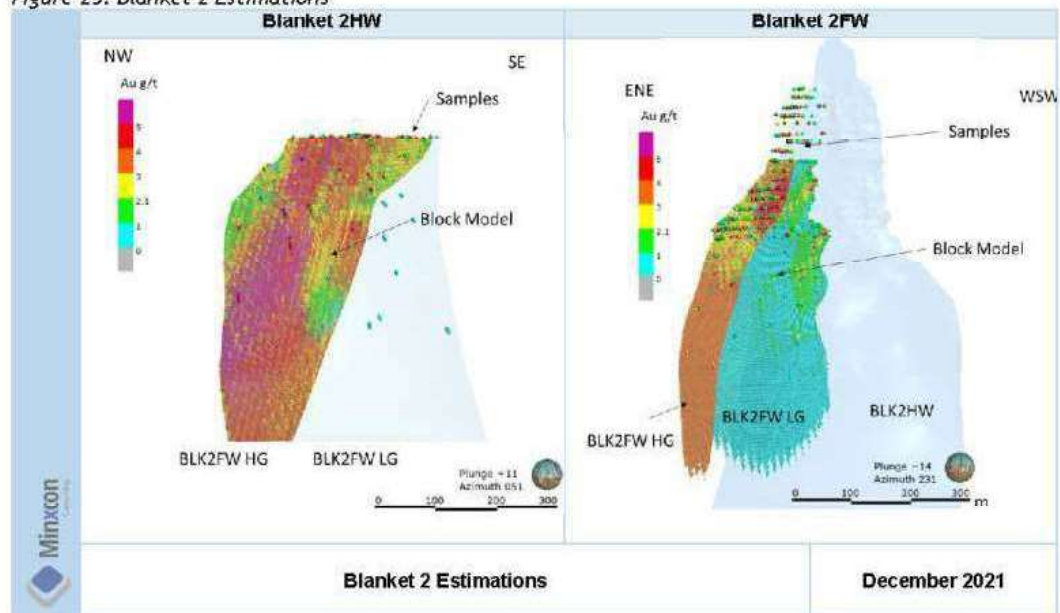


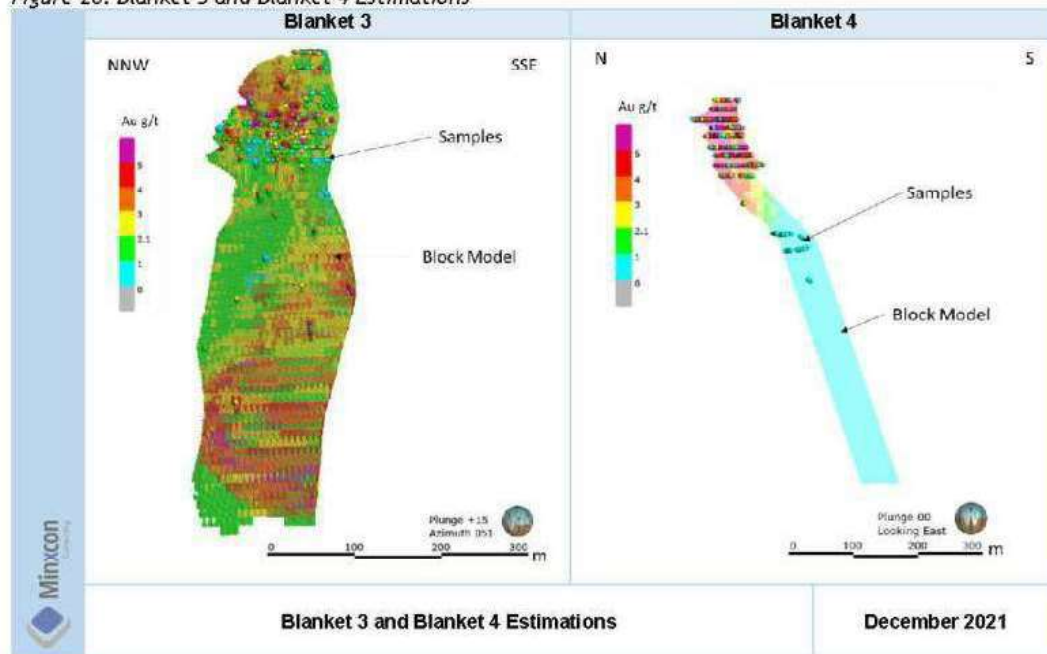
Figure 25: Blanket 2 Estimations



Blanket 3 estimation is shown in Figure 26, with some high-grade intersections down-dip. Blanket 4 is also shown in Figure 26, with lower grades intersected to depth.

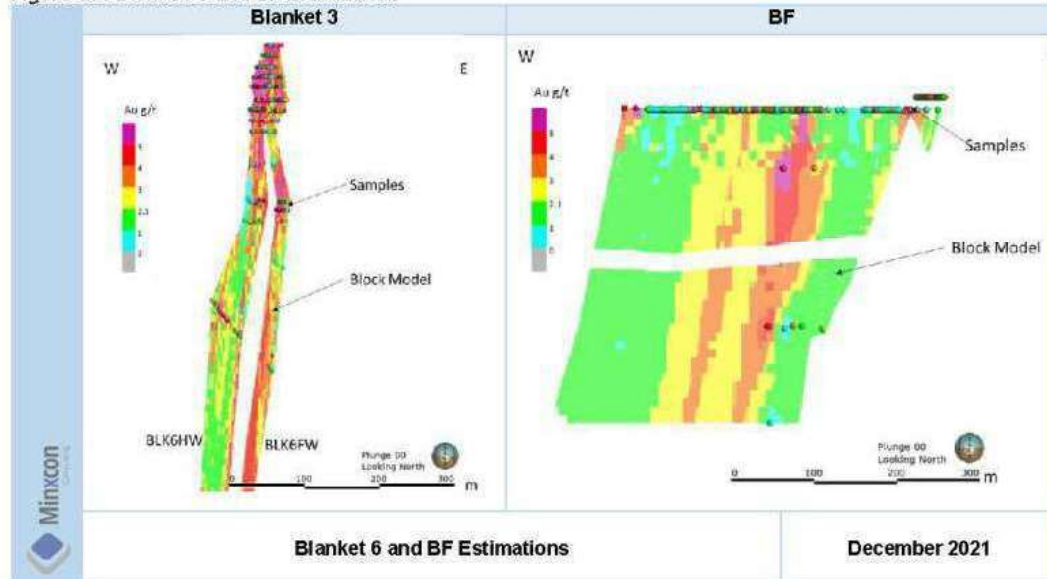


Figure 26: Blanket 3 and Blanket 4 Estimations



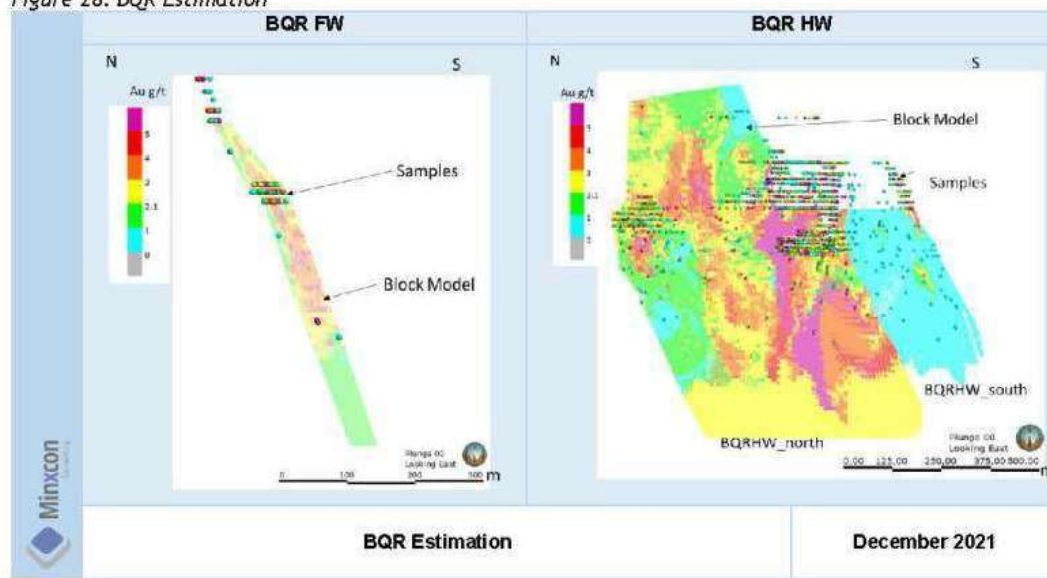
Blanket 6 is shown in Figure 27, Blanket 4 and BQR are closely associated with Blanket 6. The BF estimate is also shown in Figure 27, the domain has many samples higher in the domain and very few at depth.

Figure 27: Blanket 6 and BF Estimations



The BQR estimates are shown in Figure 28. The domaining in BQR HW shows are clear separation into high-grade and low-grade domains.

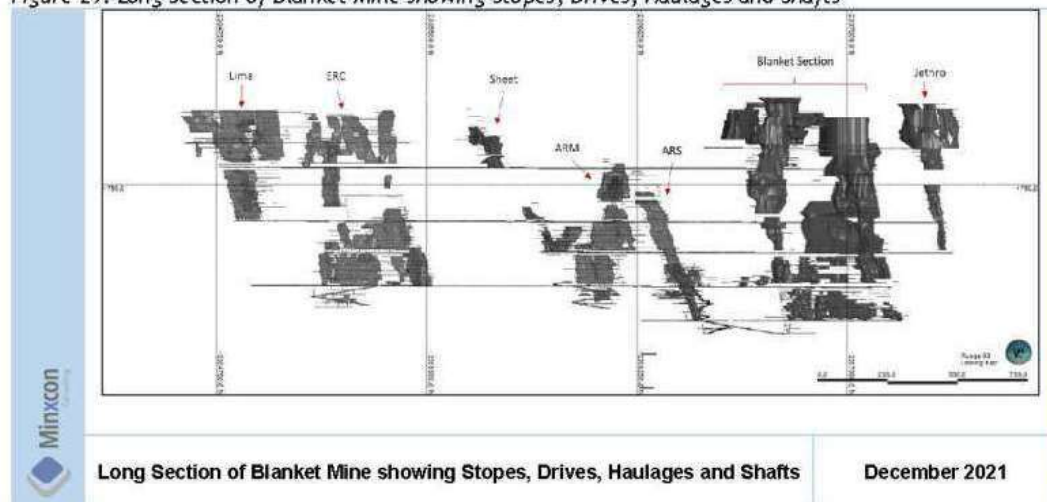
Figure 28: BQR Estimation



x. *Mining Depletions*

Depletions are correct as at 31 December 2021. All haulages, development and stoping is accounted for in the block models and the Resource excluding mining is presented in Mineral Resource tabulations. An image of all stoping and development is shown in Figure 29.

Figure 29: Long Section of Blanket Mine showing Stopes, Drives, Haulages and Shafts



xi. *Block Model Validation*

The purpose of swath plots is to verify the estimate versus the original input data. This is also displayed typically with an additional estimation technique (Inverse distance in this instance), this aids in determining if any variance is due to the estimation technique. Swath plots show the average of the samples versus the



average of the estimate within the same perimeter (swath) that is spaced a regular distance apart. This is repeated in X, Y and Z to get a representative view of the correlation in all orientations of the orebody. For Blanket, swaths in Y are generally across strike and swaths in X are along strike, swaths in Z show down-dip. An inverse distance weighting estimate is compared to show the effect kriging and spatial variability may have had. In all instances the inverse distance weighting and ordinary kriging estimates compare well.

The following are reflected on the swath plot analysis:-

- For ERCN the swaths accurately reflect the data, with good correlation in X and Y directions. For ERCS, very good correlation is seen with the data.
- Lima main shows some smoothing relative to the data, however with good correlation where data is dense. Lima FW shows a good correlation with data, with some underestimation to the edges of the block model.
- The swaths for Lima Inter show a strong correlation in the Z direction, with some smoothing in the other orientations.
- The ARS HW shows a very good correlation with data. The swath plots for ARS extension shows a very good correlation to the data, with some smoothing to the edges of the estimate. In the swath plots for ARS NSL, a very strong correlation to data is seen.
- The swaths for Blanket 1 show some underestimation and smoothing relative to the data, it is noted there are some significant high grades which skew the average for the data, while kriging serves to smooth the effects of these outliers.
- The swath plots for Blanket 2HW HG show a very strong correlation to data in the Y and Z direction. The swath plots for Blanket 2FW LG show some smoothing relative to data, this is due to some higher grades within the low grade domain that skew the data average serves the more smoothed kriged. Swath plots for Blanket 2FW Hg show good correlation in all directions, with some smoothing to the edges of the block model.
- Blanket 3 swath plots show a strong correlation to data.
- The swath plots for Blanket 4 show under estimation in X, however Y and Z are more representative of the direction of continuity and show good correlation.
- Swath plot of Blanket 6HW shows good correlation in Y and Z and some smoothing relative to the data, however good correlation is seen in Y and Z directions.
- Swath plots for BQR FW show some smoothing relative to data, due to some higher grade outliers increasing the average of the grade for the samples. Swath plots for BQR HW north show good correlation in X and Z.
- The swath plots for BQR HW south show good correlation, however where grades in the samples are particularly high, the estimate is smoother.
- The swath plots for BF show good correlation with data, where outliers of grade are seen, the kriged estimate is more smoothed.
- In the swath plot for ARS extension some under-estimation is seen relative to data, however this is due to the small number of data points in the domain, where individual sample points and higher grade would have a greater influence on the average of the samples.

## II. INITIAL ASSESSMENT

The QP undertook an initial assessment of the mineralised body to determine the reasonable prospects of eventual economic extraction ("RPEEE").

Economic, metallurgical and mining parameters were used to derive the cut-offs. The parameters are tabulated in Table 12. The gold price used is the 90<sup>th</sup> percentile of the real term gold price since 1980 while

the total operating cost is the cost supplied by Blanket Mine (USD76/t) with a 10% improvement, for potential operational improvements, for reasonable prospects of eventual economic extraction. The plant recovery and mine call factor are also based on the Blanket Mine historical production figures. Reasonable prospects of eventual economic extraction are based on a 10 to 15 year view for precious metals.

Table 12: Cut-off Derivation Factors

Parameter	Unit	Quantity
Metal price	USD/oz	1 600
Total operating cost (Mining and Processing)	USD/t	68
Dilution	%	8
Plant recovery factor	%	95
Mine call factor	%	100

All underground Mineral Resources are stated at a cut-off grade 1.5 g/t. The QP deems the total Mineral Resource as stated in this TRS to have RPEEE.

### III. MINERAL RESOURCE CLASSIFICATION

Mineral Resources have been reported separately in the Measured, Indicated and Inferred Mineral Resource categories. Inferred Mineral Resources have been reported separately and have not been incorporated with the Measured and Indicated Mineral Resources. Inferred Mineral Resources have a low level of confidence and while it would be reasonable to expect that the majority of Inferred Mineral Resources would upgrade to Indicated Mineral Resources with continued exploration, due to the uncertainty of Inferred Mineral Resources, it should not be assumed that such upgrading will occur.

For classification of Mineral Resources, variogram ranges and density of sampling were used to define Mineral Resource classification. The standardised classification criteria are summarised in Table 13.

Table 13: Mineral Resource Classification Criteria for Blanket Mine

Mineral Resource Category	Criteria
Measured	Within 1 variogram range, Minimum distance to samples $\leq 20$
Indicated	Within 1.5 X variogram range, Minimum distance to samples $\leq 40$
Inferred	Within 3 X variogram range

The minimum distance to samples measures the minimum distance to the nearest samples for a block being estimated. In mined areas this will be very low typically <5-10 m. With this distance to samples increasing outwards from the mining areas. SoR and kriging efficiency were considered together with the other parameters, however for the purposes of standardisation of classification for Blanket Mine were not employed. It was also observed where Slope of regression was suitable for Measured, the density of samples and variogram range corresponded and yield a similar definition of confidence. For the Inferred estimates, the classification was extended to 3X the variogram range, this is suitable for Blanket as down-dip continuity has been proven in mined areas and down-dip in exploration drillholes and continuity is known to continue at depth in Greenstone Gold environments. Confidence in geological continuity is thus suitable for Inferred. All classification results are manually smoothed to create connectivity between blocks and exclude outliers, like an isolated Measured block occurring within an Inferred area.

The Mineral Resource classification for Eroica and Lima is shown in Figure 30. The ARS and ARM classifications are also shown in Figure 30. The classification of the individual ARS orebodies is shown in more detail in Figure 31.



Figure 30: ERC, Lima, ARM and ARS Mineral Resource Classification

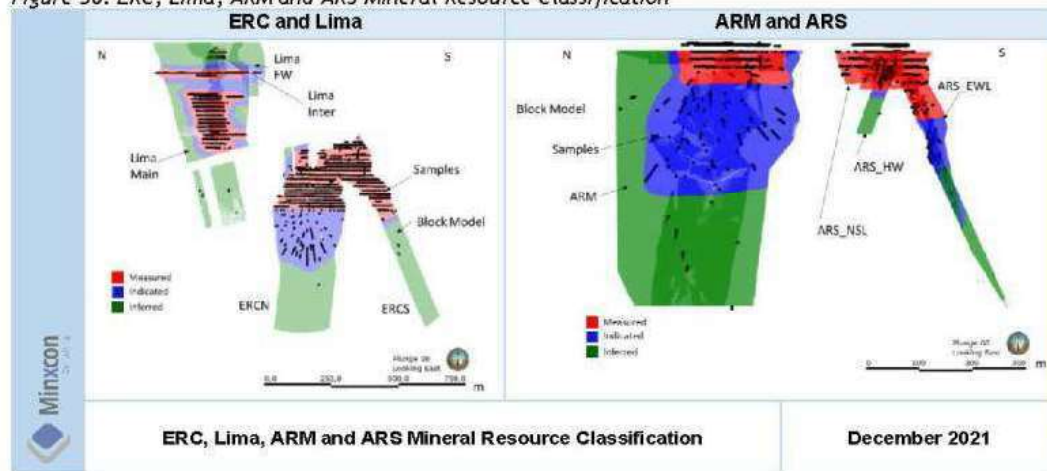
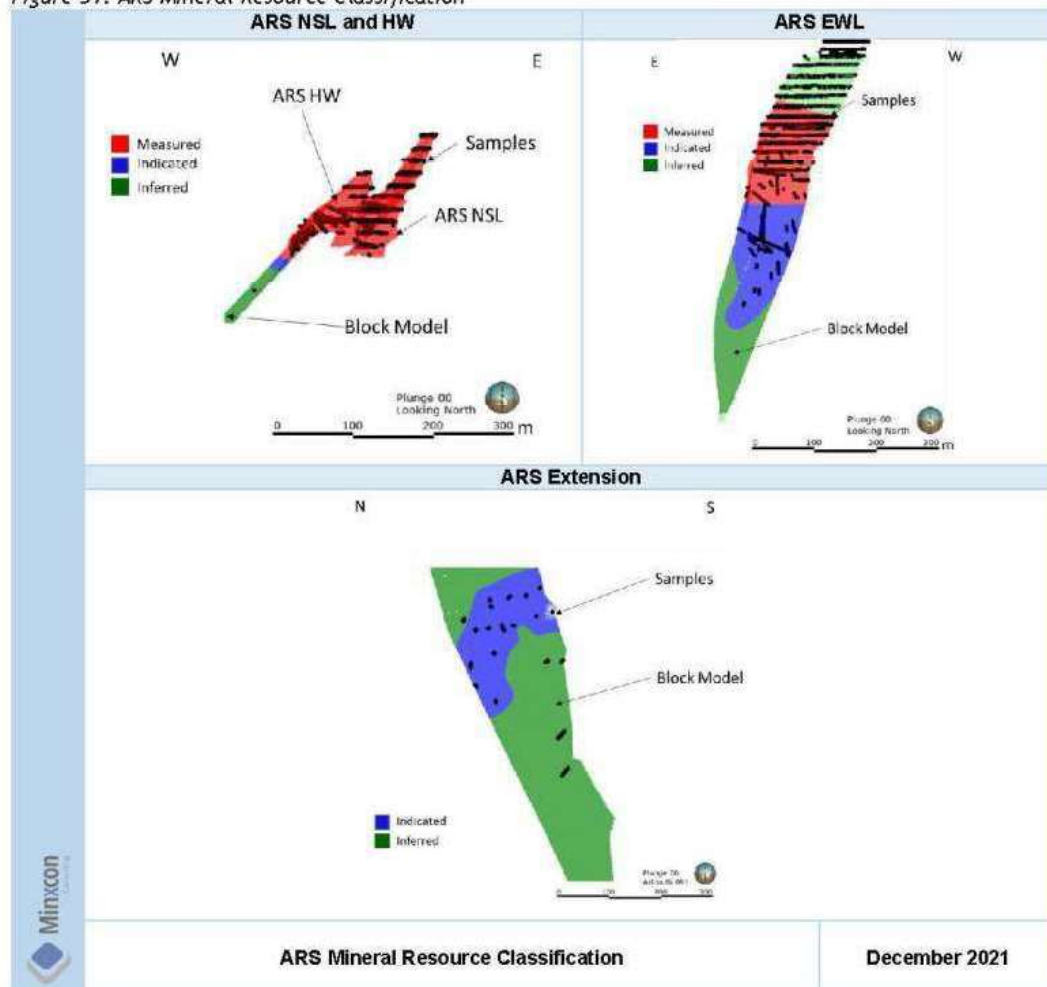


Figure 31: ARS Mineral Resource Classification



The classification applied for Blanket 1 is shown in Figure 32 and for Blanket 2 in Figure 33 .

Figure 32: Blanket 1 Mineral Resource Classification

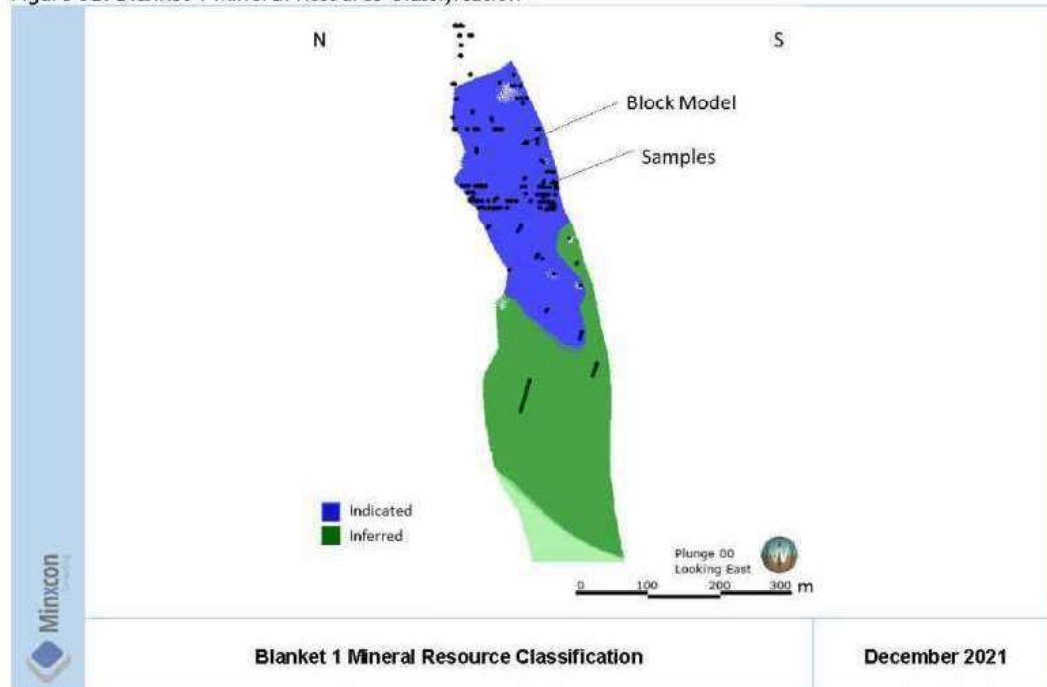
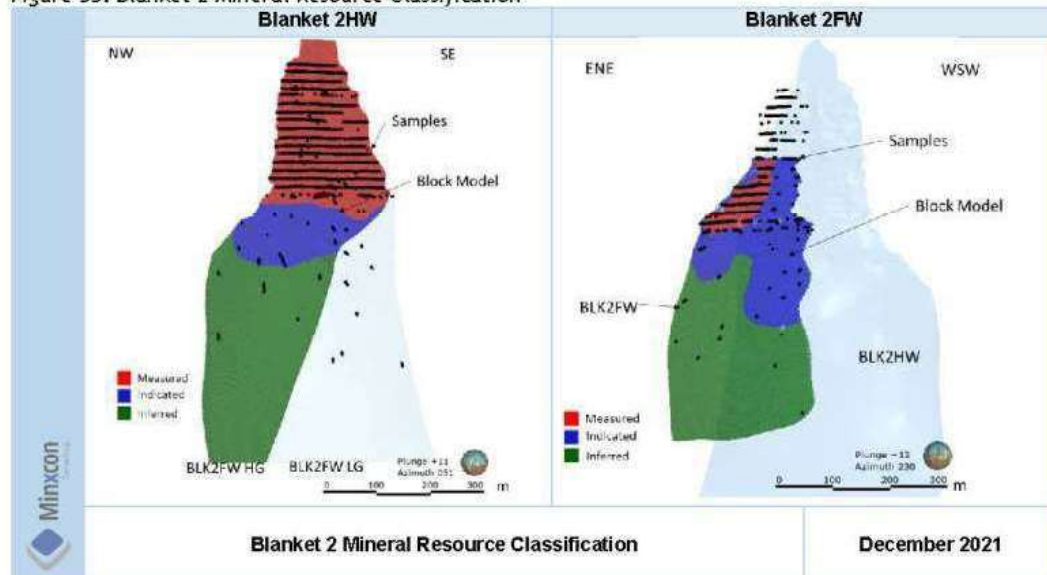


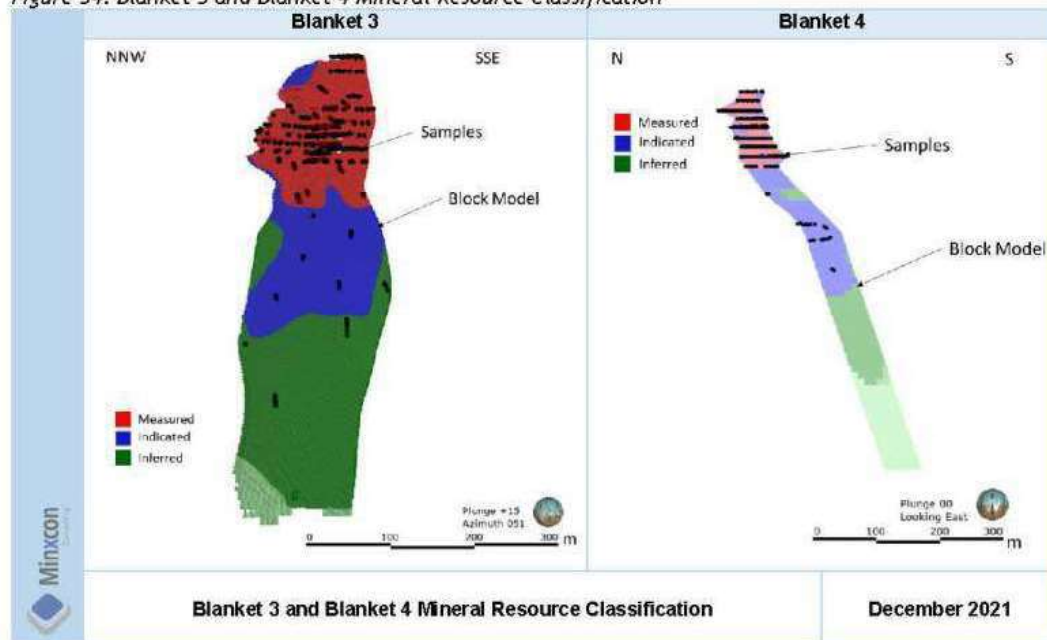
Figure 33: Blanket 2 Mineral Resource Classification



Blanket 3 and Blanket 4 classification are shown in Figure 34.



