Independent Qualified Persons Report for the Ballarat Goldmine, Australia

SHEN YAO HOLDINGS LIMITED

Singapore

Effective date 28 February 2021

Prepared in accordance with the requirements of Practice Note 4C of the Catalist Rules of the Singapore Exchange Securities Trading Limited Listing

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1.1 Project Description

The Ballarat Goldmine is owned and operated by Golden Point Group Pty Ltd ("GPG", formerly known as Castlemaine Goldfields Pty Ltd) a wholly owned subsidiary of Shen Yao Holdings Limited ("Shen Yao Holdings", formerly known as LionGold Corp Ltd). The mine tenure comprises two granted mining licences (MIN5396 – Ballarat East, MIN4847 – Ballarat South). The Ballarat Goldmine is located beneath the city of Ballarat approximately 115 km north-west of Melbourne, the state capital of Victoria. Shen Yao Holdings and its wholly owned subsidiary Golden Point Group Pty Ltd commissioned DW Resources Industry Consulting Co., Limited ("DWS") to prepare an Independent Qualified Person's Report ("IQPR") in accordance with Practice Note 4C of the Catalist Rules of the Singapore Exchange Securities Trading Limited ("SGX-ST").

1.2 Geology and Mineralisation

Mineralisation occurs within Lower Ordovician sandstones, siltstones and mudstones that were weakly metamorphosed and tightly folded about north-trending axes. The western limbs of the known anticlines dip approximately 70°W, eastern limbs dip 85°W to 85°E and fold axial planes dip approximately 80°W. The regional strike of the bedding is northerly. Gold occurs in quartz veins within fold limbs in structurally controlled bodies known as lodes and stockworks. Vertically stacked, shallow to steep west-dipping fault zones exert the primary structural control on the lodes (e.g. the Llanberris Mako fault zone). Mineralisation is characterised by notable quantities of coarse gold (>80% +100-micron gold) and very coarse gold (locally >50% +1,000-micron gold) hosted in the quartz veins. The deposit has high inherent variability, with grades ranging from 50 g/t Au or higher to a few g/t Au over a span of several metres.

1.3 Mine Production

Hard rock quartz-mining at Ballarat started in 1858 and, by 1918, 1.2 Moz Au had been produced, for a head grade of approximately 9 g/t Au. Modern gold production commenced in 2006 (Table 1.3.1).

Table 1.3.1 Gold production history for the Ballarat East goldfield from 2006 – 28th February 2021

	Year	Tonnes processed (t)	Head grade (g/t Au)	Recovery (%)	Recovered (oz Au)
Ballarat Goldfields NL ("BGF")	2006–2010	349,616	3.02	74.7	25,324
GPG	2011–2012	57,771	5.00	81.3	7,671
GPG	2012–2013	167,996	6.65	85.2	30,602
GPG	2013–2014	170,392	8.35	87.5	40,025
GPG	2014–2015	250,664	6.84	83.6	46,083
GPG	2015–2016	250,610	6.08	81.4	39,828
GPG	2016–2017	270,699	5.64	86.8	40,692
GPG	2017–2018	260,165	5.41	78.0	36,790
GPG	2018–2019	267,941	5.68	83.4	40,808
GPG	2019-2020 (June)	356,667	4.50	82.7	42,830
GPG	2020 (Jul)-2021 (Feb)	208,282	4.40	82.2	24,220
Total	**2006–2021 (Feb)**	**2,610,803**	**5.40**	**82.8**	**374,873**

Totals may vary due to rounding errors, yearly (2006-2019) totals based on 1 April to 31 March financial year. 2019–2020 numbers based on the 15-month period from 1 April 2019 – 30 June 2020 due to a change in reporting cycle. 2020-2021 (Feb) is based on the financial period from 1 July 2020 to 28 February 2021.

1.4 Mineral Resources

GPG has completed an update of the Mineral Resource for the Ballarat Goldmine (Table 1.4.1). The Indicated and Inferred Mineral Resources comprise underground mineralisation in 10 individual deposits (Figure 1-1).

The Mineral Resources are reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (the JORC Code, 2012). The underground Mineral Resource is reported above a 2.0 g/t Au cut-off grade.

The cut-off values were reduced compared to the previous IQPR. A reduction from 3.0 g/t Au to 2.0 g/t Au was based on grade tonnage curves shown in Figure 8-41 and discussed with GPG management. The global estimated mean grades for all Lodes were above 4.0 g/t Au using a 2.0 g/t Au cut-off (Table 1.4.2).

Estimation domains for underground lodes were modelled using explicit modelling in Micromine. The Mineral Resource was estimated using Ordinary Kriging in Micromine.

The material increases in both inferred and indicated underground resources stems from major re-domaining of the Ballarat East Lodes. The majority of the previous IQPR domaining was completed using implicit modelling through leapfrog which under-represented the lode volumes. Continuity ranges between drill holes were not honoured and many individual disjointed ovals were produced as domains.

The current IQPR domaining was completed through cross sectional explicit wireframing and resulted in more continuity between drill holes, and larger volumes throughout most Lodes.

The larger Lode volumes have allowed more drilling and assay data to be captured and used in the estimations. This has resulted in more robust estimations. Section 8.4.2.5 further explains the differences in domain interpretation.

Table 1.4.1 Mineral Resource Summary for the Ballarat Goldmine as of 28th February 2021.

Date of Report: 28-02-2021
Date of Previous Report: 30-06-2020
Summary of Mineral Resources for the Ballarat Goldmine, Victoria, Australia

Category	Mineral type	Gross attributable to licence		Net attributable to issuer			Remarks
		Tonnes (kt)	Grade (g/t Au)	Tonnes (kt)	Grade (g/t Au)	Change in ounces Increase %/(Decrease %)	
Resources							
Indicated	Gold	**2,900**	**6.0**	**2,900**	**6.0**	100	New Indicated Resource
Inferred	Gold	**1,500**	**5.7**	**1,500**	**5.7**	88	Underground Resource
		2,300	0.8	2,300	0.8	-	TSF Resource
		3800	2.7	3800	2.7	55	Total Inferred
Total Resource	Gold	6700	4.14	6700	4.14	320	

Note: Mineral Resources which are not Ore Reserves do not have demonstrated economic viability. Tonnage is reported in metric tonnes (1 kt = 1,000 t), grade as grams per tonne gold (g/t Au). Tonnages of the Tailings storage facility (TSF) Resource, total Mineral Resource rounded to the nearest 100 kt, other tonnages rounded to the nearest 1 kt. The Indicated and Inferred Mineral Resource includes the Underground Mineral Resource, reported above a cut-off grade of 2.0 g/t Au and the TSF Resource, reported at a 0.0 g/t Au cut-off. It is assumed that the TSF Resource may be reprocessed in its entirety. The Mineral Resource has been depleted for mining up until 28th February, 2021. Totals may vary due to rounding.

Table 1.4.2 Mineral Resource estimate of the Ballarat East deposit as of 28th February, 2021.

Mineral Resources 28th February 2021. Grade Tonnage Reported above a Cut off Grade of 2.0 g/t Au				
Deposit	**Category**	**Tonnes (t)**	**Au (g/t)**	**Au Metal (Oz)**
BRT SU_CCFZ	Indicated	17,000	13.9	8,000
	Inferred	17,000	17.1	9,000
	Sub-Total	34,000	15.5	17,000
CA SU HHFZ	indicated	90,000	7.6	22,000
	inferred	44,000	7.4	10,000
	Sub-Total	134,000	7.6	32,000
LLB SU CCFZ	Indicated	102,000	7.0	23,000
	Inferred	44,000	6.3	9,000
	Sub-Total	146,000	6.8	32,000
LLB SU CSFZ&Nth	Indicated	354,000	6.4	73,000
	Inferred	63,000	6.9	14,000
	Sub-Total	417,000	6.5	87,000
NOR SC MFZ	Indicated	317,000	6.3	64,000
	Inferred	61,000	7.0	14,000
	Sub-Total	378,000	6.4	77,000
SOV FC MFZ&THFZ	Indicated	777,000	4.9	123,000
	Inferred	515,000	5.0	82,000
	Sub-Total	1,292,000	5.0	206,000
VIC FC TFZ	Indicated	108,000	5.3	19,000
	Inferred	142,000	5.5	25,000
	Sub-Total	250,000	5.4	44,000
BRT FC MFZ	Indicated	528,000	5.9	100,000
	Inferred	251,000	5.8	47,000
	Sub-Total	779,000	5.9	147,000
SOV SU MFZ	Indicated	107,000	4.6	16,000
	Inferred	89,000	4.0	11,000
	Sub-Total	196,000	4.3	27,000
CA FC MFZ	indicated	511,000	6.7	110,000
	inferred	286,000	5.9	54,000
	Sub-Total	797,000	6.4	164,000
TOTAL INDICATED		**2,911,000**	**6.0**	**558,000**
TOTAL INFERRED		**1,512,000**	**5.7**	**275,000**
TOTAL		**4,423,000**	**5.9**	**833,000**

Note: Mineral Resources which are not Ore Reserves do not have demonstrated economic viability. Tonnage is reported in metric tonnes (1 kt = 1,000 t), grade as grams per tonne gold (g/t Au) and contained gold in troy kilo-ounces (1 koz = 1,000 oz Au). Tonnages rounded to the nearest 1 kt. Ounces rounded to the nearest 1k oz Au. The underground Mineral Resource is reported above a cut-off grade of 2.0 g/t Au. The Mineral Resource has been depleted for mining up until 28th February, 2021. Totals may vary due to rounding.

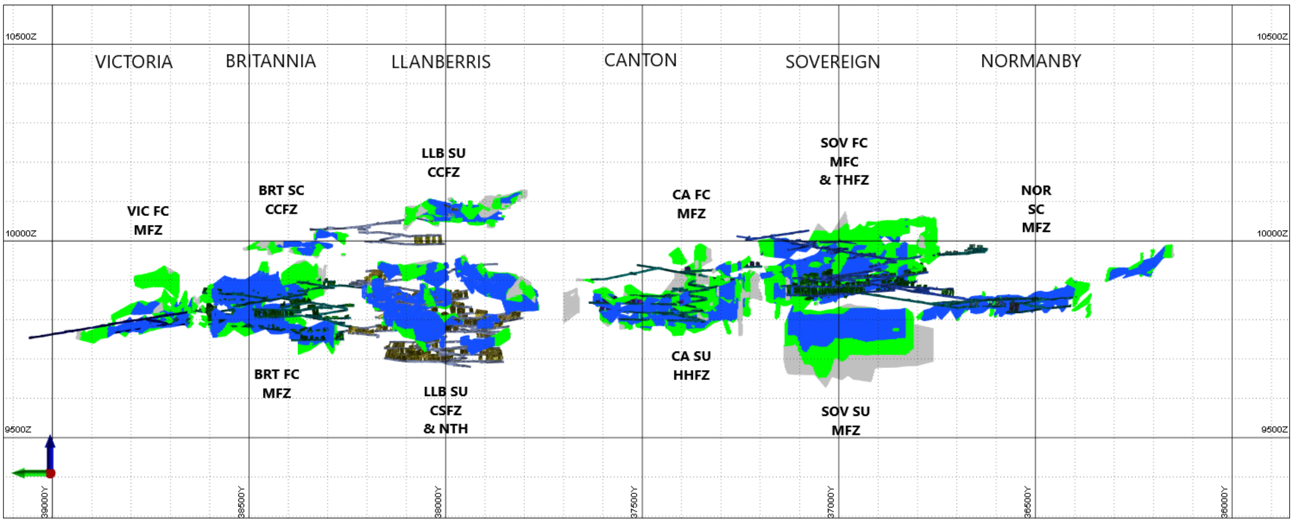


Figure 1-1 Location of the Ballarat East Mineral Resources. Oblique view looking east.

1.5 Economic Analysis

All currency values are in Australian Dollars unless otherwise denoted. The actual financial period 1 July 2020 to 28 February 2021 operating expenditure by department is detailed in Table 13.1.1.

The mined ore tonnes for the financial period totalled 228,758 t and the operating cost per tonne mined averaged A$167. The unit cost by department per tonne of ore mined is shown in 13.1.1.

Gold ounces sold for the financial period totalled 21,400 oz Au, and the site actual Ballarat mine cash operating cost per ounce sold averaged A$2,250. The operating cost per ounce sold is given in 13.1.2.

The average gold price received per ounce for the financial period to 1 July 2020 to 28 Feb 2021 was A$2,556 and revenue from bullion sales totalled A$54.8M.

Site infrastructure established prior to 2010. Any future capital costs associated with infrastructure will be to improve capacity or productivity.

1.6 Risk Assessment

No Ore Reserves have been defined at Ballarat, and therefore economic decisions to mine are based on Indicated Mineral Resources. Mine planning and scheduling are carried out with some flexibility built in to allow for change to be implemented efficiently when required. The project has established infrastructure and plant in place. Mining costs, parameters and methods are now well determined after ten years of continuous mining. The processing plant is designed for Ballarat's typical coarse-gold ore. It can achieve a recovery of around 82% and has designed capacity of approximately 600,000 tpa.

The Qualified Person considers the accuracy of the grade and tonnage estimate for the Indicated Mineral Resources to be within ±20–30% globally, based on the general experience of this style of mineralisation. Mine reconciliation data collected over the past five years support this range.

Social, legal, political and environmental risks are considered “low”, given the stable and developed nature of Australia.

2 INTRODUCTION

2.1 Aim and Scope of Report

Shen Yao Holdings and its wholly owned subsidiary Golden Point Group Pty Ltd commissioned DW Resources Industry Consulting Co., Limited ("DWR") to prepare an Independent Qualified Person's Report ("IQPR") in accordance with Practice Note 4C of the Catalist Rules of the Singapore Exchange Securities Trading Limited ("SGX-ST"). This IQPR is prepared by DWR, an independent consulting group based in Hongkong and contains all the information required to be included in a Summary IQPR under Catalist Rule 704(35)(a)(ii).

This report is intended to be read as a whole, and sections or parts thereof should therefore not be read or relied upon out of context. Unless otherwise stated, information and data contained in this report or used in its preparation have been provided by GPG. The effective date of this IQPR is 28th February, 2021. The drilling, assays and CRM material are dated till the 30th September 2020.

2.2 Use of Report

The Mineral Resource Estimate ("MRE") and the current status of the project will be publicly released by Shen Yao Holdings on the SGXNet platform of the SGX-ST and used by GPG to plan mining operations at Ballarat.

2.3 Basis of the Report

This report presents an update of the Mineral Resource estimate undertaken by members of the Ballarat Mine Team and reviewed by Dr Bielin Shi, an independent Qualified Person ("QP"). The Resources are classified by a Competent Person (analogous to Qualified Person) and reported in accordance with the JORC Code (2012). The database and geological model used to estimate the Mineral Resource have been compiled by GPG.

The QP has reviewed all input data, models and outputs in this IQPR and believes that they are appropriate and permit the Mineral Resources to be reported in accordance with the JORC Code (2012).

2.4 Standard Used

This report is prepared in accordance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the JORC Code, 2012).

2.5 Report Authors and Contributors

The QP for this IQPR is Dr Bielin Shi (Table 2.5.1). Dr Shi is a Principal Consultant with DW Resources Industry Consulting Co., Limited, an independent consultant group based in Hongkong. Dr Shi is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM) and a Chartered Professional Geologist (CPGeo) with the AusIMM. Dr Shi is also a member of the Australian Institute of Geoscientists (AIG). Dr Shi holds a PhD in Economic Geology from the University of Melbourne (1997) and post-Doctoral researcher in geostatistics in Edith Cowen University (2000). His experience includes more than 30 years in geostatistical theory and application, exploration geology, Mineral Resource assessment and evaluation, including orogenic gold deposits.

Dr Shi is independent from Shen Yao Holdings. Other experts that contributed to this IQPR, under the supervision of the QP, are listed in Table 2.5.2

Table 2.5.1 Qualified Person for this IQPR

Name	Position	Employer	Independent of Shen Yao Holdings	Professional designation	Contribution to IQPR
Bielin Shi	Director & Principal Consultant	DW Resources Industry Consulting	Yes	FAusIMM, CP(Geo), MAIG	All Sections Qualified Person

Table 2.5.2 Other staff who contributed to this IQPR

Name	Position	Employer*	Professional designation	Contribution
K. Sun	Geology Manager	GPG	MAusIMM	All sections
B. Nielsen	Senior Resource Geologist	GPG	MAusIMM	Section 4, 5
A. Dixon	Processing Manager	GPG	MAIG	Section 10
M. Davies	Senior Metallurgist	GPG	-	Section 11,12
J. Fothergill	Tenements Officer	GPG	MAusIMM	Section 3
P. Coppin	Senior Mine Geologist	GPG	-	Section 6
B. Byrne	Mine Geologist	GPG	-	Section 14
P. Carter	Community Officer	GPG		Section 13
B. Young	Accountant	GPG	CP Accounting	Section 14
J. Wang	Tech Service Manager	GPG		Section 9

* The personnel listed in Table 2.5.2 are not independent of Shen Yao Holdings

2.6 Independent Qualified Person

The information in this report that relates to Mineral Resources is based on information compiled by Dr Bielin Shi, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM) and a Chartered Professional Geologist (CPGeo) with the AusIMM. Dr Shi is also a member of the Australian Institute of Geoscientists (AIG). Dr Shi holds a PhD in Economic Geology from the University of Melbourne (1997) and post-Doctoral researcher in geostatistics in Edith Cowen University (2000). Dr Shi is a full-time employee and Principal Consultant Geologist with DW Resources Industry Consulting Co., Limited, a consulting group independent of Shen Yao Holdings.

Dr Shi has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the JORC Code, 2012). Dr Shi consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

3 PROJECT DESCRIPTION

3.1 Location

The Ballarat Goldmine is located to the south of the City of Ballarat (Figure 3-1) approximately three kilometres south of the city centre, and approximately 115 km north-west of Melbourne, Victoria.

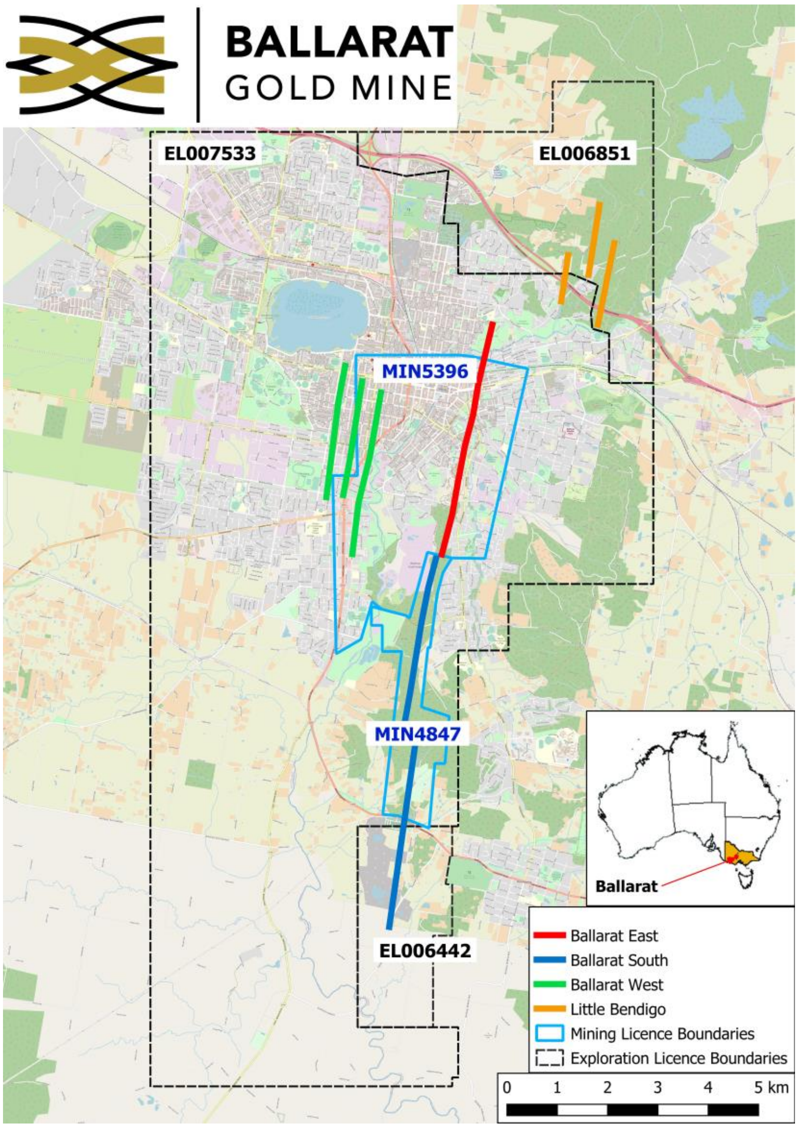


Figure 3-1 Location of Ballarat mine tenements

3.2 Tenure

GPG holds the tenements listed in Table 3.2.1 through its 100% owned subsidiary Balmaine Gold Pty Ltd ("Balmaine Gold") (Figure 3-1). The tenements cover the major, historical, hard rock mining prospects of the Ballarat East, Ballarat South, Ballarat West and Nerrina goldfields.

The Mineral Resources reported herein are located entirely within Mining Licence MIN5396. This licence is wholly contained within Exploration Licence (Application) EL007533. The mining tenements are in good standing with the regulatory authority, with all required bonds and permits in place, permitting mining and associated operations to be undertaken in the present and foreseeable future.

Table 3.2.1 Tenure details for Ballarat mine

Tenement	Asset name/ Country	Issuer's interest (%)	Tenement Status	Licence expiry date	Licence Area	Type of mineral, oil or gas deposit
Mining Licence (MIN5396)	Ballarat, Australia	100%	Mining	4/10/2023	14.86 km^2	Gold
Mining Licence (MIN4847)	Ballarat, Australia	100%	Mining	1/11/2024	4.10 km^2	Gold
Exploration Licence (EL006442)	Ballarat, Australia	100%	Exploration	6/08/2023	6.77 km^2	Gold, Base Metals
Exploration Licence Application (EL006851)	Ballarat, Australia	100%	Exploration, Awaiting grant	Application	17.09 km^2	Gold, Base Metals, Silver
Exploration Licence Application (EL007533)	Ballarat, Australia	100%	Exploration, Awaiting grant	Application	110.27 km^2	Gold, Base Metals, Silver

3.3 Tenure Conditions

The Ballarat Goldmine consists of the two Mining Licences MIN5396 and MIN4847 and granted Exploration Licence006442, with applications for Exploration Licence 006851 and Exploration Licence 007533 surrounding the mining licences.