Figure 34: Blanket 3 and Blanket 4 Mineral Resource Classification



The applied classification for Blanket 6 is shown in Figure 35, and the classification for BQR FW and BQR HW is shown in Figure 36. The classification for BF is shown in Figure 37.

Figure 35: Blanket 6 Mineral Resource Classification

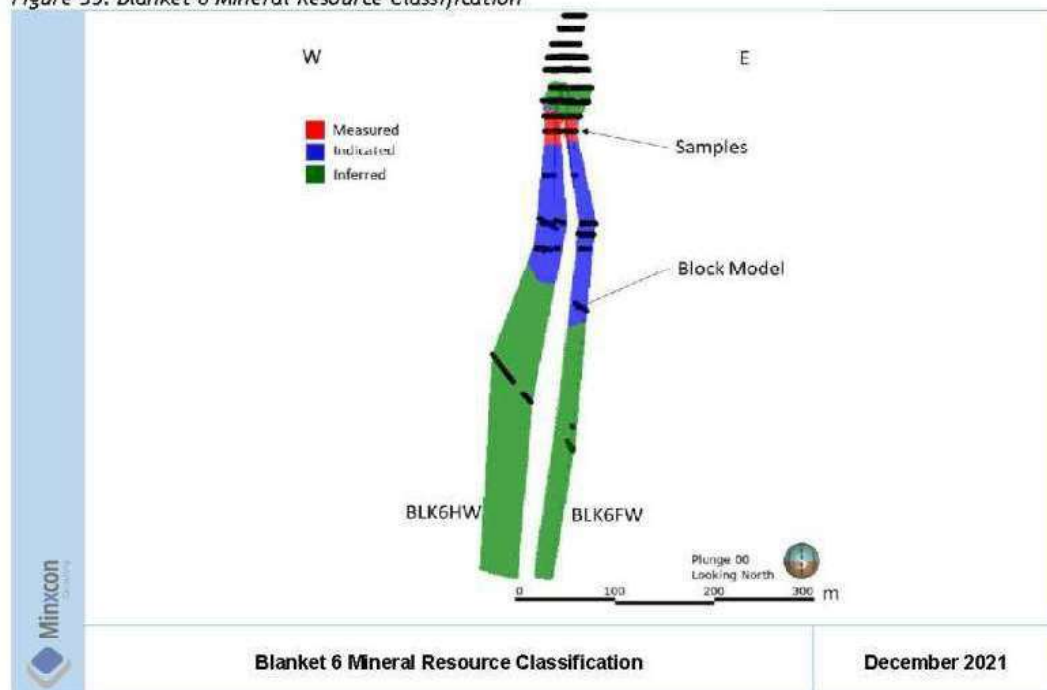


Figure 36: BQR Mineral Resource Classification

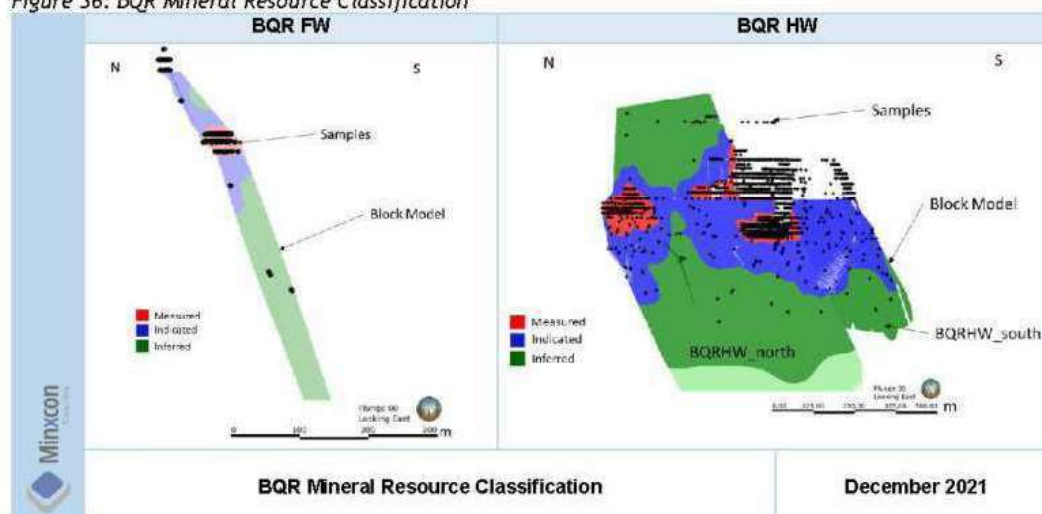
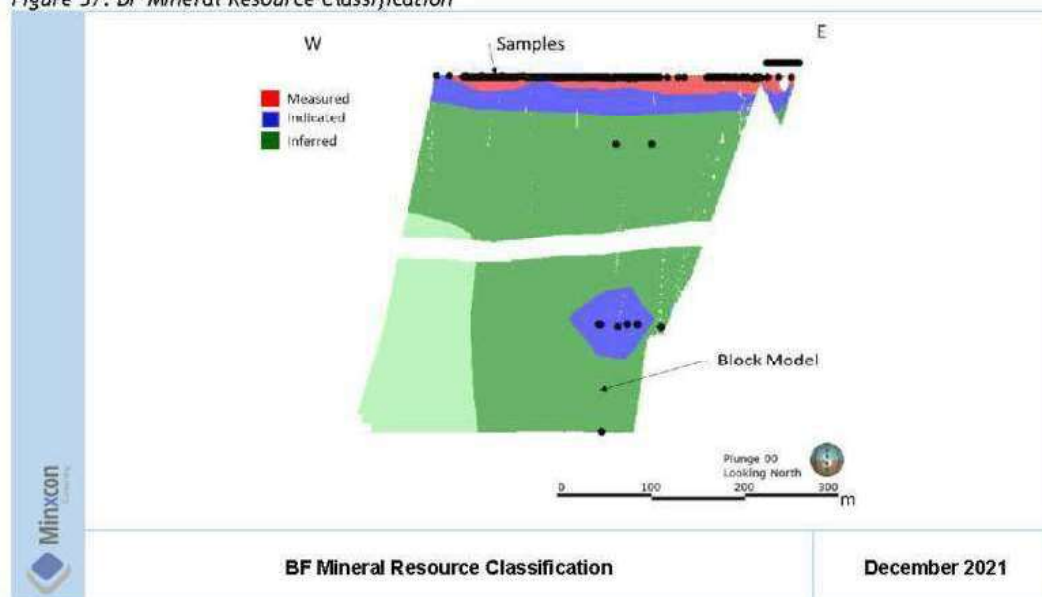


Figure 37: BF Mineral Resource Classification



#### IV. MINERAL RESOURCE STATEMENT

The Combined Measured and Indicated Mineral Resources, inclusive of Mineral Reserves, declared for the Blanket operations are shown in Table 14. The Inferred Resources, inclusive of Mineral Reserves, are shown in Table 15. Mineral Resources are stated as *in situ*.

A cut-off of 1.5 g/t is utilised for all Resource declarations. A geological loss of 0% for Measured and 5% for Indicated and Inferred, in line with the current Blanket Mine practices, has been applied. It is recommended that the geological loss is changed to reflect the respective confidence levels that are reflected by the classification category. The QPs suggest 5%, 10% and 15% for Measured, Indicated and Inferred respectively.



Manual estimates/block listings are included in these tabulations for Measured and Indicated only. The manual Mineral Resources, in terms of content, make up approximately 20% of the Measured and Indicated Mineral Resource.

The mine depletions are based on the mine faces as at 31 December 2021.

**Table 14: In Situ Measured and Indicated Mineral Resources for Blanket Mine as at 31 December 2021 (Inclusive of Mineral Reserves)**

Mineral Resource Classification	Orebody	Tonnes	Au	Content
		t	g/t	Oz
Measured	ARM	190 283	2.83	17 304
	ARS	386 663	3.12	38 770
	BF	10 786	2.90	1 006
	BLK1	1 922	5.76	356
	BLK2	88 397	3.29	9 351
	BLK3	107 125	2.63	9 052
	BLK4	6 365	3.82	782
	BLK6	7 799	3.55	889
	BQR	298 805	3.03	29 138
	ERC	13 130	3.69	1 557
	Jethro	5 198	3.99	666
	Lima	93 037	3.31	9 893
	Sheet	5 989	3.40	654
<b>Measured Total</b>		<b>1 215 498</b>	<b>3.06</b>	<b>119 418</b>
Indicated	ARM	786 707	2.72	68 825
	ARS	315 179	2.71	27 501
	BF	44 360	3.02	4 310
	BLK1	128 300	2.79	11 490
	BLK2	286 026	3.34	30 711
	BLK3	139 802	2.57	11 563
	BLK4	71 891	3.61	8 349
	BLK6	95 190	3.58	10 949
	BQR	741 269	3.40	81 104
	ERC	574 653	3.71	68 483
	Jethro	16 428	3.90	2 060
	Lima	62 712	3.19	6 433
	Sheet	84 310	3.87	10 477
<b>Indicated Total</b>		<b>3 340 827</b>	<b>3.18</b>	<b>342 259</b>
<b>M&amp;I Total</b>		<b>4 562 325</b>	<b>3.15</b>	<b>461 673</b>

**Notes:**

1. \* Manual Mineral Resource estimate from Block Plans only.
2. Cut-off applied 1.5 g/t.
3. No Geological loss applied for Measured, 5% for Indicated and Inferred.
4. Gold price: USD1,600/oz.
5. Mineral Resources are stated inclusive of Mineral Reserves.
6. Mineral Resources are reported as 64% attributable to Caledonia.
7. All orebodies are depleted for mining.

**Table 15: In Situ Inferred Mineral Resources for Blanket Mine as at 31 December 2021 (Inclusive of Mineral Reserves)**

Mineral Resource Classification	Orebody	Tonnes	Au	Content
		t	g/t	Oz
Inferred	ARM	331 425	1.89	20 120
	ARS	278 380	2.68	23 975
	BF	297 519	2.60	24 836
	BLK1	879 307	2.64	74 747
	BLK2	974 983	4.05	126 908
	BLK3	412 612	3.36	44 637
	BLK6	252 085	2.95	23 899
	BQR	1 500 405	3.20	154 499
	ERC	313 242	3.71	37 351
	Lima	178 869	3.73	21 478
<b>Inferred Total</b>		<b>5 418 826</b>	<b>3.17</b>	<b>552 450</b>

**Notes:**

1. Cut-off applied 1.5 g/t.
2. No Geological loss applied for Measured, 5% for Indicated and Inferred.
3. Gold price: USD1,600/oz. This price was selected for purposes of estimating Mineral Resources based on the consensus long-term forecast gold price. See Item 16.
4. Mineral Resources are stated inclusive of Mineral Reserves.
5. Mineral Resources are reported as 64% attributable to Caledonia.
6. All orebodies are depleted for mining.

The Combined Measured and Indicated Mineral Resources, exclusive of Mineral Reserves, declared for the Blanket operations are shown in Table 16. The Inferred Resources, exclusive of Mineral Reserves, are shown in Table 17.

**Table 16: In Situ Measured and Indicated Mineral Resources for Blanket Mine as at 31 December 2021 (Exclusive of Mineral Reserves)**

Mineral Resource Classification	Orebody	Tonnes	Au	Content
		t	g/t	Oz
Measured	ARM	85 823	2.31	6 383
	ARS	219 056	3.10	20 392
	BF	6 455	2.46	511
	BLK1	1 922	5.76	356
	BLK2	16 209	2.73	1 421
	BLK3	44 794	2.17	3 120
	BLK4	1 502	4.75	230
	BLK6	1 751	2.92	165
	BQR	108 753	2.57	8 988
	ERC	7 104	3.93	898
	Jethro	5 198	3.99	666
	Lima	49 394	2.94	4 664
	Sheet	5 989	3.40	654
<b>Measured Total</b>		<b>553 949</b>	<b>2.80</b>	<b>48 447</b>
Indicated	ARM	286 136	2.12	19 515
	ARS	262 126	2.63	22 173
	BF	14 119	1.74	790
	BLK1	106 991	2.52	8 668
	BLK2	95 915	2.95	9 102
	BLK3	109 187	2.55	8 948
	BLK4	12 507	2.63	1 057
	BLK6	20 748	2.85	1 903
	BQR	327 854	2.98	31 439
	ERC	224 200	3.35	24 159
	Jethro	16 428	3.90	2 060
	Lima	24 479	3.29	1 465
	Sheet	84 310	3.87	10 477
<b>Indicated Total</b>		<b>1 585 001</b>	<b>2.78</b>	<b>141 757</b>
<b>M&amp;I Total</b>		<b>2 138 950</b>	<b>2.77</b>	<b>190 203</b>

**Notes:**

1. Cut-off applied 1.5 g/t.
2. No Geological loss applied for Measured, 5% for Indicated and Inferred.
3. Gold price: USD1,600/oz.
4. Mineral Resources are stated exclusive of Mineral Reserves.
5. Mineral Resources are reported as 64% attributable to Caledonia.
6. All orebodies are depleted for mining.

Inferred Mineral Resource inclusive and exclusive of Mineral Reserves remain the same as there are no inferred Mineral Resources included in the Mineral Reserve.



**Table 17: In Situ Inferred Mineral Resources for Blanket Mine as at 31 December 2021 (Exclusive of Mineral Reserves)**

Mineral Resource Classification	Orebody	Tonnes	Au	Content
		t	g/t	Oz
Inferred	ARM	331 425	1.89	20 120
	ARS	278 380	2.68	23 975
	BF	297 519	2.60	24 836
	BLK1	879 307	2.64	74 747
	BLK2	974 983	4.05	126 908
	BLK3	412 612	3.36	44 637
	BLK6	252 085	2.95	23 899
	BQR	1 500 405	3.20	154 499
	ERC	313 242	3.71	37 351
<b>Inferred Total</b>		<b>5 418 826</b>	<b>3.17</b>	<b>552 450</b>

**Notes:**

1. Cut-off applied 1.5 g/t.
2. No Geological loss applied for Measured, 5% for Indicated and Inferred.
3. Gold price: USD1,600/oz.
4. Mineral Resources are stated exclusive of Mineral Reserves.
5. Mineral Resources are reported as 64% attributable to Caledonia.
6. All orebodies are depleted for mining.

### Item 11 (b) - INDIVIDUAL GRADE OF METALS

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

### Item 11 (c) - FACTORS AFFECTING MINERAL RESOURCE ESTIMATES

No socio-economic, legal or political modifying factors have been taken into account in the estimation of Mineral Resources for Blanket Mine. The QPs are not aware of any known environmental, permitting, legal, title, taxation, socio-economic, marketing, and political or other factors that will materially affect the Mineral Resource estimates.

Caledonia has operated the Blanket Mine successfully for several years and understands the Zimbabwean mining environment and as such eliminated any risk to a large degree and hence the QPs are of the opinion that the factors affecting the Mineral Resource have been considered.

All underground *in situ* Mineral Resources are stated at a cut-off grade 1.5 g/t. Current gold price, of circa USD1,950/oz, is substantially higher than the 90<sup>th</sup> percentile of USD1,600/oz used for the cut-off grade. Therefore, there is potential for a lower Mineral Resource cut-off grade which could increase the Mineral Resource.

It is imperative that Blanket Mine proceed with resource conversion drilling to replace the higher grade measured and indicated Mineral Resources that have converted to Mineral Reserves by converting the higher grade inferred Mineral Resources to indicated Mineral Resources.

## ITEM 12 - MINERAL RESERVE ESTIMATES

### Item 12 (a) - KEY ASSUMPTIONS, PARAMETERS AND METHODS

The LoM planning was completed in line with current operational planning to produce 80 koz of gold per year. Only diluted Indicated and Measured Resources in the LoM plan were considered for conversion to Mineral Reserves. LoM as referred to in this TRS is remaining at 31 December 2021.

Inferred Mineral Resources have been excluded from the economic assessment for Mineral Reserve estimates. The LoM plan aims to produce 80 koz of gold per year from Measured and Indicated Mineral Resources only.

The LoM plan was developed utilising the 3D Mineral Resource model, estimates as reviewed and updated by the QPs (Item 11 (a)). The Mineral Resource classifications were incorporated from the 2017 Mineral Resource estimate. The mine design and scheduling utilise the updated 2020 Mineral Resource model.

## I. STOPE SHAPE OPTIMISER

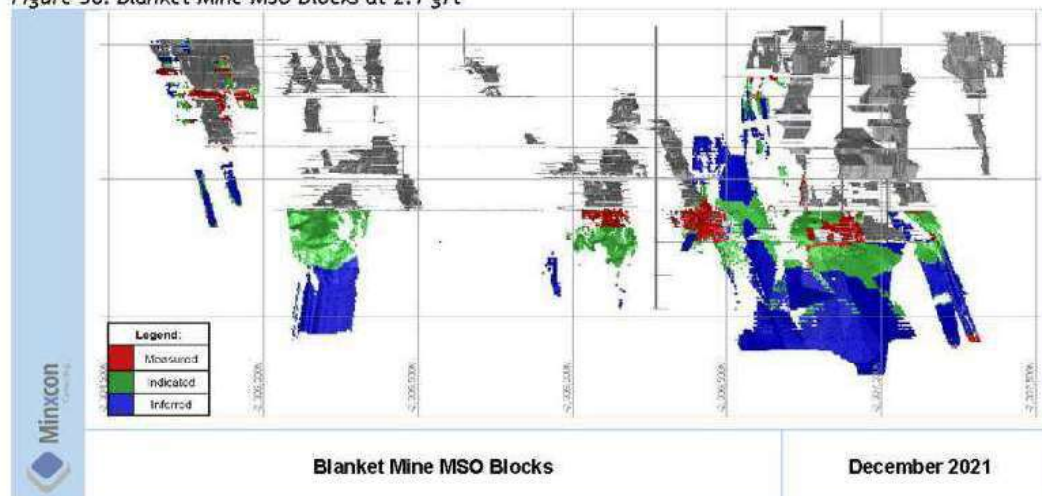
The QPs utilised the Geovia Stope Shape Optimiser (“MSO”) tool which automatically produces optimised stope shapes for a range of underground stoping methods. By providing a set of constraints that detail the mining method and design parameters, MSO provides the optimal stope shape designs to maximise orebody value.

MSO runs were initially performed at a range of cut-off grades from 1.5 g/t to 3.0 g/t in 0.3 g/t increments. The purpose of performing runs at a range of cut-offs is to provide an estimation of the *in situ* stope grade, tonnes and content at the specific cut-off grade. The purpose of the MSO exercise was to establish a basis for comparison between the optimised MSO blocks at a 2.1 g/t cut-off, and the current operational planning of the Blanket Mine.

The outputs produced by MSO were deemed suitable for use in the strategic and tactical planning for the project. The MSO results were used with the objective to determine the economically mineable stope blocks which provide the highest value for the individual orebodies. The mine design has been aligned to the MSO blocks.

The MSO blocks at a cut-off grade of 2.1 g/t is illustrated in Figure 38.

Figure 38: Blanket Mine MSO Blocks at 2.1 g/t



## II. CUT- OFF GRADE

The cut-off grade calculation for the Blanket Mine is detailed in Table 18.



Table 18: Cut-Off Grade Calculation

Description	Unit	Blanket Mine
Gold Price	USD/oz	1300
Dilution	%	8
Mine Call Factor	%	100
Recovery	%	94
Metal price	USD/g	41.80
Total Operating Cost	USD/t	76
Cut-off Grade in Place	g/t	1.94
Reserve Cut-off Grade	g/t	2.10

Blanket Mine utilises a 2.1 g/t planning cut-off grade. The mine design and schedule were completed using the accepted 2.1 g/t cut-off grade.

### III. MODIFYING FACTORS

Mineral Reserve conversion factors are the consideration of mining factors used to convert Mineral Resources to Mineral Reserves. These factors are applied to adjust the *in situ* Mineral Resources in the LoM planning to realistic and accurate mill feed, volumes, and grade. The Mineral Reserve conversion factors applied to the Mineral Resources in the LoM plan, are detailed in Table 19.

Table 19: Mineral Reserve Conversion Factors Summary

Description	Unit	Value
<b>Geological Losses</b>		
Measured	%	0
Indicated	%	5
Inferred	%	5
Exploration Target	%	15
<b>Other Dilution Factors</b>		
Pillar Loss	%	23
Pillar Extraction	%	50
Dilution	%	8
Mine Call Factor	%	100

The following additional factors were considered:-

- Processing and Metallurgical: The conventional CIL recovery method is well proven and has been used consistently on this orebody. The recovery used was 93.5% and no other metallurgical factors are known that may impact the Mineral Reserve.
- Infrastructure: Infrastructure required for the planned production is either in place or planned for. Sufficient capital provision has been made for all planned infrastructure required for the planned production.
- Economic and Marketing: The gold price that has been utilised for the Mineral Reserve estimate is a real term forecast taken as the median of various bank and analyst forecasts. The average gold price over the LoM is USD1,622/oz. An uneconomical tail has been cut from the first negative cashflow year and has been excluded from the Mineral Reserve. The tail contains 25.90 koz of gold but is not economically viable on its own.
- Legal, Environmental, Social and Governmental: There are no legal, environmental, social or governmental factors that are deemed to be classified as modifying factors applied to the Mineral Reserves.

#### IV. MINERAL RESOURCE TO MINERAL RESERVE CONVERSION

All Mineral Reserves have been categorised and reported in accordance with the guidelines of S229.1302(e)(2) of S-K 1300. Only Indicated and Measured Resources in the LoM plan were considered for conversion to Mineral Reserves. Inferred Mineral Resources have been excluded from the LoM plan for economic assessment for Mineral Reserve estimates. Only diluted Measured and Indicated Mineral Resources have been converted into Proven and Probable Mineral Reserves, respectively. Mineral Reserves have been reported separately in the Proven and Probable Mineral Reserve categories. Inferred Mineral Resources have not been incorporated with the Proven and Probable Mineral Reserves.

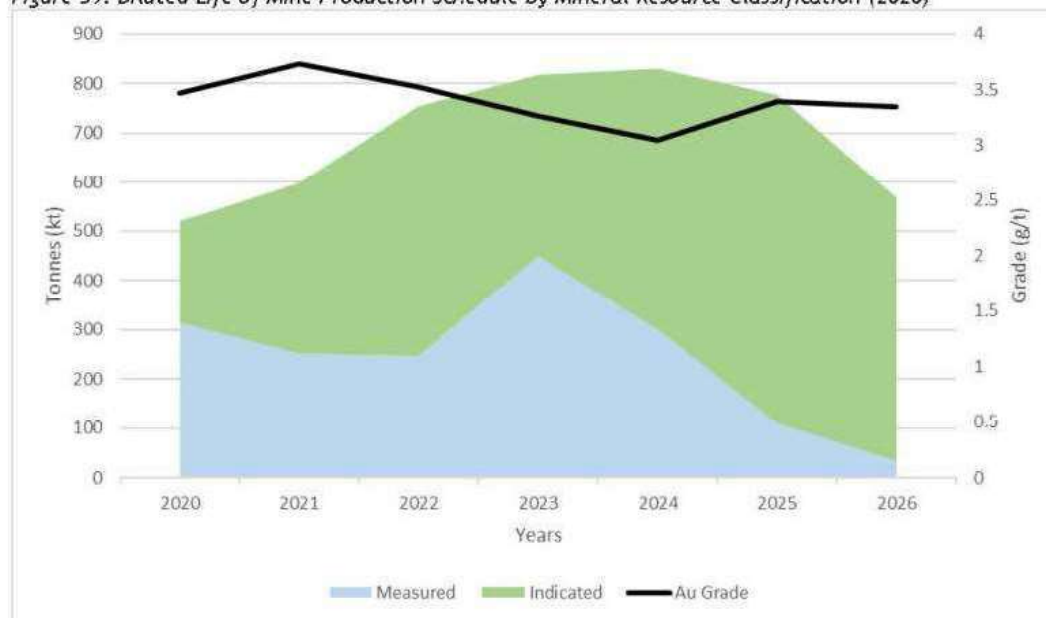
The Mineral Resources as estimated by the QP as at 1 January 2020 were utilised for the updated 2022 Mineral Reserve estimation. The QP has depleted the 1 January 2020 Mineral Resources with updated mining faces to the period ending 31 December 2021.

The depleted Mineral Resources as at 31 December 2021, was utilised with the 2020 LoM plan as detailed in Item 13 (b). The QP utilised the 2020 LoM plan with the depleted Mineral Resources to conduct an updated Mineral Reserve estimation, which accounts for the mining depletions from 1 January 2020 to 31 December 2021.

The 2020 LoM design and mine plan has remained unchanged. No new mine design and schedule was conducted for the Mineral Reserve estimation as at 31 December 2021. Where deviations from the 2020 LoM plan occurred, the schedule was adjusted by manually re-aligning the planned production volumes to the 2020 LoM plan.

The 2020 LoM plan is illustrated in Figure 39.

Figure 39: Diluted Life of Mine Production Schedule by Mineral Resource Classification (2020)



The January 2020 to December 2021 Mineral Reserve depletion is detailed in Table 20.



Table 20: January 2020 to December 2021 Mineral Reserve Depletions

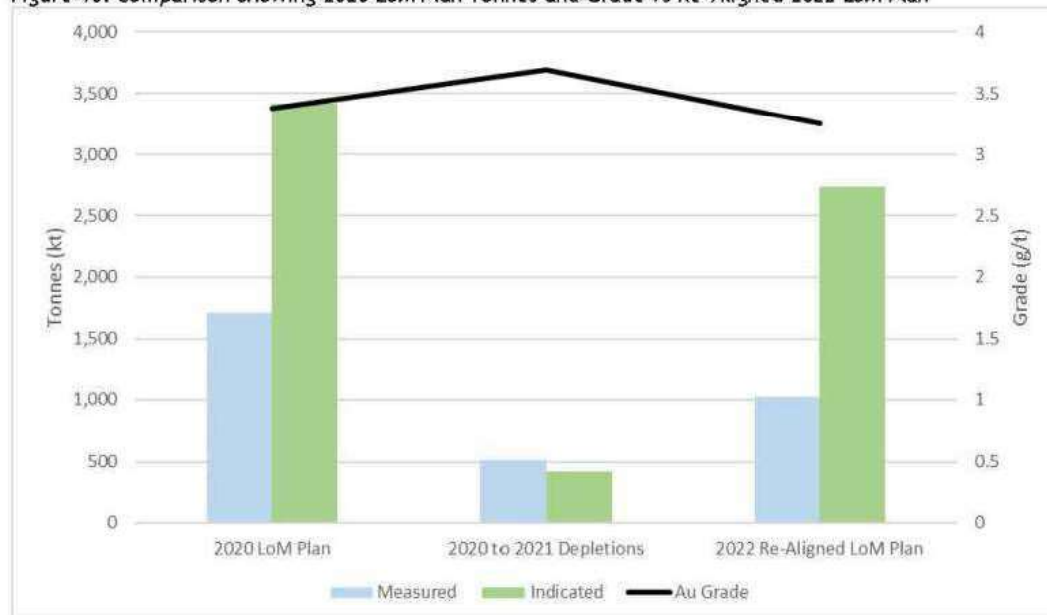
Mineral Reserve Classification	Tonnes	Grade	Au Content	
	kt	g/t	kg	oz
Proven	522	3.41	1,778	57,158
Probable	428	4.03	1,725	55,447
<b>Total</b>	<b>949</b>	<b>3.69</b>	<b>3,502</b>	<b>112,605</b>

Notes:

- The depletions represent all Proven and Probable Mineral Reserves which have been depleted for the period 1 January 2020 to 31 December 2021.

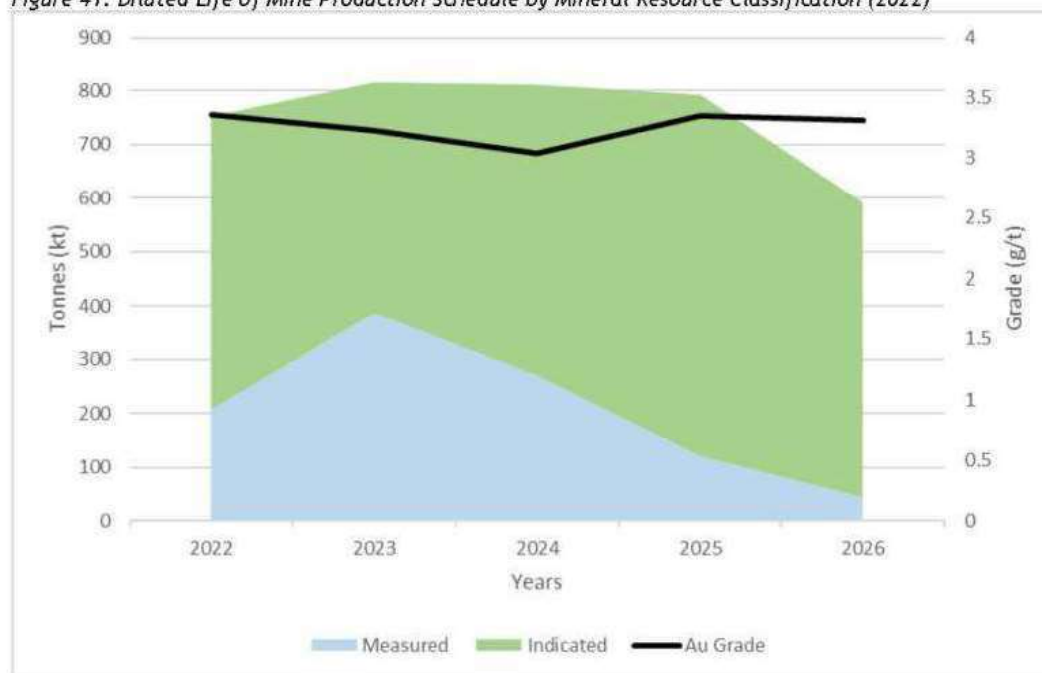
The comparison showing the 2020 LoM plan versus the depletions versus the re-aligned LoM plan, is illustrated in Figure 43.

Figure 40: Comparison Showing 2020 LoM Plan Tonnes and Grade vs Re-Aligned 2022 LoM Plan



The re-aligned LoM plan, excluding the January 2020 to December 2021 depletions, is illustrated in Figure 44.

Figure 41: Diluted Life of Mine Production Schedule by Mineral Resource Classification (2022)



The updated Mineral Reserve estimation as at 31 December 2021, is detailed in Table 21. Mineral Reserves are stated as delivered to plant.

Table 21: Blanket Mine Mineral Reserve Estimate as at 31 December 2021

Mineral Reserve Classification	Tonnes	Grade	Au Content	
	kt	g/t	kg	oz
Proven	656	3.11	2,042	65,651
Probable	1,751	3.30	5,774	185,652
<b>Total</b>	<b>2,408</b>	<b>3.25</b>	<b>7,816</b>	<b>251,304</b>

Notes:

1. Mineral Reserve cut-off of 2.1 g/t applied.
2. The gold price that has been utilised in the economic analysis to convert diluted Measured and Indicated Mineral Resources in the LoM plan to Mineral Reserves is an average real term price of USD1,622/oz over the LoM, using the forecast prices as per Economic Analysis.
3. The Mineral Reserve estimation utilises the depleted 2022 Mineral Resource estimation and the 2020 mine design and LoM plan.
4. Mineral Reserves are reported as 64% attributable to Caledonia Mining Corporation PLC.

Mineral Resources from the Measured and Indicated Mineral Resource Classifications were converted into Proven and Probable Mineral Reserves. The attributable Blanket Mine Mineral Reserve estimate consists of 27% Proven and 73% Probable Mineral Reserves.

## Item 12 (b) - MULTIPLE COMMODITY RESERVE

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

## Item 12 (c) - FACTORS AFFECTING MINERAL RESERVE ESTIMATION

No socio-economic, legal or political modifying factors have been taken into account in the estimation of Mineral Reserves for the Blanket Mine. The QPs are not aware of any known environmental, permitting, legal, title, taxation, socio-economic, marketing, and political or other factors that will materially affect the Mineral Reserve estimates. No material issues have been identified for the Blanket Mine.



The Mineral Reserve conversion factors detailed in Table 19 have been applied to the Mineral Resource for conversion to Mineral Reserves. The classification of Mineral Reserves can be affected by changes in the status of the factors. In particular, the gold price will affect the viability of the mineralised target.

An uneconomical tail has been cut from the first negative cashflow year and has been excluded from the Mineral Reserve. The tail contains 25.90 koz of gold but is not economically viable on its own.

## ITEM 13 - MINING METHODS

Blanket Mine uses two mining methods which are well suited to the nature of the greenstone belt deposits. The orebodies range from generally steeply dipping sheet-like deposits of a few meters in width, to pipe-shaped and massive deposits with widths more than 50 m. The extreme variation within the Blanket Mine mineral deposits, necessitates modification of the exact mining methods that suits the specific characteristics of each mineral deposit. The general practice on Blanket Mine is to implement one of two tailored mining methods, determined mainly by the width of the mineral deposit.

The two mining methods utilised are:-

- Long-hole stoping in wider mineral deposits (orebody widths generally more than 3 m); and
- Underhand stoping in narrow mineral deposits (orebody widths generally less than 3 m).

### I. LONG-HOLE STOPING

Long-hole stoping is used in the orebodies with a width greater than 3 m. Long-hole stoping is a selective and highly productive mining method that provides good ore recovery. The method is flexible and allows for practical modifications to the mining sequence and configuration to suit the characteristics of the orebody. It is an overhand, vertical stoping method utilising drifter machines for long-hole drilling and blasting carried out from sub-levels. Mining the orebody creates a void or “open-stope” that is unsupported, however sill pillars are usually left between the stopes.

To access the orebody, crosscuts are developed from the tramming haulage to the extraction haulage which is located approximately 15 m from the orebody. Drawpoint crosscuts are developed at 15 m intervals along the extraction haulage which provide access to the drawpoints. A twin raise system is developed upwards to establish a slipping point for the development of the sub-drive. One raise serves as an access raise, while the other serves as an orepass to handle ore from the sub-drive development. The twin raise system is developed from one sub-drive to the next for the entire 120 m lift.

Drawpoint raises are established at 15 m intervals along the width of the orebody. A lead angle of 45 degrees is always maintained for the sub-drive development, with the bottom most sub-drive (lead drive) leading. Production faces have a lead angle of 72 degrees with the bottom most production face leading. Mining of the orebody is done in retreat from the one extreme end of the orebody to the other along its width.

Coning is done from the coning level and can only commence once sufficient raises for access and ore handling have been developed and holed into the sub-drive. Once coning starts, the raise can no longer be used as an access way. As a rule of thumb, four cones are established before any production may commence.

Production drilling is done in a retreat fashion from the orebody limit and drilling is done top down with Seco S 36 drifter machines. Depending on production requirements, multiple sub-levels may be mined simultaneously. The orebody width will ultimately determine the width of the stoping panel. Ore will then be extracted from the stope drawpoints via the lower extraction haulage using mechanical loaders. The ore is then loaded onto granby cars for transportation to the station orepasses.

## **II. UNDERHAND STOPING**

Conventional underhand stoping is used in orebodies with a width less than 3 m. This mining method implies that the block of ore is mined. Underhand stoping is particularly suitable for steeply dipping, narrow orebodies and allows for better control of the stoping width and dilution. Stopping preparations commence by mining slot raises at 15 m intervals along the extraction haulage from the footwall of the orebody. Development within the orebody is the same as in the long-hole stoping sections, with the difference being that boxes are mined instead of drawpoints.

Upon establishment of sufficient slot raises, production commences with slipping around the slot raise to establish faces. Mining is done in both directions on strike with one face leading the other. Extreme end raises are equipped to serve as access raises for men and material. The lower level is equipped with boxes at set intervals from which ore will be drawn.

The sequence is repeated and as the stope grows horizontally and progresses downwards, additional raises are developed, and new stopes established to maintain the required production rates. The stope is mined up to the limits of the sill pillars.

## **Item 13 (a) - PARAMETERS RELEVANT TO MINE DESIGN**

### **I. GEOTECHNICAL AND HYDROLOGICAL PARAMETERS**

Blanket Mine has employed a rock engineering consultant as of February 2020 for the required geotechnical inspections and designs of the underground workings. All legal appointments pertaining to rock engineering requirements are in place. The geotechnical model for Blanket Mine is being revised & with this in mind support standards are continually reviewed and rock mechanics recommendations for the current mining operations are in place.

No new geotechnical, hydrological, or rock engineering work has been conducted for the newly targeted mining areas below 750 m Level. The studies and work associated with these parameters will be addressed by the rock engineering consultant as data is generated & access is obtained through development. This will further inform the geotechnical model.

### **II. UNDERGROUND ACCESS, ORE FLOW AND MATERIAL HANDLING**

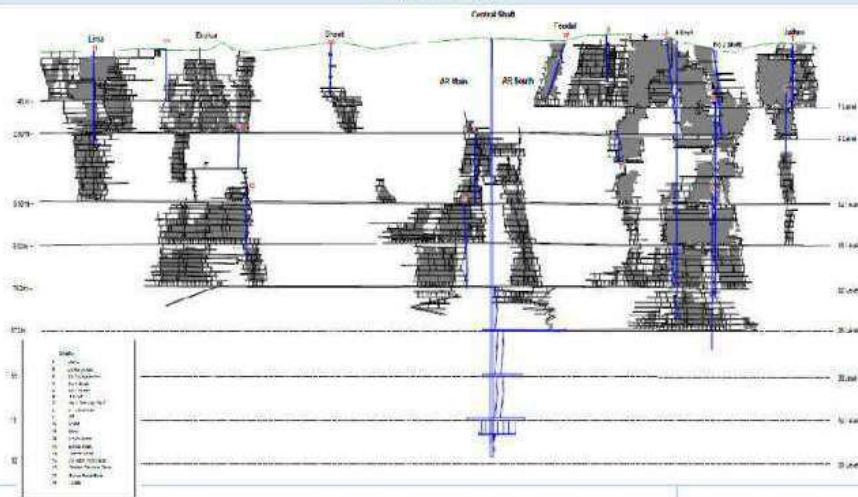
The Mine consists of several small shafts that provide access to the various orebodies in which mining operations take place. With CMS being completed and providing access to Mineral Resources from 750 m Level up to 1,110 m Level and beyond, mining activities will be focused on Mineral Resources below 750 m Level. Production below 750 m Level is planned to be accessed through declines from the respective mining areas. The hoisting capacity and current utilisation of the shafts are detailed in Table 22. The Blanket Mine shaft infrastructure is illustrated in Figure 42.



### Plan View



### Section View



### Blanket Mine Shaft Infrastructure

December 2021

Table 22: Shaft Utilisation and Hoisting Capacity

Shaft	Access Description	Utilisation	Hoisting Capacity
Central Shaft	Surface to 35 Level	Ore, men and material	2 x 10 tonne skips
No. 4 Shaft	Surface to 825 m Level	Ore and material	2 x 6 tonne skips
Jethro Shaft	Surface to 7 Level	Men and material	Single deck cage
Lima Shaft	Surface to 8 Level	Ore, men and material	1 x 1 tonne skip
Incline Shaft	Surface to 7 Level	Ore	1 x 2 tonne skip
5 Winze	7 Level to 22 Level	Men and material	Double deck cage
Eroica Shaft	14 Level to 675 m Level	Ore, men and material	1 x 1.5 tonne skip
No. 6 Shaft	22 Level to 900 m Level	Ore, men and material	2 x 3 tonne skip

### III. VENTILATION

The Blanket Mine is ventilated by an ascensional ventilation system. In an ascensional ventilation system, intake air is directed to the lowest active mining level and the air then ascends along the working faces to the main returns by means of fans.

The ventilation intakes are located in the southern part of the Mine and consist of the Jethro, Number 4, Main and Feudal Shafts. The air is directed to the respective ventilation districts by means of fans and is returned in the northern part of the mine via the Sheet, Eroica 1 and 2, Eroica Raise Bore, Lima and Lima North Shafts.

Central shaft is currently isolated from the rest of the mine with respect to ventilation. Significant changes to the ventilation layout and air quantities are expected when CMS will be connected to the Mine. The connection of Central Shaft to other mining areas will require a new ventilation strategy which also allows for the planned expansion in mechanisation.

Blanket Mine employs a ventilation consultant to advise on changes in the ventilation strategy and design.

### Item 13 (b) - PRODUCTION RATES, EXPECTED MINE LIFE, MINING UNIT DIMENSIONS, AND MINING DILUTION

#### I. SHIFT CYCLE

The Blanket Mine operates on a planned 29-day average production cycle. The actual production days may vary from month to month and are mainly dictated by the public holidays in each month. Drilling and blasting operations are conducted on dayshift (8 hours) while nightshift (12 hours) conducts cleaning operations. Tramming is conducted on both morning and night shift.

#### II. PRODUCTION RATES

The planned development rates for the Blanket Mine is detailed in Table 23.

Table 23: Blanket Mine Development Rates

Development Type	Unit	Value
Conventional	m/month/crew	50
Mechanised	m/month/rig	60

Concurrent development on 30 Level and 34 Level has been planned. Development from the shaft towards the various orebodies on 30 Level will be done with drill rigs drilling two ends per rig per day, while development on 34 Level will be done conventionally.

Blanket Mine plans to produce 80 koz of gold per year. The LoM plan reflects 80 koz of gold production from Mineral Reserves only. The planned production rates from the different orebodies are detailed in Table 24.

Table 24: Blanket Mine Production Rates

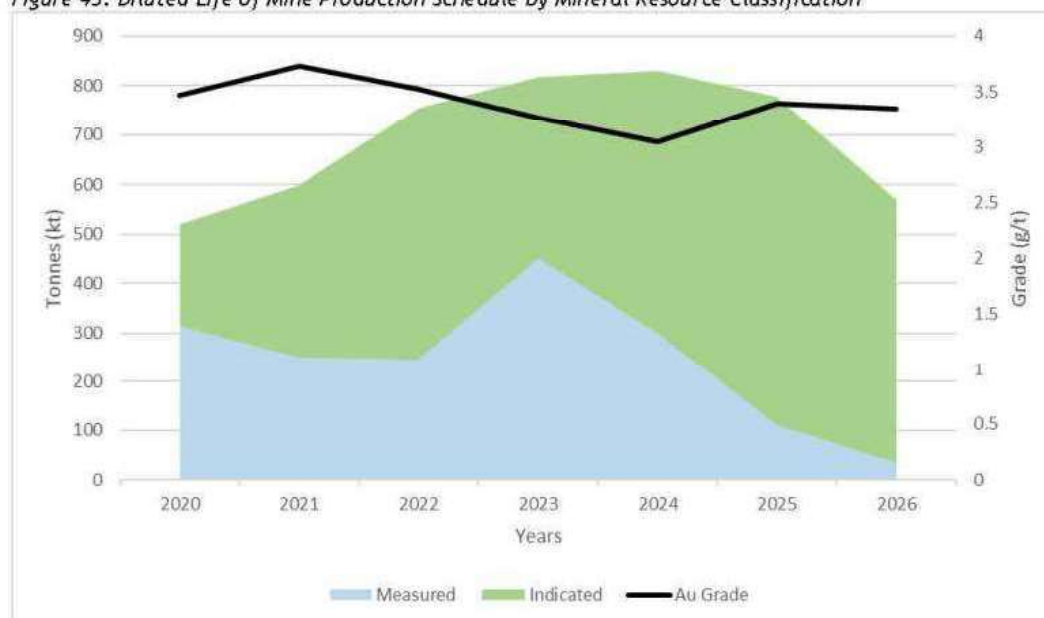
Orebody	Unit	Value
Blanket	tpd	490
ARM	tpd	540
ARS	tpd	480
Eroica	tpd	280
Lima	tpd	280

### III. LIFE OF MINE PLAN

The Blanket LoM plan commences in 2020. The LoM plan includes Measured, Indicated and Inferred Mineral Resources, however only diluted Measured and Indicated Mineral Resources in the LoM plan were considered for conversion to Mineral Reserves. A LoM of seven years from the beginning of 2020 is expected for the Blanket Mine.

The mining strategy targets primarily the Mineral Resources below 750 m Level. Mining in the Lima orebody targets Mineral Resources above 750 m Level. In the ARS East West Limb, Blanket and Blanket Feudal orebodies, some mining will take place above 630 m Level. The diluted production schedule for the Blanket Mine is illustrated in Figure 43.

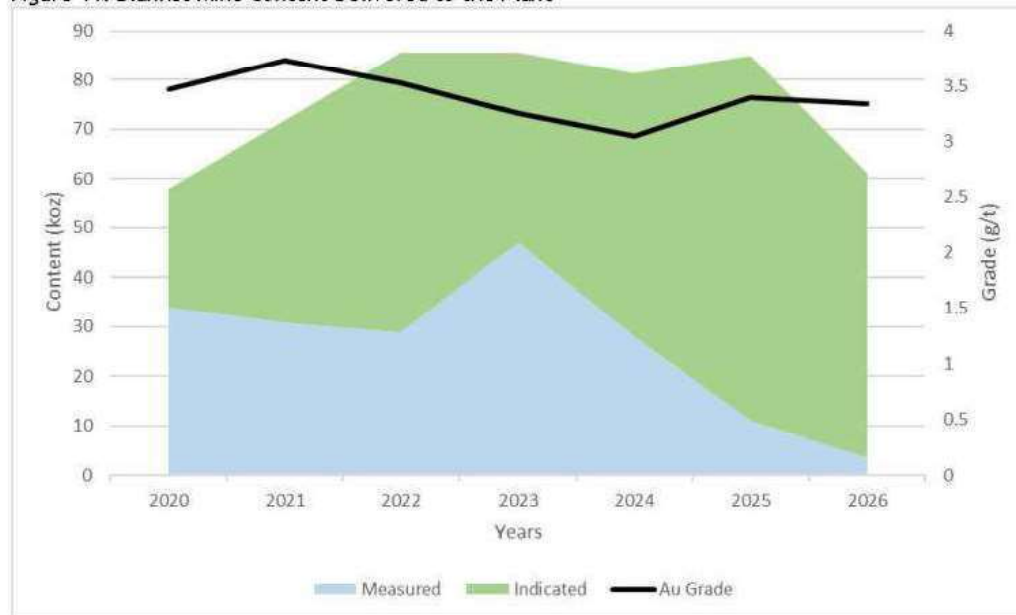
Figure 43: Diluted Life of Mine Production Schedule by Mineral Resource Classification



A total of 1,704 kt Measured Mineral Resources at a grade of 3.34 g/t and 3,158 kt Indicated Mineral Resources at a grade of 3.39 g/t is included in the LoM plan. The content delivered to the plant from the Blanket Mine is illustrated in Figure 44.



Figure 44: Blanket Mine Content Delivered to the Plant



The LoM plan includes a total of 183 koz and 345 koz of gold from the Measured and Indicated Mineral Resource Classifications, respectively. The monthly ore tonne production is illustrated in Figure 45 and Figure 46.

Figure 45: Monthly Stope Ore Tonne Production



Figure 46: Monthly Development Ore Tonne Production



Development ore tonnes are produced from on reef development including leader drives, raises, strike drives, drawpoint raises and drawpoint cones.

#### IV. MINING UNIT DIMENSIONS

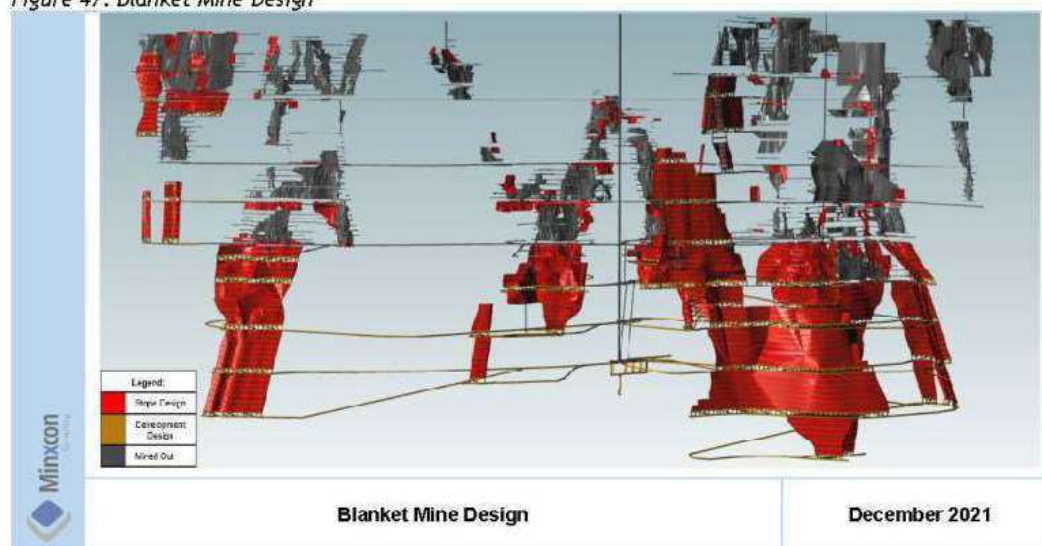
The mine design criteria for the Blanket Mine is detailed in Table 25.

Table 25: Mine Design Criteria for Blanket Mine

	Unit	Unit
<b>Level Parameters</b>		
Main Level Spacing	m	120
Sub-level Spacing (Middling)	m	15
Drawpoint Crosscut Spacing	m	15
Diamond Drilling Crosscut Spacing (Along extraction haulage)	m	7.5
Extraction Haulage Spacing from Orebody	m	15
Development Lead Angle	Degrees	45
Production Lead Angle	Degrees	72
<b>Pillars</b>		
Sill Pillar Thickness	m	30
Sill Pillar Spacing	m	90

The Blanket Mine design is illustrated in Figure 47.