Exploration Licence EL006442, was granted in August 2018, providing the company with exploration tenure over the southern extents of the Ballarat East mineralisation. Exploration licence 006851 was applied for in October 2018 over vacant tenement area incorporating the Nerrina (Little Bendigo) goldfield and northern extension of the Ballarat East mineralisation. Exploration Licence 007533 was applied for in November 2020 over tenement area vacated from the compulsory expiry of Exploration Licence 3018 incorporating the Ballarat East and Ballarat West goldfields not incorporated within Mining Licence 5396 and Mining Licence 4847. At the time of writing, GPG awaits correspondence from Earth Resources Regulation (The Regulator) regarding the granting of the tenements.

Mining licence conditions in Victoria state that mining must be ongoing and not cease for a period of greater than two years for a mining licence to remain valid, as stated under the Mineral Resources (Sustainable Development) Act 1990 ("MRSDA"). The current operations of GPG satisfy all conditions for the ongoing maintenance of mining licences.

Conditions for tenure of exploration licences in Victoria is based on a combination of exploration activity and expenditure determined by the government under the MRSDA conditions.

Land tenure within the project area consists of both freehold and Crown Land managed by a range of entities. The land managers include: The City of Ballarat, Central Highlands Water (CHW), Hancock Victoria Plantations (HVP), Sporting Clubs, private landowners and various other Committees of Management. Crown Land includes land reserved for specific purposes, Restricted Crown Land and Unrestricted Crown Land.

The dominant land use in Ballarat is residential. Surrounding the Ballarat Goldmine, the land is managed by GPG, CHW and HVP for forestry purposes.

Other conditions imposed by local and State government agencies are listed below:

- An Environment Effects Statement (EES) was approved in September 1988, this relates and informs conditions to the mining operations of the Ballarat Goldmine.
- A Planning Permit was issued by the Shire of Buninyong in September 1993 and subsequently extended by the City of Ballarat until September 2027.
- An authority to commence work for MIN4621 (one of several licences now amalgamated into MIN5396) was granted on 11 November 1993, and full-scale mining and ore processing now proceeds under this authority.
- The Work Plan for the Ballarat East mining operations (Ballarat Goldmine) was approved in 1993, under the MRSDA. The Work Plan outlines and permits the development of underground access,

dewatering, ventilation shafts, process plant (including the use of cyanide), tailings and waste rock storage facilities, services and rehabilitation.

- Subsequent variations to the Work Plan were applied for and granted, permitting:
  - Ventilation shaft development (2008, 2012)
  - Project rehabilitation works (1994)
  - Management of dewatering relating to the Ballarat Goldmine
  - Tailing storage facility construction and operation (2005, 2018)
  - Construction and operation of Concrete batching plant (2006)

- A waste discharge licence (18092) issued by the Environment Protection Authority allows for discharge of treated mine water into the Yarrowee River.

3.4 Changes in Tenement status

Mining Licence 4847 was applied for renewal in October 2019, in January 2021 the Regulator advised the tenement was renewed for a period of five years, due for expiry in 2024. Currently consideration is being given to the amalgamation of Mining Licence 4847 and Mining Licence 5396, there would be advantages in the combined renewal of the two tenements having a 15-year renewal term. Discussions with the Regulator will be undertaken to determine the appropriate course of action.

During the reporting period Exploration Licence 3018 expired in accordance with the MRSDA, application for the expired tenement area was submitted on 2 November 2020 as Exploration Licence 007533. Exploration Licence 007533 is considered a ‘competing’ tenement application, that is there are three other companies which have submitted applications over the same tenement area. These applications are being assessed by the Regulator, competing tenements are assessed based on several factors including proposed expenditure, adjacent mining licences held by the applicant, proposed work program and knowledge of the tenement area displayed by the applicant. It is anticipated that the exploration licence tenement area will be awarded to the successful applicant during 2021.

Prior to the grant of Exploration Licence 006851 and Exploration Licence 007533 both tenement areas are required to be advertised for a set period as required by the MRSDA. This advertising period is to allow comments (objections or support) by communities to be submitted relating to the proposed grant of the tenements. Comments received by the Regulator will be supplied to Balmaine Gold for review and required management prior to a final decision being made by the Regulator in regard to the granting of the tenements.

3.5 Native Title status

Both Mining Licence 4847 and Mining Licence 5396 were granted prior to Native Title Act, 1993 (NTA). There are presently no implications to the current mining tenements of Balmaine Gold relating to Native Title. Should Balmaine Gold undertake the amalgamation of Mining Licence 4847 and Mining Licence 5396 this would result in the amalgamated tenements requiring to be processed as a Future Act under section 233 of the NTA in relation to areas of Crown Land. Such amalgamation would require a Future Act Assessment to be completed, and advertising of the proposed amalgamated tenement area would be undertaken to identify if a Native Title Party were present. Should a Native Title party lodge a relevant claim relating to the tenement area it would be required to reach an agreement with the Native Title Party regarding future mining work to be undertaken upon the tenement prior to the amalgamation of the tenement areas.

Under the NTA both of Exploration Licence 006851 and Exploration Licence 007533 tenement areas require a Future Act Assessment under section 233 of the NTA. This will require both tenements to be advertised (separately) to identify if a Native Title Party with relevant interests is present regarding the areas of Crown Land within the tenements. Should a Native Title party lodge a relevant claim relating to the tenement areas it will be required to reach an agreement with the Native Title Party regarding future exploration work to be undertaken upon the tenement.

The Future Act Assessments must be complied with prior to the granting of any future tenements, and or amalgamation of proposed tenements.

Exploration Licence 006442 was applied for and granted after the NTA came into effect (1994), and the application and grant process required a Future Act Assessment to be completed. Advertising of the tenement was undertaken, and no Native Title Party submitted a claim in relation to the tenement area.

3.6 Access

The underground mine access site is located on the southern margins of the City of Ballarat, 115 km from Melbourne, the state capital of Victoria. Ballarat is accessible by an extensive road transport network and rail system. Domestic and international flights are accessible via two Melbourne airports with regular public services to Ballarat. Shipping facilities are available at nearby Melbourne and Geelong.

Access to the Ballarat Mine Site is restricted by the City of Ballarat Planning Permit, which states that heavy vehicles (those being in excess of 10 t) shall only be permitted to enter and leave the site between 0700 and 1800 from Monday to Friday (except where emergency repair works are required to be undertaken to maintain the on-site operation).

A combination of sealed and graded roads provides all season, light vehicle access from the main gate to all facilities throughout the site. Separate haul roads for mine vehicles and road registered vehicles provide safe access to the underground portal, TSF and Run of Mine ("ROM") pad.

3.7 Climate

The Ballarat region has a moderate climate (maximum elevation 470 m above sea level). The mean daily maximum temperature is 12.1 to 24.9°C in February, while the mean minimum daily temperature is between 3.7 and 9.2°C in July. The mean annual rainfall is 699.4 mm, with August being the wettest month with an average of 74.4 mm, and January being the driest month with an average rainfall of 35.8 mm. Like much of Australia, Ballarat experiences cyclical periods of drought and heavy rainfall.

3.8 Landforms, Soils, Flora and Fauna

Ballarat's location is in the southern foothills of the Great Dividing Range at an elevation of 400 m above sea level. The surrounding areas, with fertile red soils from the basalt flows, have been cleared for grazing and cropping with higher areas used for commercial pine plantations and the preservation of areas of remnant native forest. Areas with poor siliceous soils, generated on the Palaeozoic bedrock hills, are covered in Heathy Dry Forests and Grassy Woodlands; these ecosystems are dominated by eucalypts with an understorey of shrubs, herbs and graminoids.

The exploration project area may contain protected flora and fauna species which are either listed under the Flora and Fauna Guarantee Act 1988 (Vic), or under the Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth). There are five International Union for Conservation of Nature (IUCN) Red Listed species that are present in the region. These areas are identified during planning stages and avoided by the company. Should disturbance to vegetation be unavoidable, the company is required to provide and protect adequate vegetation offsets for the disturbance. The Ballarat Goldmine has not been required to provide any vegetation offsets to date. It is not anticipated that this will be required for works planned in the immediate future.

3.9 Grid Coordinate System

All references are in mine grid. All underground survey data is stored using mine grid with vertical control being Australian Height Datum 1971 (AHD) plus 10,000 m. The relationship between the national grid systems that have been used and the mine grid since it was established are shown below (Table 3.9.1 and Table 3.9.2). The mine grid was established prior to GPG taking ownership of the Ballarat Goldmine in 2010.

Table 3.9.1 Relationship between mine grid and Map Grid of Australia (MGA94)

Item	Value
Scale	1.000310271
Rotation	00deg 00min 00sec
Shift North	5800177.789
Shift East	700120.707

Table 3.9.2 Point for point comparison between mine grid and Map Grid of Australia (MGA94)

Mine Grid				MGA94		
Point #	Easting	Northing	AHD Elevation	Easting	Northing	AHD Elevation
BGF003	52401.537	35638.516	452.951	752522.244	5835816.305	452.951
BGF004	52150.073	35776.976	435.426	752270.702	5835954.808	435.426

4 HISTORY

4.1 Mining

Gold was discovered in the Ballarat district in August 1851; underground mining of quartz veins started in the late 1850s and continued until 1918. The Ballarat goldfield was the second largest gold producer in the state of Victoria as shown in Table 4.1.1.

The historical quartz mines at Ballarat East occur along a narrow corridor some 400 m wide and approximately four kilometres long, with a typical mined depth of 350 m (maximum 500 m). Recorded underground gold production totalled 1.6 Moz at an average recovered grade of 9 g/t Au. No significant gold mining or exploration took place until BGF commenced work in the mid-1980s.

Table 4.1.1 Hard rock and alluvial gold production history for the Central Victorian goldfields (Phillips and Hughes, 1998)

Goldfield	Total Gold (t)
Bendigo	697
Ballarat	**408**
Castlemaine	127
Stawell	82
Creswick	81
Walhalla	68
Maldon	65
Woods Point	52
Clunes	47
Chiltern	46

4.2 Previous Exploration and Development Work

Between 1985 and 1988, BGF carried out a programme of diamond drilling to test for continuation of mineralisation below the old mines. Approximately 8,000 m of diamond core was drilled along a strike length of 400 m. The results confirmed the existence of significant gold quartz mineralisation. Data obtained from this drilling programme is presented in Canavan and Hunt (1988).

During 1991, a further 11,000 m of diamond drilling was carried out under a joint venture between BGF and North Broken Hill-Peko. This drilling tested for mineralisation beneath the old mines and extended the tested strike length from 400 m to 2,800 m. Results of this phase of drilling are detailed in O'Neill *et al*. (1992). In 1994, a decline located at Woolshed Gully was commenced to access a resource delineated by Livingstone and d'Auvergne (1992). In 1996, the decline development was suspended without having reached its target and placed on care and maintenance.

In 2003, exploration drilling resumed from both the Woolshed Gully decline and surface locations. Between 2003 and 2009, 23,108 m of underground development and 246,977 m of drilling was completed. Lihir Gold Limited (**"**LGL**"**) acquired the project in 2007 via a merger with the aim of developing the project to mine 600,000 tpa for target production of 200,000 oz Au of gold. In late 2008, stope production commenced in the southern end of the deposit; mineralisation was more variable and discontinuous than previously modelled.

During 2008, LGL mined 129,000 t at a grade of 3.5 g/t Au and during 2009, mined 105,000 t at a grade of 4.3 g/t Au. By mid-2009, total gold production from the Ballarat East operation was approximately 29,000 oz Au. In February 2010, LGL suspended operations.

In March 2010, Castlemaine Goldfields Ltd (now known as Golden Point Group Pty Ltd or "GPG") entered into an agreement to acquire the Ballarat tenement package including the mill, various equipment and substantial mine development from LGL, for an acquisition cost of $8.6M ($4.5M and assuming a $4.1M rehabilitation bond) plus a 2.5% royalty on future production, capped at $50M (to Newcrest Mining Ltd). The mineral licences, which comprise the Ballarat Goldmine, are held by Balmaine Gold which is a wholly owned subsidiary of Golden Point Group Pty Ltd. Licence transfer to Balmaine Gold occurred in May 2010.

GPG underground exploration activities were focussed on the northern exploration targets on the First Chance and Sulieman Anticlines, in the Llanberris Compartment, with 15,000 m of diamond drilling completed in the period May–December 2010. Exploration success led to the completion of a feasibility study targeting gold production of 40,000 to 50,000 oz Au per annum. Underground mining activity recommenced in March 2011; the process plant was recommissioned, and first gold production started in September 2011. In August 2012, GPG became a wholly owned subsidiary of Shen Yao Holdings.

Since the commencement of operations at Ballarat, GPG has carried out continuous exploration drilling to delineate existing and new resources. With increased geological knowledge and drill density, the interpretation of grade, geological orientations and continuity has evolved.

4.3 Production History

Gold production, from the commencement of production in 2006, is tabulated to the 28th of February 2021 in Table 1.3.1.

5 GEOLOGICAL SETTING

5.1 Regional Geological Setting

Ballarat is located in the south-western part of the Lachlan Fold Belt within the Palaeozoic sedimentary rocks of the Bendigo-Ballarat subdivision (Figure 5-1). Graptolite-bearing Early Ordovician turbidites of the Castlemaine Super Group are the dominant bedrock lithology in the Bendigo-Ballarat zone. The Ordovician sediments were folded into north-south striking anticlinoriums and synclinoriums during the Ordovician–Silurian Benambran Orogen.

Shallow-water sediments of the Tertiary age Murray Basin cover the Ordovician rocks to the north, while Miocene marine sediments cover them to the south. The turbidites were intruded by a suite of Devonian age granites and, locally, by Jurassic lamprophyre dykes.

Quaternary age basalt flows cover the turbidites east and west of Ballarat. The volcanics are part of the extensive basaltic plains to the south and west of Ballarat and no mineralisation has been recorded within them. Four flows have been identified in the Ballarat area with a total thickness of up 150 m. The flows were deposited filling in the pre-existing drainage forming the Deep Lead deposits exploited early in Ballarat's mining history.

Regional scale, north-south striking, west-dipping reverse faults occur across the zone and have been interpreted to be related to the formation and the distribution of the numerous gold deposits in the region (Leader & Wilson, 2013).

Summaries of regional and local geology are found in Taylor *et al*. (1996) and Vandenberg *et al*. (2000) and the references contained therein. The geology of the Ballarat East goldfield and the forms and control of the mineralisation are described at length in Gregory and Baragwanath (1907), Baragwanath (1923), Canavan and Hunt (1988), d'Auvergne (1990), Osborne (2008), Fairmaid *et al.* (2011, 2017) and Wilson *et al.* (2016).

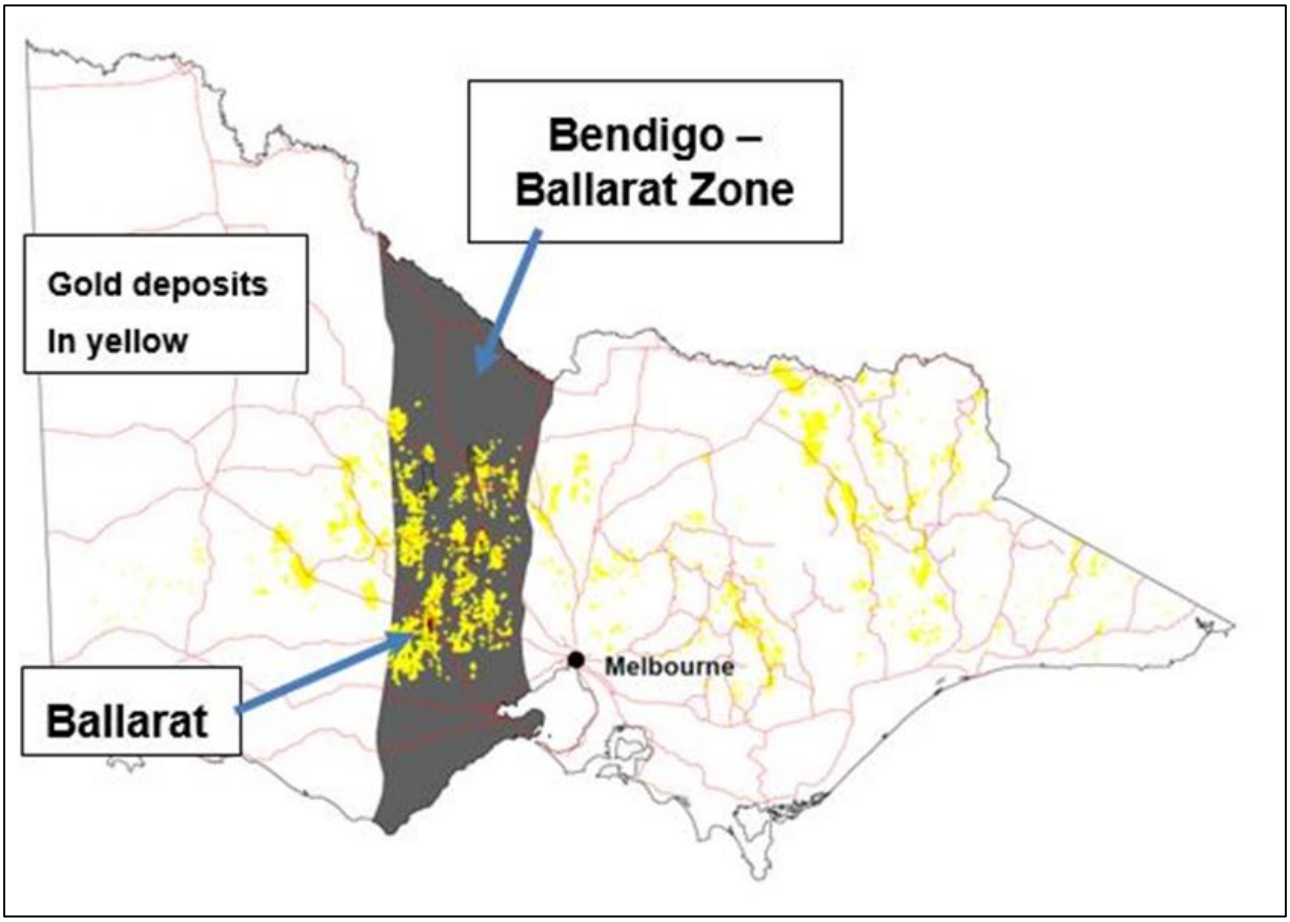


Figure 5-1 Location of the Bendigo-Ballarat zone in Victoria. Gold deposits in yellow.

5.2 Local Geological Setting

The Ballarat goldfield is positioned in the hanging-wall of the crustal-scale north-south striking, west-dipping Williamson Creek reverse fault. Three north-trending mineralised zones are identified in the Ballarat goldfield: Ballarat East, Ballarat West (including Ballarat South) and Little Bendigo. Gold mineralisation is hosted by Ordovician turbidites of the Castlemaine Supergroup.

The Ballarat Goldmine is located in the Ballarat East goldfield and lies on the eastern limb of the Ballarat Anticline. The turbidites were folded into a series of north-south trending, tight, upright chevron-style anticlines with wavelengths ranging from 50 m to 300 m. Numerous parasitic folds occur around the hinge zones of the larger folds (Figure 5-2). The three major fold lines of the Ballarat East goldfield are the Sulieman, Scandinavian and First Chance Anticlines.

The Ballarat goldfields are divided into multiple ‘compartments’ by a series of major faults referred to as cross courses (Figure 5-3). Cross-course faults are sub-vertical, brittle faults that are un-mineralised yet play an important role in the distribution of mineralisation, and gold tenors are relatively consistent within individual compartments. Cross courses typically trend northeast or northwest and have displacements ranging from centimetres to several hundreds of metres.

Like other Victorian gold deposits, the Ballarat East deposit is dominated by narrow quartz veins with disseminated gold. The lodes are confined to a set of closely spaced (wavelengths ≤ 200 m) asymmetric, tight to isoclinal anticlines with overturned eastern limbs. Within these folds, quartz-rich en-échelon vein array networks are linked to vertically stacked west-dipping faults (≤ 45°) that have limited along-strike continuity (200 m). A north-east extensional event characterises the final stages of mineralisation and disrupts earlier mineralisation.

Figure 5-2 Geological Interpretation of the First Chance Anticline on the Ballarat East goldfield at the 38,050 mN section (Allibone, 2009)

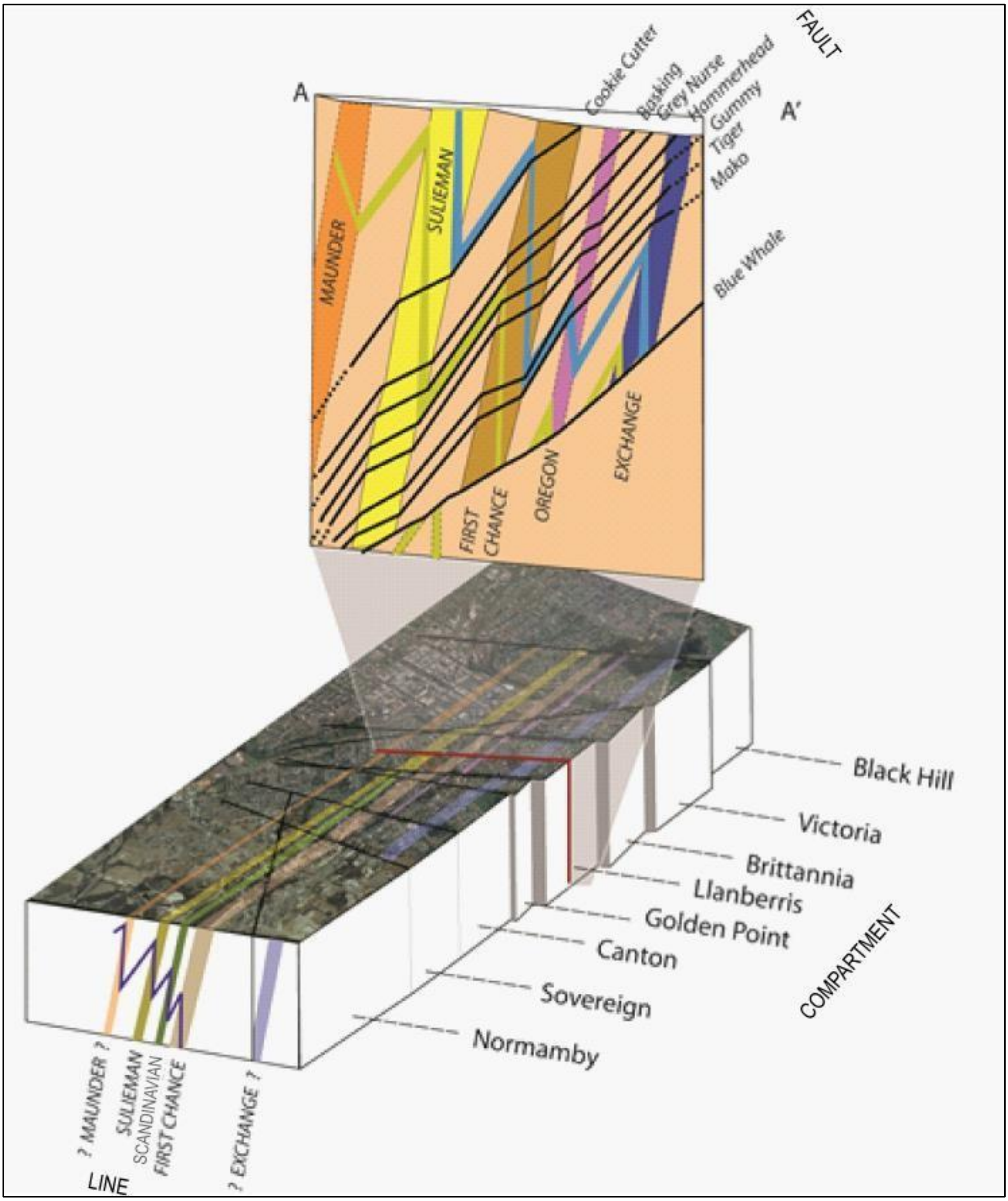


Figure 5-3 Fold lines, compartments and faults ('westdippers') at Ballarat East.

5.3 Mineralisation

The Ballarat goldfield is an orogenic gold deposit. Vein mineral assemblages include several generations of quartz with chlorite, sericite, albite and carbonate minerals. Arsenopyrite and pyrite are the dominant sulphide minerals with galena, sphalerite, chalcopyrite and pyrrhotite also commonly observed. The estimated percentage of sulphide minerals in the veins is 2%.

The host rocks show bleaching, carbonate aggregates, disseminated pyrite, arsenopyrite and pervasive halos of sericitic alteration around quartz veining.

Mineralogical observations that gold may occur in fractures within sulphide minerals or attached to the margins of sulphide grains indicate that gold was deposited after the sulphides. Gold occurs as native gold particles that range in size from several microns up to 30 mm (Figure 5-4).

The presence of coarse, often visible gold (> 100 µm in size) imparts a degree of risk due to both grade and geological variations that cannot be easily estimated. Coarse gold deposits rank amongst the most difficult of ore deposit types in terms of producing an accurate and precise mineral resource estimate (Dominy, 2014).

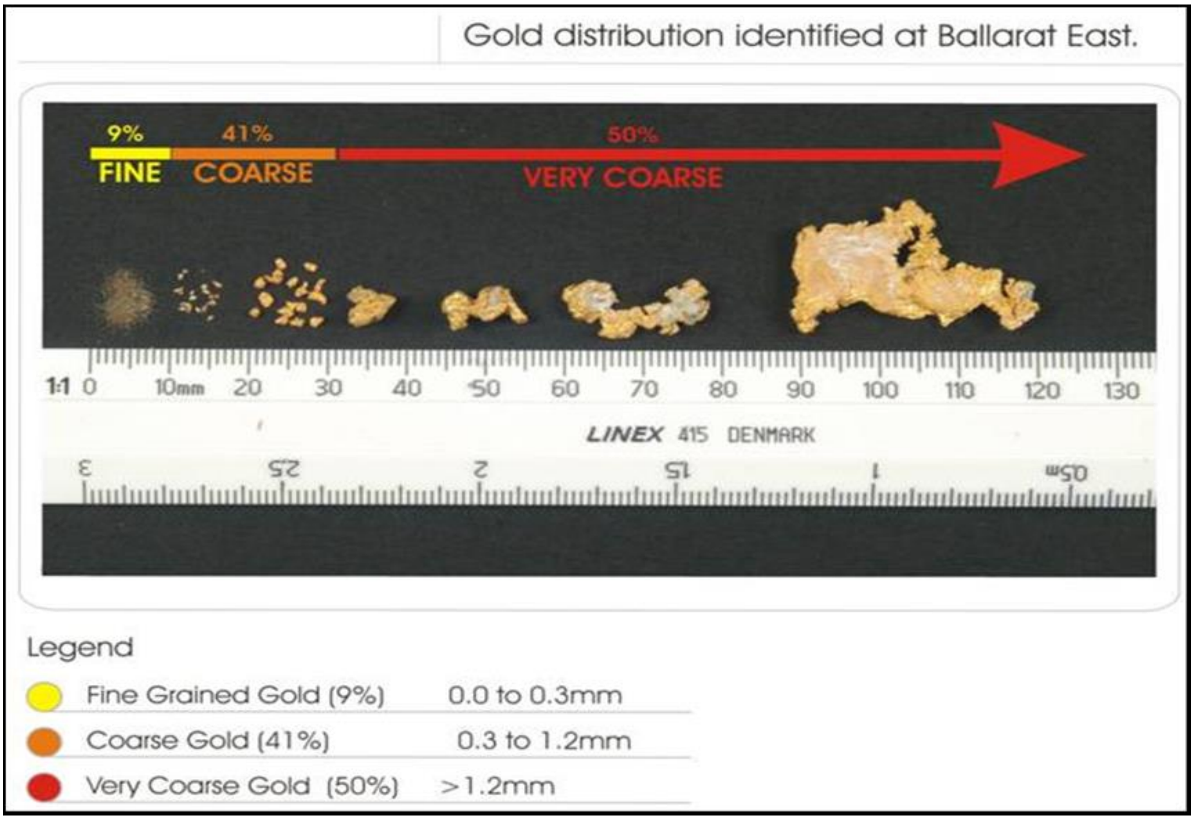


Figure 5-4 Gold distribution as recovered from a metallurgical test sample

The Ballarat Goldmine has three major productive lines of reef, located on anticlines of the same name: the Sulieman minor Line, the Scandinavian Line and the First Chance Line (Figure 5-3). A minor gold bearing line is the Oregon line to the east of current development. The major folds are continuous along the length of the goldfield. Each line of reef is divided into several compartments ranging in length from 150m to 500m along strike (Figure 5-3).

Gold mineralisation occurs as en-échelon vein arrays linked to vertically stacked shallow to steep west-dipping reverse faults that cross cut the eastern limb of the anticlines ('westdippers', Figure 5-3). West-dipping faults are generally narrow (< 1 m wide) and mineralisation is constrained within the fault plane. The Mako Fault Zone (MFZ) in the Llanberris Compartment is an example of a west-dipping reverse fault zone (Figure 5-5). The fault zones dip between 20º and 70º, extend up to 250m along strike (north-south), 90m down dip and ranges in thickness from 0.5m to 6m. Veining comprises a combination of massive quartz, weakly laminated quartz, brecciated quartz and stockwork veins. Later faults, offsetting early stage veining, have been observed amongst a complex zone of shearing and fault gouge development.

Steep to moderately east-dipping vein arrays ('spurs') occur between the major west-dipping faults and are thought to be important linking structures that may create local hotspots of gold mineralisation where they interact with the west-dipping faults. Mineralisation of the spurs is geologically complex and comprises stockwork zones of thin mineralised quartz bands and un-mineralised host rock. In general, the east-dipping spurs form a small proportion of the mineralised resources and have lower grades than the west-dipping lodes.

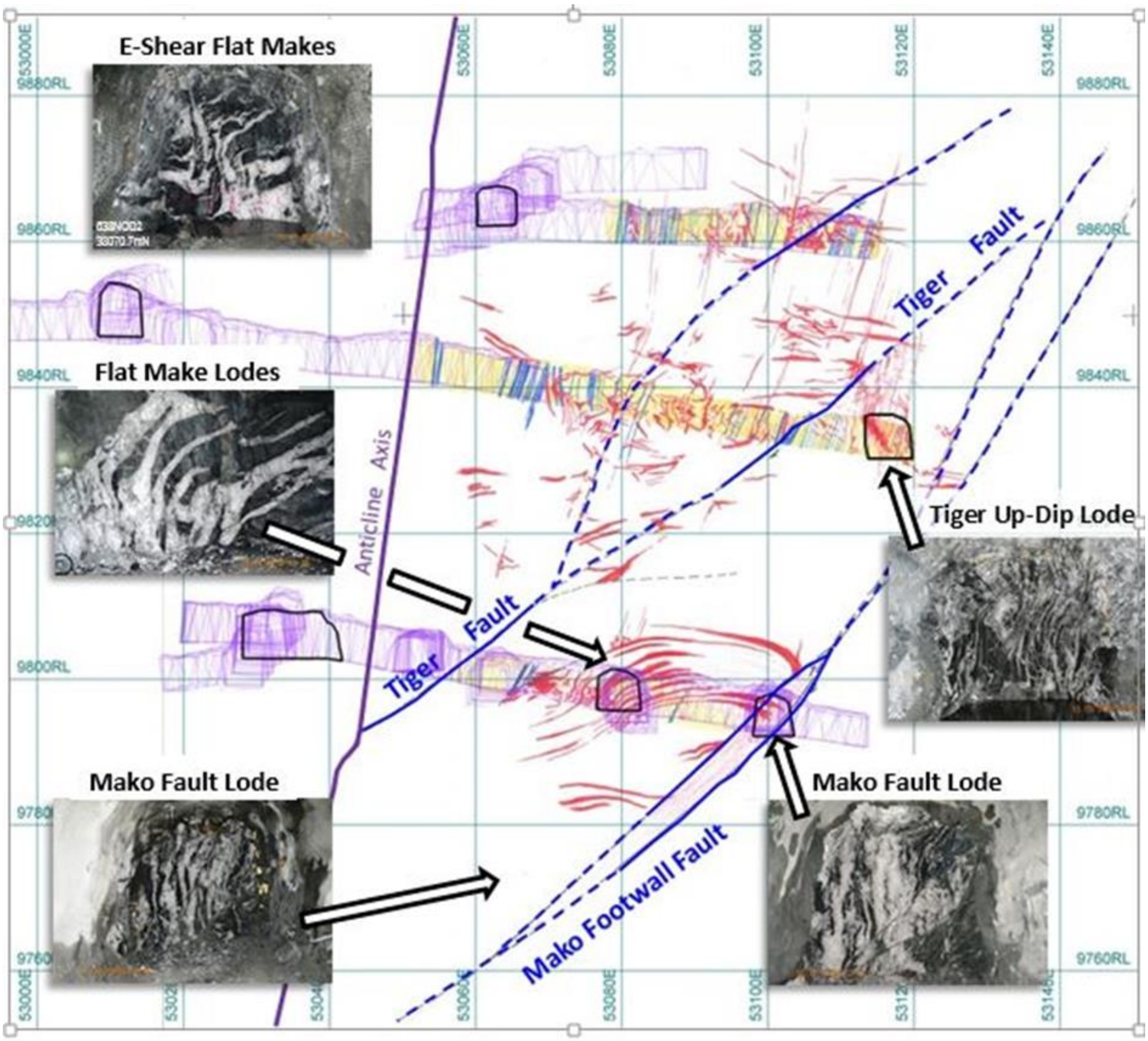


Figure 5-5 Composite cross-section of the Mako Fault Zone of the Llanberis Compartment.

6 MINE EXPLORATION

6.1 Ballarat Goldmine

The exploration focus of the Ballarat Goldmine is on Resource expansion of the current mineralisation, during the reporting period mine exploration has focussed upon increasing mineral resources associated with the Ballarat Goldmine.

Exploration of the Ballarat Goldmine primarily consists of 'in-mine' exploration utilising diamond core drilling and development mapping and sampling of underground headings. Future mine development targets will be identified through research and review of the extensive historical database relating to past mining and exploration completed. Material will be systematically assessed to identify mineralisation potential and identify targets which are considered to be near current development, and identify mineralisation, which upon further exploration, may result in economic mineralisation capable of supporting future mining operations.

The Ballarat Goldmine consists of multiple exploration targets within the mine sequence proposed for future exploration. Timing will be dependent on the mine capacity to source suitable drill locations (underground), and future accessibility of identified mineral resources.

Exploration of the Ballarat Goldmine is structurally controlled, based on prospective fold limbs which are termed 'Lines'. Multiple Lines are identified within, and parallel to, the Ballarat Goldmine. At the Ballarat Goldmine diamond drilling has explored the 'near mine' exploration targets associated with Lines, located approximately 200-300 metres east and west of the current underground development. Both targets are considered prospective for future mineralisation and mining opportunities and will be systematically explored as the mine develops. While no significant drill intercepts have been recorded to the present, exploration has confirmed the existence of significant structures (fold limbs and faulting associated with mineralisation). Future drilling will continue to examine these structures and identify further mineralisation.

No drilling has been completed on other regional exploration targets at Ballarat during the reporting period.

6.2 Exploration Methods

6.2.1 Geophysics and Remote Sensing

No geophysical exploration has been undertaken at the Ballarat Goldmine during the reporting period.

6.2.2 Surface Geochemistry

No surface geochemical sampling has been undertaken upon the Ballarat project during the reporting period.

Surface geochemistry data were not used for estimation domain definition or estimation and data quality is not further detailed here.

6.2.3 Diamond Drilling

Over 6,950 diamond drillholes have been drilled into the Ballarat East goldfield since the onset of modern exploration in 1991. The total drillhole database covers a region spanning from 36,000 mN to 39,000 mN and 52,250 mE to 53,500 mE (mine grid). Core drilled is largely NQ2 (50.6 mm) with some LTK60 (44.1 mm), HQ (63.5 mm) and BQ (35 mm).

From 2003–2009 drilling was carried out by Boart Longyear Pty Ltd using its own rigs as well as rigs provided by Deepcore Drilling Pty Ltd (Deepcore). Since purchase of the tenements by GPG, all drilling has been carried out by Deepcore using Boart Longyear LM75 and LM90 rigs.

Drilling is generally completed normal to the strike of the mineralisation with some steeper or more acute angles for some of the exploration holes.

Between 1st July 2020 to 30th September 2020, 183 diamond drillholes, totalling 27,166.6m were drilled for an average hole depth of 148m. Targets included previously untested areas within the recognised mine sequence where the geological model for Ballarat East indicates potential mineralisation. Drillholes targeting these areas have been drilled from the underground workings.

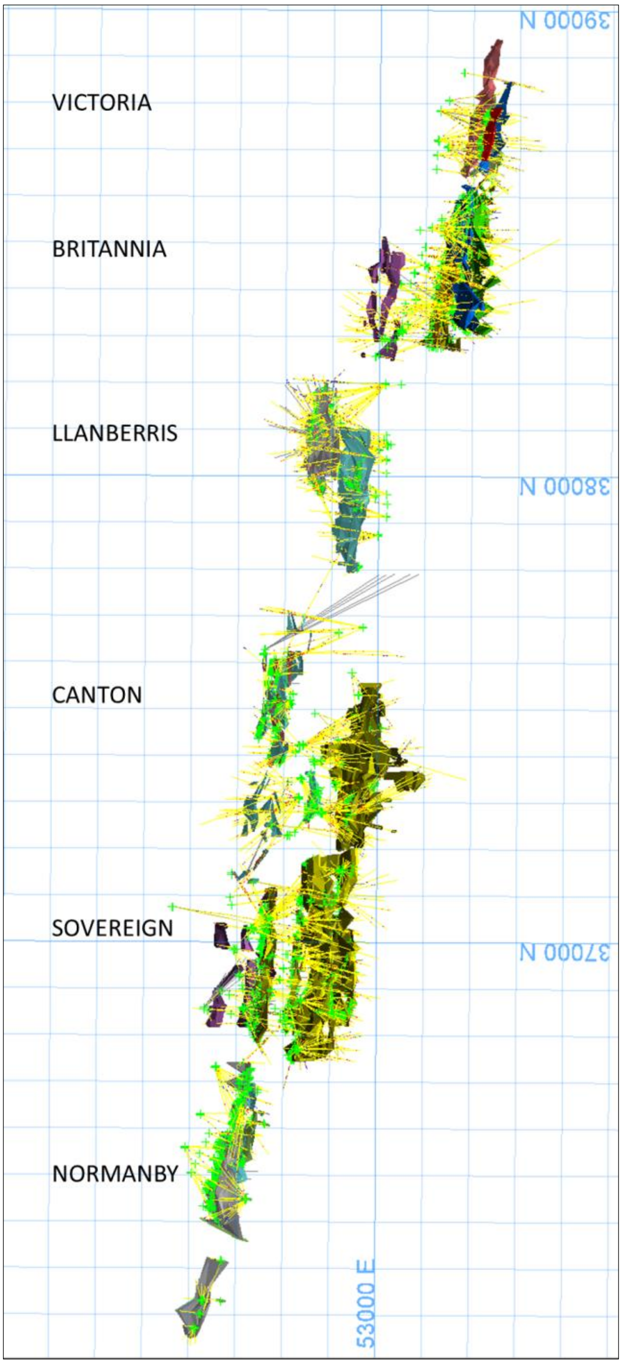


Figure 6-1 Total Exploration Diamond Holes drilled into Ballarat East.

6.2.4 Sludge Drilling

Grade control sludge drilling has been carried out at Ballarat East since August 2005 to September 30th 2020. During this period, 2,057 individual sludge holes have been drilled that are validated in the GPG database. No sludge assay data was used in the resource estimation. Sludge holes were used for domaining purposes where appropriate.

6.2.5 Face Chip Sampling

Face-chip grade control sampling has been carried out at Ballarat East since May 2015 with 3,906 samples collected to date. Face chip samples are used for domain definition but were not included in the Mineral Resource estimate unless diamond drilling data density was insufficient.

6.3 Sample Preparation, Analyses and Security

6.3.1 Sample Preparation

Core samples are selected over mineralised intervals, as determined by the geologists. These intervals are based on logged features such as faulting, percentage of quartz and quartz textures. Sample intervals are selected not to cross lithological boundaries, where possible, to allow evaluation of different statistical populations. Core photographs are taken of each tray prior to sampling. Upon receipt of assays, all significant intersections are reviewed against logging and core photos to ensure consistency with expectations. This check is carried out by the responsible logging geologist or their supervisor.

6.3.2 Sample Analyses

Up until 2011, half core samples were taken at nominal lengths of 1 m. From 2011–2014, full core was sampled at nominal 0.4 m (NQ2) and 0.5 m (LTK60) intervals to provide a minimum of 2 kg of sample material for the LeachWELL 2000 (LW2000) assay method. Since 2014, full core has been sampled at nominal 0.7 m intervals with a minimum length of 0.3 m. Sample material in excess of 2.4 kg (upper sample limit of the LW2000 method) is bagged as reject after crushing. Of the 262,526 diamond core samples that were available for the MRE, <15% were from half core >85% were from full core.

Shen Yao Holdings commissioned an on-site laboratory named Ballarat Goldfields (BGF) in March 2008 to replace Amdel Kalgoorlie for the processing of all geological samples (Table 6.3.1). GPG, upon purchase of the mine, sold BGF to Gekko Systems Pty Ltd (**"**Gekko") who continue to provide all laboratory services for the mine. A summary of sample preparation protocols in place for each Assay Laboratory is presented in Table 6.3.2.

There were 262,526 diamond core samples available for the MRE, >95% were analysed by LW2000, while the remaining samples were analysed by fire assay ("FA", 2%) and Pulverise and Leach ("PAL", 3%). Since 2011, all primary assays were conducted on full-core samples using the LW2000 analytical method. For the LW2000 analysis, a 2 kg sample is placed into a concentrated cyanide solution to leach the gold over a 24-hour period while the bottle is continually rolled. The resultant gold-rich liquor is then extracted from the solution and analysed by Atomic Absorption Spectroscopy ("AAS").

Table 6.3.1 Assaying laboratories

Period	Laboratory	Location
Unknown – April 2008	Amdel	Adelaide and Kalgoorlie
April 2008 – August 2009	Ballarat Goldfields (BGF)*	On-site at Ballarat Goldmine
June 2011 – Present	Gekko Systems Laboratory	On-site at Ballarat Goldmine

* Shen Yao Holdings owned

6.3.3 Sample Security

Core trays are brought directly from the underground drill sites to the core shed, located within 500 m of the mine portal and within the fenced perimeter of the mine site, which is not accessible to the general public. After core logging and sampling, the prepared samples are packed into pods and delivered to the assay laboratory located 50 m from the core shed and within the mine site compound. Access to the mine site is restricted to employees and authorised visitors.

Historically, samples processed by the Amdel Laboratories in either Adelaide or Kalgoorlie were delivered by BGF personnel on plastic-wrapped pallets to a third-party transport operator based in Ballarat. Samples were tracked during transit via consignment notes.

Table 6.3.2 Summary of laboratory processes, September 2007 to 28th February 2021.