Figure 47: Blanket Mine Design



## V. MINERAL RESERVE CONVERSION FACTORS

Mineral Reserve conversion factors are applied to convert the Mineral Resources to Mineral Reserves. The applied Mineral Reserve conversion factors are detailed as follows:-

- **Geological Losses:** Geological loss is applied to account for geological uncertainty associated with different Mineral Resource categories. The mine plan includes Inferred Mineral Resources, Indicated Mineral Resources and Measured Mineral Resources. Geological losses of 0% was applied to Measured Mineral Resources, 5% to Indicated and Inferred Mineral Resources and 15% to Exploration Target Mineral Resources.
- **Pillar Loss:** Pillar loss is applied to the different orebodies as a percentage factor of material that is left in situ as pillars for support purposes. The pillar losses applied to the Blanket Mine were calculated from the specific pillar sizes as required for support purposes suited to the mining method. The pillar loss calculation of 23.2% is supported by the 80% extraction rate which has previously been applied by Blanket Mine which accounts for material that is left in situ as pillars.
- **Pillar Extraction:** A pillar extraction of 50% has been applied to account for pillars which will be extracted on retreat when a block has been mined out. The pillar extraction accounts for the extraction of sill pillars (including pillars between drawpoints) which will be extracted. A detailed rock engineering recommendation is required to determine which pillars are eligible for partial or total extraction.
- **Ore Losses:** Ore losses occur when mined material containing grade, is mixed with waste material, and can be attributed to several different causes. Different ore losses have been applied to account for ore to waste losses during mining of the various orebodies. It was assumed that the entire thickness of the reef is taken out, with negligible ore lost to waste.
- **Dilution:** Dilution is defined as a percentage value representing a certain amount of waste material that is mixed with the ore during the mining process. This results in increased ore tonnages, but due to waste material containing no or very little grade, the overall grade delivered to the plant is decreased. The thickness of the orebodies mined at the Blanket Mine vary significantly and are in some instances very irregularly shaped. The Blanket Mine applies an accepted dilution of 8%, derived



from actual production figures. Dilution of 15 cm in the hanging wall and footwall was applied to orebodies which are mined using the conventional underhand mining method and dilution of 30 cm was applied to orebodies which are mined using long-hole stoping. It has been assumed that drilling with shorter drill steels in conventional mining results in less overbreak than drilling with long drill steels used in long-hole stoping. The average dilution calculation is detailed in Table 26.

Table 26: Blanket Mine Average Dilution Calculation

Orebody	Mining Method	Average Orebody Thickness	HW and FW Dilution	Dilution
		cm	cm	%
Blanket 1	Underhand	300	30	10.00
Blanket 2FW	Underhand	270	30	11.11
Blanket 2HW	Underhand	350	30	8.57
Blanket 3	Underhand	380	30	7.89
Blanket 4	Underhand	700	30	4.29
Blanket 6FW	Underhand	1050	30	2.86
Blanket 6HW	Underhand	820	30	3.66
ARS	Long-hole	1500	60	4.00
ARS EXTENSION	Long-hole	450	60	13.33
ARM	Long-hole	1200	60	5.00
Lima	Underhand	200	30	15.00
Eroica	Underhand	500	30	6.00
<b>Average Dilution</b>				<b>8.00</b>

- Mine Call Factor: MCF is the ratio, expressed as a percentage, which the specific product accounted for in recovery plus residues bears to the corresponding product called for by, the Mine's measuring methods. The MCF was calculated from historic and current figures. The MCF calculation from 2015 to 2020 is detailed in Table 27. A MCF of 100% has been used for the Blanket Mine, derived from the actual MCF calculations from 2015 to 2020.

Table 27: Blanket Mine - Mine Call Factor Calculation 2015 to 2020

Year	Milled Tonnes	Gold Recovered	Gold in Tails	Gold Accounted For	Total Mined Tonnes	Mined Grade	Gold Called For	MCF
	t	oz	oz	oz	t	g/t	oz	%
2015	440,057	42,804	3,243	46,047	440,057	3.22	42,574	108%
2016	510,662	50,351	3,794	54,145	510,662	3.28	50,903	106%
2017	547,060	56,133	3,941	60,074	547,060	3.42	56,826	106%
2018	560,913	54,512	4,166	58,678	545,267	3.26	56,626	104%
2019	556,746	55,182	3,902	59,084	556,440	3.31	57,248	103%
2020	398,854	38,042	2,552	40,594	381,559	3.22	39,501	103%

Note: Figures for 2020 are as at 31 August 2020.

### Item 13 (c) - REQUIREMENTS FOR STRIPPING, UNDERGROUND DEVELOPMENT AND BACKFILLING

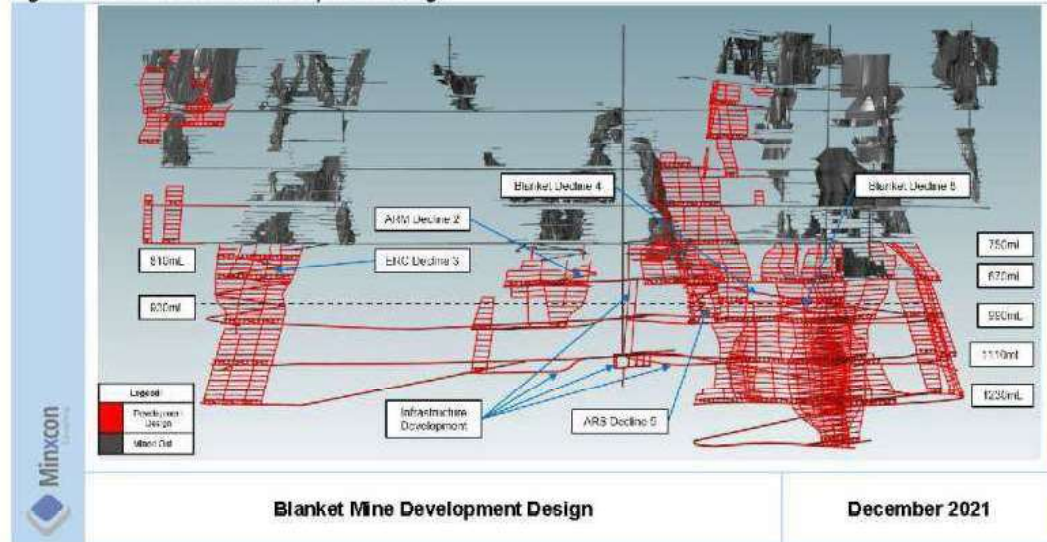
#### I. UNDERGROUND DEVELOPMENT

The existing development forms part of the mine plan to provide access to the underground workings and the targeted mining areas. Additional development is required for opening up sufficient ground and to provide access to the mining areas below 750 m Level. Different development requirements exist for the orebodies included in this study.

Blanket Mine will focus on increased development, focusing on key development ends to open up ground below 750 m Level. The planned capital development is in line with the No. 4 Shaft and Central Shaft capacity constraints. The Blanket Mine development design is illustrated Figure 48. The planned capital development consists of:-

- Eroica decline 3 from 750 m Level to 990 m Level with an intermediate level on 810 m Level which is halfway between 750 m Level and 870 m Level;
- ARM decline 2 from 750 m Level to 870 m Level, planned to commence in 2022;
- ARS decline 4 from 870 m Level to 930 m Level to serve the Blanket orebody;
- ARS decline 5 from 885 m Level to 930 m Level;
- Blanket decline 6 from 930 m Level to 990 m Level; and
- 930 ARS extraction haulage to serve as an intermediate production level for the ARS 990 and Blanket 990 blocks.

Figure 48: Blanket Mine Development Design

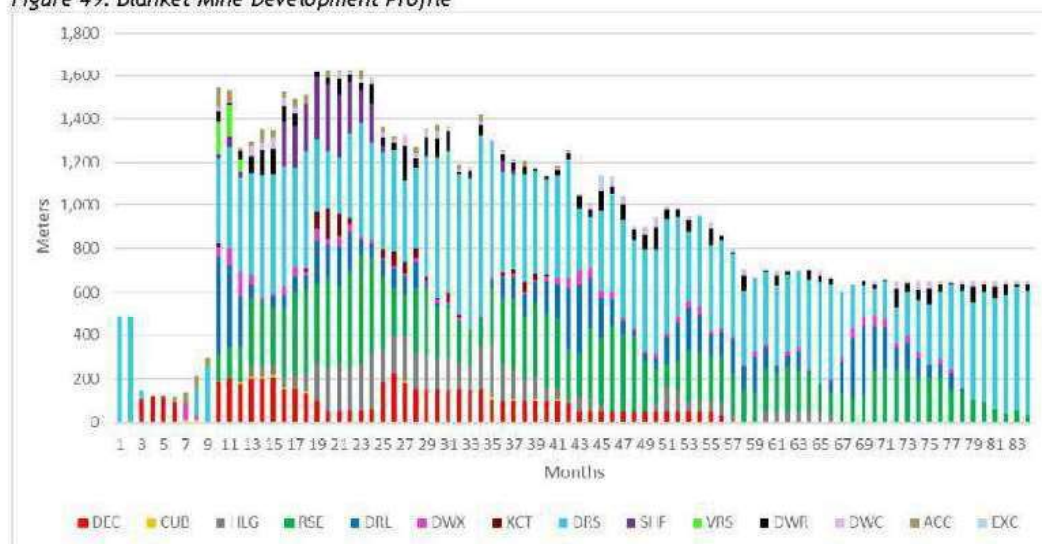


Central Shaft development has been split into infrastructure development and 30 Level and 34 Level capital development. Infrastructure development consists of the Western and Eastern Drive haulages, station tips and crosscuts, workshops, laydown areas and load level development.

The capital development consists of the 30 Level and 34 Level North and South haulages, re-muck bays, tipping bays, cubbies and exploration crosscuts. The development profile for the Blanket Mine is illustrated in Figure 49.



Figure 49: Blanket Mine Development Profile



Development meters are high in the first two years of the LoM plan with the focus on opening up Mineral Resources below 870 m Level and to establish the intermediate production levels on 810 m Level to serve the Eroica orebody and on 930 m Level to serve the ARS and Blanket orebodies.

## II. BACKFILLING

The Blanket Mine currently does not have any requirements for backfilling within any of the mining areas. If future depth extensions are planned, it may require an investigation into backfill requirements.

## Item 13 (d) - REQUIRED MINING FLEET, MACHINERY AND PERSONNEL

### I. MINING FLEET AND MACHINERY

The underground mining fleet consists of rail-bound and trackless equipment. Mining below 750 m Level is planned to be mainly mechanised mining. Production and development drilling is done by using a combination of Seco 25 jackhammers in conventional underhand mining areas while Seco 36 drifters are used in long-hole stoping areas. The underground rail-bound and trackless fleet is detailed in Table 28. A revision of the current mining fleet is required to determine the equipment requirements for the planned future increase in mechanised sections.

Table 28: Blanket Mine Current Mining Fleet

Rail-bound Fleet	Quantity	Trackless Fleet	Quantity
Air loaders	17	Dump trucks	7
Battery operated locomotives	21	LHDs	12
Cars (Material & Hoppers)	122	Bobcat	1
		Utility vehicles	1
		Rock breakers	1 installed, 2 to be installed

Underground tramming is done by the aid of compressed air operated loaders, granby cars, hoppers and battery-operated locomotives, which tip the ore or waste into grizzlies which lead to ore or waste passes. Developments ends and draw point lashing is done by LM56/57 air loaders which load onto different sizes of hoppers and granby cars. In main levels loading is done from steel boxes into granby cars. In addition to this infrastructure, bin chutes and conveyors fed by vibrating feeders have been allowed for on 765 m Level to



assist in the transport of reef and waste from the bins to the shaft for hoisting. The current fleet utilised at the operational sections of Blanket Mine will be utilised once the expansion projects of CMS is completed with some additional quantities to allow for the planned increase in production. In addition to the rail bound fleet of the Blanket Mine selected areas of CMS will be mined with trackless machinery. These areas mainly consist of development ends that are drilled and blasted conventionally but loaded and trammed with trackless equipment.

## II. PERSONNEL

The mining personnel for the Blanket mine is detailed in Table 29.

Table 29: Blanket Mine Mining Personnel

Positions	Capital Project	Run Of Mine	Total
Heavy Vehicle Driver	1		1
Assistant Boilermaker	4		4
Assistant Drillers		2	2
Assistant Fitter	15		15
Assistant Loco Driver	3	2	5
Assistant Machine Operator	40	58	98
Asst Auto-Electrician	1		1
Asst Diesel Plant Fitter	6	3	9
Auto Electrician Class 2	1		1
Bellman	7	28	35
Brickmoulder's Assistant	2		2
Compressor Attendants	3		3
Construction Assistants	9	6	15
Conveyor Attendants	1		1
Crane Operator	1		1
Crusher Attendants		11	11
Diesel Plant Fitter	4		4
Drifter Operator	3	19	22
Drifter/Assistant		7	7
Drill Assistant		3	3
Drillers		1	1
Dump Truck Drivers	2	9	11
Electrical Assistants	6		6
Electrician	2		2
Excavator Operator	1		1
Fitter	3		3
Foreman	1		1
Gang-Leader	32	62	94
Gangleaders	3	6	9
Graded Boilermaker	1		1
Hoist Driver	10	1	11
Lamp Attendants	3		3
Lasher	125	328	453
LHD Driver	24	18	42
Loader Driver	9	21	30
Loco Driver	12	39	51
Machine Assistants	13	7	20
Machine Operator	97	97	194
Magazine Attendants	2	10	12
Mahewu Brewers		1	1
Mill Attendants	1	2	3
Overseer Miner	5	7	12
Projects Vehicle Drivers	2		2
PTV Assistant	4	3	7
Public Toilet Cleaners	1		1
Pump-Men	2		2
R/D Fitters Assistant	1	1	2
Raise Riggers	2	10	12
Rigger's Assistant		3	3

Positions	Capital Project	Run Of Mine	Total
Rockbreaker Operators	1	1	2
Sanitation Attendant	1	2	3
Section Surveyor	1		1
Senior G/Leader	6	9	15
Senior LHD Driver		1	1
Senior Overseer Miner	2	4	6
Shaft Clerk	1	3	4
Shaft Timberman	2		2
Shaft Timberman Assistant	7	4	11
Stand-By Vehicle Driver	1		1
Strata Control Officer		1	1
Tractor Drivers	1		1
Trammer	17	17	34
U/Graded Electricians	1		1
U/Graded Mechanics		1	1
Upgraded Boilermaker	1		1
<b>Grand Total</b>	<b>507</b>	<b>808</b>	<b>1315</b>

## ITEM 14 - RECOVERY METHODS

### Item 14 (a) - FLOW SHEETS AND PROCESS RECOVERY METHODS

The Blanket gold plant consists of a conventional crushing, milling, CIL, batch elution and smelting configuration current running at 55 ktpm. The crushing and milling circuits are designed to process RoM. However, the CIL and downstream circuits were designed to treat tailings dam material at a rate of about 110 ktpm (or 3,800 tpd). The CIL is currently used exclusively for treatment of RoM at a rate of up to 55 ktpm. A process flow diagram is depicted in Figure 50 and Figure 51. The technology utilised is well tested and widely applied for processing of similar materials.

The plant consists of the following circuits:-

- Primary crushing - jaw crushing
- Secondary crushing - cone crushing in closed circuit with a screen
- Primary Milling - rod mills in open circuit
- Regrind - ball mill in closed circuit with cyclones
- Gravity Concentration - Knelson concentrators and Gemini table
- Intensive leach for gravity concentrate
- Thickening - Dewatering cyclones
- Leaching - Carbon in Leach (CIL)
- Elution and electrowinning - Combined in batch mode
- Casting - smelt house
- Carbon regeneration - Re-activation kiln
- Reagent make-up and dosing circuits
- Water recycling and storage.

The diagram illustrates the crushing and milling process flow. It begins with three bins: Land Bin, #4 Shaft Host Bin (100 t), and Main Shaft Host Bin (60 t). These feed into a system of Scraping Screens and Jaw Crushers. The output goes to an Ore Stockpile (300 t). From the stockpile, material passes through a Secondary Screen, then through two sets of Secondary Cone Crushers. One path leads to a Carbon Spiral, and the other to a Shaking Table. The Shaking Table output goes to a Knelson Concentrator. The main flow continues through a series of Ball Mills (BM3, BM4, BM7, BM5) and a Primary Grind Screen. The output of the Primary Grind Screen goes to a Re grind Cyclone, then a Re grind Screen, and finally a Dewatering Cyclone. The Dewatering Cyclone output goes to a Leaching stage. The Leaching output goes to a Trash Screen, which then leads to Trash Disposal. The final output of the process is Smelted.

The diagram illustrates the CIL and Elution Process Flow. It begins with 'Milling & Dewater' and 'PSA - Oxygen' inputs. The process flows through a 'Pneum. Tank' and seven 'CIL Tank' units (CIL Tank 1 to CIL Tank 7). After CIL Tank 7, the material passes through a 'Carbon Capture Screen' and a 'Spiral' separator. The 'Spiral' separates 'Tailing' from 'Shaking Tables'. The 'Shaking Tables' output goes to 'Storage Hopper A'. 'Storage Hopper A' feeds into 'Acid Wash Vessel' and 'Elution and EW' units. The 'Acid Wash Vessel' output goes to 'Water Wash' and then to 'Storage Hopper B'. 'Storage Hopper B' feeds into 'Regeneration Kiln' and 'Fine Carbon Screen'. The 'Regeneration Kiln' output goes to 'Quench Tank' and then to 'Fine Carbon'. The 'Fine Carbon Screen' output goes to 'Quench Tank' and then to 'Fine Carbon'. The 'Quench Tank' output goes to 'Fine Carbon'. The 'Fine Carbon' output goes to 'Smelt house' and then to 'Button'. The 'Smelt house' output goes to 'Button'. The 'Button' output goes to 'Gravity Concentrate'.



From June 2019 to May 2020 the milled tonnes varied between 44 ktpm and 55 ktpm with an average of 49 ktpm. The overall recoveries varied between 92.4% and 94.5% with an average of 93.6%. The gravity gold recovery varies between 50% and 61% with an average of 54%. The CIL circuit gold recovery is also very steady with an average of 84.5%. It is worth noting that the use of oxygen improved CIL recovery from an average of 82.6% to 85.4% for the period June 2019 to May 2020. This has led to an increased overall recovery to 93.8% in the year 2020. The plant is expected to achieve a similar recovery in future when treating current Blanket RoM material. RoM material from other sources may be more refractory and will have to be tested before being treated in the Blanket plant.

There is a fully equipped assay laboratory which is located 200 m from plant offices. The mine laboratory was inspected by Mr Dario Clemente and even though the mine laboratory is not accredited, it does have the necessary equipment required to prepare and analyse mine and plant samples. The sample preparation areas are demarcated for low grade and high-grade areas, especially where cross-contamination is a risk.

Good housekeeping standards are applied in the sample crushing and preparation and fire assay areas. As part of its external verification process the mine laboratory sends samples away to Duration, Met Solution and Performance Laboratories (accredited according to the mine personnel), to test their precision and accuracy. The QPs were supplied with figures for January, April, July and August 2014 which (apart from April) had a good correlation coefficient. In addition, the laboratory makes use of standard reference material which it sources from Geostats in Australia or AMIS from South Africa. Graphs, which show a good correlation, were supplied to the QPs. The laboratory does not have an electronic tracking system. The implementation of a Laboratory Information Management system ("LIMS") will reduce human error.

The current TSF will support deposition until 2023, after which a new TSF must be commissioned. An Engineer of Records will be appointed to confirm this estimate as per latest Global Industry Standards of TSF Management. The new TSF will be designed by another TSF specialist and the current estimate for design work and construction is USD0.2 million and USD2.6 million, respectively.

#### **Item 14 (b) - PLANT DESIGN, EQUIPMENT CHARACTERISTICS AND SPECIFICATIONS**

The plant was designed and constructed by Kinross Mining Company to treat RoM ore from the Blanket mine. The ore is fed over 14" x 24" jaw crushers to reduce the top size from -300 mm to less than 80 mm. The ore from No. 4 Shaft is crushed to -135 mm underground. Tramp iron magnets (located ahead of the crushers) remove scrap iron before it enters the cone crushers. The crushed ore is stored on a 900 t open stockpile from where material is fed to the cone crushers

The cone crushers were upgraded recently and replaced with two 38" hydraulically adjusted Nordberg crushers. The crushers can operate independently and feed Osborn vibrating screens. The screened product which is smaller than 10 mm is delivered to the mill feed bin. The equipment quality is good and good maintenance is applied (an observation made during the site visit).

There are three 6.5 ft. x 12 ft. rod mills which operate in parallel. Each feed belt has a mill feed mass meter which is used to control and measure the mill feed rate. The foundations of the previous mills were in the process of being demolished which leaves adequate space for future expansion. The rod mill feed bin live capacity is small which, in turn, requires that the crushers operate on a three-shift cycle to ensure that the rod mills have adequate feed for continuous operation.

The regrind duty is performed by BM6 (12 ft x 16 ft) and BM3 (6.5 ft x 12 ft) which are operated in parallel and closed circuit. BM3 was originally configured for primary duty in parallel with the primary mills (BM4, BM7 and BM8) but was reconfigured for as a regrind mill early in 2019. Another 12 ft x 16 ft mill has been

Approximately 50% to 60% of the gold production is recovered as gravity gold. Knelson Gravity Concentrators are fed from the primary mills and their concentrate is stored and processed further on a Gemini shaking table every 24 hours with the tailings recycled back into the circuit. Gemini table concentrates are taken for direct smelting whilst the tailings are sent to an Intensive Leach ("IL") circuit. The tails from the IL are sent back to milling.

The tails of the Knelson gravity concentrator are pumped to a cyclone cluster with the coarse product (U/F) going for regrind and the fine product (O/F) sent to the Carbon in Leach (CIL) plant. The CIL consists of one pre-aeration tank and seven leach tanks where alkaline-cyanide leaching and simultaneous absorption of dissolved gold onto granular activated carbon takes place.

Oxygen generated from a Pressure Swing Absorption ("PSA") oxygen plant is added into the first CIL tank; liquid oxygen is also available in the event of the oxygen plant being out of circuit for maintenance or breakdowns. There is a TAC 1000 cyanide online analyser which measures and controls cyanide addition. This process control system, in conjunction with oxygen injection, has reduced cyanide consumption.

Elution of the gold from the loaded carbon and subsequent electro-winning is done on site. There are two 2.5 tonne elution columns which operate in parallel. The design of the columns is unique in that the elution and the electro-winning processes take place in the same pressurised vessel. The advantage of this is that there is no circulation of solution outside the vessel which requires heat exchangers for heating and cooling. The overall effect is that the system is very energy efficient and cost effective.

During electrowinning the gold is deposited on steel wool cathodes within the elution column, and the loaded cathodes are removed on a planned cycle and acid-digested. The resultant gold solids from acid digestion and the re-dressed gold concentrate from Knelson Concentrators are smelted into bars. The granular activated carbon is regenerated in a kiln before it is recirculated back to the CIL section. Loaded carbon is not acid treated to reduce reagent costs. Carbon reactivation has remained acceptable although the acid treatment can be re-introduced if required. The gold bullion, in the form of doré bars, is delivered, as required by Zimbabwean gold-mining law, to the Government-operated Fidelity Printers and Refiners for sampling and refining.

Power is supplied from the national grid, but a fully-automated diesel driven power plant is available when power trips occur. The diesel power generation sets have a capacity of 10 Megawatts and can service both the mine and the plant when required.

The plant tailings from CIL are reduced in cyanide content and deposited on two licensed tailing impoundment areas located close to the plant. The maximum amount of tailings water is pumped back to the metallurgical plant for re-use. Daily management and operation of the tailing deposition area is contracted out to the Zimbabwean subsidiary of Fraser Alexander.

## Item 14 (c) - ENERGY, WATER AND PROCESS MATERIALS REQUIREMENTS

### I. LABOUR REQUIREMENTS

Table 30 summarises the current labour complement for the Blanket Gold Plant. The Electrical Engineer is not included in the above table as he is shared between the plant and the Mine. All the plant employees are adequately trained and from observation around the plant, as well as the condition of equipment, it is clear that management is of a high standard. The higher labour complement is in part due to the manual control



nature of the plant. The laboratory personnel account for an additional ten people. The laboratory is used for plant analysis as well as management of mine and exploration samples. The plant does not have a central process control system, but there are local controls in the important areas such as mill feed control cyanide addition and level controls in relevant areas.

Table 30: Plant Labour Complement

Section	Number
Plant Senior Staff	2
Plant Staff	10
Primary Crusher	15
Secondary Crusher	10
Milling	14
Elution	6
Tailings	7
CIL	11
Water	4
Metallurgical Lab and Sample preparation	6
Wet Assay	2
Engineering	27
<b>Total</b>	<b>114</b>

Source: Blanket Mine

## II. REAGENTS AND CONSUMABLES

The reagent and consumable consumptions are shown in Table 31. The forecasted consumptions are not expected to change significantly.

Table 31: Reagent and Consumable Consumptions

Item	Unit	Average Past Year
<b>Grinding Media and CIL Reagents</b>		
Rods	kg/t	0.68
Balls- 40 mm	kg/t	0.89
Total Steel Media	kg/t	1.57
Lime	kg/t	1.68
Carbon	kg/t	0.07
Sodium Cyanide	kg/t	0.85
PSA Oxygen	kg/t	3.42
<b>Elution Consumables</b>		
Steel Wool	kg/t C	0.244
Caustic Soda	kg/t C	42.91

Source: Blanket Mine

Some of the higher consumptions of reagents was due to the high retention times of approximately 72 hours in the CIL circuit. This mainly affects carbon consumption due to the long exposure to agitation and abrasion in the CIL tanks, as well as cyanide consumption.

## ITEM 15 - PROJECT INFRASTRUCTURE

### Item 15 (a) - MINE LAYOUT AND OPERATIONS

The Blanket Mine consists of a series of small shafts (Table 32) providing access to the underground workings of the various orebodies that are being mined.

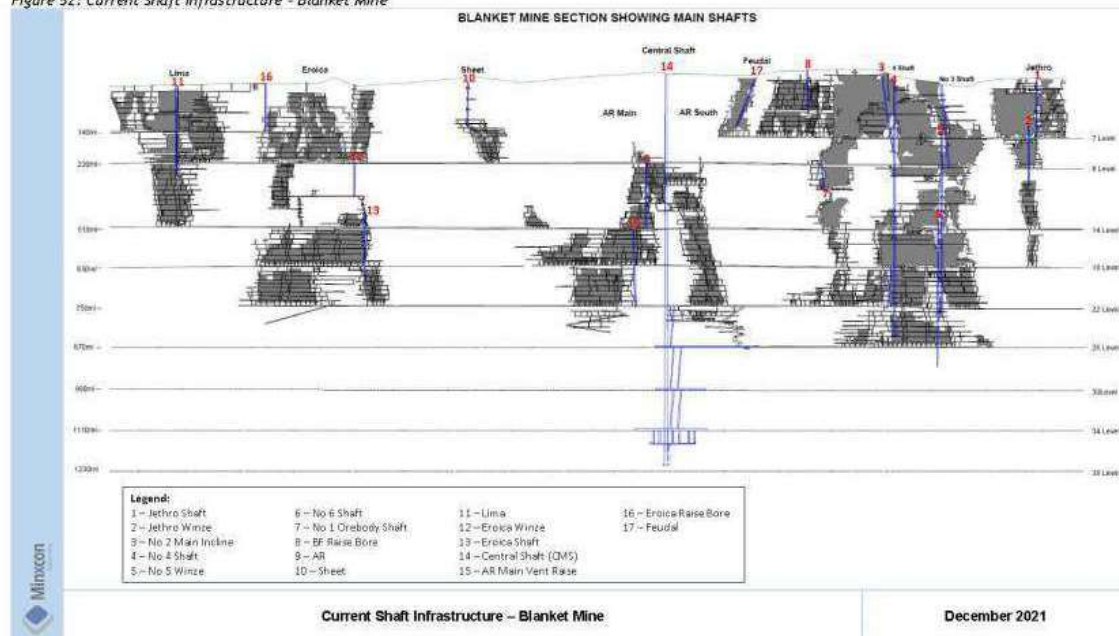


Table 32: Blanket Mine Shaft Access

Name	Description
Jethro Shaft	The shaft has dimensions of 3 m x 2 m and is mainly utilised for the transport of men and material from surface to 7 and 9 Level. The shaft is equipped with a single drum winder with a 19 mm rope and capacity of 10 men.
5 Winze (Sub-Shaft)	5 Winze has dimensions of 3 m x 2 m and is a sub-shaft and is mainly used to transport men and materials between 9 Level and 22 Level. This shaft is similarly to Jethro shaft equipped with a single drum winder with a 19 mm rope and a capacity of 10 men.
6 Winze (Sub-Shaft)	6 Winze has dimensions of 3 m x 2 m and is a sub-shaft used mainly for the hoisting of ore from 26 Level to 22 Level from where ore is transported to No. 4 Shaft for hoisting to surface. This shaft is equipped with a 112 kW single drum winder with a 22 mm rope and a capacity of 3 t skip or 500 tpd. At the bottom of 6 Winze shaft is a 12 kW spillage winder equipped with a 13 mm diameter winding rope.
Blanket Shaft (No. 4 Shaft)	No. 4 Shaft was historically the main production shaft of Blanket Mine. No. 4 Shaft has dimensions of 4 m x 2 m with two compartments. This shaft is mainly used for the hoisting of ore and waste rock from 22 Level to surface. The shaft is equipped with a 560 kW thyristor driven double drum winder with a 34 mm rope and capacity of 6 t per skip or 3,000 tpd.

The current access infrastructure is detailed in Figure 52.

Figure 52: Current Shaft Infrastructure - Blanket Mine



A number of expansion projects have either been completed or are planned for the Blanket mining operations in order to increase production. The majority of the expansion projects will consist of the Below 750 m Level (22 Level) expansion projects. The first project includes the sinking and construction of the new CMS in-between the AR Main and AR South / Blanket orebodies from surface to below 1,203 m Level (just above 38 Level) and its associated infrastructure. Sinking and equipping of the shaft has been completed with the development of the associated orepass system and loading station development currently in progress.

Further projects include the development of various decline shaft infrastructure targeting specific mining areas in order to increase production. The planned shaft infrastructure development declines planned are listed in Table 33.

Table 33: Planned Shaft Infrastructure Development

Description	Target Area	From (Level / Area)	To (Level / Area)
Decline 2	AR Main	750 mL / ARM	Below 870 mL / ARM
Decline 3	Eroica	750 mL / Eroica	990 mL / Eroica
Decline 4	AR South / Blanket	870 mL / ARS(Blanket)	930 mL / ARS(Blanket)
Decline 5	AR South / Blanket	885 mL / ARS(BL Blanket)	930 mL / ARS(Blanket)
Decline 6	AR South / Blanket	930 mL / ARS(Blanket)	990 ml / ARS(Blanket)

## Item 15 (b) - INFRASTRUCTURE

### I. SURFACE INFRASTRUCTURE

Surface infrastructure comprises mine offices, change houses, mine headgears, workshops, storerooms, a processing plant, hospital, tailings facility and an assay laboratory. Production shafts on surface consist of the No. 4 Shaft and the Jethro Shaft. Sub-shaft infrastructure in the form of the No 5 Winze connects Jethro to the underground workings. Other shafts and raise bore holes on surface, primarily used for ventilation purposes, include Lima, Eroica and Sheet. A total of 11 hoists are installed at the mine, three of which are used for ore handling (No. 2 incline shaft, the sub-vertical shaft and 6 Winze shaft). The surface infrastructure at the Blanket Mine is illustrated in Figure 53.

The existing infrastructure at Blanket will be utilised in parallel with new infrastructure which is specifically aimed at targeting the Below 750 m Level mining areas. The extensions entail the sinking of the new CMS (currently completed with the exception of the loading station and orepass system) from surface down to 1,203 m Level (just above 38 Level). 6 Winze sub-shaft located close to 5 Winze sub-shaft is used to access the Blanket complex below 750 m Level and will provide secondary access to the new CMS.

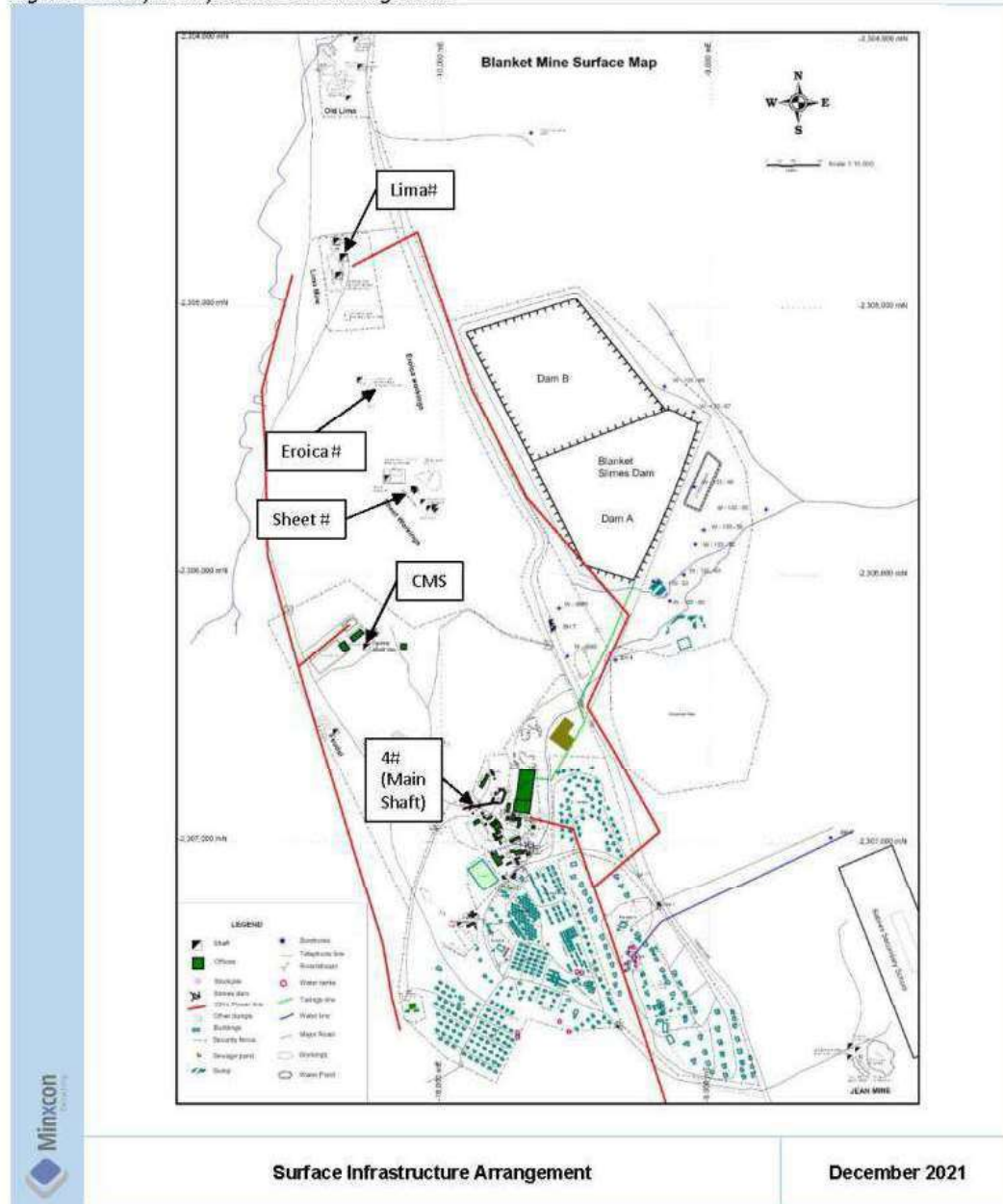
The new CMS is not lined and has a four-compartment, 6 m diameter layout, equipped with a 2 x 3,642 kW double-drum winders one rock and the other men and material. Once fully equipped and commissioned, this shaft will be used as the main route for the transport of men, material and rock.

On surface, a 900 mm wide, 50 m long overland waste conveyor will transport waste rock to a rock dump. Additional supporting surface infrastructure will include shaft offices, change rooms, lamp rooms, etc. New housing for both senior and junior staff is also planned in anticipation of the increased production profile.

A TSF is also located in close proximity to the Project Area. The labour force and their families reside within a kilometre of the mine in accommodation provided by the Mine.

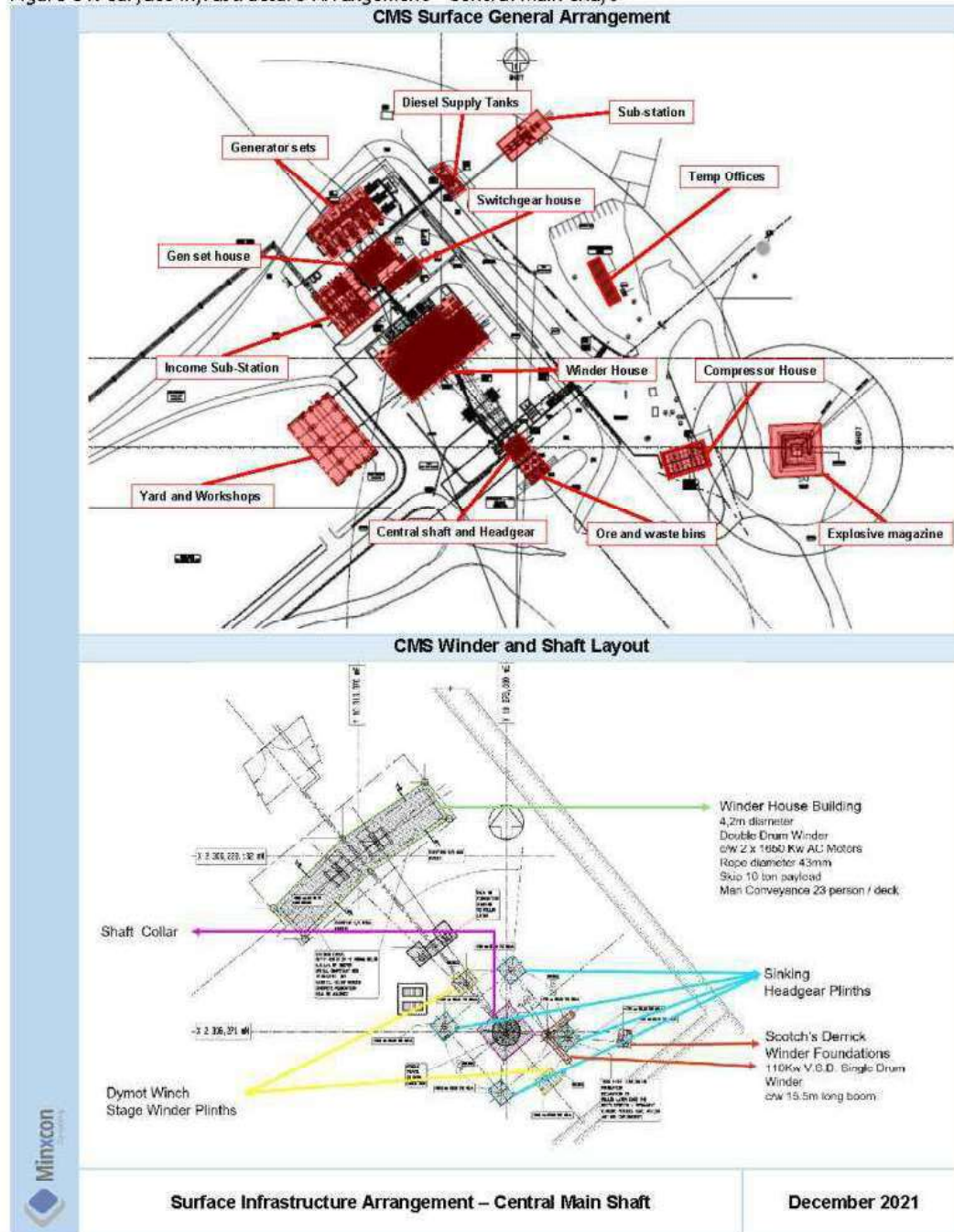


Figure 53: Surface Infrastructure Arrangement



The planned surface infrastructure layout and general arrangement of the CMS is illustrated in Figure 54.

Figure 54: Surface Infrastructure Arrangement - Central Main Shaft



The 5 Winze currently extends from 140 m Level down to the 750 m Level, while 6 Winze currently extends down to 870 m Level. Men and materials are hoisted via the Jethro vertical shaft, 5 Winze and 6 Winze to the new underground mining areas in the interim until the CMS is fully commissioned.

Development waste and ore are hoisted with two 6 t at No. 4 Shaft and two 10 t auto discharging rock skips through the CMS after it is commissioned. The loading level at CMS will be equipped with a loading station as well as ore bins. The loading arrangement will be equipped with automated loading flasks and spillage bins similar to the current arrangement at 765 m Level at No. 4 Shaft.

The CMS loading station (currently being developed) will include three silos, 1 x waste and 2 x reef with bulkheads on Load and Pump level feeding into the loading bin utilising a 1,200 mm conveyor belt. CMS is equipped with 2 x 3,642 kW double drum winders the on a rock winder with two 10 t skips attached to 44 mm diameter rope. The other a men/material winder with a double deck cage and 44 mm diameter rope. The cage has a capacity of 40 persons per deck.

## II. MINING SECTION

Underground drilling is conducted with Seco 23, Seco 25, Seco 215 rock drills and Seco 36 (Konkola) drifters. The rock drills are used mainly for development and the drifters for production, *i.e.* long-hole drilling.

Similar to the underground rail-bound fleet, the same mining equipment utilised at the operational sections of Blanket Mine will be utilised once the expansion projects of CMS have been completed with some additional quantities to allow for the planned increase in production.

## III. DEWATERING

Currently, underground water is pumped to surface from the 7 Level pump station at a rate of between 40 m<sup>3</sup> and 60 m<sup>3</sup> per hour. The pump station has a maximum pumping capacity of 150 m<sup>3</sup> per hour to handle excessive water inflow (especially during the rainy seasons). Pumping is done in stages on five different levels, 7, 9, 14, 19 and 22 Levels. A submersible 2125 flygt pump is at the bottom of 6 Winze shaft, the deepest point on the mine, and pumps to 22 Level pump station.

The CMS main pump station located just below 34 Level (belt and pump level) will be equipped with a 5 m diameter high rate clarifier settler as well as a 7 m diameter vertical dam with a capacity of 1.5 ML. Clear water will overflow from the settling arrangement into the clear water dam and the settler underflow will be pumped directly to surface with a positive displacement pump.

## Item 15 (c) - SERVICES

### I. POWER SUPPLY AND RETICULATION

ZESA supplies power to Blanket Mine from their main substation in Gwanda. The main supplies are the 33 kV and the 11 kV overhead lines. The 33 kV supply feeds Lima, Reclamation and the main substation at No. 4 Shaft, adjacent to the processing plant. The 11 kV supply feeds Jethro shaft, slimes dam, Smiler shaft and the village. The 11 kV is further transformed to 550 V supply at Jethro and Smiler and at Slimes dam. The ZESA power allocation to No. 4 Shaft, Jethro Shaft, 5 Winze and 6 Winze Complex is 10 MVA with a current nominal maximum demand ("NMD") of 7.6 MVA.

The Blanket Mine has investigated and approved the option of employing a solar power plant to supplement existing power supply to the Blanket Mine. Commencement of the project is planned for March 2021. The solar plant will potentially add 12 MW of capacity to the Blanket Mine power supply.

Blanket also has 4 x 2.5 MVA generators at No. 4 Shaft and with total installed capacity of 10 MVA. Additional standalone diesel generators with suitable switchgear, transformers, and controls were also installed at CMS



to ensure that the mine can stay operational during power interruptions. This additional installation has a total installed capacity of 8 MVA. Total installed generator capacity at Blanket is 18 MVA.

At the Blanket main substation, the 33 kV line terminates into 4 x 3 MVA 33 kV/2.2 kV transformers, of which only 3 are active. The 2.2 kV supply from one transformer feeds the main Blanket compressors and the underground reticulation feeder through an 800 A vacuum circuit breaker. The other 2.2 kV supply from the second transformer feeds the RoM section of the processing plant (on 2.2 kV and 550 V supply) through a 600 A vacuum circuit breaker.

The third transformer feeds the 2.2 kV No. 6 Ball Mill, CIL section and elution plant which operates on 400 V supply. The main substation has a maximum demand of 6,000 kVA at a calculated power factor of 0.85. The acquisition and installation of a power factor correction unit to increase the power factor to the required 0.99 is currently underway.

All equipment underground, *i.e.* winders, pumps and fans operate on 550 V. The 2.2 kV underground feeder is therefore transformed at different levels so as to run the relevant equipment on those levels.

The 33 kV ZESA supply at Lima terminates into a 1 MVA 33 kV/550 V transformer which supplies mainly the Lima hoist, 2 x GA250 and 1 x GA160 screw compressors. A power factor correction unit has been installed in this substation. The 33 kV supply at reclamation terminates into a 1 MVA 33 kV/400 V transformer, which feeds the raw water supply pumps for the Process Water Pond. No power factor correction unit has been installed in this section.

Power to the new shaft complex will be supplied via a 2.5 km 33 kV overland powertline leading to the shaft sub-station. Power will be distributed through 3 x 3 MVA 33 kV/ 6.6 kV/525 V transformers and its associated switchgear. For the underground environment 250 kVA 6.6 kV/550 V transformers will be used to drive larger components such as conveyors and larger portions of the production sections. 50 kVA 550 V/110 V transformers will be used to step power down from 550 V for lighting purposes.

The expected NMD during Phase 1 of the Blanket Mine extension project is 5 MVA. Metering of the actual NMD is only 3.9 MVA. The NMD during phase 2 of the extension project will increase to 6.3 MVA while the current ZESA allocation to the total extension project is 5 MVA. This indicates that application might be required to an increase of the allocation for the CMS project by 1.3 MVA.

There are no material risks associated with the power supply to Blanket.

## II. WATER SUPPLY AND RETICULATION

ZIMWA holds all water rights in Zimbabwe and Blanket subsequently purchases process and domestic water from ZIMWA. Water for the mine, metallurgical plant and the mine village is obtained from the Blanket dam which is located 5 km east of the Mine. The Blanket Dam has a total capacity of 15 Mm<sup>3</sup>. In addition to this water source, the mine has equipped several boreholes to alleviate water shortages during the dry season and droughts.

An average of 80,000 m<sup>3</sup> per month is pumped from the dam using 2 x 80/250 CEN stork pumps which are installed at the dam.

Two x 80/250 CEN stork pumps are also installed half way between the dam and the mine. One of the pumps supplies water to the domestic water tanks where the water treatment plant is installed and the other pumps to the processing plant. The domestic water is purified at the water treatment plant, pumped to storage tanks and then gravitated to all the houses on the mine.

Most of the processing plant water is recycled from the slimes dam. However, besides additional water from the Blanket dam, as stated above, five boreholes have been drilled to augment the processing plant supply.

Capital is allowed for new pumps, valves and pipelines to be used for the reticulation of water on surface. Service water will be transported through these pipelines separate from potable water. Water on surface will be used for fire suppression and will service the ablution facilities of the shaft offices and change houses. New 80/250 single stage stork pumps will service the dams and water will be pumped through a 250 mm Asbestos Cement ("AC") pipeline system to the new shaft complex. The CMS will include a 7 ML dam on surface that will be the main storage facility for the complex.

There are no material risks associated with the water supply to Blanket.

### III. VENTILATION

Ventilation at the Blanket Mine is largely natural with the No. 2 incline shaft, Jethro shaft, 5 Winze shaft and 6 Winze sub-vertical shaft down-casting. Shafts such as Lima, Sheet and Jethro Winze are used for up-casting ventilation. A single booster fan as well as several other fans are installed at development ends to aid ventilation.

Once mining operations expand to the below 750 m Level the operation will remain naturally ventilated with the assistance of a number of booster fans, specifically in development ends. Ventilation throughout the workings is deemed to be sufficient for the current and planned production rates.

### IV. COMPRESSED AIR

Underground drilling and lashing is aided by compressed air. This creates a significant compressed air demand and subsequently a total compressed air capacity of 30,100 cfm is installed on the mine. Compressed air is fed underground at Blanket via an 8" pipeline with an additional 4" line feeding the plant. The air supply at Lima is fed underground via a 6" pipeline.

In conjunction with CMS, a new compressor house, complete with a 15 t overhead gantry crane has been constructed on surface. This compressor houses two GA 250 and two GA 160 compressor units capable of combined capacity of 5,000 cfm at a pressure of 7 bar. This additional compressed air supply will complement the existing compressed air infrastructure in order to sustain the increased tonnage profile and subsequent increase in drilling equipment.

### V. LOGISTICS

For details on logistics infrastructure (road, rail and means of transport) refer to Item 4 (b) and Item 4 (d).

## ITEM 16 - MARKET STUDIES

### Item 16 (a) - COMMODITY MARKET ASSESSMENT

The following sections provide an overview of the gold market. The QPs have reviewed these studies and analyses and are satisfied that the results support the assumptions in the TRS.

The following gold market conditions for the third quarter of 2021 have been identified by the World Gold Council, as extracted from their Gold Demand Trends report:-

- While gold demand for jewellery, technology and bar and coin were significantly higher than in 2020, the demand fell by 7% year-on-year ("y-o-y") in 2021 primarily due to reduced inflows of exchange traded funds ("ETFs").
- Global central bank reserves grew by 400 t.



- Total gold supply declined by 3% y-o-y primarily attributed to a significant drop in recycling.
- The gold price averaged USD1,770/oz in 2020, and in August 2020 broke the USD2,000/oz barrier for the first time driven largely by global uncertainty and investors looking for safe-haven assets. The gold price ended the year at USD1,883/oz, and over quarter 3 of 2021, the price declined to an average of USD1,790/oz.
- The average global All-In Sustaining Costs rose to approximately USD1,067/oz over the second quarter of 2021.

## I. WORLD GOLD DEPOSITS AND RESERVES

The global minable gold reserves, however, are dominated by Australia, Russia and South Africa due to the higher-grade deposits found in these regions, with averages generally well above the global average of 1.01 g/t. Africa continues to be home to some of the highest grade (and highest risk) projects in the world. The average grade differs significantly (33%) between producing and undeveloped deposits. This has important implications on future gold production, and at a gold price reaching low levels, many of these projects will simply not be economically feasible. Gold reserves are distributed globally totalling 53 Bt (rounded) for some 1,648 Moz Au.

## II. GOLD SUPPLY AND DEMAND FUNDAMENTALS

Gold supply declined in Q3 2021 as increased mine production has been offset by a significant decline in recycling:-

- **Mine Production:** Mine production dropped by a total of 3.4% in 2020 due to many countries imposing COVID-19 lockdown restrictions that prevented mines from operating or restricted operations from ramping up to full production. Following the lifting of these restrictions, mine production has increased by 4% y-o-y. While gold mining costs continued to increase, some 2,679 t was produced in the first three quarters of 2021, just below the 2018 record, elevated by ramped up output from Indonesian and Mongolian operations in particular (World Gold Council, 2021a). In the years 2019 and 2020, significant production decline was recorded in countries such as Mali and Papua New Guinea. China the largest producer followed by Russia and Australia. South Africa dropped from eighth to 11<sup>th</sup> position.
- **Net Producer Hedging:** The first three quarters of 2021 saw net de-hedging of 25 t, a total 77 t reduction since January 2020. With prices hitting record-levels in many currencies through 2020, miners accelerated deliveries and winding up of hedge books. Marginally lower quarterly gold prices will likely not induce major new hedging with producers preferring to keep production exposed to the spot gold price (World Gold Council, 2021a).
- **Recycling:** While recycling saw a significant jump in the third quarter of 2020 with prices reaching record levels and many lockdown restrictions relaxed, the World Gold Council reports that recycling was weak through the first three quarters of 2021, down 22% y-o-y, driven in part by a lower gold price.

Gold demand fell by 7% y-o-y primarily due to the change from large inflows of exchange traded funds ("ETFs") in 2020 to modest outflows in 2021 (World Gold Council, 2021a). Investment demand for gold in 2020 was supported by high risk and uncertainty, low opportunity cost and positive price momentum. The economic contraction resulted in lower consumer demand, especially for jewellery, historically the largest segment of gold demand.

## III. GOLD PRICING

Gold was one of the best performing assets in 2020. Early in 2020 gold traded at around USD1,560/oz and started increasing in April, reaching a December average price of USD1,857/oz, 26% higher than the



December 2019 price. The gains were primarily driven by investors turning to gold as a safe-haven investment amid the COVID-19 pandemic uncertainties as well as a very low interest rate environment. As economies have started recuperating, gold prices have declined while still remaining relatively high. Into 2021, the price was volatile, dropping to USD1,718/oz in March and rising again to USD1,808/oz by May before declining again to the USD1,777/oz level in September despite rising inflation.

Consensus opinion has the real gold price remaining relatively constant (and high) over the short term and reducing over the medium to long term.

Table 34: Gold Price Forecast (Nominal Terms)

	Unit	2021	2022	2023	2024	Long-Term (Real)
Gold	USD/oz	1,748	1,683	1,638	1,604	1,600

Source: Consensus (Sep 2021)

#### IV. GOLD OUTLOOK

High levels of uncertainty related to the COVID-19 pandemic and the low-interest rate environment supported strong investment in safe haven commodities such as gold in 2020. Gold specifically benefited from investors' need to reduce risk.