	AMDEL (exploration)	AMDEL (production)	BGF (exploration)	BGF (production)	Gekko
Location	Kalgoorlie/Adelaide	Kalgoorlie/Adelaide	on-site (Ballarat)	on-site (Ballarat)	on-site (Ballarat)
Sample Type	Half-Core	Full-Core	Half-Core	Full-Core	Full Core
Nominal Sample Length (m)	1	1	1	1	variable
Nominal weight (kg)	2.5	5	2.5	5	variable
Drying temperature	Crushed in Ballarat to 5–10mm before being bagged and sent to Amdel	Crushed in Ballarat to 5–10mm before being bagged and sent to Amdel	80–100	80–100	100
Drying time (hr)			6–12	6–12	24
Crushing Method			Jaw Crusher	Jaw Crusher	Jaw Crusher
Crush size (mm)			5 to 10	5 to 10	5 to 10
Boyd Crusher Splitting/sub-sample	No	Split at Amdel	No	Yes	No
Target size	NA	Not defined	NA	95% passing 3mm	NA
Sample to reject ratio <1.5kg sample	NA	Not defined	NA	no splitting	No reject, all sample rolled
sample to reject ratio for 1.5 to 6kg sample	NA	Not defined	NA	50:50:00	Split to 1.5 – 2.4kg
sample to reject ratio >6kg sample	NA	Not defined	NA	60:40:00	Split to 1.5 – 2.4kg
Pulveriser	LM5	LM5	LM5	LM5	LM5
Target grind	grind passes 75µm	grind passes 75µm	95% passing 75µm	95% passing 75µm	95% passing 75µm
Split by rotary	Not defined	Not defined	No	No	Samples >2.4kg
Method	LW2000	LW2000	LW2000	LW2000	LW2000
maximum weight	2000 g	2000 g	2000 g (sub-sample)	2000 g (sub-sample)	2400 g
Leach solution	2000 g premixed aqueous solution of Sodium Cyanide, later changed to two LeachWELL tablets.	2000 g premixed aqueous solution of Sodium Cyanide, later changed to two LeachWELL tablets.	2 LeachWELL tablets per bottle	2 LeachWELL tablets per bottle	2 LeachWELL tablets per bottle
Roll time	24hr	24hr	24hr	24hr	24hr
Au Measurement Method	AAS	AAS	AAS	AAS	AAS
Filter and press bottle roll residue and FA50	1 in 20	1 in 20	1 in 20	1 in 20	Until June 2013: All primary samples returning results greater than 5 g/t Au, Since June 2013: Limited to selected zones.
Turn around	4 weeks	4 weeks	2–6 days	2–6 days	3–10 days

6.4 Data Quality Management System

GPG's data quality management system (DQMS) consists of the following aspects.

Table 6.4.1 Data quality management systems

	Process	Timing	Detail
Component 1:	Data Quality Objectives	Before start	Statement of purpose, quality objectives
Component 2:	Data Quality Assurance	Before start	Standard Operating Procedures, selection of equipment, drilling contract, laboratory procedures, etc.
Component 3:	Data Quality Control	During programme	Statistical Process Control systems/data monitoring sheets
Component 4:	Data Quality Acceptance Testing	After completion of programme	Determination of the Quality of data: pass/fail for each data point

6.4.1 Data Quality Objectives

GPG's data quality objectives (DQO) determine that the quality of exploration data must be fit for the purpose of classification in the Indicated mineral resource classification category, so that these models can be ultimately used to convert mineral resources to reserves and carry out accurate mine planning.

The quality of grade control data must be fit for the purpose of detailed stope planning, so that reserves can be extracted within 10–20% reconciliation margin of error.

6.4.2 Quality Assurance

Quality assurance is achieved using technically sound, simple, prescriptive SOPs and management systems. The following sections briefly describe the SOPs for each relevant data collection point.

6.4.2.1 Location Data

a. Drill Collar Survey

Drill collars were surveyed by qualified GPG surveyors, using a one-man total station, with data downloaded electronically using automatic error-preventing methods. If a collar is lost before the survey pick-up, an estimated collar is used. An estimated collar can only be generated if a minimum of two drillholes with known collar positions were drilled from the same position.

The QP has not reviewed any SOPs relating to the surveying of collars; however, considers the risks involved with drill collar surveys, with respect to the DQO, to be minor.

b. Downhole Azimuth and Dip

Downhole surveys were carried out using Globaltech Pathfinder® downhole multi-shot cameras up to January 2015 when they were replaced by Reflex EZ-Trac 6393 cameras supplied by Deepcore. The cameras are replaced every 6 months with certified re-calibrated cameras. Onsite calibration checks of each camera are performed on arrival, and then monthly or whenever anomalous results occur. For onsite calibration, cameras are placed in a non-magnetic cradle with known orientation; the surveyed orientation is then compared against the expected result to ensure it is within acceptable tolerances.

Single-shot down-hole surveys are performed at 30-m spacing during drilling, and multi-shot surveys at three-metre spacing upon completion of the hole. Poor ground conditions may prevent multi-shot surveys from being completed over the entire drillhole length. In such circumstances, the remaining portions of these drillholes are surveyed using single shot surveys at nominal 15–30 m intervals.

The QP has not reviewed any SOPs relating to downhole surveys in detail; however, considers the risks involved with down-the-hole surveys, with respect to the DQO, to be minor.

6.4.2.2 Bulk Density Measurements

Wet/dry weight density measurements were collected using the water-submersion technique by BGF, Gekko and GPG between 2007 and 2018 (n= 632).

Bulk density determination procedures are detailed in Standard Work Instruction document 200-06, which also describes the methodology used for calculating the bulk density for samples containing vugs or open spaces.

The QP has reviewed the documents and considers that there is most likely little risk in the quality of wet/dry density data collection. However, selection bias is a common issue associated with the collection of water-submersion density measurements. It is recommended that calibration and other check and balance processes are also specified in the SWI and reviewed.

6.4.2.3 Grade Data

a. Primary sample

For diamond drilling, (primary) sample quality is determined by the drillers' ability to return whole core samples from the hole. The SOPs detailing the drilling practices at Ballarat and have not been sighted by the QP. The QP has not audited the drilling process in the field due to international travel restrictions associated with the COVID-19 pandemic. This is not considered material for the mineral resource estimate. Core loss is initially delineated by drilling staff during core lay-out underground. Core recovery is recorded in the lithology logging field of the acQuire database as "core-loss".

Standard operating procedures are in place for the tailings hopper sampling at the mill. These procedures are documented in SWP-003 and SWP-005A, which have been reviewed by the QP.

A formal SOP was not available for the 2019 tails dam in-situ sampling programme; however, the QP has reviewed written correspondence between geology managers and sampling staff that specified what procedures were required to be followed to collect these samples.

b. First split

Since 2011, core-cutting has been discontinued and full core samples are collected to provide sufficient sample support for the LW2000 analysis.

Core sampling (splitting) procedures from before 2011 are detailed in Standard Work Instruction document 200-04, which has been reviewed by the QP.

Sample splitting does not occur as a matter of routine for the tailings hopper samples that are used in the mineral resource estimation for the TSF, as the primary DQO for this sampling point is to monitor plant performance.

For the tailings dam, in-situ samples collected by GPG in 2019, were split and submitted to Gekko. Standard operating procedures of the splitting process were not provided to the QP.

c. Analytical

The analytical phase of the process involves digestion of the sample by LeachWELL method and analysis by AAS (LW2000 method). The Gekko Assay Laboratory is accredited for compliance with ISO/IEC 17025 and uses its own SOPs that are available to GPG and have been reviewed by the QP.

6.4.2.4 Geological Data

Core logging procedures are detailed in Standard Work Instruction document 200-02, which has been reviewed by the QP. The core logging process has not been audited by the QP due to time constraints as a site visit had to be cancelled due to international travel restrictions associated with the COVID-19 pandemic. This is not considered material to the mineral resource estimate.

Geological data are entered and uploaded electronically from laptop computers into acQuire through fillable forms. Internal validations restrict the codes that can be entered with additional safeguards including automated overlap and interval gap checks. For hole IDs and sample numbers, only unique values can be entered into the database. Data entry is limited to geology logging staff with access permission set by the site IT manager.

Qualitative logging is undertaken for mineralisation, lithology, alteration, structure and geotechnical rock quality. Structural measurements of bedding, cleavage and fault planes are collected to aid interpretation of the ore body. Core is oriented against the north-south trending cleavage that is known to be persistent through the goldfield. Logs are entered directly into an acQuire logging sheet using laptop computers. Only approved lithology and alteration codes can be entered into the logging sheet. Once validated, geology logs are imported into the acQuire database. Errors warn the logging geologist if overlapping intervals are present so that they can be corrected. Gaps in logging data are identified via scripts that are run regularly in acQuire.

6.4.3 Quality Control

The purpose of Quality Control (QC) is to detect and correct errors while a measuring or sampling system is in operation. The outcome of a good QC programme is that it can be demonstrated that errors were fixed during operation, and that the system delivering the data was always in control. For those periods where the system was in control, it can then, afterwards, be determined whether the quality, measured by accuracy and precision, were fit for purpose, as stated by the DQOs. The process of quality control is achieved by inserting and constantly evaluating checks and balances. The results of these QC data are discussed in the following sections, with a statement on whether each of the processes were in control, with respect to purpose as outlined by the DQOs.

6.4.3.1 Location Data

a. Collar

The control of the quality of the underground collar coordinates is accomplished by simple continuous visual comparison of the collar location against the triangulation of the underground workings. This validation is performed using Vulcan software. This control process has performed adequately, as demonstrated by the fact that no significant discrepancies were identified for the holes used in the MRE between collar positions and the surveyed underground workings.

b. Downhole Azimuth and Dip

The quality of downhole azimuth and dip measurements was controlled using standard servicing and calibration of the survey tool as advised by the manufacturer. In addition, survey measurements were validated by underground surveyor pick-ups in underground workings, which are compared against the surveys in the database.

Where drill holes were encountered to perforate development faces, the XYZ coordinates of the perforations were recorded and compared with the location of the trace of the hole path in mining software. This was completed for ~45 drill holes and showed a small error of 10–50cm with a few values up to 1–3m for deeper/longer holes. In the past hole paths were corrected to snap to these recorded accurate perforation points in the survey database. This process has not been carried out for drilling during this reporting period as no significant deviations have been seen and surveyed.

6.4.3.2 Bulk Density Measurements

No new bulk density data was collected during this reporting period. Checks and balances were not inserted into the wet/dry weight density data collection process performed in the past and therefore it is not possible to assess the quality control of this process historically. Given the already well-understood density characteristics of the wall rocks and mineralisation, the risk associated with this is expected to be very low.

It is recommended that GPG insert such checks and balances into the system for any future work.

6.4.3.3 Grade Data

a. Primary Sample

During core orientation and mark-up by field assistants, the position of the core loss was reviewed for consistency. It is not known whether active QC occurred, whereby any core recovery issues were communicated back to the drillers, as it is not described in an SOP or reported.

No quality control procedures were in place during the mill sampling to check the quality of the tailings samples used in the mineral resource estimate of the TSF. Samples were weighed to not exceed 10 kg, but it is unknown if weights were recorded or what steps were taken if the sample weights exceeded 10 kg.

b. First Split

Since core samples were not split (cut), and were submitted as full core, there was no first splitting process to control.

c. Analytical

Gekko provided assay quality certificates together with analytical results since the commencement of GPG's stewardship in 2010. Quality certificates were reviewed by company geologists as they were received and filed on the company's server. Any issues identified (e.g. failure of certified reference materials (CRM), missing samples and compromised samples) were addressed with the laboratory and corrected where possible before assays were loaded into the database. In addition to CRMs inserted at the laboratory, GPG submitted its own 'disguised' CRMs for assaying. The CRMs were supplied by Geostats Pty Ltd and OREAS and covered gold grades from 0.8 to 48.9 ppm, consistent with the expected range of assay results. The submitted CRMs are considered appropriate to the style of mineralisation being analysed.

CRM insertion rates during the BGF/LGL era are not well documented, but over the period from June 2005 to April 2010, 40,470 primary samples and 5,240 standards were assayed, suggesting an average insertion rate of about 1 CRM per 7 samples. During GPG's stewardship, CRMs have been inserted randomly, and at a rate of 1 per 20 primary samples.

For the period from June 2005 to 30th September 2020, 13,859 CRM results are available for a suite of 61 CRMs. Of these results, 95% fell within 2 standard deviations of the certified value.

As the quality of the majority of the CRM data has already been assessed in previous QPR reports, only CRM data for the period from 1 July 2020 to 30th September 2020 have been reviewed for this report. During this period, 542 standards from 11 unique reference materials were submitted to Gekko for LW2000 analysis (Table 6.4.2). CRMs 2J, 2T, 2U, 2W and 2X were in rotation during the previous reporting period and their use carried over to this reporting period. The use of CRMs 3A, 3B, 3C, 3D, 3E and 3F also carried over from the previous reporting period and these CRMs continue to be used whilst the "2" series CRMs were phased out.

The method applied by the QP in this report to review whether the laboratory was proving consistent results during the reporting period is *a posteriori* approach. Its main purpose is to identify, after the fact, where special cause variation has occurred, to the degree where the DQOs were not met.

A selection of Shewhart control plots is shown in Figure 6.2 – Figure 6.6.

Table 6.4.2 Overview of CRMs received to date from the period 1st July 2020 to 30th September 2020

ID	CRM	N	Method	CRM Value	CRM Std	CRM Method
2J	G315-3	13	LW2000	1.97	0.07	Aqua Regia Digest
2T	G313-7	45	LW2000	6.97	0.32	Aqua Regia Digest
2U	G318-6	23	LW2000	2.67	0.16	Aqua Regia Digest
2W	G914-7	1	LW2000	9.68	0.43	Aqua Regia Digest
2X	G917-2	12	LW2000	24.47	1.22	Aqua Regia Digest
3A	OREAS 229b	42	LW2000	11.762	0.376	Cyanide Leach
3B	OREAS 232	91	LW2000	0.803	0.05	Cyanide Leach
3C	OREAS 235	69	LW2000	1.38	0.076	Cyanide Leach
3D	OREAS 237	84	LW2000	1.939	0.102	Cyanide Leach
3E	OREAS 238	87	LW2000	2.654	0.127	Cyanide Leach
3F	OREAS 239	75	LW2000	3.092	0.138	Cyanide Leach

In a bid to further improve the control of the performance at the laboratory, six alternative CRMs were introduced in June 2020. These CRMs, manufactured by OREAS, have certified grades by Cyanide Leach, which is more comparable with the analyses used at Gekko (LW2000), as opposed to the partial digestion method (Aqua Regia) that was used for the certified grade of the CRMs by Geostat (2B–2X). This reporting period represents the transition between these two types of CRMs.

CRM 2J (G315-3) and CRM 2T (G313-7) were analysed for a total of 13 times and 45 times respectively during the reporting period. The Shewhart control plots (Figure 6.2) show no instances of special cause variation or results outside of warning limits.

CRM 2U was analysed 23 times during the reporting period and only recorded one result outside of warning limits. It is very likely this was a mistaken CRM substitution, as CRM 2J which was also in use at the time, has a very similar expected value.

The high-grade CRM 2X (G917-2) was analysed a total of 12 times during the reporting period. The Shewhart control plot **(Figure 6.3**) shows no instances of special cause variation and no results outside of warning limits.

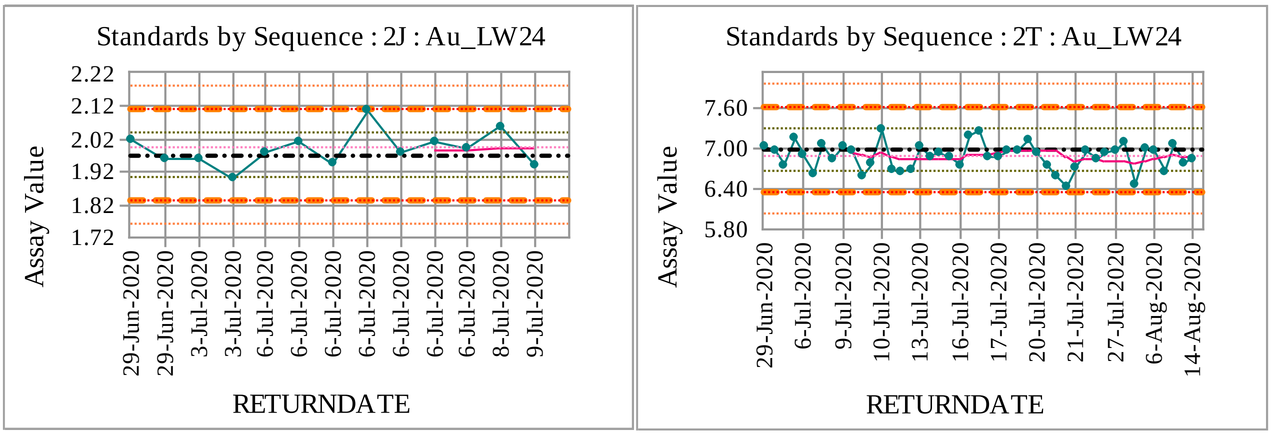


Figure 6.2 Shewhart control plot for Au grades in CRM 2J (G315-3) and CRM 2T (G313-7) by LW2000. No instances of special cause variation.

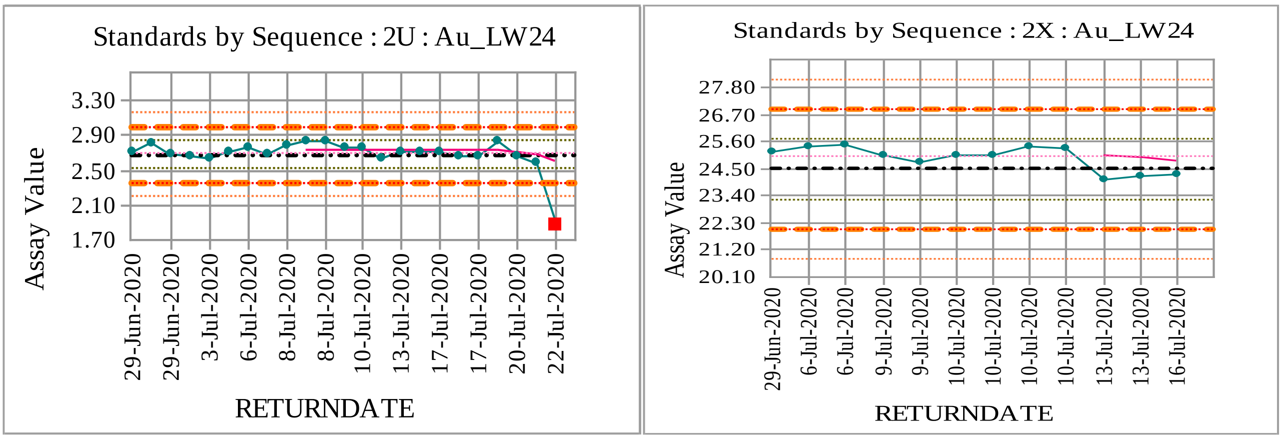


Figure 6.3 Shewhart control plot for Au grades in CRM 2U (G318-6) and CRM 2X (G917-2) by LW2000. Only one instance of special variation.

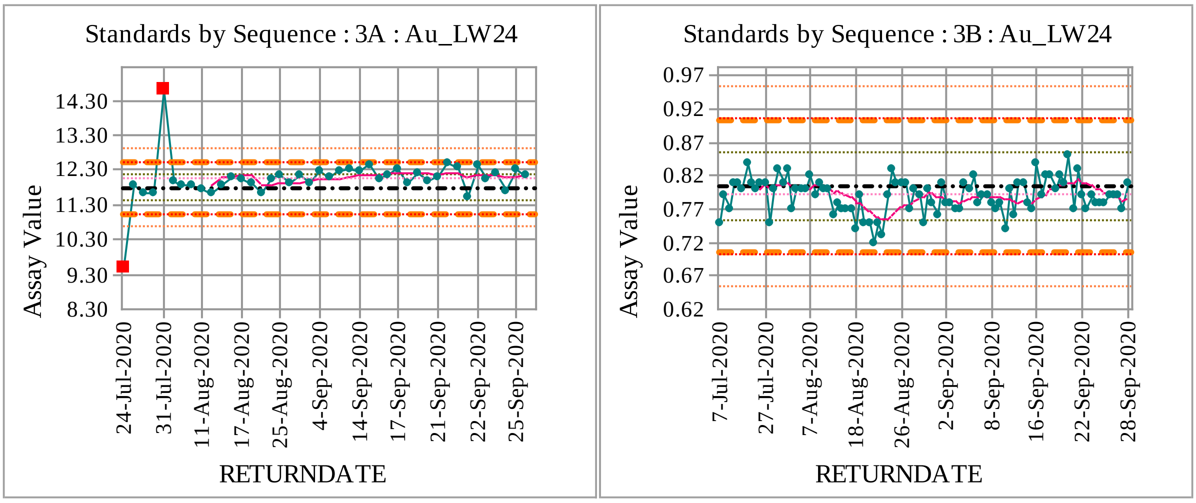


Figure 6.4 **Shewhart control plot for Au grades in CRM 3A (OREAS 229b) and CRM 3B (OREAS 232) by LW2000. Two results outside warning limits for CRM 3A.**

CRM 3A produced two results outside of warning limits out of 42 analyses during the reporting period. One of these results is likely to be due to a mistaken CRM substitution as it is very similar to CRM 2W. The other erroneous result could not easily be explained but as this was the only mystery instance of failure it was deemed acceptable. CRM 3B performed well during the reporting period returning no results outside of the warning limits **(Figure 6.4**).

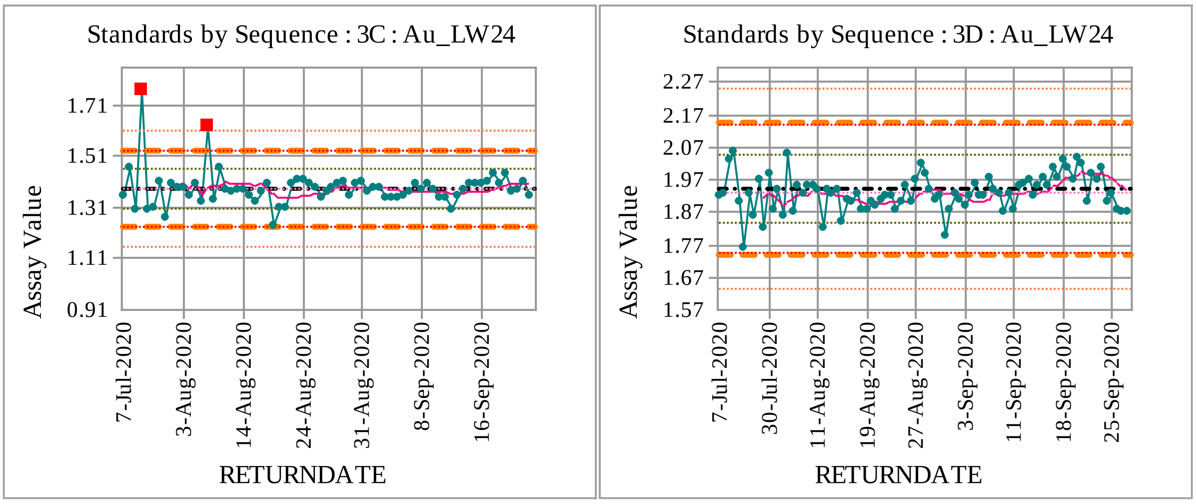


Figure 6.5 **Shewhart control plot for Au grades in CRM 3C (OREAS 235) and CRM 3D (ORES 237) by LW2000. CRM 3C shows two results outside of warning limits.**

CRM 3C (OREAS 235) reported two results outside of warning limits. When investigated these tow results could not be linked to any mistakes or special cause variations (Figure 6.5).