According to the Australian Office of the Chief Economist (2021), as vaccination rollouts increase and economies recover, global gold consumption is expected to rise 5.7% annually in 2022 and 2023, to some 4,535 t in 2023. This will be driven largely by an expected rise in jewellery demand particularly from China, as well as improved gold retail and central bank investment.

World gold supply is also expecting to increase over 2022 and 2023 at an average 1.1% annually to 4,942 t due mainly to both recovering and enhanced mine production (Australian Office of the Chief Economist, 2021). A number of large mines in South Africa have been mothballed due to the deep nature of the orebodies and thus high running costs and increased risk. Significantly less funds have been spent on gold exploration in recent years, and less major gold discoveries are being made. Notwithstanding, Australia, Canada and Chile have a number of pipeline projects set to come into operation over the period, offsetting mine closures in China due to stricter environmental and safety regulations. Supply from recycling is forecast to decline as gold prices fall.

As global economies recover from the 2020 aftermath, pandemic-related restrictions are reduced, and interest rate environments are higher, 2021 has been precarious for gold, and pricing forecasts mirror this trend. Into 2022, prices are forecast to fall by 4.3% annually to around the USD1,630 mark by 2023. As described by the Australian Office of the Chief Economist (2021), rising real bond yields will restrict institutional gold investment demand. However, uncertainties regarding new strains of COVID-19 may again show intermittent enhanced support of gold as a safe haven asset. Geopolitical relations such as between the US and Russia may become volatile, and tensions in the Middle East are likely to continue in the short to medium term, which may support a drive to higher gold prices.

#### Item 16 (b) - CONTRACTS

On January 28, 2014 Caledonia announced that as a result of new regulations introduced by the Zimbabwe Ministry of Finance, all gold produced in Zimbabwe must now be sold to Fidelity Printers and Refiners Limited ("Fidelity"), a company which is controlled by the Zimbabwean authorities and which is now responsible for the final refining and marketing of all gold produced in Zimbabwe. Accordingly, all of Blanket's production has subsequently been sold to Fidelity, effective March 2014. According to the agreement, Blanket should

receive 98.5% of the value of the gold (LMBA pm fix discounted by 1.5%) within a maximum of 9 days of a sale to Fidelity.

## **ITEM 17 - ENVIRONMENTAL STUDIES, PERMITTING AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS**

### **Item 17 (a) - RELEVANT ENVIRONMENTAL ISSUES AND RESULTS OF STUDIES DONE**

Information regarding environmental consideration is taken largely from AGS (2006), Fraser Alexander Zimbabwe (Pty) Ltd (March 2010) and Blanket Mine (November 2009).

SRK completed a full EIA in 1995 to identify the major detrimental aspects of the mining operation and recommend remedial measures. It was identified that there is potential to pollute groundwater from the TSF. Per MSA (2011), a risk assessment of the TSF complex was completed in 2002 including safety and environmental aspects of deposition and stability analysis. The dam was not lined prior to deposition, and MSA stated that seepage will decline as the slime level rises. An additional mitigating factor is that the seepage waters are not acidic and established dewatering holes lower the pollution to more acceptable levels.

No further significant detrimental environmental impacts were identified by that study. No further environmental studies or assessments have been provided to the QPs. The QPs are not aware of environmental issues that could materially impact the issuer's ability to extract the Mineral Resources or Mineral Reserves.

Caledonia, the owners of the mine from June 2006 to date, developed an Environment Management Plan, which describes the plan followed by the mine staff to ensure continuous environmental improvement and management. An updated Environment Management Plan was registered with the EMA in 2020. This serves as the guideline for all environmental issues at Blanket Mine and deals with new environmental disturbances that requires additional permits and authorisations further to those described in Table 4.

Caledonia endeavours to address any newly identified potential environmental impacts through appropriate study work, and remain transparent and compliant in terms of required authorisations.

### **Item 17 (b) - WASTE DISPOSAL, SITE MONITORING AND WATER MANAGEMENT**

The Blanket Mine tailings operation is a gold tailings operation, comprising two TSFs/compartments adjacent to one another. These TSFs, namely A & B, were combined in 2015 to make one TSF. All tailings effluent is now being decanted via the previously TSF A penstock. The TSF is operated as a paddock (or day wall) operation. Decanting of the TSF occurs through the penstock, with Dam A having an elevated penstock installed in 2005/2006. TSF A is the initial TSF with TSF B having been constructed subsequently and adjacent to Dam A. The TSF has very current annual survey which is done by an external consultant and the information is available at the survey office. The TSFs are operated by Frazer Alexander Zimbabwe.

The unresolved issue of the hard naturally occurring groundwater is an outstanding concern for the closure plan of Blanket. A letter was written in December 2012 to the EMA requesting:-

1. Oxygen absorbed to be removed from the sampling parameters because it has limited relevance to groundwater.
2. The TDS Limit Value increased to  $\leq 2,500$  blue band to reflect the naturally occurring groundwater.
3. In response to EMA suggesting the sewage pond outflows be used to irrigate the TSF vegetation which is being done; the sewage outflow should be removed from the sampling parameters as the "end of pipe" will reflect in the TSF unsaturated zone monitoring.



4. In terms of the current tailings disposal permit, Blanket Mine is required to measure parameters including pH, conductivity, sulphates, nitrate, TDS, zinc, iron, manganese, free cyanide and turbidity. Generally, all results have been within acceptable limits except for manganese and conductivity, which are apparent in the control borehole.

Similar monitoring of the sewage disposal area shows that all holes are in the acceptable green category. The sewerage ponds are now classified in the red category under the EMA as they are not lined. In March of 2020 Blanket Mine engaged Epoch Resources (Pty) Ltd ("Epoch") to undertake an audit review of the tailings operation at the Blanket Mine. The audit review identified no significant operational or design risks associated with the dam.

The TSF is audited annually by Fraser Alexander, however there is a requirement for an audit to be done by an independent auditor once every third year, as was the case during the 2020 audit. Tonnages are recorded monthly by the contractor to facilitate the determination of the rate of rise ("RoR"). However, at a production rate of 1,710 tpd the RoR is 0.54 m per year based on the final design area of 28 ha, which is well below the legal maximum of 2 m per year. The following practices are being carried out on the TSF maintenances:-

- The annual dam survey is carried out annually by an external survey consultant in the last quarter of the year
- All monitoring tools are in place and well documented and Fraser Alexander is providing monthly reports.
- A minimum vertical freeboard of 2.0 m for the dam is maintained at all times.
- Piezometers are checked by carrying out Upset Tests to confirm that they are fully operational. This is currently being done once per month.
- An updated comprehensive survey be carried out on the entire TSF, including the dam basins, position of drains, penstock outlets and piezometers. This is now being done every October.
- During the audit of the TSF the stability assessment is undertaken.

Environmental monitoring or sampling requirements are stipulated for the environmental permits issued (Table 4). The requirement for the majority of these is quarterly. Air emissions sampling exercises are completed annually. Blanket Mine Company has informed the QP that EMA conduct quarterly site inspections and are satisfied with these procedures.

The TSF borehole monitoring, sewage ponds and car wash monitoring are done quarterly. The domestic waste has no monitoring facilities and Blanket are in the process of obtaining an EIA to construct a lined landfill with monitoring boreholes.

#### **Item 17 (c) - PERMIT REQUIREMENTS**

Permit requirements for the Mine are detailed in Item 3 (f). A number of licence are renewed annually; renewal periods are not expected to hinder operations. Blanket Mine remains compliant with legislation and all regulations applicable to the mine site.

#### **Item 17 (d) - SOCIAL AND COMMUNITY-RELATED REQUIREMENTS**

In 2012, 10% of Blanket Mine was donated to Gwanda Community Share Ownership Trust and 10% is held by Blanket Employee Trust. Blanket's investment in community and social projects is not limited to the operation of the mine and the welfare of its employees but includes payments to the Gwanda Community Share Ownership Trust in terms of Blankets dividends as well as certain ex gratia project related payments.



In December 2019 Blanket Mine launched a formal Corporate Social Responsibility Programme which will see the Mine making a greater, more visible, investment in corporate social giving. The five key pillars of focus are Education, Health, Environment, Agriculture and Women and Youth Empowerment. In the first quarter of 2020, under the Agriculture pillar, Blanket Mine re-equipped a four-hectare irrigation plot that supports 20 families in Gwakwe Communal lands. A new perimeter fence was erected around the plot and the farmers were provided with seed and farming tools. Under the Education pillar, work commenced on the renovation of two primary schools which were in a state of disrepair. One school is in Gwanda South, the other is situated close to Blanket Mine. During the same period another school received a donation of school desks.

When the COVID-19 pandemic became a major issue of concern in Zimbabwe, Blanket Mine responded by embarking on an awareness campaign, distributing informative flyers and putting up awareness posters at schools around the mine, in the surrounding communal lands and in Gwanda town. Cash donations amounting to ZWL21 million were made towards the Chamber of Mines' COVID-19 response initiative while the Mine committed to further weekly contributions. A donation of hygiene consumables and personal protective equipment ("PPE") was made to the Gwanda Prison. A consignment of PPE was procured for donation to Gwanda Provincial Hospital. In addition, Blanket Mine committed to renovating and extending Phakama Polyclinic in preparation for the imminent arrival of COVID-19 in Gwanda.

Several more projects are planned for the upcoming financial year and plans are well underway to complete these.

Small scale and artisanal gold miners are present within the Project Area. Satellite projects deemed to have limited exploration potential are viewed in terms of their potential to generate goodwill by making them available to local small scale miners and artisanal groups through 3-year renewable Tribute Agreements as part of the Company's Corporate Social Responsibility. The claims that are being tribute are Mbudzane Rock, Annette, Dan's Luck, Banshee J, Cinderella, Gum, Mascot, Mazeppa, Spruit, Rubicon and Bunny's Luck. Other than for the purpose of the Company's Corporate's Social Responsibility, tributing claims provides Blanket Mine with security of tenure against the "Use it or Lose it" principle. The tribute agreements do not have any effect on Blanket Mine's exploration/mining plans.

#### **Item 17 (e) - MINE CLOSURE COSTS AND REQUIREMENTS**

In January 2019 Blanket Mine contracted Knight Piésold to update the mine closure plan, which is required to be updated regularly, including estimate the costs of decommissioning and closure of the mine. This study included all aspects of the mining operation such as open workings, waste dumps and infrastructure. An updated decommissioning and reclamation cost estimate was undertaken by Blanket Mine and reported in December 2019.

There are a number of Government of Zimbabwe regulations and guidelines including the Mining General Regulations, the EM Act and the Waste Disposal Regulations which cover a mine's closure obligations. These are all addressed and costed in the Knight Piésold report. The closure plan aims to ensure site stability and safety from both a physical and chemical perspective, allowing for a post-closure environment that suits current land uses. The plan envisages concurrent closure obligations being carried out, where possible, with mining operations. Focus is placed on minimisation of environmental damage, protection of stream water quality, decrease in public health and safety hazards and provision for domestic livestock use.

The closure cost estimate was calculated at USD2.7 million by Knight Piésold, including a 13.8% contingency. The mine is not required to post a guarantee for this amount, but has reached an agreement with government that the break-up value of the plant and mine infrastructure be pledged as a guarantee for the closure cost. It is the intention of Blanket to continue self-funded small scale operations for five years after

closure, during which time salvaged material and equipment will be sold off and operations will be wound down.

#### Item 17 (f) - ADEQUACY OF CURRENT PLANS

It is the opinion of the QPs that Blanket Mine has adequate plans, protocols and execution strategies in place to remain compliant with social and environmental obligations. No risks have been identified.

#### Item 17 (g) - LOCAL PROCUREMENT AND HIRING

The main priority of Blanket Mine Company with respect to procurement of goods and services is to procure such goods and services from within Zimbabwe. However, the cost, quality, and availability of goods and services is considered when a procurement decision is being made. If goods or services are not available within Zimbabwe or there is a significant benefit to buying outside of Zimbabwe, the blanket mine company would buy elsewhere.

All of Blanket Mine Company's employees at Blanket are Zimbabwean nationals and the company recruits Zimbabwe people with the level of skill and experience required of the relevant position.

### ITEM 18 - CAPITAL AND OPERATING COSTS

#### Item 18 (a) - CAPITAL COSTS

The total Blanket operation mining and infrastructure project and sustaining capital budget (excluding capital development and sustaining capital) for the years 2022 is listed in Table 35. Renewals and replacements capital expenditure are capital expenditures resulting from improvements to and major renewals of existing assets. Such expenditures serve to maintain existing operations, but do not generate additional revenue. Renewals and replacement capital for the operation from 2023 has been allowed for and is based on 12% of total OPEX per annum.

Table 35: Blanket Operation Project Capital Budget 2022

Description	Unit	Total
Mechanical Engineering	USDm	6.48
Electrical Engineering	USDm	4.37
Deep drilling	USDm	1.27
Mill Engineering	USDm	1.25
Milling	USDm	0.25
TSF Capital	USDm	1.50
Technical (Planning & Survey)	USDm	0.03
Technical (Geology & Assay)	USDm	0.03
Safety, Health & Environment	USDm	0.02
<b>Total Excl. Dev</b>	<b>USDm</b>	<b>15.20</b>

Off-reef development and infrastructure development has been capitalised from the mining operating cost and is reported as capital development. The capital development is undertaken throughout the LoM and consists mainly of opening-up development and 30 Level and 34 Level infrastructure development. The QPs applied the capital development rates provided by Caledonia. The capital development is detailed in Table 36.



Table 36: Capital and Infrastructure Development Costs

Capital and Infrastructure Development	Unit	Cost
Decline	USDm	2,400
Haulage	USDm	870
Drawpoint Crosscut	USDm	870
Crosscut	USDm	870
Shaft	USDm	870
Ventilation Raise	USDm	450
Access Crosscut	USDm	750

Notes: Other development costs have been included in the development operating costs.

The current TSF is nearing the end of its life and provision has been made for the construction of a new one. The capital estimate is USD2.8 million that would be spent over the two-year construction period. Construction would need to start in 2022 so that it is completed by the end of 2023 at which time the current TSF would have reached its capacity.

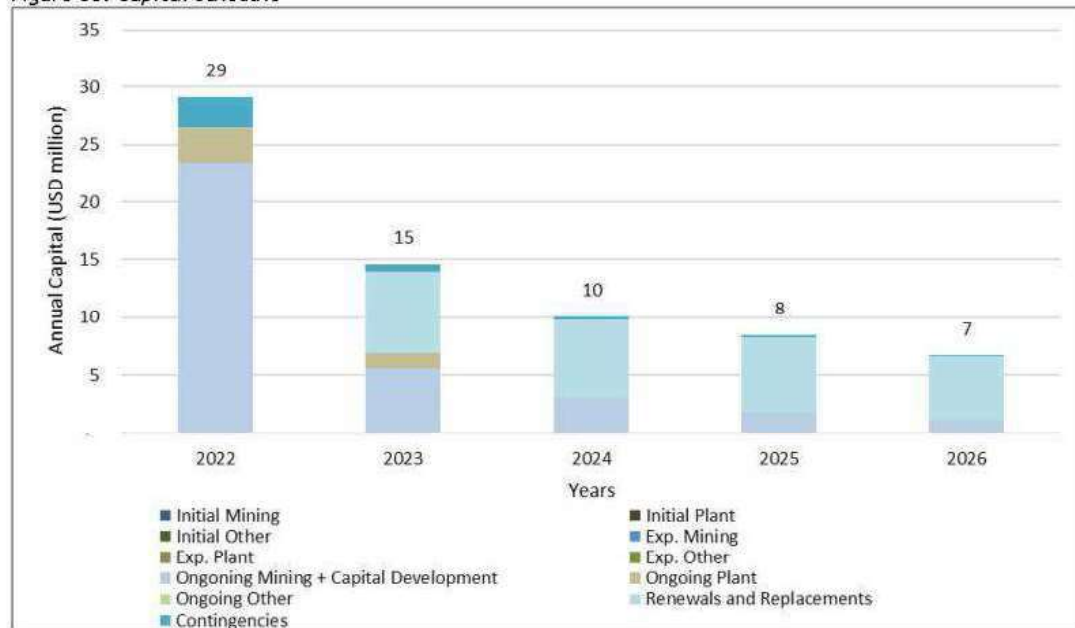
Table 37 details the total capital expenditure over the LoM. Capital expenditure totals USD69.6 million over the LoM, of which USD22.9 million is capital development and USD26.3 million is renewals and replacement expenditure. A conservative 10% contingency has been applied to the budgeted capital expenditure and not renewals and replacement capital, as these are calculated as a percentage of operating costs.

Table 37: Capital Summary

Capital Expenditure	Over LoM	Blanket Mine
<b>Mining Capital</b>	<b>Unit</b>	
Mechanical Engineering	USDm	6.48
Electrical Engineering	USDm	4.37
Deep drilling	USDm	1.27
Capitalised Development	USDm	22.83
Renewals and Replacements	USDm	8.17
<b>Sub-Total Sustaining Mining Capital</b>	<b>USDm</b>	<b>43.11</b>
<b>Mining Capital Contingency</b>	<b>USDm</b>	<b>3.49</b>
<b>Total Mining Capital</b>	<b>USDm</b>	<b>46.60</b>
<b>Plant Capital</b>		
Mill Engineering	USDm	1.25
Milling	USDm	0.25
TSF Capital	USDm	2.80
Renewals and Replacements	USDm	4.38
<b>Sub-Total Sustaining Plant Capital</b>	<b>USDm</b>	<b>8.67</b>
<b>Plant Capital Contingency</b>	<b>USDm</b>	<b>0.43</b>
<b>Total Plant Capital</b>	<b>USDm</b>	<b>9.10</b>
<b>Other Non-Direct Capital</b>		
Technical (Planning & Survey)	USDm	0.03
Technical (Geology & Assay)	USDm	0.03
Safety, Health & Environment	USDm	0.02
Renewals and Replacements	USDm	13.27
<b>Sub-Total Sustaining Other Capital</b>	<b>USDm</b>	<b>13.35</b>
<b>Other Capital Contingency</b>	<b>USDm</b>	<b>0.01</b>
<b>Total Other Capital</b>	<b>USDm</b>	<b>13.36</b>
<b>Total Sustaining Capital</b>	<b>USDm</b>	<b>65.13</b>
<b>Total Capital Contingencies</b>	<b>USDm</b>	<b>3.93</b>
<b>Total Capital</b>	<b>USDm</b>	<b>69.06</b>

Figure 55 illustrates the capital schedule over the LoM.

Figure 55: Capital Schedule

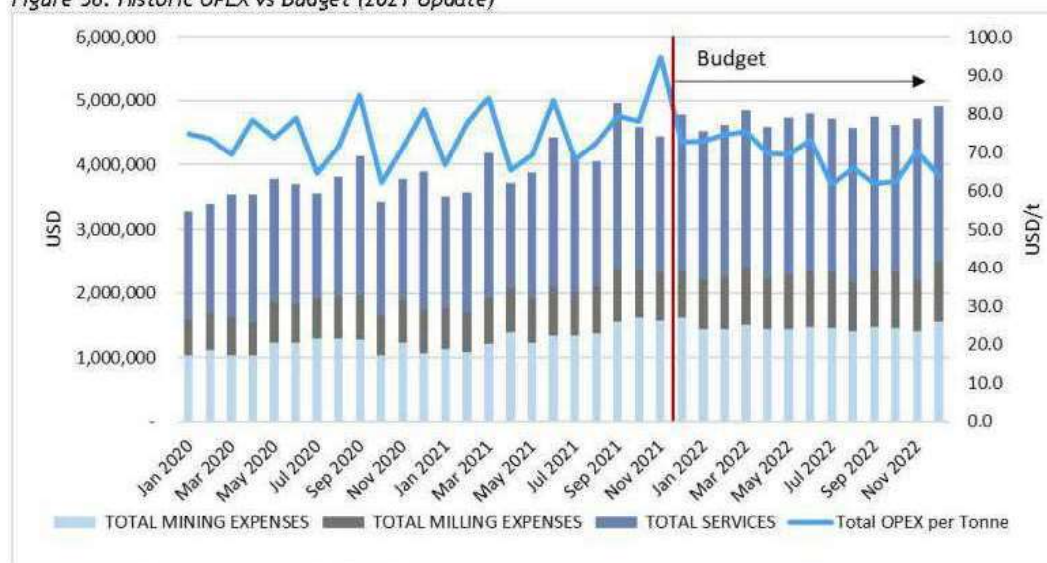


#### Item 18 (b) - OPERATING COST

The Blanket operating costs were updated to a 31 December 2021 effective date using the 2022 budget costs from the mine. The QPs reviewed Blanket Mine's actual historic costs since 2020. Figure 56 illustrates the actual operating costs from 2020 to 2021 along with the budget operating costs for 2022, exclusive of management and head office costs. The nominal costs have been on an upward trend over the period from 2020 to 2021, while cost per tonne trend has been relatively consistent. The budget costs, although in-line with the actual costs, are actually lower per ore tonne as the budgeted tonnes are higher. The mining costs are expected to increase with the increased throughput, but the budget does not reflect this. Minxcon therefore included an additional 10% contingency to the budgeted mining costs.



Figure 56: Historic OPEX vs Budget (2021 Update)



Note: Excluding management and head office costs

Management and Head Office costs as per the 2022 Blanket budget were also considered for the financial analysis. These costs are detailed in Table 38.

Table 38: Management and Head Office Costs

Area	Description	Unit	Cost
Corporate	CSR	USD/month	93,000
Corporate	Directors Fees	USD/month	3,333
Corporate	Management Fees	USD/month	240,302
Head Office	Salaries	USD/month	68,600
Head Office	G&A	USD/month	8,900
Exploration & Business Development	Exploration - Salaries-on-cost	USD/month	20,000
Exploration & Business Development	Salaries	USD/month	5,400
Exploration & Business Development	General Costs	USD/month	8,200

A sensitivity to the operating cost applied is included in Item 19 (d).

#### I. FINANCIAL COSTS INDICATORS

The operating costs in the financial model were reported into different categories as defined by the World Gold Council. The Adjusted Operating Cost represents the cash cost incurred at each processing stage, from mining through to recoverable metal delivered to market, and, if any, less net by-product credits. In addition, royalty taxes are included in Adjusted Operating Costs. Costs are reported as “per oz” of gold. The operating margin is defined as metal price received minus Adjusted Operating Costs. AISC is the sum of net Adjusted Operating Costs (Operating), Sustaining Capital, reclamation costs and other non-direct operating costs. The AISC margin is defined as metal price received per ore tonne or gold ounce minus the AISC, over the metal price received. AIC is the sum of the AISC, all non-sustaining capital costs and non-current operational costs. The AIC margin is defined as metal price received per ore tonne or gold ounce minus the AIC, over the metal price received.

Costs reported for the Mine on this basis are displayed per plant feed tonne as well as per recovered gold ounce in Table 39. It should be noted that no contingencies have been applied to the operating costs as most of these costs are based on contracts or actuals. A 10% contingency has been applied to all mining

operating costs as described above. A conservative 10% contingency has been applied to the budgeted capital expenditure and not renewals and replacement capital, as these are calculated as a percentage of operating costs. A sensitivity analysis to increase in OPEX and CAPEX is included in Item 19 (d).

Table 39: Project Cost Indicators

Item	Unit	Blanket Mine
<b>Net Turnover</b>	<b>USD/Feed tonne</b>	<b>156</b>
Mine Cost	USD/Feed tonne	23
Plant Costs	USD/Feed tonne	12
Other Costs	USD/Feed tonne	37
Royalties	USD/Feed tonne	8
<b>Operating Costs</b>	<b>USD/Feed tonne</b>	<b>80</b>
SIB	USD/Feed tonne	17
Reclamation	USD/Feed tonne	0
Other Costs	USD/Feed tonne	6
<b>All-in Sustaining Costs (AISC)</b>	<b>USD/Feed tonne</b>	<b>103</b>
Capital	USD/Feed tonne	1
Other Cash Costs	USD/Feed tonne	0
<b>All-in Costs (AIC)</b>	<b>USD/Feed tonne</b>	<b>104</b>
<b>All-in Cost Margin</b>	<b>%</b>	<b>33%</b>
EBITDA <sup>1</sup>	USD/Feed tonne	70
EBITDA Margin	%	45%
Gold Recovered	oz	367,140
<b>Average Gold Price</b>	<b>USD/Gold oz</b>	<b>1,622</b>
Payability - Off-take Agreement	%	98.5%
<b>Net Turnover<sup>2</sup></b>	<b>USD/Gold oz</b>	<b>1,596</b>
Mine Cost	USD/Gold oz	237
Plant Costs	USD/Gold oz	124
Other Costs	USD/Gold oz	374
Royalties	USD/Gold oz	80
<b>Operating Costs</b>	<b>USD/Gold oz</b>	<b>815</b>
SIB Capex	USD/Gold oz	177
Reclamation	USD/Gold oz	2
Other Costs	USD/Gold oz	58
<b>All-in Sustaining Costs (AISC)</b>	<b>USD/Gold oz</b>	<b>1,053</b>
Capital	USD/Gold oz	11
Other Cash Costs	USD/Gold oz	0
<b>All-in Costs (AIC)</b>	<b>USD/Gold oz</b>	<b>1,063</b>
EBITDA	USD/Gold oz	721

Notes:

1. Earnings before interest, tax, depreciation and amortisation (excludes CAPEX).
2. Net turnover will be the realised income per produced gold oz, after 98.5% payability has been applied.

The net turnover indicates the net realised income received per produced gold oz after applying the 98.5% payability as per the Fidelity agreement. Blanket Mine has an all-in sustaining cost of USD103/milled t, which equates to USD1,053/oz. The all-in costs for the Blanket Mine amount to USD104/milled t, which equates to USD1,063/oz.

Figure 57 illustrates the annual operating cost per plant feed tonne against the feed tonnes. The increase in costs towards the end of life is due to the depletion of the potential Mineral Reserves.