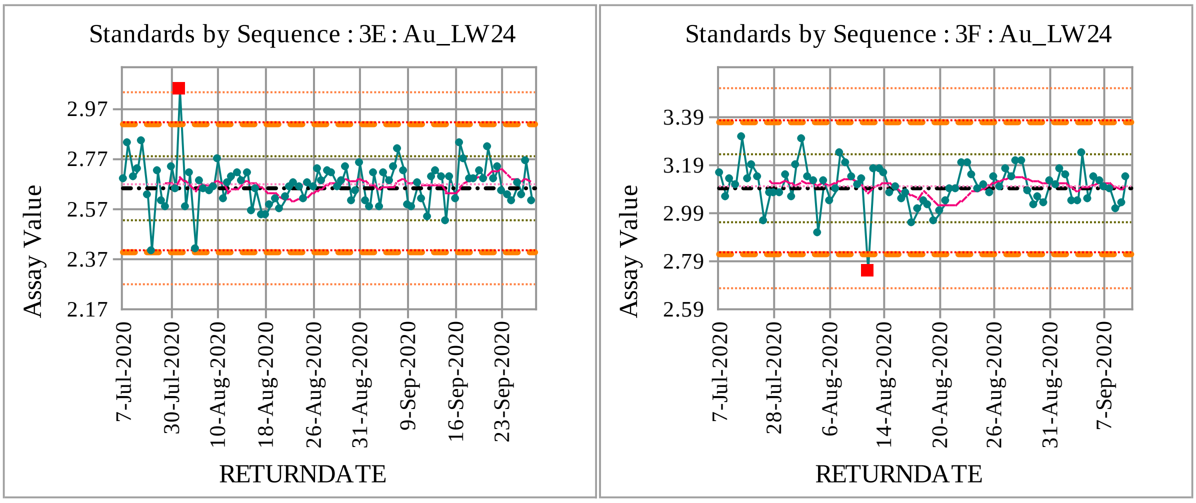


Figure 6.6 Shewhart control plot for Au grades in CRM 3E (OREAS 238) and CRM 3F (ORES 239) by LW2000. Only two results reported outside of warning limits.

CRMs 3E and 3F (**Figure 6.6**) each reported one result outside of warning limits. Due to the results reported versus the expected values of these two CRMs it is highly likely that these two erroneous results are due to incorrect recording of the standard type submitted (3E instead of 3F and vice versa).

During the reporting period, there were seven instances of CRM failures. Likely four of the failures were CRM swaps due to human error prior to lab submission. This is based on the failed CRM assay value being similar to the expected assay value of other CRM's that were used during the reporting period.

Efforts have been taken to reduce the potential for future human error swaps by re-designing the CRM storage and accessibility at the core processing facility.

Blanks

Blank material is sourced from a nearby basalt quarry. Blank samples are inserted once per 20 primary samples and succeeding samples that are likely to contain elevated gold grades. The submission of blanks immediately after samples with either visible gold or expected high-grade gold is considered an acceptable approach for this style of coarse gold mineralisation.

In the period from 1st July 2020 to 30th September 2020 a total of 378 blanks were analysed. Three blanks failed and returned values above 0.2 ppm Au (**Figure 6.7**).

A comparison of blanks with assay results of the preceding sample shows that for the reporting period, all failed blanks succeeded samples containing >10 ppm Au and most succeeded samples containing >100 ppm Au (Figure 6.7), indicating that sample preparation equipment is not always properly cleaned between samples. Each instance of contamination is raised with the lab in an effort to maintain assaying standards and there has not been a substantial increase in failed blank assays since the previous reporting period.

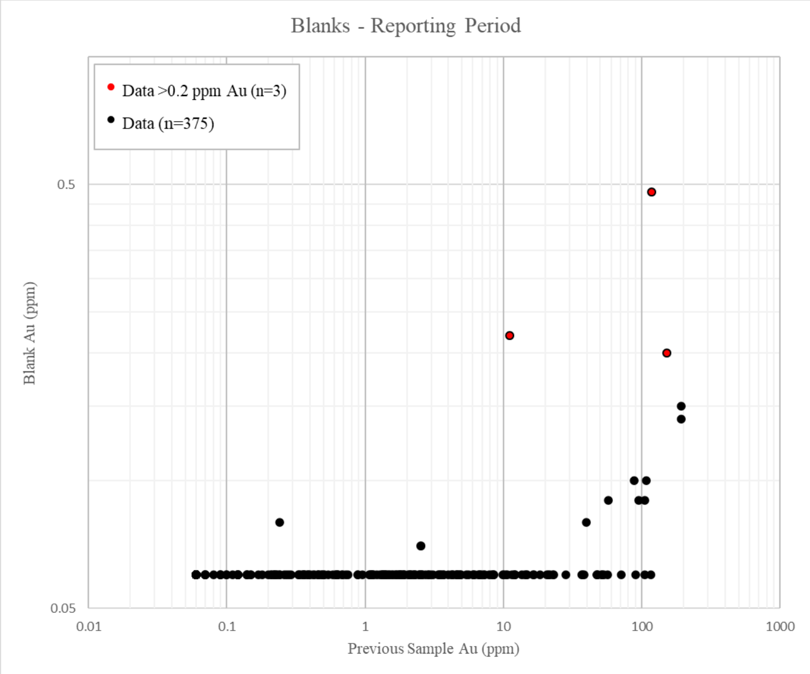


Figure 6.7 Blank results against assay grade of preceding sample for the reporting period 1st July 2020 to 30th September 2020.

6.4.3.4 Geological Data

If the core logging does not match the geological model, the geologist responsible for logging the core is consulted to determine whether re-logging is required. No other quality control mechanisms are being employed for geological data collection. It is recommended that geologists carry out frequent "duplicate logging" to identify any biases between loggers, especially when new geologists are employed.

6.4.4 Quality Acceptance Testing

Quality Acceptance Testing is where a final judgement on the quality of the data is made, hereby always referencing the DQOs. This is done by assessing accuracy and precision of quantitative data for those periods where the process was demonstrated to be in control, and separately for those periods where the process was demonstrated to be not in control. The evaluation of accuracy and precision and a final pass/fail assessment can then be made, relative to the purpose as stated in the DQOs.

6.4.4.1 Location Data

No quantitative data are available to comment on pass/fail criteria of survey data. However, the risk on the mineral resource associated with the quality of the location data is considered low.

6.4.4.2 Bulk Density Measurements

No check samples were submitted with the bulk density samples. GPG has successfully operated the mine since 2010 based on the available bulk density measurements and, as such, the risk associated with the lack of check samples is low.

6.4.4.3 Grade Data

a. First Split Duplicates

First split duplicate samples are currently not submitted to the laboratory for diamond core samples and hence no precision assessment was conducted. In the past, first split duplicate samples (half-core) showed poor precision, reflecting the high degree of variability within the mineralised domains.

b. Analytical

Quality acceptance testing of the analytical stage of the grade determination process involves evaluating the accuracy and precision of the assaying methods. For this to be effective, an appropriate number of CRMs are required for each grade range to be assessed and over the entire timeframe of the programme (Table 6.4.3).

All of the CRMs used during the reporting period passed the accuracy acceptance test with an average absolute bias of 0.38%, which is considered a good result. This bias is not considered to materially impact the data quality objectives.

The QP notes that some of the original assay certificates from drilling carried out by the mine's previous owners (Lihir and BGF) could not been located. This concerns less than 10% of the drill hole data informing this Mineral Resource and as such are not considered to be material.

Table 6.4.3 Performance of CRMs submitted in the period 1st July 2020 to 30th September 2020

Standard	CRM	N	CRM Value	Min	Max	Std. Dev.	CRM StD	Mean	Bias	Status
2J	G315-3	13	1.97	1.9	2.11	0.052	0.07	1.99	1.02%	Pass
2T	G313-7	45	6.97	6.42	7.28	0.196	0.32	6.88	-1.29%	Pass
2U	G318-6	23	2.67	1.88	2.84	0.1836	0.16	2.68	0.47%	Pass
2W	G914-7	1	9.68				0.43			
2X	G917-2	12	24.47	24.1	25.5	0.4749	1.22	24.96	2.01%	Pass
3A	OREAS 229b	42	11.762	9.53	14.63	0.6059	0.376	12.04	2.40%	Pass
3B	OREAS 232	91	0.803	0.72	0.85	0.0255	0.05	0.79	-1.63%	Pass
3C	OREAS 235	69	1.38	1.24	1.77	0.0693	0.076	1.38	0.28%	Pass
3D	OREAS 237	84	1.939	1.76	2.06	0.0558	0.102	1.93	-0.53%	Pass
3E	OREAS 238	87	2.654	2.4	3.05	0.0894	0.127	2.67	0.68%	Pass
3F	OREAS 239	75	3.092	2.75	3.31	0.0854	0.138	3.10	0.37%	Pass

c. Blanks

An assessment of the blank data shows that anomalous values are directly associated with high gold grades in preceding samples. The QP recommends investigating the preparation process at the laboratory. However, given the small percentage of anomalous results (<1%), the QP considers that occasional minor contamination among primary samples will not have materially affected the resource estimate, and can be accepted with respect to the data quality objectives.

7 MINERAL PROCESSING AND METALLURGICAL TESTING

7.1 Overview

The processing plant operated in line with expectations, with the plant ore-constrained for much of the period. Mill capability was increased by 25% in the 4th quarter of 2019/2020 by rostering an additional two shifts per week, enabling the plant to handle mined ore tonnages of around 28,000 –34,000 tonnes per month in 2020/2021. However, in only 3 of the 8 months to date was the plant actually not short of ore.

Tests were also conducted at higher feed rates, with 78 tonnes per hour (Av) possible when pressured by excessive ROM stock. However, this required dry ore ex the ROM pad for the crushing circuit to meet the increased demand and consequently was not sustainable during winter months.

In all there were 208,282 tonnes of ore processed in the 8 months review period (Jul'20-Feb'21) at a head grade of 4.4 g/t and 82.2% overall recovery to yield 24,219 oz of gold. There are recovery fluctuations of approximately 1-2% monthly which is dependent on the ratio of coarse gold to fine gold being processed.

The metallurgical performance was similar to previous years, with recoveries pressured by declining head grades. A particularly low leach recovery in Oct'20 saw overall recovery fall to just 79.5% and reflect in the YTD figure of 82% - as against a more typical 83%. The leaching issue was addressed through the revised addition of a leaching aid (see below).

The second-hand ball mill, purchased in the 2016/2017 financial year, is yet to be installed due to availability of capital funding and consequently, the recovery improvement gains expected from finer liberation have been delayed. At this stage, no firm decision has been made as to timing of the ball mill installation.

The leaching circuit was constrained for much of the year by resin column capacity, however there was 105 oz decrease in concentrate stocks across the period. A number of additional shifts were worked to maximise leach production and keep the concentrate stockpile at a reasonable level; however, the ultimate solution requires a second resin column and regrind mill upgrade to remove the current bottleneck.

Leach metallurgical performance was affected by a period of low solids leach recovery in the second quarter of the year. Stibnite was initially suspected as a potential passivator of the metallic gold; however, exhaustive antimony testing failed to confirm such suspicions. A revised and increased dosage of Proleach reagent was eventually able to counter the negative result. A significant element of this revision involved Proleach addition based on gold input, rather than just volumetric feed rate.

The process flowsheet did not change appreciably during the review period. A defoamer dosing station was installed to provide defoamer chemical to the gravity circuit to counter frothing effects which caused pump cavitation and capacity issues. The reason for excessive frothing could not be determined. The carryover of flotation froth in the plant water circuit was considered as a possible cause, but the flotation plant has been operating since 2014 without issue. The addition of defoamer has now become a permanent fixture in the plant.

A resin holding tank was installed to hold two beds of resin in reserve, ready to replace beds lost to acid washing and thereby keep the column full to maximise gold recovery. This tank has been a successful addition to the circuit.

A plastic trash screen was added to the flotation circuit to remove remnant blast trash and shotcrete plastics fibres from the concentrate.

7.2 Metallurgical Test Work

The key areas of metallurgical test work and plant optimisation over the period have included the following.

- Resin trials— the current supply of A180 type resin is coming to an end. Gekko have developed an alternative to replace the A180. Laboratory test work is being carried out to confirm suitability of the new product. Preliminary results suggest comparable performance.
- Air is now being added to the barren solution tank in an effort to pre-aerate solution returning to the ILR drums and in turn increase leaching kinetics.
- Testing was undertaken to dump the electrowinning cell between strips in an effort to minimise re-leaching of gold back off the cathodes and in turn reduce strip times. Results were encouraging but not enough to warrant a permanent change at this stage.

- The trial dosing of anti-foaming chemical into the detox circuit to combat tanks foaming over has been successful and will become a permanent change going forward.
- There is some evidence that excessive dosages of Pro-leach may have a deleterious impact on resin activity and gold recovery. Lab work is underway to explore this aspect in more detail. Proleach has a beneficial effect on cyanide leaching and a trade-off may be required.
- The recleaner jig ragging was changed from ceramic to steel in an effort to reduce the progression of large sulphides forward into the gold room. The change appears to have been beneficial.
- Test work is underway to improve the rejection of sulphides within the gold room by roasting to induce a magnetic response, followed by magnetic separation. The aim is to reduce the labour intensive concentrating and picking process within the gold room.
- Opportunities to eliminate the need for a loaded resin screen are being considered as part of a bigger project to replace the resin column with a new one (due to its poor condition). Such a move would simplify and speed up the resin transfer process between strips, meaning higher rates of gold production.
- The new resin column also provides an opportunity to incorporate an extra resin contact stage (from 5 to 6) which should improve overall resin recovery.

7.3 Metallurgical Accounting

- Metallurgical accounting is based on gold produced + gold in tailings + change in gold in circuit (GIC) to determine gold in feed.
- Samples are taken by hand sampling of solid and slurry streams.
- Monthly plant recovery calculations are based on actual gold recovered - gold in feed less gold in tail plus circuit stock changes.
- There were no significant changes to the metallurgical accounting process during the year.

7.4 Mineral Processing Design

In June 2020, a plant optimisation/option study was undertaken by Mincore to explore potential recovery-focussed upgrades centred on the installation of the ball mill. Some of these options considered an upgrade of the existing leach circuit to eliminate the current concentrate bottleneck, replacement of the existing flotation circuit with a new CIL circuit, installation of an ore-sorting plant and various combinations of these. Options comparing installation of the existing second-hand ball mill, versus a brand-new mill, were also considered. Mincore delivered their report in July 2020, the output of which is being considered as part of a wider site optimisation plan.

8 MINERAL RESOURCE ESTIMATE

8.1 MRE Introduction

GPG has completed an update of its Mineral Resource Estimate (MRE) for the Ballarat Goldmine. The Mineral Resource comprises underground mineralisation in ten individual fault zones or deposits within six Compartments (Table 8.1.1). Grades were estimated using assay data from 2,615 diamond drillholes that were drilled between 1991 and 2020. The available drill hole data has increased significantly due to the re-domaining of the ore body and the increased continuity of Lodes.

GPG is presently reviewing its domaining and resource estimation approach to better capture the high geological continuity and grade variability of the ore body. Ten individual fault zones or deposits reported here were modelled explicitly in Micromine. Resource estimation of all lodes was carried out using Ordinary Kriging.

All block models were validated visually, using validation (swath) plots, and using quantile-quantile and histogram plots. Resource classification was applied on a model-by-model basis based on geological continuity, kriging metrics, and informing-data quality. The Mineral Resource reported here is classified in accordance with the JORC Code (2012).

The sections 8.2–8.11 detail the modelling and estimation process of the underground Mineral Resource.

Table 8.1.1 Diamond drillholes Data

Deposit	Domaining Approach	Diamond Holes	Samples
BRT SU_CCFZ	Explicit	44	189
CA SU HHFZ	Explicit	239	1808
LLB SU CCFZ	Explicit	93	622
LLB SU CSFZ&Nth	Explicit	281	2,331
NOR SC MFZ	Explicit	171	1510
SOV FC MFZ&THFZ	Explicit	1051	14953
VIC FC TFZ	Explicit	141	1,742
BRT FC MFZ	Explicit	294	4,191
SOV SU MFZ	Explicit	74	238
CA FC MFZ	Explicit	227	2,743
Total		**2,615**	**30,327**

8.2 Input Data

8.2.1 Data Set

The original data was imported into Micromine for the modelling process. The Mineral Resource Estimate is based on 2,615 diamond drillholes drilled between February 1991 and September 2020. Diamond holes represent 30,327 assay records in Higher-Grade domains. Additionally, assay and lithology records from grade control sludge holes and face-chip samples were used for domaining where available, but excluded from the Mineral Resource estimate.

Diamond drilling was carried out in east-west trending vertical fans spaced 25 m and 50 m apart. Drillhole spacing within fans varies between 7 m and 15 m.

All drillhole data is stored and managed in an acQuire database with privileges set based on user logins to maintain security.

8.2.2 Density

A bulk density of 2.66 g/cm^3 is used for mineralised domains (quartz) and an average bulk density of 2.74 g/cm^3 is used for the surrounding waste rocks based on density data collected from 2007–2018 (Table 8.2.1).

Table 8.2.1 Apparent relative densities attributed to the Ballarat Resource (2007–2018)

Source	Lithology	No. samples	Average density (g/cm^3)
BGF/GEKKO/GPG	Quartz	395	2.66
BGF/GEKKO/GPG	Shale	102	2.77
BGF/GEKKO/GPG	Sandstone	135	2.71
Combined Sample Total		**632**	

8.2.3 Digital Elevation Model

GPG's topographical GIS layers (Figure 8-1) were supplied by Spatial Vision in August 2012 under licence through the Victorian Government Department of Sustainability and Environment Spatial Information Infrastructure. Details regarding the lineage and accuracy of the topographic layer are outlined in Table 8.2.2. These data have no material impact on the underground other mineral resources as the majority of drillcollars was located underground.

Table 8.2.2 Topography data quality summary

Data set source	
Lineage	Data have been derived from Melbourne water base maps and converted to Microstation DGN format.
Processing steps	
Positional Accuracy	Varies with the scale of capture and the contour interval. e.g.,
	1-m contours from aerial photos +/- 0.5 m
	0.2-m contours from survey +/- 0.1 m
Attribute Accuracy	Varies with the scale of capture and the contour interval. e.g.,
	1-m contours from aerial photos +/- 0.5 m
	0.2-m contours from survey +/- 0.1 m

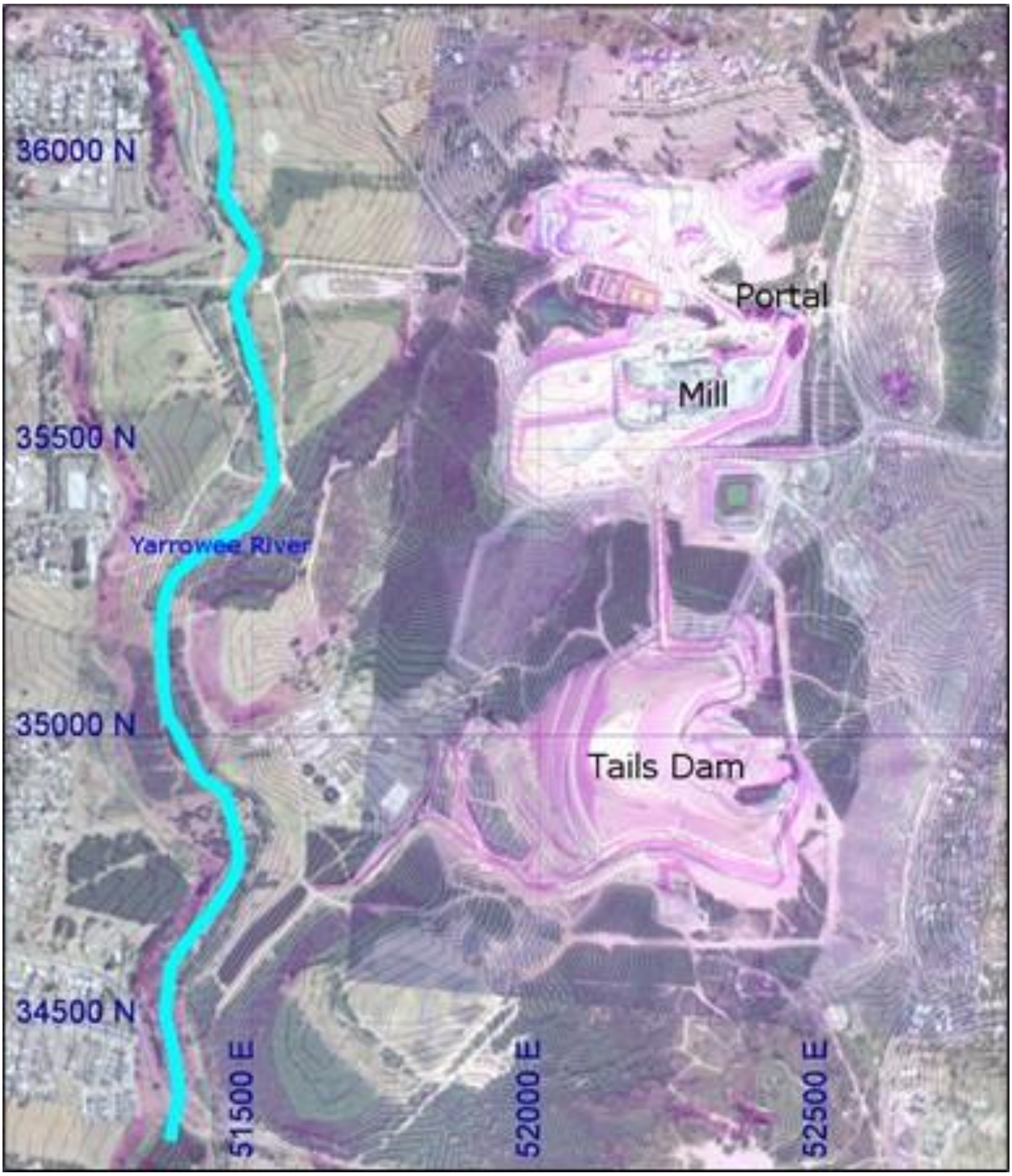


Figure 8-1 Digital elevation model of the Ballarat mine site (1-m contours—not to scale)

8.3 Data validation

The current central GPG database was acquired from the acquisition of the Ballarat Goldmine from Lihir Gold Limited (**"**LGL**"**) in 2010.