Figure 57: Operating Costs vs. Feed Tonnes

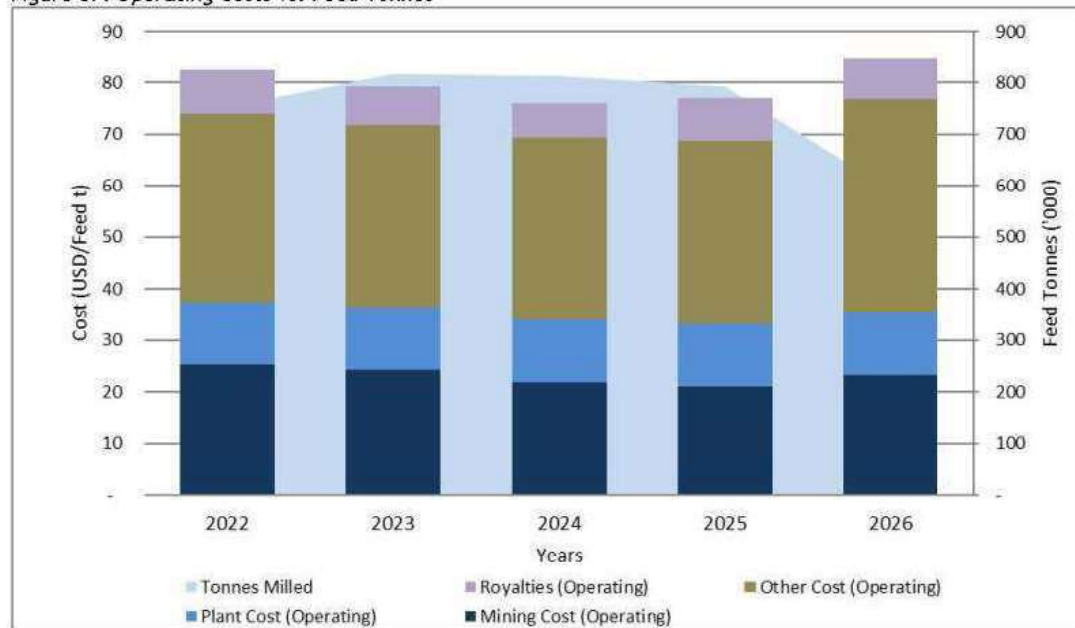
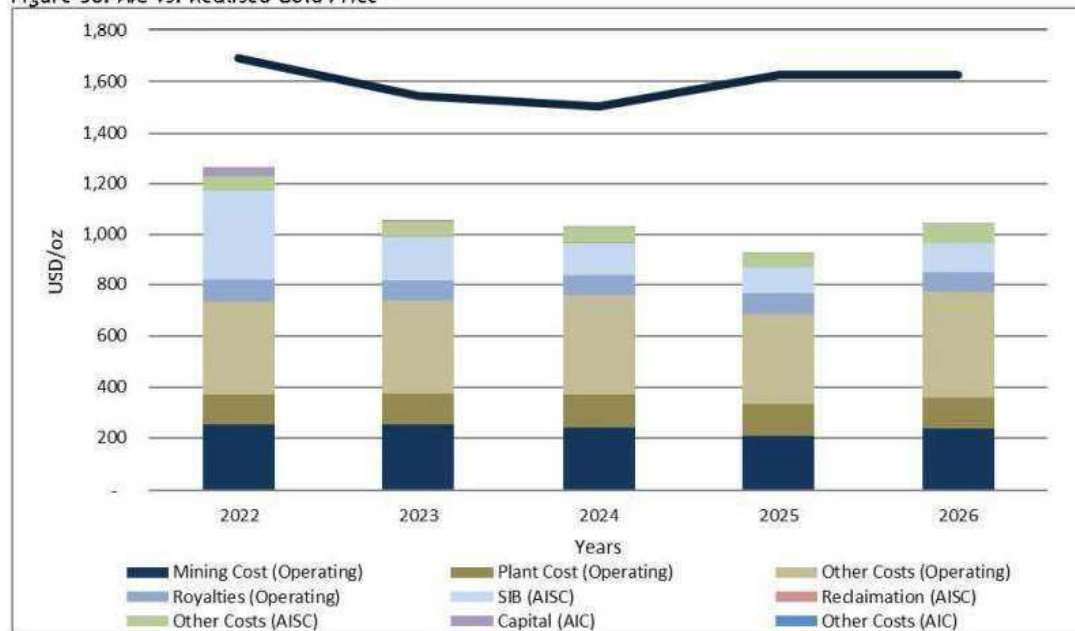


Figure 58 illustrates the all-in costs of the operation along with the realised gold price after applying the 98.5% payability.

Figure 58: AIC vs. Realised Gold Price



## Item 18 (c) - ACCURACY OF ESTIMATES

Blanket Mine is an operating mine. Costs are based on actual rates and are deemed accurate to within a 15% range. The basis of this TRS is a life of mine plan, which is of sufficient detail to support declaration of Mineral Reserves. A conservative 10% contingency has been applied to budgeted capital expenditure. A 10% contingency has been applied to the mining operating costs only, as the QP is of the opinion that the mining cost budget is underestimated. The mining costs are expected to increase with the increased throughput, but the budget does not reflect this.

## ITEM 19 - ECONOMIC ANALYSIS

The purpose of this section is to demonstrate the economic viability of the Mine Plan in order to declare updated Mineral Reserves.

Value relates to a specific point in time. The effective date for the economic analysis is 31 December 2021.

The evaluator performed an independent economic analysis on the Mine's diluted Indicated and Measured Mineral Resources for conversion to Mineral Reserves. Owing to the fact that the Mine has a budget plan based on a compliant mine plan with Indicated and Measured Resources, the income approach was applied on the total mineable reserve incorporated in a detailed mine plan as the primary economic analysis methodology in determining the economic viability for conversion to Mineral Reserves.

### Item 19 (a) - PRINCIPAL ASSUMPTIONS

The scope of this economic analysis exercise was to determine the financial viability of the diluted Indicated and Measured Resources in the LoM plan, for conversion to Mineral Reserves. This is illustrated by using the DCF method on a Free cash flow to firm ("FCFF") basis, to calculate the net present value ("NPV") and subsequently, the intrinsic value of the Mine in real terms. The NPV is derived from post-royalties and tax, pre-debt real cash flows, after taking into account operating costs, capital expenditures for the mining operations and the processing plant and using forecast macro-economic parameters.

#### I. BASIS OF EVALUATION OF THE MINING ASSETS

In generating the financial model and deriving the economic analysis, the following were considered:-

- Only diluted Indicated and Measured Resources in the LoM plan were considered for conversion to Mineral Reserves.
- Any Inferred Mineral Resources in the LoM plan have been excluded from the economic analysis.
- This TRS details the optimised cash flow model with economic input parameters.
- The cash flow model is in constant money terms and completed in USD.
- The DCF economic analysis was set up in calendar years from January to December with the mine plan starting in January 2022.
- A hurdle rate of 10.75% (in real terms) was calculated for the discount factor, with an NPV sensitivity to the discount rate also included in the analysis.
- The impact of the Mineral Royalties Act as per the Zimbabwean Mining Regulation.
- Sensitivity analyses were performed to ascertain the impact of discount factors, commodity prices, grade, working costs and capital expenditures.
- Economic analysis of the tax entity was performed on a stand-alone basis.
- The full value of the operation was reported for Blanket Mine - no attributable values were calculated - therefore 100%.



## II. MACRO-ECONOMIC FORECASTS

The following section includes the macro-economic and commodity price forecasts for the operation over the LoM. Forecast data is based on projections for the different commodity prices and the country-specific macro-economic parameters and is in calendar years from January to December starting January 2022.

USD commodity prices for the period 2022-2024 have been converted from nominal to real terms. Table 40 illustrates the forecasts for these three years as well as the long-term forecast used in the financial model. The price forecasts are based on the median of various banks, brokers and analyst forecasts and are in real-terms throughout the life of mine. The average price over the LoM equates to USD1,622/oz. The inflation rate was sourced from the International Monetary Fund.

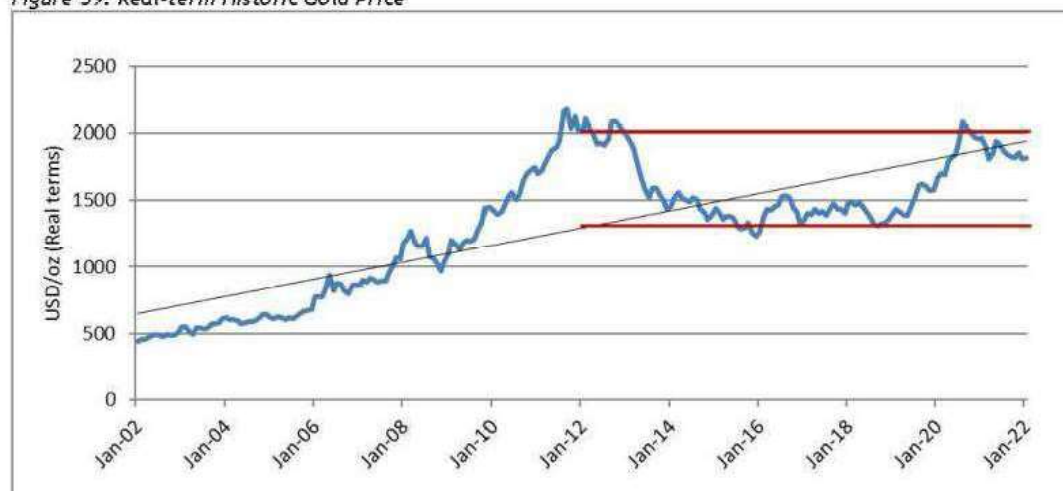
Table 40: Macro-economic Forecasts (Real Terms)

Item	Unit	Year			Long-Term
		2022 1	2023 2	2024 3	
US Inflation Rate	%	3.50%	2.70%	2.60%	2.30%
Gold	USD/oz	1,716	1,567	1,525	1,650

Source: Median of various Banks and Broker forecasts (Minxcon) (Jan 2022)

Figure 59 illustrates the 20-year real-terms historic gold price. For the past ten years, the gold price has been staying in a band between USD1,300/oz and USD2,000/oz. The long-term gold price was estimated as the real term average between the high and low gold price trading range over the past 10 years, USD1,650/oz.

Figure 59: Real-term Historic Gold Price



## III. WORKING CAPITAL

The creditors and debtors days were sourced from the client and are based on historic actual numbers. The creditors' days were calculated at 90 days and debtors days at 14 days, which is slightly longer than the off-take agreement stipulates.

## IV. RECOVERIES

The ore from the Blanket Mine operation is treated at the existing Blanket Plant; the expected recovery is 93.5%. The recovery is detailed in the processing Section of this TRS.

## V. DISCOUNT RATE

To test the appropriateness of the discount rate for the specific Mine, the QPs used the Capital Asset Pricing Model ("CAPM") to calculate the discount rate. The company has negligible debt, hence the use of CAPM over Weighted Average Cost of Capital ("WACC"). An additional country risk premium for Zimbabwe was included. The following were considered:-

- The US Risk Free Rate (10 years) at 1.51% was considered as an acceptable risk-free rate at the time of the analysis.
- The market risk premium of 6.0%, a rate generally considered as being the investor's expectation for investing in equity above the risk-free government bond.
- The beta of a stock is normally used to reflect the stock price's volatility over and above other general equity investments in the country of listing - the Beta was calculated at 0.74 as described below.
- A Zimbabwe country risk premium of 7.41% as calculated by Aswath Damodaran from the Stern School of Business at New York University.
- By using the CAPM, the QPs calculated a nominal discount rate of 13.36% which translates in a real discount rate of 10.75%.

Table 41: Capital Asset Pricing Model Discount Rate Calculation

Cost of Equity	Discount Rate
US Risk free rate	1.51%
Risk premium of market	6.00%
Country Risk Premium	7.41%
Operational Risk (Base Beta)	0.74
Nominal Cost of equity (CAPM)	13.36%
Real Cost of equity (CAPM)	10.75%

Beta is a measure of the volatility or systematic risk of a security or a portfolio in comparison to the market as a whole. The QPs analysed the betas of a number of major gold mining companies listed on the Johannesburg Stock Exchange (JSE) to serve as a comparison for Caledonia. Although not directly comparable because it is on different stock exchanges it does provide some indication of volatility. The unlevered Betas of the South African gold mining companies on the Johannesburg Securities Exchange were found to range between 0.32 (Pan African Resources) and 1.01 (Gold Fields). Caledonia's shares are listed on the NYSE American LLC (CMCL) and depositary interests in the shares are traded on AIM of the London Stock Exchange plc (CMCL). The levered Beta of 0.74 (unlevered Beta is the same since debt is negligible) which falls within this range and is closest to AngloGold Ashanti, with a Beta of 0.89. The listed Beta of 0.74 is therefore deemed appropriate. Table 42 shows the Betas of the gold mining companies considered.

Table 42: Table 43: Southern African Gold Mining Companies' Beta Values

Gold Company	Unlevered Betas	Levered Betas	Exchange
AngloGold Ashanti	0.89	0.94	JSE
Gold Fields	1.01	1.04	JSE
Harmony	0.96	0.96	JSE
Sibanye Stillwater	N/A	1.85	JSE
Pan African Resources	0.32	0.34	JSE
Mean	0.72	0.87	
Median	0.89	0.95	
Caledonia	0.74	0.74	NYSE

Source: InfrontAnalytics (March 2022), Reuters (March 2022)

## VI. CASH FLOW FORECAST

The saleable product tonnes and ounces are displayed in Table 44. The current mine plan includes 3,913 kt of ore containing 393 koz of gold at an average grade of 3.25 g/t. A total of 367 koz of gold is recovered over the remaining 5-year LoM.

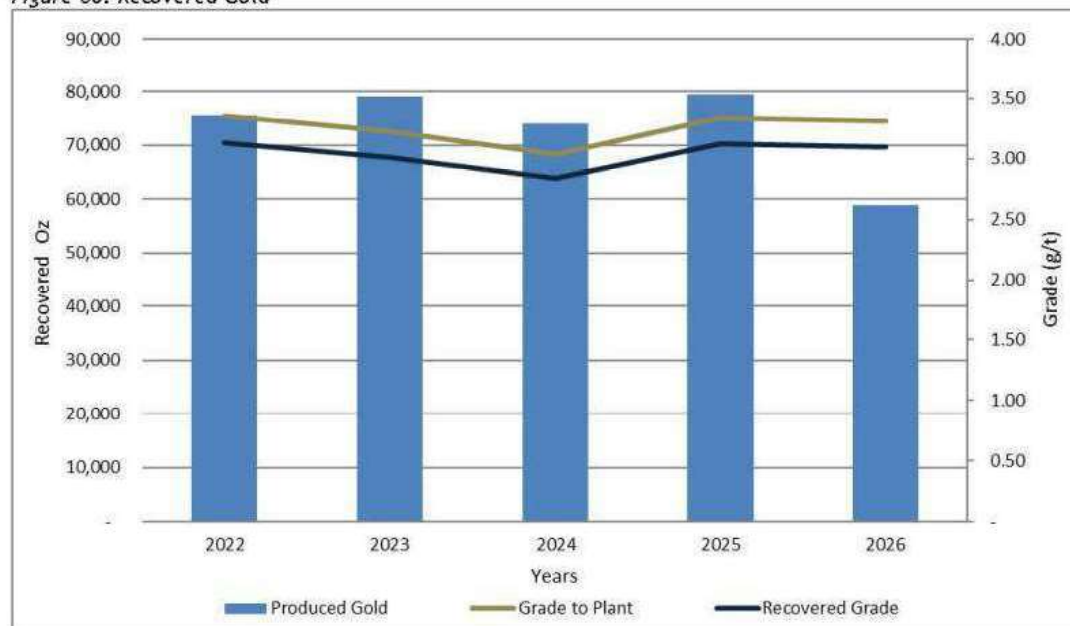


Table 44: Production Breakdown in Life of Mine

Item	Mine	Blanket Gold Mine
Ore Tonnes Mined	kt	3,761.78
Average Mined Grade	g/t	3.25
Total Oz in Mine Plan	oz	392,662
Grade Delivered to Plant	g/t	3.25
Recovered grade	g/t	3.04
Yield/Recovery	%	93.5%
Total Oz Recovered	oz	367,140

The gold ounces produced along with the mined and recovered grades are illustrated in Figure 60. The gold production start decreasing after 2025 as to the current available Measured and Indicated Mineral Resources are depleted.

Figure 60: Recovered Gold



The annual cash flow before capital expenditure, total capital expenditure and cumulative cash flow forecast for the mine over the LoM is illustrated in Figure 61. Table 45 and Table 46 illustrate the detailed annual cash flow for the Mine in real terms.



Figure 61: Undiscounted Cash Flow

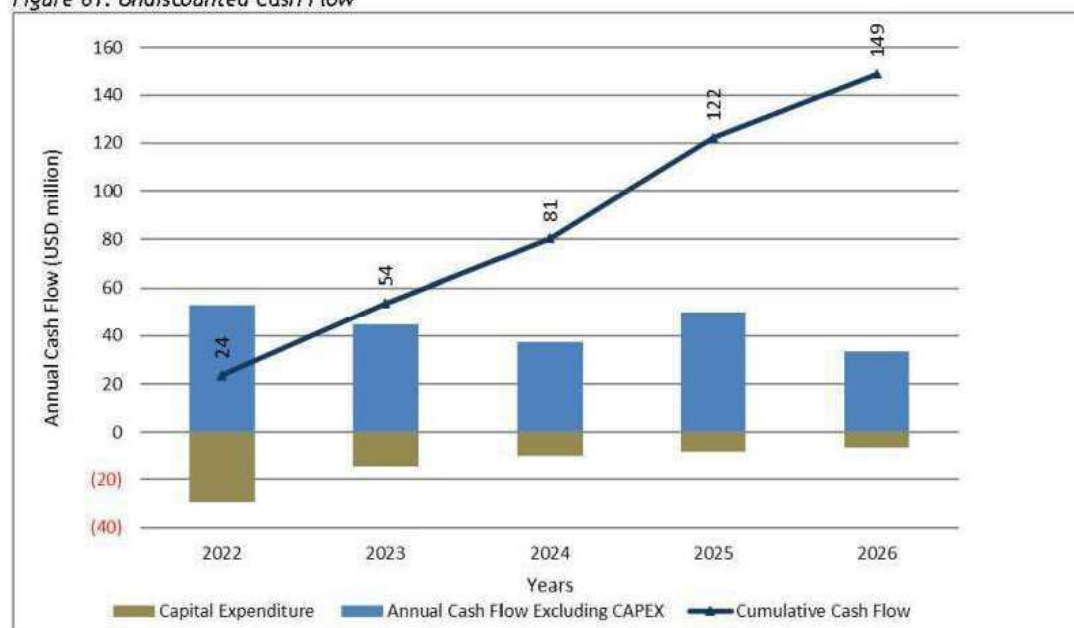


Table 45: Annual Cash Flow - Techno-economic Inputs



**Project Title:** Blanket Mine  
**Client:** Caledonia  
**Project Code:** M22.005

Project Valuation Schedule	
Project Valuation Date (Base Date)	01-Jan-22
Financial Year End (month and year)	31-Dec-22
First Year	1
Days remaining	364

Commodity Price	100%	Mining Opex	100%
Exchange Rate	100%	Plant Opex	100%
Grade	100%	Mining Capex	100%
Other Opex	100%	Plant Capex	100%

Project Duration	+	Unit	Totals	1	2	3	4	5
Calendar Years				2022	2023	2024	2025	2026
Financial Years		years	5	1	2	3	4	5
<b>Macro-Economic Factors (Real Terms)</b>								
Currency		USD/USD	1.00	1.000	1.000	1.000	1.000	1.000
Inflation	USD Inflation Rate	%	2.72%	3.50%	2.70%	2.60%	2.50%	2.50%
<b>Commodities</b>								
Commodity prices	Gold	USD/oz	1,622	1,716	1,567	1,525	1,650	1,650
<b>Operating Statistics</b>								
<b>Tonnes Produced</b>								
Development Waste		tonnes	212,866	86,796	94,837	14,494	56,525	26,255
Waste to ROM Ratio		Ratio	0.06	0.13	0.04	0.02	0.05	0.04
RCM		tonnes	3,761,780	750,980	815,418	811,509	791,433	692,446
RCM	(Moz)	tonnes/month	67,952	61,694	67,952	67,626	65,953	49,371
Mt Head grade		g/t	3.25	3.35	3.22	3.03	3.34	3.31
Tonnes to mt		tonnes	3,761,780	750,980	815,418	811,509	791,433	692,446
<b>Recovered Grade</b>								
Recovered grade	Precious Metals	g/t	3.04	3.14	3.01	2.84	3.12	3.09
<b>Metal recovered</b>								
Metal recovered	Gold	kg	11,419	2,355	2,457.6	2,301	2,473	1,833
Metal recovered	Gold	oz	367,140	75,707	79,019	75,971	79,495	59,947



Table 46: Annual Real Cash Flow



**Project Title:** Blanket Mine  
**Client:** Caledonia  
**Project Code:** M22-005

Project Evaluation Schedule	
Project Valuation Date (Base Case)	01-Jan-22
Financial Year End (month and year)	31-Dec-22
First Year	1
Days remaining	364

Commodity Price			
Commodity Price	100%	Mining Capex	100%
Exchange Rate	100%	Plant Capex	100%
Grade	100%	Mining Capex	100%
Other Costs	100%	Plant Capex	100%

Project Duration		Unit	T totals	2022	2023	2024	2025	2026
Calendar Years		Years	5	1	2	3	4	5
Financial Years		Years	5	1	2	3	4	5
<b>Financial</b>								
Revenue		USD	906,045,914	127,991,901	121,929,276	111,121,624	129,199,673	95,850,410
Revenue	Gold	USD	535,045,914	127,991,901	121,929,276	111,121,624	129,199,673	95,850,410
Mining cost			(87,948,296)	(18,884,080)	(9,883,196)	(17,730,887)	(16,885,962)	(13,949,509)
Direct Cash Costs	Variable Cost	USD	(79,115,036)	(17,726,307)	(18,969,803)	(16,121,439)	(15,116,623)	(12,997,716)
Direct Cash Costs	Contingency	USD	(7,833,267)	(1,125,803)	(1,494,858)	(1,610,144)	(1,731,496)	(1,251,793)
Plant cost			(49,268,041)	(9,096,840)	(9,877,509)	(9,850,081)	(9,895,969)	(7,178,252)
Direct Cash Costs	Variable Cost	USD	(45,508,041)	(9,096,840)	(9,877,509)	(9,850,081)	(9,895,969)	(7,178,252)
Other Costs			(136,149,404)	(27,865,029)	(28,817,964)	(28,741,136)	(28,367,781)	(24,616,996)
Direct Cash Costs	Other Cost Fixed	USD	(66,596,551)	(13,301,310)	(13,301,310)	(13,301,310)	(13,301,310)	(13,301,310)
Direct Cash Costs	Other Costs Variable	USD	(70,893,594)	(14,154,365)	(15,366,600)	(15,209,971)	(14,915,617)	(11,165,832)
Direct Cash Costs	Rehabilitation	USD	(745,259)	(149,354)	(149,054)	(149,894)	(145,854)	(149,054)
Direct Cash Costs			(279,766,041)	(55,686,675)	(58,548,206)	(58,301,796)	(54,895,303)	(45,540,059)
Production Costs	Contingency	USD	(3,901,881)	(7,681,737)	(699,633)	(395,104)	(175,207)	(113,095)
Production Costs	Sustaining Capital	USD	(85,129,250)	(24,917,103)	(13,594,103)	(12,946,493)	(8,762,254)	(6,801,725)
Production Costs		USD	(89,031,131)	(32,598,840)	(14,193,736)	(13,341,687)	(9,137,459)	(7,515,820)
Fully Allocated Costs	Revenue Royalty 1	USD	(20,303,236)	(6,179,527)	(6,179,527)	(6,179,527)	(6,179,527)	(6,179,527)
Fully Allocated Costs	Other Fixed Costs	USD	(21,294,119)	(6,296,629)	(6,296,629)	(6,296,629)	(6,296,629)	(6,296,629)
Fully Allocated Costs		USD	(41,597,355)	(12,476,156)	(12,476,156)	(12,476,156)	(12,476,156)	(12,476,156)
EBITDA		USD	264,680,464	61,648,807	53,026,784	46,003,921	63,897,563	41,116,368
EBIT		USD	195,630,262	32,490,729	38,412,861	34,892,085	55,442,082	34,366,627
Depreciation		USD	(45,636,677)	(7,349,537)	(6,891,096)	(6,151,257)	(13,095,799)	(8,246,067)
Income after tax		USD	149,996,577	25,142,193	25,521,765	26,740,828	42,346,283	26,149,465
Working capital changes		USD	1	(1,675,117)	461,320	245,910	(69,491)	566,525
Cash Flow								
Net Cash Flow	Annual cashflow	USD	149,996,577	23,467,075	25,983,085	26,986,749	41,606,810	26,715,305





## Item 19 (b) - NET PRESENT VALUE

Minxcon's in-house DCF model was employed to illustrate the NPV for the Mine in real terms. The NPV was derived from post Government royalties and tax, pre-debt real cash flows, using the techno-economic parameters, commodity price and macro-economic projections. This economic analysis is based on a free cash flow and measures the economic viability of the diluted Indicated and Measured Resources in the LoM plan, for conversion to Mineral Reserves under a defined set of realistically assumed modifying factors.

Table 47 illustrates the Mine NPV at various discount rates with a best estimated value of USD116 million (USD74 million attributable to Caledonia) at a real calculated discount rate of 10.75%. The mine plan is therefore economically viable indicating that an updated Mineral Reserve can be declared on the mine plan.

Table 47: Blanket Mine NPV Summary - Real Terms

Real Discount Rate	Unit	Blanket Mine	Caledonia Attributable
NPV @ 0%	USDm	150	96
NPV @ 2.5%	USDm	141	90
NPV @ 5%	USDm	132	85
NPV @ 7.5%	USDm	125	80
NPV @ 10%	USDm	118	75
<b>NPV @ 10.8%</b>	<b>USDm</b>	<b>116</b>	<b>74</b>
NPV @ 12.5%	USDm	111	71
NPV @ 15%	USDm	106	68

Table 48 illustrates the Mine profitability ratios. The mine has a break-even gold price of USD1,063/oz. No IRR could be calculated as the mine is already operating with no upfront investment required.