Database validation carried out following the acquisition had shown the original database files had several fields which data had been lost either through data conversions, or through passing through numerous companies.

During preparation for estimation, the following validation steps were undertaken:

- Duplication of drill holes.
- Missing collar co-ordinates, hole depths, missing downhole surveys; miss matched collar, survey or assay depths; or over lapping intervals.
- Missing or overlapping intervals for geology or assay interval data.

There were five duplicated Hole ID's found in the database collar file prior to estimation however these were wedging holes and the assay data did not overlap Table 8.3.1

Table 8.3.1: Database duplicated drill hole check.

File	HoleID	Status	Warning
20201120_collars.DAT	CBU3868W	Critical	Duplicate hole
20201120_collars.DAT	CBU4006W	Critical	Duplicate hole
20201120_collars.DAT	CBU4073A	Critical	Duplicate hole
20201120_collars.DAT	CBU5118W	Critical	Duplicate hole
20201120_collars.DAT	CBU5145W	Critical	Duplicate hole

Primary original assay fields were checked for missing assays, negative values and zero values.

- Negative assays which were determined to be below detection were replaced with a positive value of 0.001 g/t;
- Missing assays which were due to incomplete samples, or missing core/chips were left as null samples. These will have no impact on interpolation, and the assumption is that the grade of these missing values is similar to that of neighbouring samples, and that local block interpolation will generate representative estimates based on neighbouring data contained in the search ellipse.
- Zero grade values were replaced with nulls if determined to be true missing data, or a below detection positive value (0.001) otherwise.

A total of 44705 negative assays values were found and distributed as follows in Table 8.3.2.

Table 8.3.2: Ballarat Goldmine negative and missing assay value summary.

Au Value	Frequency
missing	4765
-99	44705
0	65

Original data files were exported from the GPG central database as Comma separated variable files. Micromine macros were used to import the files to make Micromine DAT files. Data manipulation and wireframe interpretation was carried out.

A summary of the Micromine database is shown below in Table 8.3.3.

Table 8.3.3: GPG central database summary.

Database Name	Date Created	Database Type	Average Drilling Grid
Ballarat Gold Mine	15/11/2020	Micromine DAT files	U/G fan-style drilling, targeting at 20m x 20m to 30m x 40m
File Name	**Description**		
BG_DBase_col.DAT	Collar data		
BG _DBase_sur.DAT	Downhole surveying data		
BG_DBase_ass.DAT	Sample assay data		
BG _DBase_geo.DAT	Geological and lithological data		
BG _DBase_Bulk_Density.DAT	Bulk Density measurements		

8.4 Geological Model & Interpretation

8.4.1 Overall Geological Interpretation

Gold mineralisation at Ballarat East is hosted in a series of en-échelon vein arrays, associated with vertically-stacked, shallow to steep west-dipping reverse faults (westdippers). The west-dipping faults are generally narrow (< 1 m wide) and mineralisation is constrained within the fault plane. Westdippers dip between 20° and 70° and extend up to 250 m along strike (north-south). Quartz-veining varies from massive to weakly laminated and brecciated quartz to stockwork veins.

Between the major westdippers, steep- to moderately east-dipping vein arrays (spurs) form local hotspots of mineralisation. Spur mineralisation comprises complex stockwork zones of mineralised veins with bands of un-mineralised host rock.

The westdippers occur on the steep-to-overturned eastern limbs of tightly folded north-south trending anticlines. The three major productive lines of reef, located on anticlines of the same name, are Sulieman Minor, Scandinavian and First Chance. Steep to sub-vertical, east-west to northeast-southwest-trending cross-course faults divide the mine in nine different compartments. The age relationship between mineralisation and cross-course development is poorly understood. Mineralisation is generally constrained within compartments and continuity is lost across the major cross-courses. Numerous smaller cross-course faults have been mapped on development faces and affect continuity of mineralisation within the compartments.

This estimate considers mineralisation in 10 separate deposits (23 lodes) hosted in seven different compartments (Figure 8-2). Interpretations and models of the various lodes are presented in section 8.4.3.

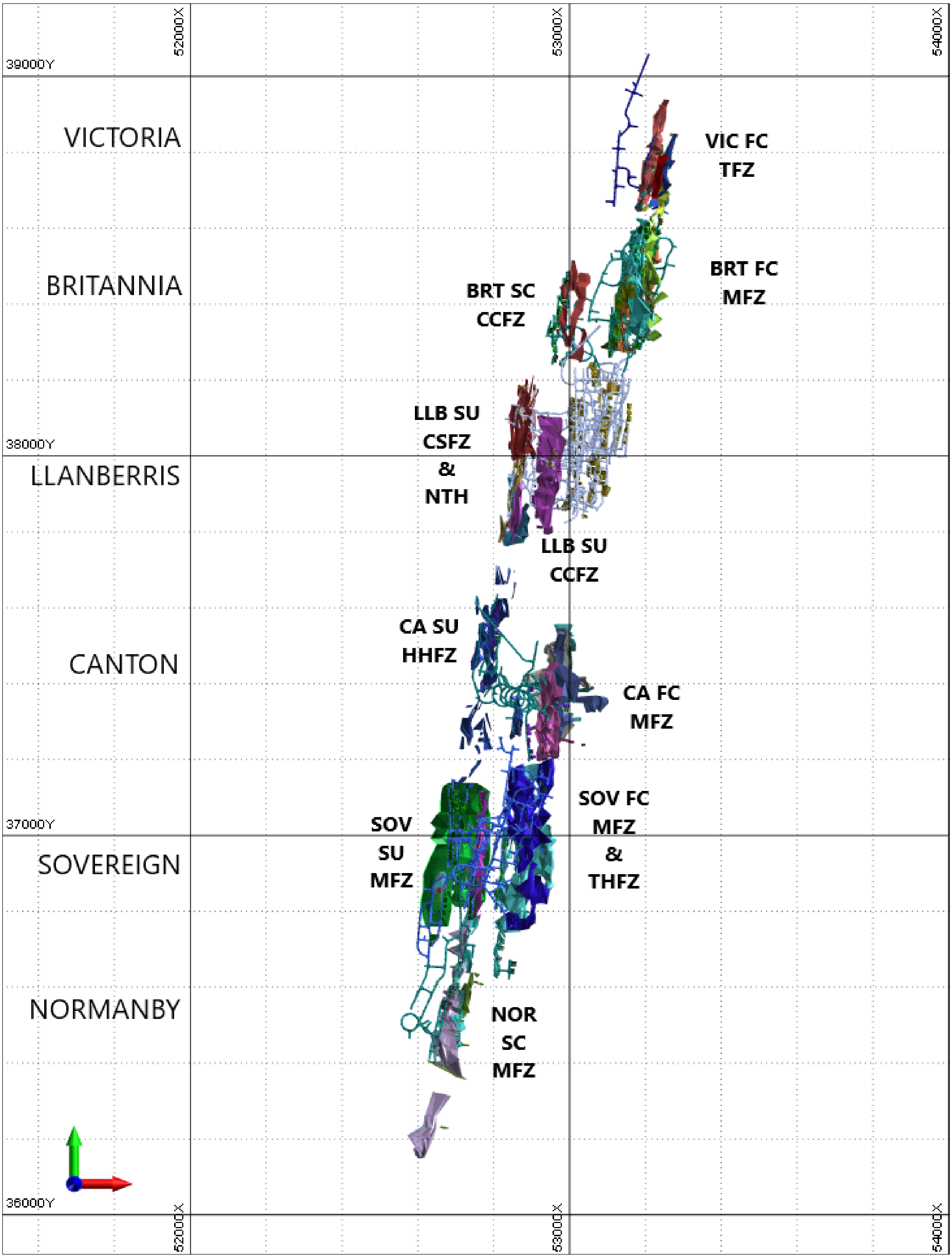


Figure 8-2 Overview of the 10 mineralised deposits included in the Mineral Resource Estimate.

8.4.2 Geological and Mineralisation Interpretation

8.4.2.1 Rationale

Individual lodes were interpreted on 20m spacing (closing in to 10m where the drill spacing allowed) based on both geological logging and gold grade in Micromine. Key geological characteristics used to determine lode boundaries in conjunction with grade included presence of 'shearing' or presence of quartz. Interpretation of individual lodes was also aided by descriptions and sketches found in the literature as well as the position of the underground workings (reasonably presuming that most of the development would have followed the lodes).

A single continuous outline was digitised around each mineralised lode. This necessitated including some internal low grade and waste material within the wireframes for continuity. Literature descriptions and observations from the drilling data support the existence of discrete higher-grade lenses within the mineralised lodes. As the deposit is being reviewed primarily as an underground mining opportunity, higher grade lenses or shoots were modelled as separate domains. These were interpreted to have a moderately south-plunging geometry as described in the literature and observed from grade distribution in long section.

The deposits were modelled based on geological interpretation and delineation of the mineralisation predominantly by grade and where possible lithology type, alteration intensity and veining. The wireframes were constructed based upon the previous interpretations with a minimum cut-off grade of 2.0g/t of Au. Figure 8.2 shows the model of mineralised domains and presents the whole wireframes and domain codes for Mineral Resource estimation.

8.4.2.2 Westdippers

West-dipping reverse faults exert the primary structural control on mineralisation. Face maps, photos and grade-control data suggest that narrow (< 1 m, Figure 8-3), high-grade zones envelop the shallow to west-dipping (20°–70°) fault planes. Westdipper domains are modelled from geological data (quartz, logged fractures) using sectional interpretations, face photos and assay data. The domain building process is iterative and both geological and numerical data were used to build, validate, and adjust the domains.

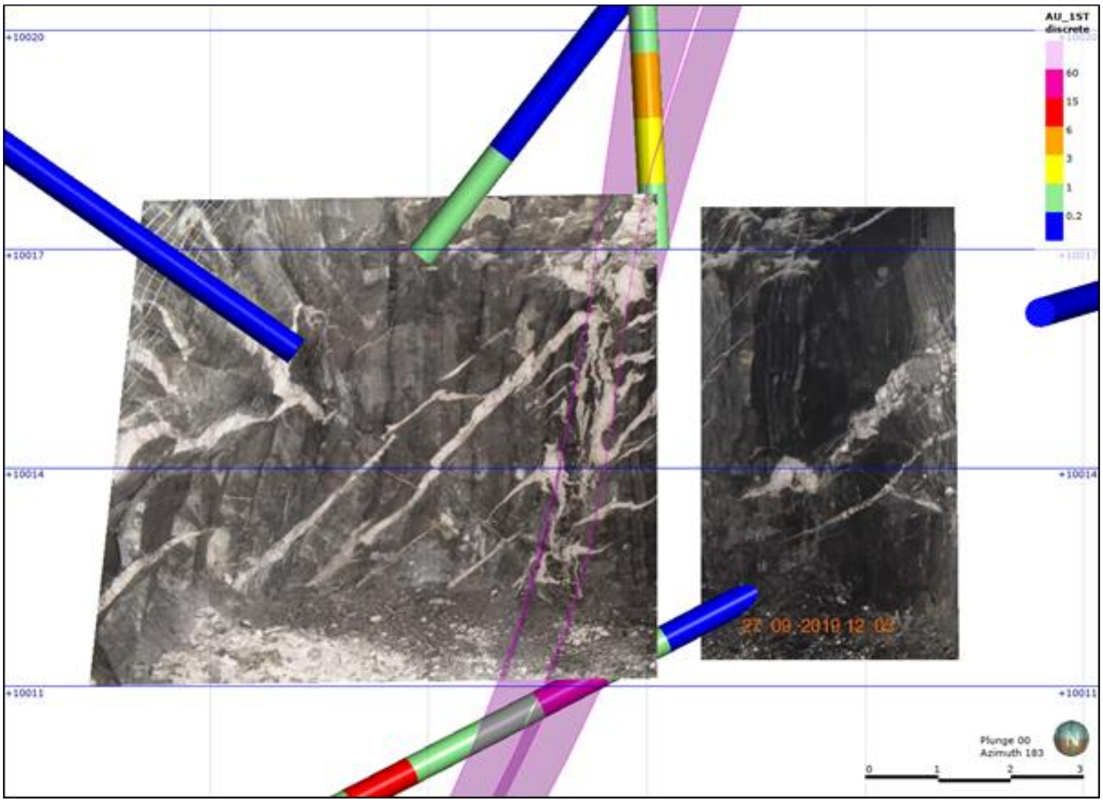


Figure 8-3 Example of a narrow, west-dipping structure in Llanberris Hammerhead. The pink wireframe is about 0.6 m thick.

8.4.2.3 Spurs

Steep- to moderately east-dipping stockwork vein arrays form locally important hotspots of mineralisation and pose a challenge for the domaining process due to their limited geological continuity and highly variable Au grades. Previously, the spur domaining issue has been addressed by adding a large 'halo' domain around the narrow west-dipping structures to capture all mineralised intercepts not included in the main westdipper structures.

Previously the spur mineralisation was attempted to be captured using a flat-disk anisotropy (e.g. 5:5:1) with a major axis parallel to the normal of the main westdipper structures and a semi-major axis parallel to the plunge of mineralisation. This resulted in many flat discs that did not demonstrate a high degree of continuity.

For the current QPR a more conservative approach was adopted: any spur mineralisation was manually modelled in section the same as the west dipping mineralisation.

8.4.2.4 Low Grade Halo

A low-grade halo represents all disseminated gold mineralisation outside main structures and was created primarily for dilution purposes. The halo domain supersedes the explicit halo domains and, importantly, excludes the high-grade spur mineralisation. The halo domain was modelled by means of a grade-shell domain using Micromine at a cut-off of 0.5 g/t. The halo domain was modelled to envelop the westdipper and spur domains with a minor axis parallel to the normal of the westdipper structures and a major axis parallel to the plunge of mineralisation.

None of the blocks estimated within the lower-grade halo were above cut-off grade and hence no blocks from this domain were included in the Mineral Resources.

8.4.2.5 Modelling Approach

A conventional explicit modelling technique has been used for the geology and mineralisation interpretation although it is difficult. The approach aims to adequately capture the thin west-dipping structures and models the spur mineralisation as a separate domain.

Explicit modelling in Micromine has been trialled since October 2020 and preliminary reconciliation results are positive, although more finessing work is required. GPG will continue to re-model its resources using explicit modelling techniques and expects this process to be completed in the third quarter of the financial year 2020–2021.

The wireframes for lodes are modelled based on geological interpretation. The mineralisation within them has been delineated using lithology, gold grade of 0. 5g/t for lower grade domain and gold grade of 2.0g/t for higher grade domains. For continuity purposes, adjacent drill holes and sections were used to refine the geological relationship and to reduce the saw-tooth effect to the modelling. Generally, a high-grade shell enclosed within a lower-grade shell was found to provide a low-risk result.

8.4.2.6 Comparison to previous model

The current model of Ballarat East shows a substantial increase in tonnes and ounces. This is primarily due to the wireframe creation style – changing from an implicit method to an explicit method. Another contributing factor has been the time allocated to wireframe creation. Previously, there may have not been enough time allocated to fully understand the continuity of the individual Lodes. Therefore, large volume differences have been noted between most lodes. For the purposes of this report, two specific models will be explained below. See Table 8.13.3 for the resource comparison between all previous and current models.

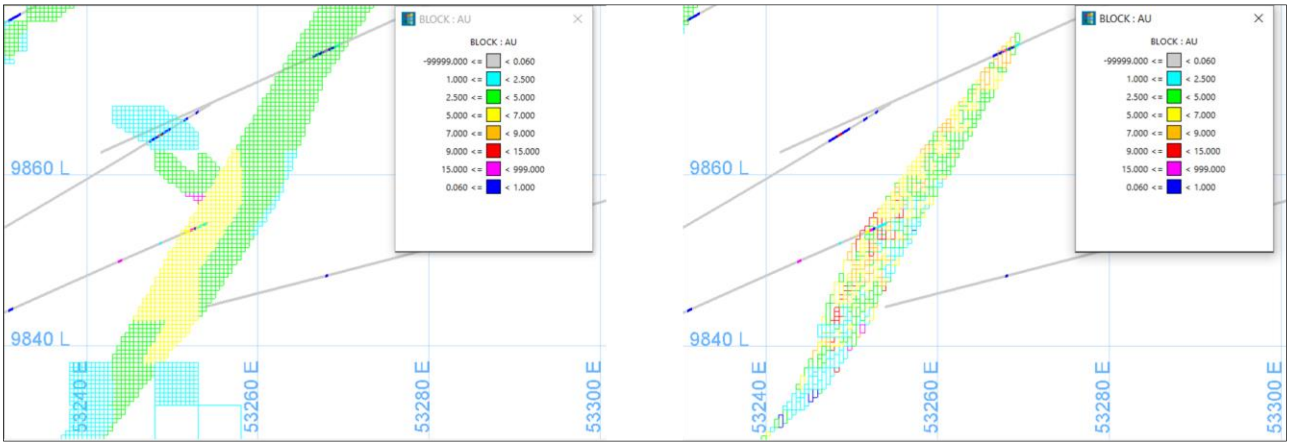


Figure 8-4 Victoria Mako model, Previous model (left) compared to current model (right) (looking north 38,730mN).

The above Victoria Mako section (Figure 8-4) is one example of the difference in domaining strategies between the previous and current models. Note the previous model is overly smoothed and the width has been interpreted too wide.

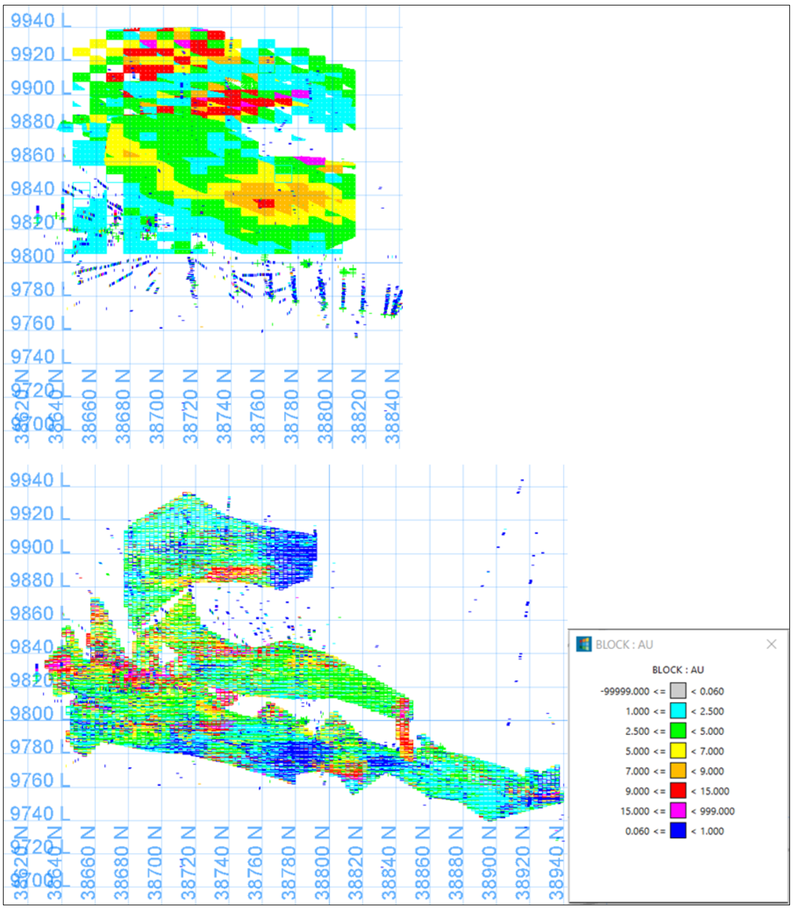


Figure 8-5 Victoria Mako long section (looking west) previous model (top) compared to current model (bottom).

The above long section (Figure 8-5) of the Victoria Mako model show the model changes and the lower areas of extension that have been added to the current model. This is primarily due to the explicit model method and more available time allocated to the wireframe creation process.

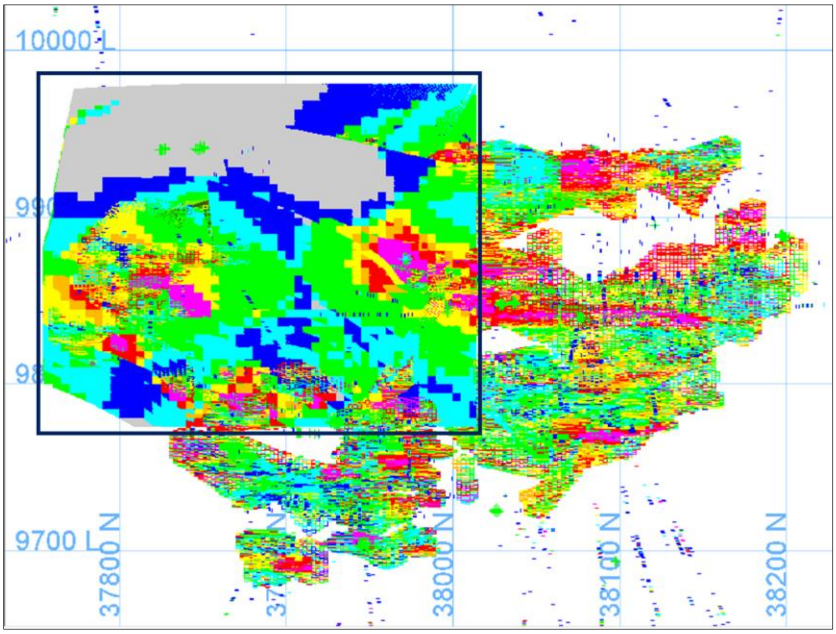


Figure 8-6 Llanberris Catshark long section (looking west) area with previous model (framed in black) overlaid onto the current model.

The above Figure 8-6 demonstrates the increased complexity of domain interpretation that has been possible during the most recent wireframing. The model has increased down plunge to the north and is more discreet in terms of mineralised boundaries.

8.4.3 Brief Model Descriptions

A brief geological description of each of the resource models included in the Mineral Resource is discussed below.

8.4.3.1 Britannia Compartment

BRT SU CCFZ Deposit

The Britannia Cookie Cutter BRT SU CCFZ lodes is situated on the eastern limb of the Sulieman Minor Anticline within the Britannia Compartment (Figure 8-7). The mineralisation occurs in three shallow - to steep (25-75°) west-dipping structures, intersected by multiple minor sub-vertical cross-course faults.

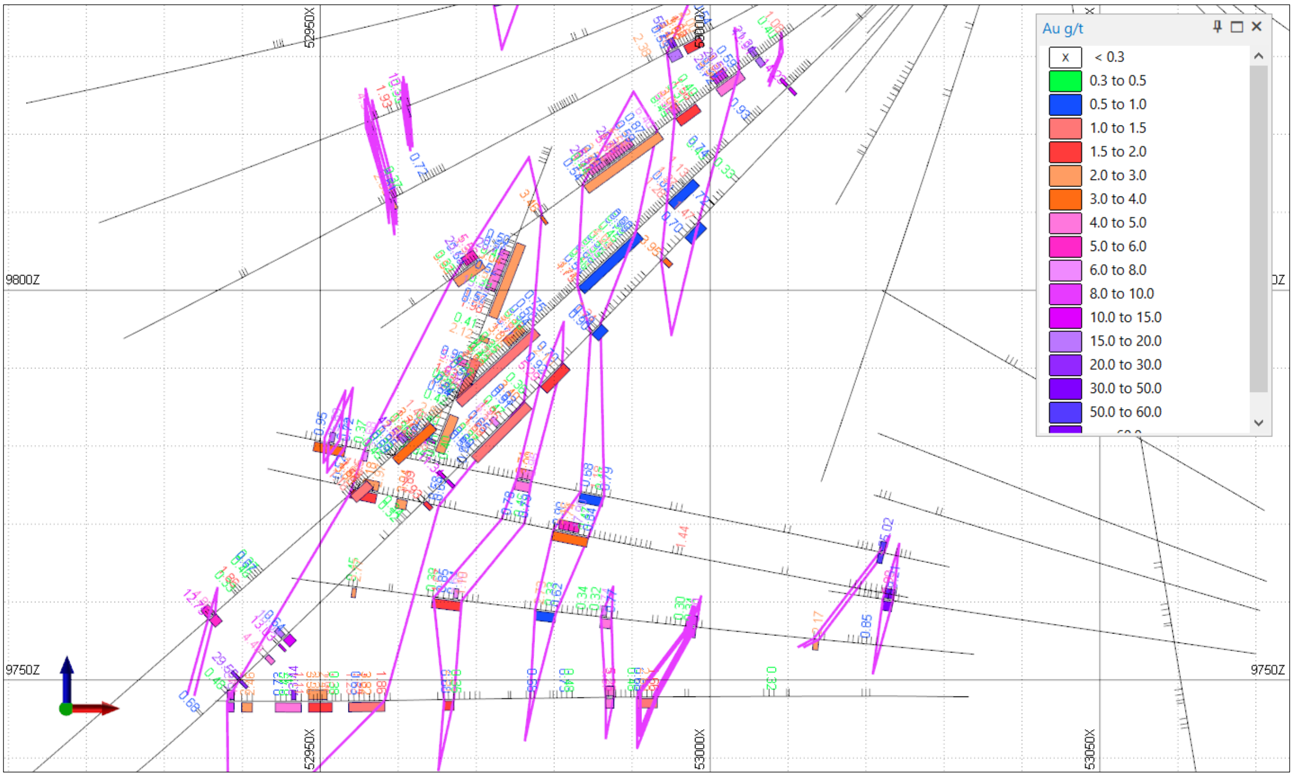


Figure 8-7 West dipping wireframes for the BRT SU CCFZ lodes (looking north at 38,360 mN)

BRT FC MFZ Deposit

The Britannia First Chance BRT FC MFZ lodes is situated on the eastern limb of the Sulieman Minor Anticline within the Britannia Compartment (Figure 8-8). The mineralisation occurs in three shallow - to steep (55-75°) structures, intersected by multiple minor sub-vertical cross-course faults.

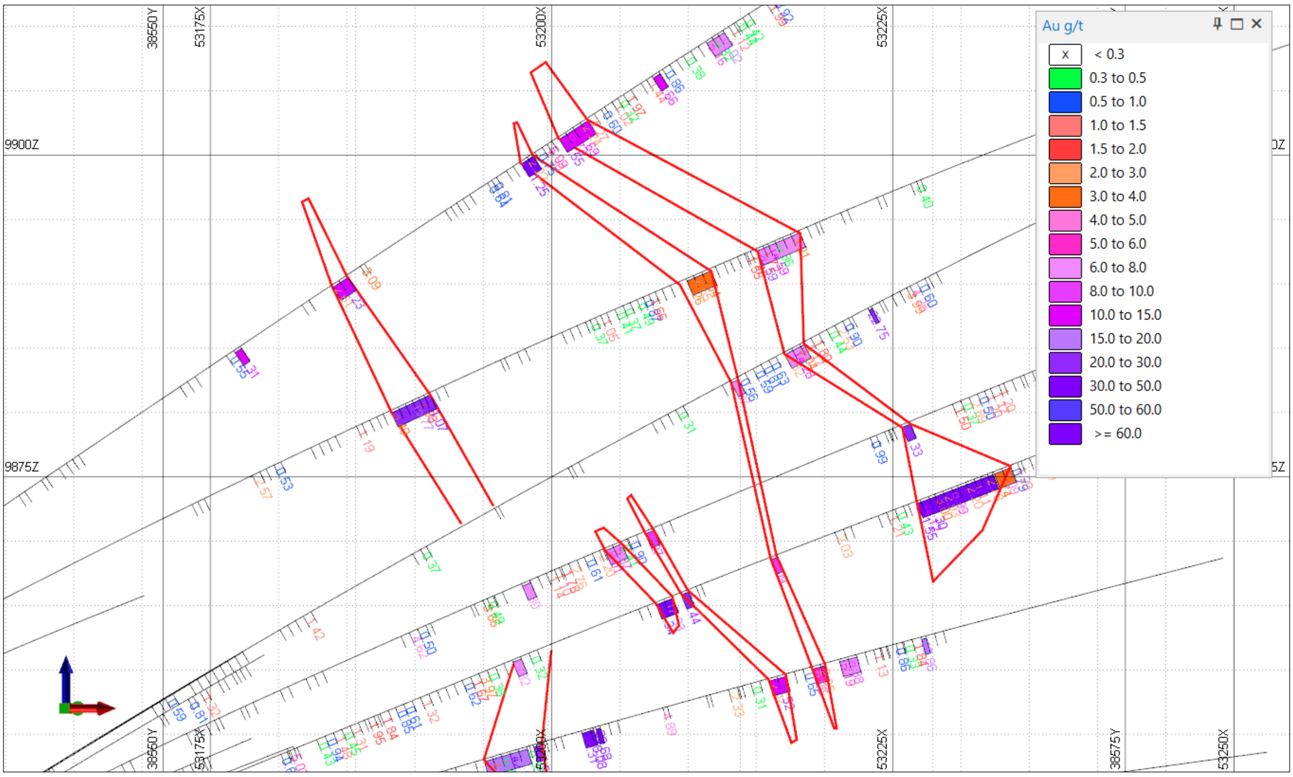


Figure 8-8 East-dipping wireframes for the Britannia First Chance BRT FC MFZ lodes (looking north at 38,550 mN).

8.4.3.2 Canton Compartment

CA SU HHFZ

The Canton Hammerhead CA SU HHFZ domain lode (Figure 8-9) is positioned on the eastern limb of the First Chance Anticline. The lode comprises three steeply (45°–65°) west-dipping structures. The lode is constrained between the sub-vertical Bull and Mouth and Charlie Napier cross-course faults. Limited spur mineralisation occurs between the two westernmost structures.

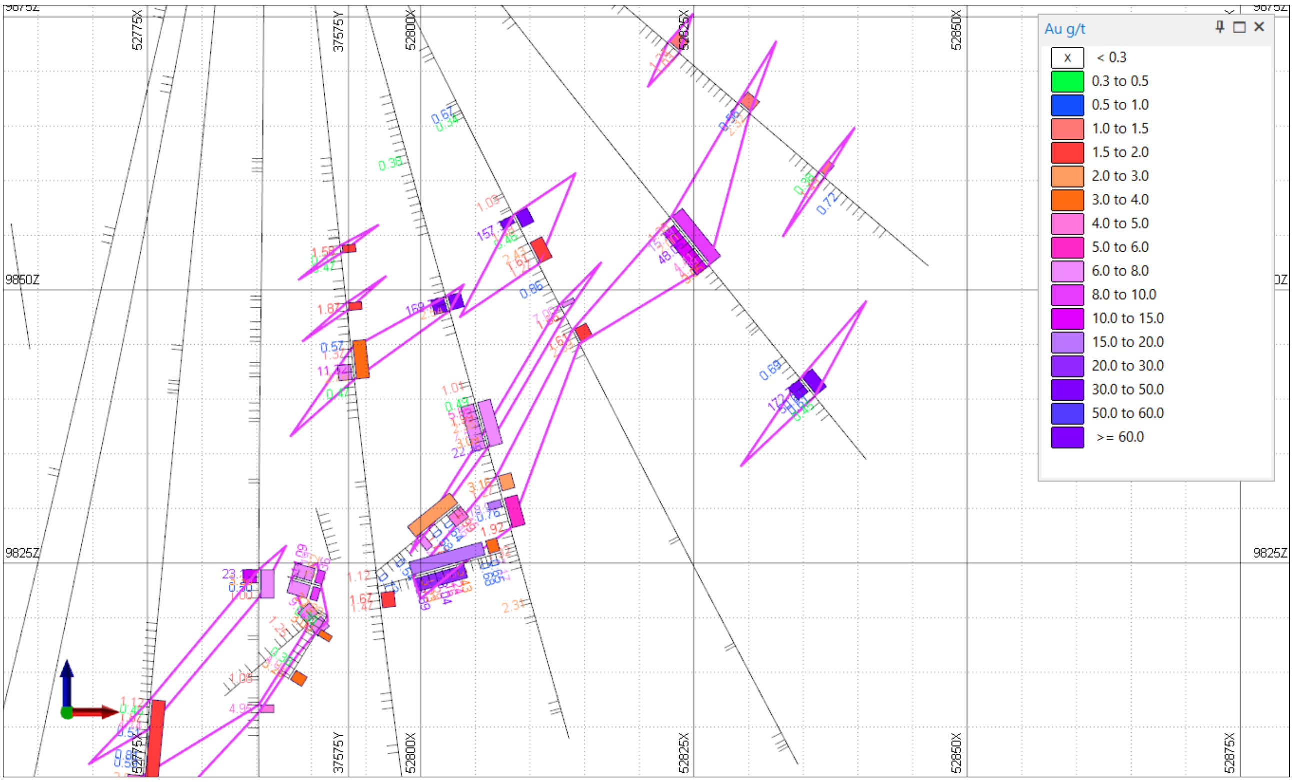


Figure 8-9 West-dipping wireframes for the Canton Hammerhead CA SU HHFZ lodes. View looking north at 37,575 mN.

CA FC MFZ

The Canton Hammerhead CA FC MFZ domain lode (Figure 8-10) is positioned on the eastern limb of the First Chance Anticline. The lode comprises three steeply (45°–65°) west-dipping structures. The lode is constrained between the sub-vertical Bull and Mouth and Charlie Napier cross-course faults. Limited spur mineralisation occurs between the two westernmost structures.

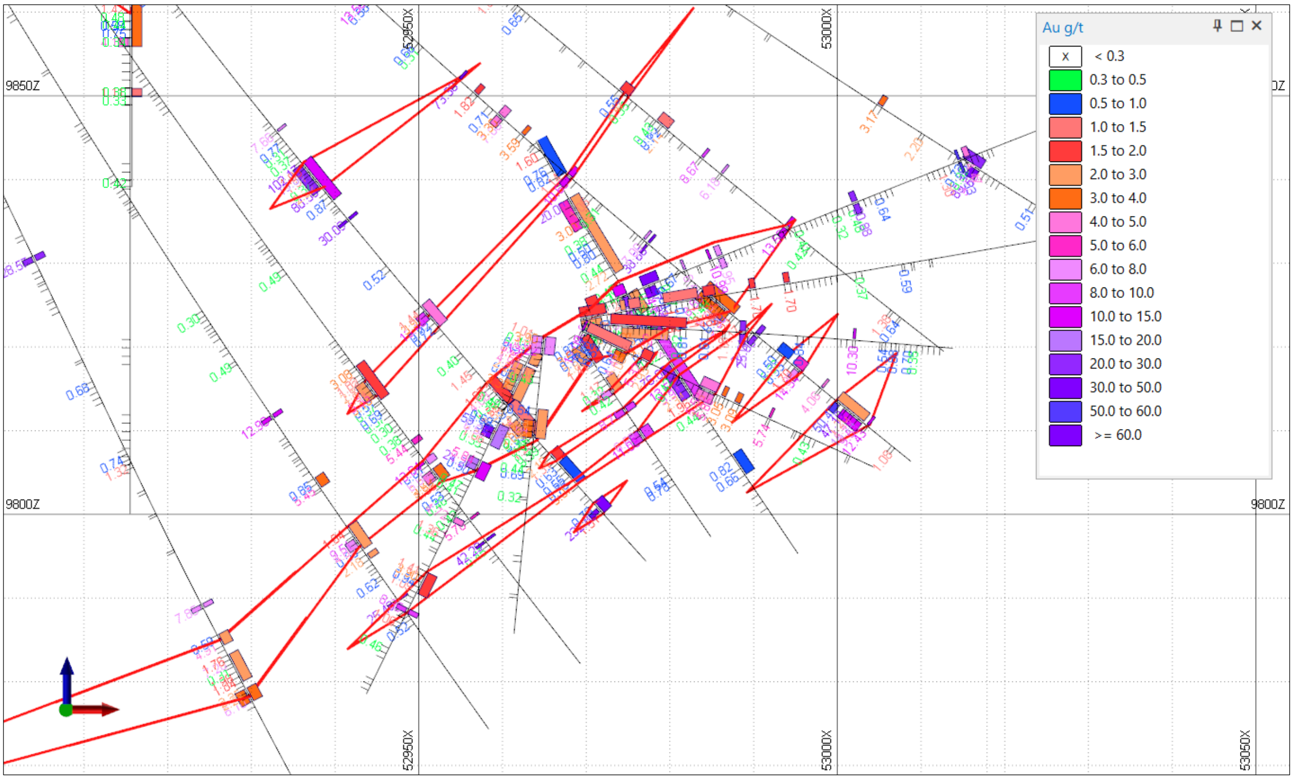


Figure 8-10 West-dipping wireframes for the Canton CA FC MFZ lodes. View looking north at 37,430 mN.

8.4.3.3 Llanberris Compartment

LLB SU CCFZ

The Llanberris Sulieman deposit (LLB SU CCFZ) is positioned on the western limb of the First Chance Anticline. It comprises four steeply (50–70°) west-dipping structures linked by a set of steeply (50–60°) east-dipping spur veins. The lodes are intersected by the sub-vertical Corner cross-course fault (Figure 8-11)

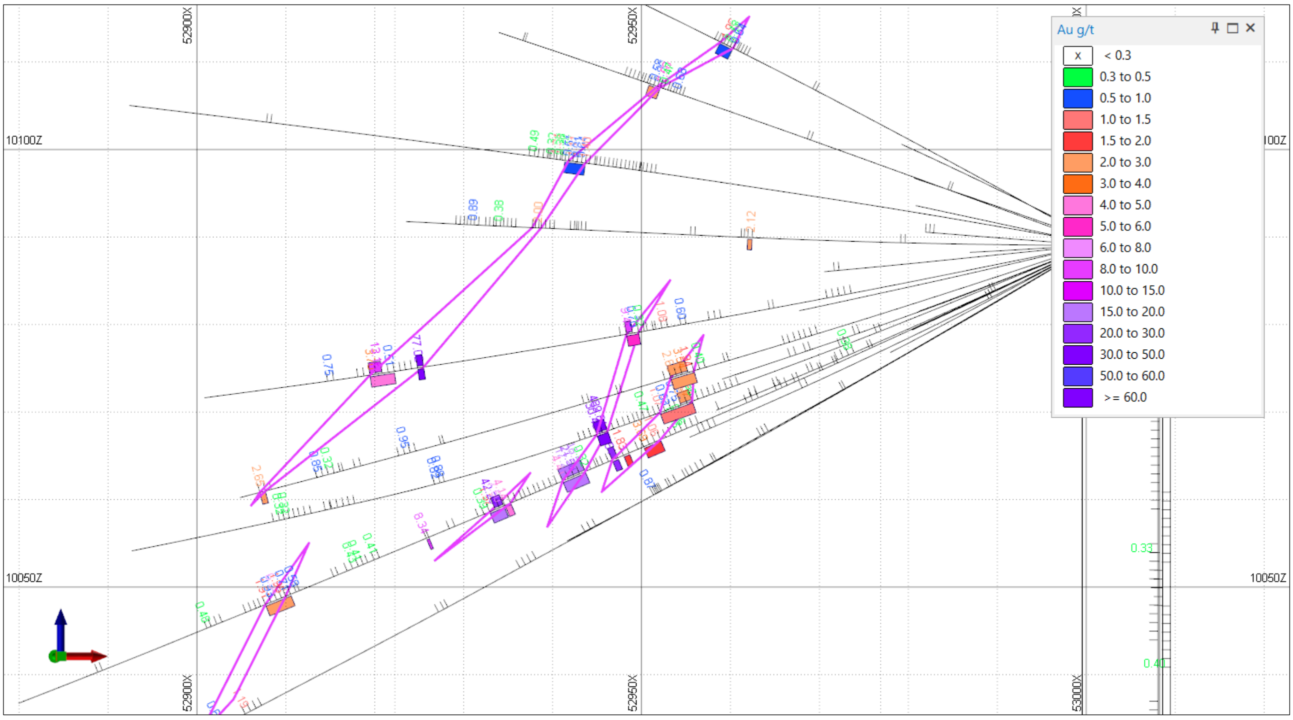


Figure 8-11 West-dipping wireframes for the Llanberris LLB SU CCFZ lodes. View looking north. View looking north at 37,885 mN.

LLB SU CSFZ & NTH

The Llanberris Sulieman deposit (LLB SU CSFZ & NTH) is positioned on the western limb of the First Chance Anticline. It comprises four steeply (60–80°) west-dipping structures linked by a set of steeply (50–60°) east-dipping spur veins. The lodes are intersected by the sub-vertical Corner cross-course fault (Figure 8-12).

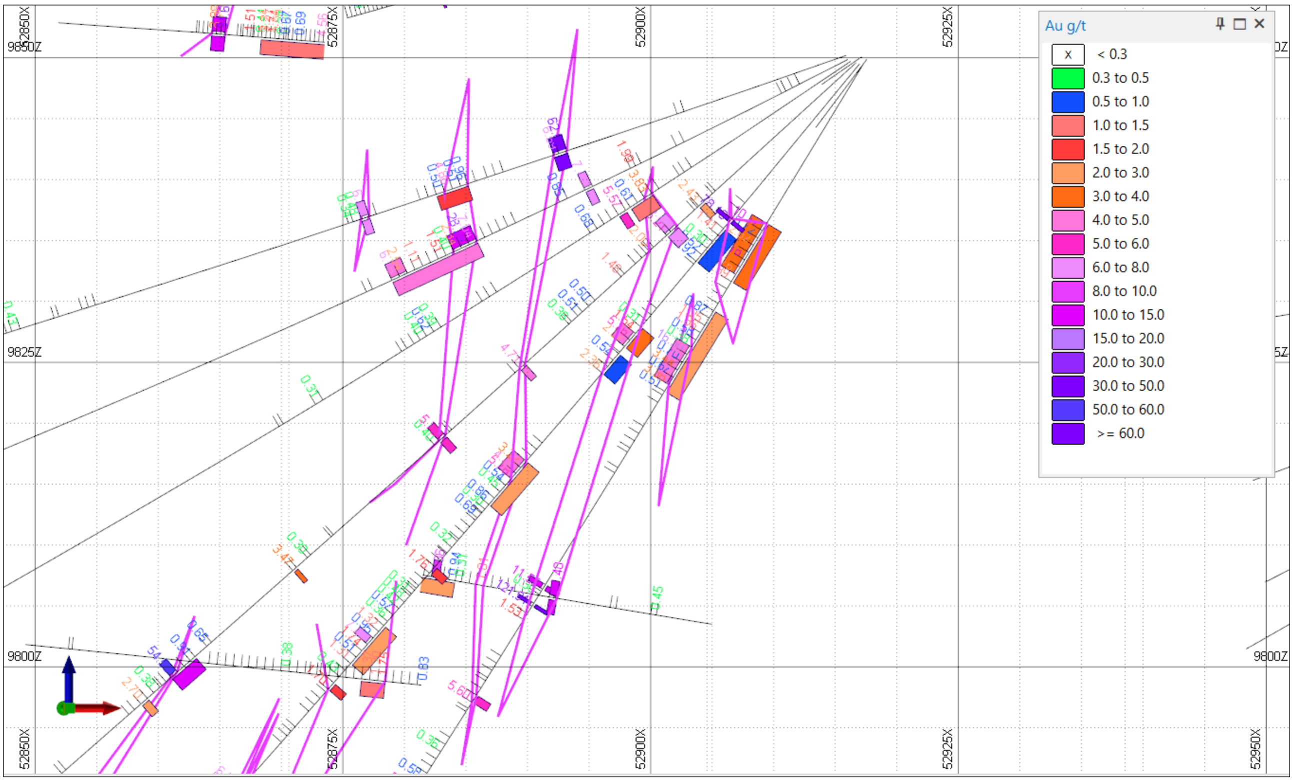


Figure 8-12 West-dipping wireframes for the Llanberris LLB SU CSFZ & NTH lodes. View looking north. View looking north at 38,110 mN.