Table 48: Profitability Ratios

Item	Profitability Ratios	Blanket Mine
Internal Rate of Return (IRR)	%	N/A
Total ounces in Mine plan	oz	392,662
NPV 7.5% per oz in Mine Plan	USD/oz	295
LoM (remaining as at 31 December 2021)	Years	5
Present Value of Income flow*	USDm	210
Break-even Feed Grade (Excluding Capex)	g/t	1.78
Break-even Feed Grade (Including Capex)	g/t	2.16
Break-even Gold Price (Excluding Capex)	USD/oz	875
Break-even Gold Price (Including Capex)	USD/oz	1,063

Note: \*Calculated on an EBITDA basis.

## Item 19 (c) - REGULATORY ITEMS

### I. GOVERNMENT ROYALTIES

As described in Item 3 (d) mining royalties are charged in terms of the MWA. With the gold price exceeding USD1,200/oz, the applicable royalty rate will be 5% of the gross revenue from gold mining. The royalty will be tax deductible, with the tax rate applied on the earnings after royalty deductions.

### II. CORPORATE TAXES

The prevailing taxation regime for mining companies in Zimbabwe includes the following provisions:-

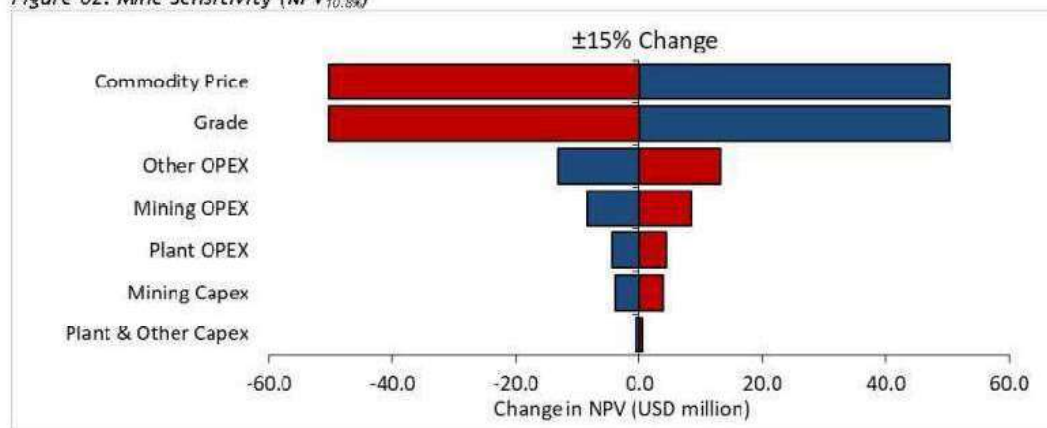
- Corporate Income tax at 24.72%. This includes an AIDS levy of 3% on the 24% corporate tax for an effective 24.72% tax rate.
- Exploration, development, and capital costs can be expensed against profit in the year incurred or carried forward to be expensed against the first year of production.

- Tangible and intangible property included in definition of capital expenditure to allow the inclusion of computer software used by the taxpayer in connection with the mining operations.
- Exemptions on customs duty and import taxes on capital items during exploration and development phases.
- Government Royalties are tax deductible from January 2020.
- Deductions for management and general administration expenses is limited based on such expenses exceeding 1% and 0.75%, respectively, of total tax-deductible expenses.
- Withholding tax on dividend payments to non-Zimbabweans and on services provided by foreign suppliers at a rate of 5% to 15%, depending on the location of the payee.

#### Item 19 (d) - SENSITIVITY ANALYSIS

Based on the real cash flow calculated in the financial model, the QPs performed single-parameter sensitivity analyses to ascertain the impact on the NPV. The bars represent various inputs into the model; each being increased or decreased by 15%. The left-hand side of the graph indicates a negative 15% change in the input while the right-hand side of the graph indicating a positive 15% change in the input. A negative effect to the NPVs represented by red bars and a positive effect represented by blue bars. For the DCF, the gold price and grade have the biggest impact on the sensitivity of the Mine followed by the operating costs. The Mine is least sensitive to capital.

Figure 62: Mine Sensitivity (NPV<sub>10.8%</sub>)



A sensitivity analysis was also conducted on the exchange rate and the commodity prices to better indicate the effect these two factors have on the NPV as well as the total costs and the grade. This is displayed in Table 49 and Table 50.

Table 49: Sensitivity Analysis of Commodity Prices and Grade to NPV<sub>10.75%</sub> (USDm)

Average Gold Price (USD/oz)	Grade (g/t)	2.27	2.43	2.60	2.76	2.92	3.08	3.25	3.41	3.57	3.73	3.90	4.06	4.22
Change %		-30%	-25%	-20%	-15%	-10%	-5%		5%	10%	15%	20%	25%	30%
1,100	-33.7%	-79	-84	-50	-35	-20	-5	7	19	31	42	53	65	76
1,200	-27.7%	-60	-44	-28	-12	3	16	28	41	53	66	78	90	103
1,300	-21.7%	-41	-24	-6	8	22	36	49	63	76	89	103	116	130
1,400	-15.7%	-22	-4	12	26	41	55	70	84	98	113	128	142	157
1,500	-9.6%	-4	13	28	44	60	75	91	106	122	137	153	168	184
1,600	-3.6%	12	29	45	62	78	95	111	128	144	161	177	194	210
1,622	0.0%	15	32	49	65	82	99	116	132	149	166	183	199	216
1,700	2.4%	26	44	62	79	97	114	132	149	167	185	202	220	237
1,800	8.4%	41	60	78	97	115	134	153	171	190	208	227	246	264
1,900	14.6%	66	76	95	114	134	164	173	193	212	232	252	271	291
2,000	20.5%	70	91	111	132	153	173	194	215	235	256	277	297	318
2,100	26.5%	84	106	128	149	171	193	215	236	258	280	301	323	345
2,200	32.5%	99	122	144	167	190	213	235	258	281	303	326	349	372

Note: Sensitivity illustrates average gold prices and not constant gold prices.

Table 50: Sensitivity Analysis of Cash Operating Costs and Grade to NPV<sub>10.75%</sub> (USDm)

OPEX (USD/Milled t)	Capital (USDm)	56.2	54.1	51.9	49.7	47.6	45.4	43.3	41.1	38.9	36.8	34.6	32.4	30.3
Change %		30.0%	25.0%	20.0%	15.0%	10.0%	5.0%		-5.0%	-10.0%	-15.0%	-20.0%	-25.0%	-30.0%
94	30%	55	56	58	59	61	62	64	65	67	68	70	71	72
90	25%	64	65	66	68	69	71	72	74	75	77	78	80	81
86	20%	72	74	75	77	78	80	81	82	84	85	87	88	90
83	15%	81	82	84	85	87	88	90	91	93	94	96	97	98
79	10%	90	91	92	94	95	97	98	100	101	103	104	106	107
76	5%	98	100	101	103	104	106	107	108	110	111	113	114	116
72		107	108	110	111	113	114	116	117	119	120	122	123	124
68	-5%	116	117	118	120	121	123	124	126	127	129	130	132	133
65	-10%	124	126	127	129	130	132	133	134	136	137	139	140	142
61	-15%	133	134	136	137	139	140	142	143	145	146	147	149	150
58	-20%	142	143	144	146	147	149	150	152	153	155	156	158	159
54	-25%	150	152	153	155	156	157	159	160	162	163	165	166	168
50	-30%	159	160	162	163	165	166	168	169	171	172	173	175	176

Note: OPEX excludes Royalties in Sensitivity Analysis as the Royalties are dependent on operating margins. Capital excludes renewals and replacement capital as this is dependent on OPEX.



## Item 19 (e) - ECONOMIC ANALYSIS CONCLUSIONS

The value derived for the income approach only reflects the diluted Indicated and Measured Resources in the LoM plan, for conversion to Mineral Reserves. It is noted that Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The Mineral Reserve is economically viable with a best estimated NPV of USD116 million (USD74 million attributable to Caledonia) at a real discount rate of 10.75%. No IRR could be calculated as Blanket is already in operation and no initial investment is required. The all-in cost margin is 33% with a break-even gold price of USD1,063/oz. Table 51 shows a summary of the economic analysis.

Table 51: Blanket Mine Economic Analysis Summary - Real Terms

Item	Unit	Blanket Mine	Caledonia Attributable
NPV @ 0%	USDm	150	96
NPV @ 2.5%	USDm	141	90
NPV @ 5%	USDm	132	85
NPV @ 7.5%	USDm	125	80
NPV @ 10%	USDm	118	75
<b>NPV @ 10.8%</b>	<b>USDm</b>	<b>116</b>	<b>74</b>
NPV @ 12.5%	USDm	111	71
NPV @ 15%	USDm	106	68
IRR	%	N/A	N/A
All-in Cost Margin	%	33%	33%
Break-even Gold Price (AIC)	USD/oz.	1,063	1,063

## ITEM 20 - ADJACENT PROPERTIES

The GGB is host to numerous gold occurrences, the majority of which have been worked by large-scale or artisanal miners. At least 268 mines have been operational across the geological terrain, of which only three are currently active. These include Blanket Mine, the adjacent Vubachikwe Mine and Jessie Mine at the south-eastern end of the belt near West Nicholson. At the western end of the belt some 22 km west of Gwanda, Freda is mined out. Blanket and Vubachikwe are sometimes referred to as the Sabiwa group of mines or the North Western Mining Camp.

Vubachikwe Mine of Forbes and Thompson (Pvt) Ltd is an operating, underground mine located on the northern limb of a plunging syncline and has reached a depth of 1,155 m. Gold mineralisation is hosted in mafic and ultramafic greenstones and BIF (MSA, 2011). Ore occurs in 5-40 m thick lenses and up to 200 m down-dip, and are hosted mainly in northwest-plunging, north-south striking BIF which dips 75° SW. Gold occurs as free gold and inclusions in arsenopyrite, as well as disseminated carbonate replacements in the BIF (Spilpunt, 2001; MSA, 2011). The mineralised bodies are folded and boudinaged (Spilpunt, 2001).

Vubachikwe Mine produced almost 21,744 kg of gold to the end of 1991 at an average of 7 g/t (MSA, 2011). Underground workings have reached depths of 1,000 m (AGS, 2006). Blanket Mine purchased the Vubachikwe dump material between 2000 and 2005 treated it through the Blanket metallurgical plant.

Auriferous quartz veins at the underground Jessie Mine are hosted in hornblende schist dipping steeply to the southwest. Erratically distributed pyrite, pyrrhotite, chalcopyrite and galena are observed. Ore grades reach up to 10.5 g/t, with production pre-2001 recorded by Spilpunt (2001) at some 11.5 t Au with minor copper. The mine is operated as an underground mine by FA Stewart (Pvt) Ltd.

The Freda Mine commenced production in 1919 targeting surficial oxidised ore as well as underlying ore containing pyrrhotite, pyrite and arsenopyrite, with minor amounts of tetradymite. The vein-type ores are hosted in epidiorite surrounded by grits and quartz-mica schist with the mined-out bodies reaching

thicknesses of up to 30 m, striking 115° and inclining steeply to the southwest. Spilpunt (2001) reports that the deposit is mined out, with workings reaching a depth of 1,100 m with 7,550 kg Au recovered at a recovered grade of about 0.8 g/t Au.

The QPs have relied on the information as is presented by the referenced sources. Verification has been limited to that data which is made available publicly and has been limited to cross-referencing information presented by the individual sources.

The only nearby property of significance is Vubachikwe Mine. Blanket and Vubachikwe target different gold orebodies but the mineralisation style is similar, implying a structural relationship (AGS, 2006). Economic mineralisation also continues to similar depths. However, although the style of gold mineralisation is similar, the mineralisation of adjacent property is not necessarily indicative of that at Blanket.

The QPs have been unable to verify the information, and the information is not necessarily indicative of the mineralization on the Blanket property.

## ITEM 21 - OTHER RELEVANT DATA AND INFORMATION

### Item 21 (a) - UPSIDE POTENTIAL

Based on the updated geological model, there are numerous targets that have been identified that would fit in with the trends identified in the geological model. These targets would also assist in proving or disproving and refining the proposed geological model. The focus should be on confirming the continuity of the BQR, as it is very likely this continues throughout Blanket Mine, albeit locally at lower grades. A targeted drilling campaign can be proposed to confirm the continuity (Figure 13). At Blanket 4, a very strong trend is observed from the upper levels of Blanket all the way into future mine areas, to the south, Jethro falls along the same trend. Connectivity could be established between these two orebodies which could result in potential additional resources close to existing infrastructure. In addition, another trend in the data is seen linking Jethro and Feudal that is running subparallel to BQR which also needs to be understood.

Additional targets would include considering the optimisation of existing wireframes, and trends used to define these wireframes. An example of this is Eroica, where a very strong trend is seen at 70-65°. By inferring this beyond the boundary of the wireframe there is potential to extend the domain as well as providing additional targets, if these down-dip extensions are seen not to be informed by any samples.

### Item 21 (b) - RISK ASSESSMENT

A risk assessment to consider and quantify risks associated with the Mine was conducted by the QPs based on a simplified approach. The result is not designed to be a definitive assessment of the risks, but is rather a tool to articulate and evaluate those risks as identified by persons present at the risk assessment session. All items were reviewed and assessed using the risk severity criteria shown below:-

- Green - Low risk (score 1-5);
- Yellow - Medium risk (score 6-12);
- Orange - Significant risk (score 13-20); and
- Red - High risk (score greater than 21).

Once a high risk is identified, the project team is required to take remedial action to either resolve or mitigate the risk. The identification and recording of corrective and remedial measures was beyond the scope of this particular risk assessment exercise.



The outcome of the risk assessment is provided in Table 52. No major risks have been identified relating to the Blanket Mine operations.

Table 52: Risk Assessment

Risk Category	Risk	Description / Cause	Risk Likelihood	Impact	Risk Rating	Mitigation/ Control	Risk Likelihood	Impact	Residual Risk Rating
Metallurgy / Processing	Limited tailings storage capacity	The existing TSF is nearing the end of its life.	1	3	6	A new TSF facility should be designed and built.	1	1	1
Mining	Potential delay in newly planned mining areas	Detailed ventilation work has not been completed, which may require new ventilation layouts and infrastructure to be established and thus delay mining.	1	2	3	A detailed ventilation study should be completed.	1	1	1
Mining	Potential increase in pillar loss	Pillar extraction factor may be reduced to less than 50%.	2	2	5	Geotechnical work required to confirm pillar extraction factor.	1	1	1

## ITEM 22 - INTERPRETATION AND CONCLUSIONS

### Mineral Resources

All data sources have been verified to be suitable for the establishment of a 3D geological model and Mineral Resource Estimation. A new conceptual geological model has been proposed and as a result Blanket 1, 2 and 3 have been remodelled. ARS extension has also been modelled as a result. This geological model can be used as a framework for additional target generation as well as targeted exploration programs.

The estimates generally show good reconciliation to data; however, scope exists to further domain a number of the orebodies and improve the quality of the estimates.

Measured, Indicated and Inferred Mineral Resources can be declared for Blanket Mine due to the continuity of the geology and grade as well as a history of proven historical mining. The Inferred resources show geological continuity, while grade continuity still needs to be improved by additional drilling.

### Mining

The LoM plan includes Measured, Indicated and Inferred Mineral Resources; however, only diluted Measured and Indicated Mineral Resources have been considered for economic assessment for Mineral Reserve estimates and have been converted into Proven and Probable Mineral Reserves respectively. A significant portion of Inferred Mineral Resources has been included in the LoM plan for mining practicality.

The mining strategy is focused on opening up ground below 870 m Level and is in line with the planned capital and infrastructure development thrust on 30 Level and 34 Level. Mining targets the Mineral Resources below 870 m Level with less mining above 750 m Level in the Blanket, ARS and Blanket Feudal orebodies.

An uneconomical tail containing 25.90 koz of gold has been excluded from the Mineral Reserve since it is not viable on its own.

### Engineering and Infrastructure

Existing and planned infrastructure at the Blanket Mine and CMS extension projects are sufficient to sustain the current production profile and the planned increased production.



### ***Processing***

The process plant has been operating at a very consistent recovery of 93.5%, and this can be expected to continue as long as the ore mineralogy does not change.

The average processing rate for the past 12 months was 55 ktpm, and there are indications that slightly higher processing rates can be achieved with operational improvements. Operating cost has been consistent at USD12/t ore treated.

A new TSF is planned to allow for deposition towards the end of 2023 at a total cost of USD2.8 million.

### ***Economic Analysis***

The Blanket Mine plan including only the diluted Indicated and Measured Resources in the LoM plan, for conversion to Mineral Reserves is financially feasible at an 10.75% real discount rate, and therefore the Mineral Reserve can be declared.

The DCF value of USD116 million for the Blanket Mine (USD74 million attributable to Caledonia) was calculated at a real discount rate of 10.75%. No IRR could be calculated since the Mine is in operation and no initial investment is required. Blanket Mine has an all-in cost margin of 33%, which is comparable to similar mines.

The Mine is most sensitive to commodity prices, and grade. The Mine has a break-even gold price of USD1,063/oz including capital.

All-in sustaining costs for the Blanket Mine amount to USD103/milled t, which equates to USD1,053/oz. All-in costs for the Blanket Mine amount to USD104/milled t, which equates to USD1,063/oz.

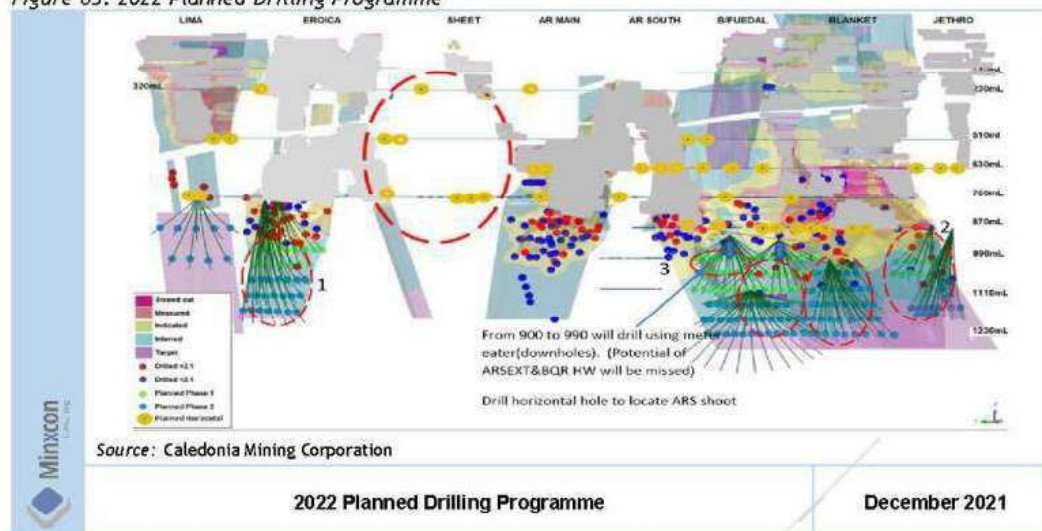
## **ITEM 23 - RECOMMENDATIONS**

### ***Further Exploration Work***

Planned exploration drilling for 2022 is approximately 13,000m. This drilling is focused on converting the deeper inferred Mineral Resource to indicated Mineral Resources for the depth extensions of the various orebodies. Figure 63 illustrates the planned drilling programme with a budget of USD 1.26 million. This is for the drilling and assay related costs but excludes any underground development that might be required to establish drilling platforms. The focus will be on Lima, Eroica, Blanket and ARS.

An additional long-term budget of USD 2.5 million has been planned for further exploration on these orebodies.

Figure 63: 2022 Planned Drilling Programme



### Mineral Resources

The remainder of the orebodies at Blanket need to be remodelled to consider a 1.5 g/t cut-off as well as reconsidered to include the new geological model, focussing on continuity between the orebodies. As a result, larger geological models will be generated (beyond high grade), additional domains will be required to separate well mineralised and poorly mineralised portions of the orebody.

Upside potential does exist due to the new geological interpretations, this can be used in targeted exploration drilling, in many cases close to existing infrastructure.

Future estimations should be completely digital and manual block listings excluded. Data does exist over the areas where manual blocks are created, thus digital estimates can be performed with confidence. In addition, depletions are available in 3D, thus digital estimates can be accurately depleted in the stoped out areas.

A geological loss of 5% for Indicated and Inferred only is applied. It is recommended that a geological loss reflective of the relative confidence is applied. Typically, 5% Measured, 10% Indicated, 15% Inferred is applied. It is proposed that future estimates consider applying this geological loss.

It is recommended that follow up activities are undertaken for QAQC to identify the source of the failures in the standards and if laboratory procedures are the result or sampling activities. In addition, duplicates of the various stages of the sampling and analyses process can be taken. Field duplicates (in the core yard), course duplicates (following crushing) as well as pulp duplicates (following pulverisation), this will assist with eliminating any sources of contamination or identify the potential problem areas. A bias is seen in 2018 with numerous failures in standards, 2019 results are an improvement with acceptable pass rates of standards. However, 2018 results are still included in the database. A validation exercise of these results (with re-assays where required) should be performed to see if results are suitable for estimation purposes. The mine procedures with regards to inclusion or exclusion of samples due to QAQC results must be implemented to ensure these failures are considered during the course of QAQC.



Due to the high sample density the effects of these inconsistencies in results will be minimised, however this accuracy and repeatability of results and standards is most important for exploration areas where one drillhole informs a large area. A focussed study of the QAQC of these holes is recommended.

The exploration drilling should consider orientating the core so that the structural information can be collected and utilised to assist in the construction of the geological model / wireframes, of the various mineralised orebodies, and confirm the geological model. Further exploration drilling samples for assaying should be sent to an independent accredited laboratory.

Predictive mineralisation mapping should be introduced, based on the conceptual geological model, to assist in exploration drilling planning.

#### **Mining**

To determine the upside potential of the Inferred and Exploration Target Mineral Resources, it is recommended to do additional drilling to increase the level of confidence of the Mineral Resources from the Inferred Classification to Indicated Classification for conversion to Probable Mineral Reserves.

It is recommended that a rock engineering study be completed to determine the recommended strategy for pillar extraction.

#### **Processing**

The TSF design study should be completed so that the construction can be completed in 2023.

## **ITEM 24 - REFERENCES**

- Applied Geology Services cc (2006). Independent Qualified Person's Report - Blanket Mine, Zimbabwe. Prepared for: Caledonia Mining Corporation. July 2006. 81pp
- Australian Government, Office of the Chief Economist (2021). Department of Industry, Science, Energy and Resources. Resources and Energy Quarterly, September 2021. 169pp.
- Caledonia Mining Corp (2006). Acquisition of Gold Mine. 20 June 2006. <https://www.investegate.co.uk/caledonia-mining-crpr-cmcl-rns/acquisition-of-gold-mine/200606201300058747E/>
- Campbell, S.G.G. and Pitfield, P.E.J. (1994). Structural Controls of Gold Mineralisation in the Zimbabwe Craton - Exploration Guidelines. Zimbabwe Geological Survey Bulletin No. 101.
- Canadian Institute of Mining, Metallurgy and Petroleum (CIM) (2014). Definition Standards for Mineral Resources and Mineral Reserves, 10 May 2014.
- Canadian Institute of Mining, Metallurgy and Petroleum (CIM) (2019). Estimation of Mineral Resources and Mineral Reserves Best Practices Guidelines.
- Clark, J. (2020). 2020 Gold Price Forecast, Trends, & 5 Year Predictions, GoldSilver. Accessed on 15 February 2020 via <https://goldsilver.com/blog/gold-price-forecast-predictions/>
- GFMS (2019). GFMS Gold Survey 2019. 28pp.
- Fuchter, W.A.H. (1990). The Geology and Gold Mineralisation of the North Western Mining Camp, Gwanda Greenstone Belt, Zimbabwe. Unpublished PhD thesis, Queens University.
- Kalbskopf, S., and Nutt, T., (2003). Lithological Contrasts and Constraints on Gold Mineralisation in Granitoids in the Zimbabwe Craton: Structural Controls and Implications for Exploration. Economic Geology Research Unit, Hugh Allsop Laboratory. University of the Witwatersrand, Johannesburg. Information Circular, No. 370, 27 pp.



- Knight Piésold Africa Limited (2019). Caledonia Mining Corporation - Blanket Mine (1983) (Pvt) Limited Blanket Mine Closure Plan, Closure Cost Estimates January 2019. Project Number: RI301-00588/02. Revision A. January 2019. 127pp.
- Mhlanga, G. (2002). Data Driven Predictive Modelling for Archean Lode Gold Potential, Bubi Greenstone Belt, Southwest Zimbabwe. MSc Thesis, International Institute for Geo-information Science and Earth Observation, Enschede, Netherlands. 108 pp.
- Robert, F. (1996). Diversity of Archean Lode Gold Deposits and Implications for Exploration. Course Notes, AMF Workshop Course No. 973/96, Australian Mineral Foundation, Adelaide.
- Spilpunt. Mineral Commodities and Africa - Gwanda Greenstone Belt (updated 2001). Available from: <http://spilpunt.blogspot.com/2007/04/zimbabwe.html>. Viewed 3 August 2020.
- The MSA Group (2011). NI 43-101 Technical Report on the Blanket Gold Mine, Zimbabwe. J2225. Prepared on behalf of Caledonia Mining Corporation. 28 June 2011.
- United States Geological Survey (2021). Gold Data Sheet - Mineral Commodity Summaries 2021, January 2021.
- World Gold Council (2021a). Gold Demand Trends, Q3 2021. London, United Kingdom. Published: 28 October 2021.
- World Gold Council (2021b). Gold Mining Production Volumes Data. Accessed on 29 November 2021 via <https://www.gold.org/goldhub/data/historical-mine-production>.
- World Gold Council (2021c). Latest World Official Reserves. Accessed on 29 November 2021 via <https://www.gold.org/goldhub/data/monthly-central-bank-statistics>.
- World Gold Council (2021c). Gold Demand Trends, Q3 2021 Statistics. Accessed on 29 November 2021 via <https://www.gold.org/goldhub/research/gold-demand-trends/gold-demand-trends-q2-2021>.

## ITEM 25 - RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT

The QPs have accepted information supplied by Caledonia regarding the permits and licences as valid and complete, which is included in Item 3 of this TRS. The QPs consider such reliance reasonable because the information constitutes legal and environmental matters outside the expertise of the QPs.