8.4.3.4 Normanby Compartment

NOR SC MFZ

The Normanby Mako NOR SC MFZ deposit lodes comprise multiple shallow- to steeply west-dipping structures, intersected by the subvertical Ancient Briton, Boro Boundary and Minster Arms cross-course faults (Figure 8-13). The western part of the lode occurs where the Mako Fault Zone intersects the eastern limb of the First Chance Anticline; the eastern part lies on the Scandinavian Minor Anticline. The westdipper structures extend 230 m north-south and are up to 1.4 m wide. The Mako Fault was modelled at a 30°–60° dip to the west with a plunge of 5°–20° to the north.

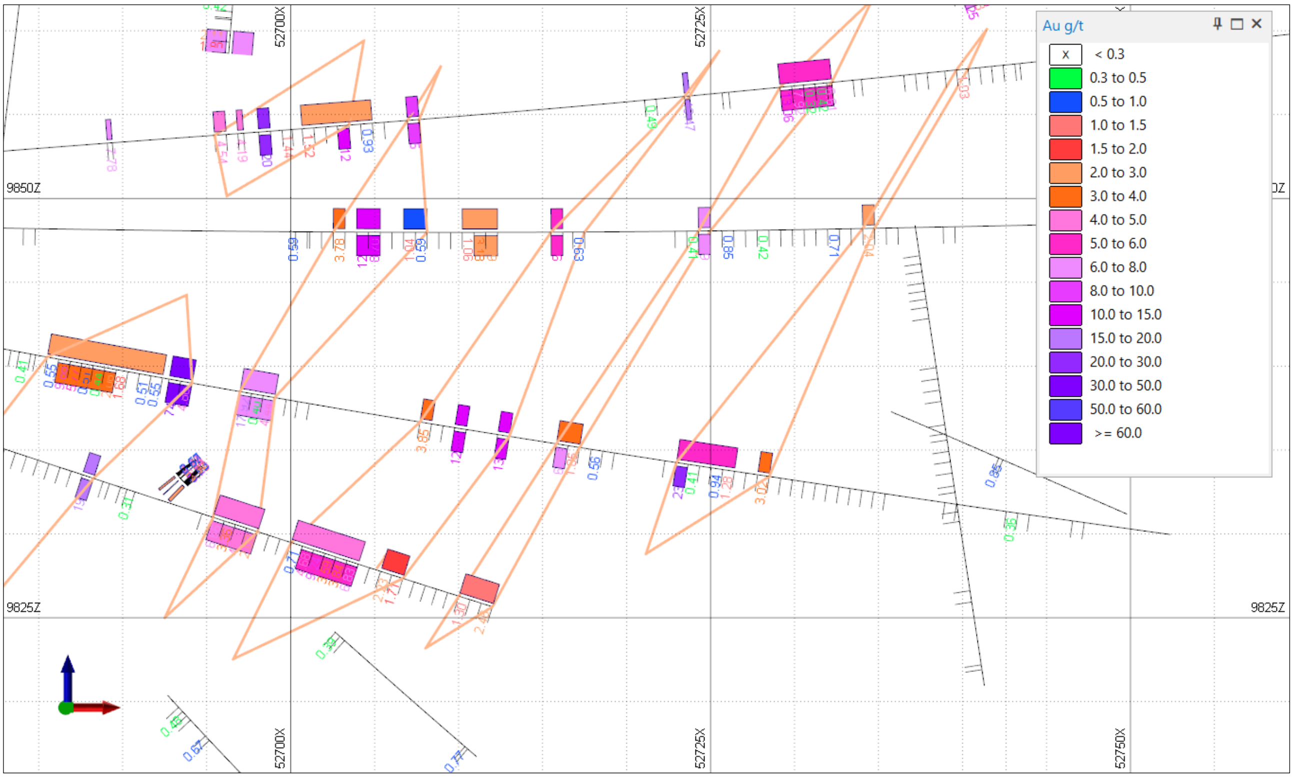


Figure 8-13 West-dipping wireframes for the Normanby Mako NOR SC MFZ Lodes. View looking north at 36,590 mN.

8.4.3.5 Sovereign Compartment

SOV FC MFZ&THFZ

The Sovereign Mako and Thresher SOV FC MFZ&THFZ deposit is positioned on the eastern limb of the First Chance Anticline. The lodes comprise a main 35°-45° west-dipping structure and a footwall spay, linked by spur mineralisation (Figure 8-14).

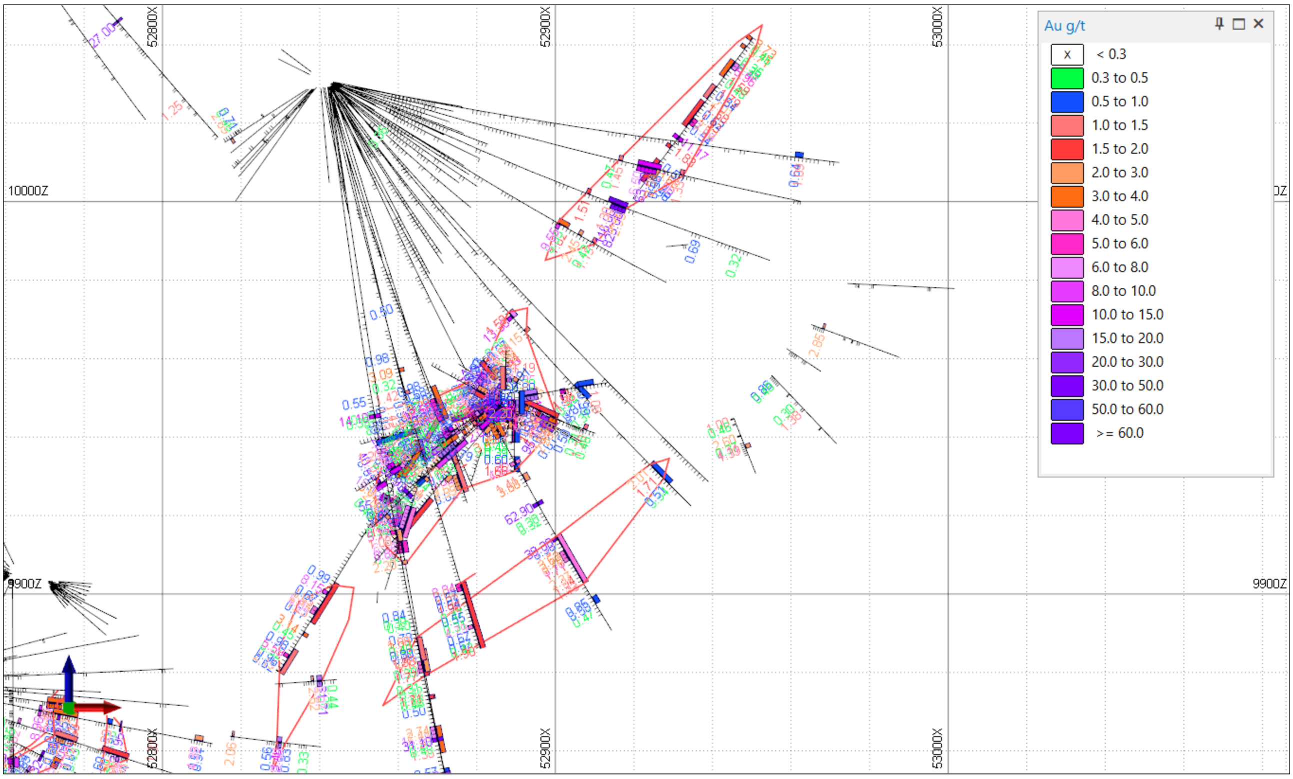


Figure 8-14 West-dipping wireframes for the Sovereign SOV FC MFZ&THFZ lodes. View looking north at 37,050 mN.

SOV SU MFZ

The Sovereign Sulieman SOV SU MFZ deposit is positioned on the western limb of the First Chance Anticline. The lodes comprise a main 35°-45° west-dipping structure and a footwall spay, linked by spur mineralisation (Figure 8-15).

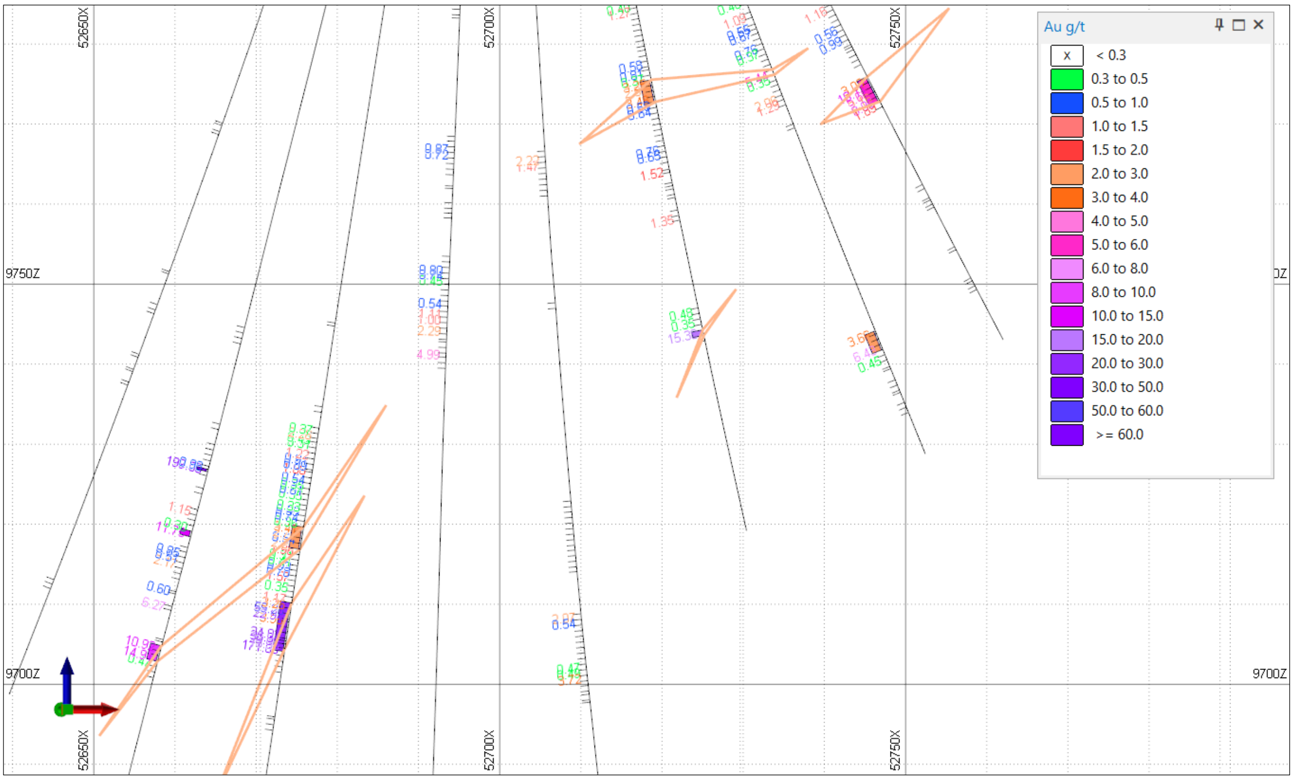


Figure 8-15 West-dipping wireframes for the Sovereign SOV SU MFZ lodes. View looking north at 36,980 mN

8.4.3.6 Victoria Compartment

VIC FC TFZ

The Victoria Tiger VIC FC TFZ deposit is located on the eastern limb of the First Chance Anticline (Figure 8-16). The lodes comprise multiple steeply (60-80º) east-dipping structures connected by an east-dipping linking structure (65°).

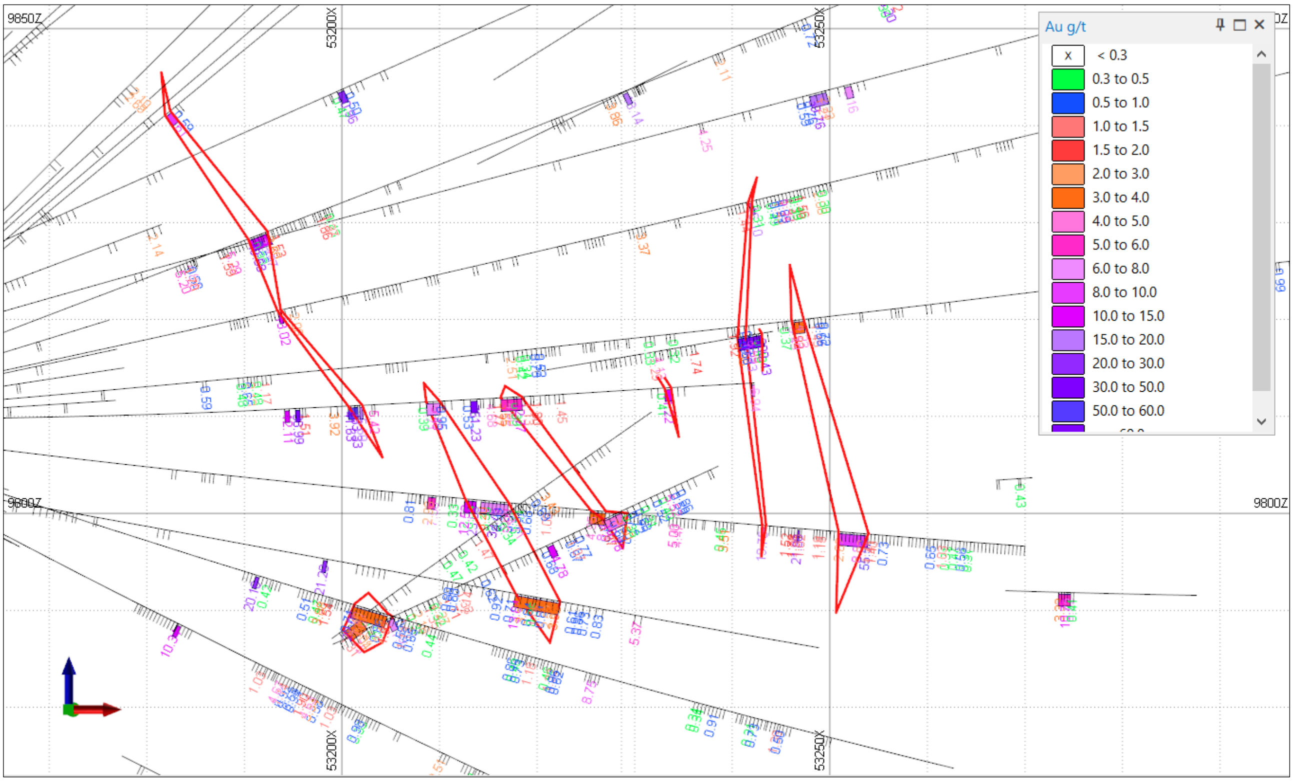


Figure 8-16 East-dipping wireframes for the Victoria Tiger VIC FC TFZ lodes. View looking north at 38,725 mN.

8.4.4 Interpretations & Risk in Geological Domaining

Considering the environment of an operating mine with decades of detailed geological research and studies, the overall geological interpretation is considered very robust. The interpretation of structurally controlled high-grade lodes with stockwork offshoots is corroborated by abundant observations from underground development.

Notwithstanding this, due to the relatively wide (30 - 40 m) drill-spacing, the risk associated with geological domaining is considerable. This applies especially to the lodes away from current development for which only exploration level drill data and no face- or wall-photo composites are available. In these areas, further infill drilling may increase the confidence in the Mineral Resource Estimate. The risk of domaining is associated with the models Britannia Cookie Cutter, Canton Hammerhead and Llanberris Catshark North. For other lodes, the risk of domaining is considered low.

8.5 Spatial Statistics

8.5.1 Data Preparation

General aspects of data preparation used in the Mineral Resource estimation are as follows:

- Examination of raw sample lengths and selection of composite length.
- Compositing data to 1m down-hole lengths, breaking the compositing at geological boundaries.

8.5.2 Selection of Composite Length

Analysis of the exploration data lengths from acQuire database shows the majority of the raw sample intervals are 1m in length, but there is a significant number of non-regular sample data. The raw samples range in length from 0.1 m to 20.0 m (Appendix A), with about 70% being above 0.7 m; 5% being longer than 2 m; 5% being shorter than 0.5 m. A composite interval of 1m has been chosen to maintain the differentiation of both the lodes and the high-grade zones within the individual domains for the Ballarat Goldmine deposits. Use of this composite size minimised splitting of raw samples to smaller intervals.

Compositing was completed to honour the geological boundaries of the mineralised lode by breaking the composites at the lode boundaries. This process tends to create sub 1 m samples at lode contacts (approximately 1% of the composites have a length less than or equal to 0.3 m). For the exploration-based estimates this was addressed by adapting the kriging system to account for the sample lengths, so that all the available composites could be used in the estimation process.

Assay length distribution in High Grade domains is shown in (Figure 8-7).

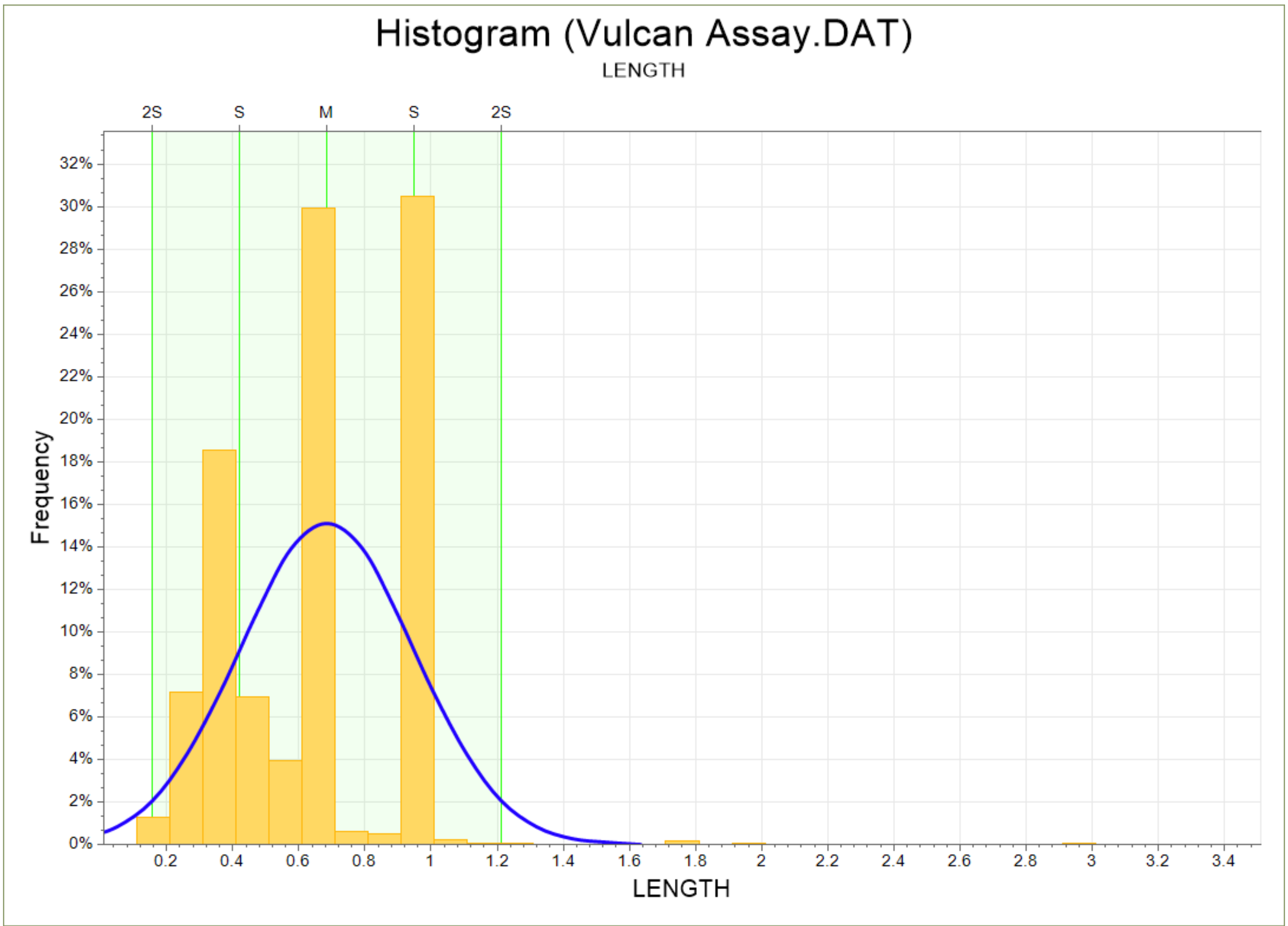


Figure 8-17 Raw sample lengths within High Grade domains

8.5.3 Statistical Analysis of 1m Composites

The statistical analysis examined the distributions of the composited Au grades within each modelling domain and lode, particularly the upper tail of the distributions. The univariate statistics and probability plots were generated for Au for each geology domain. The statistical summary is provided in Table 8.5.1. The probability plots by domain are shown in Figure 8.18.

The data distribution is highly positive skewed which is typical of many gold deposits. The coefficient of variation ('CV'), which is calculated by dividing the standard deviation by the mean grade, is very high, indicating that high grade composites are materially influencing the statistics and that outlier data may be present.

A review of the high grade data was completed to assess the need for high grade cutting. The review included the following:

Review of the histograms and log probability plots to determine potential outliers;

Review of ranked data and the relative contribution of each datum to the mean and variance of the data set;

Review of the relative clustering of potential outlier composites.

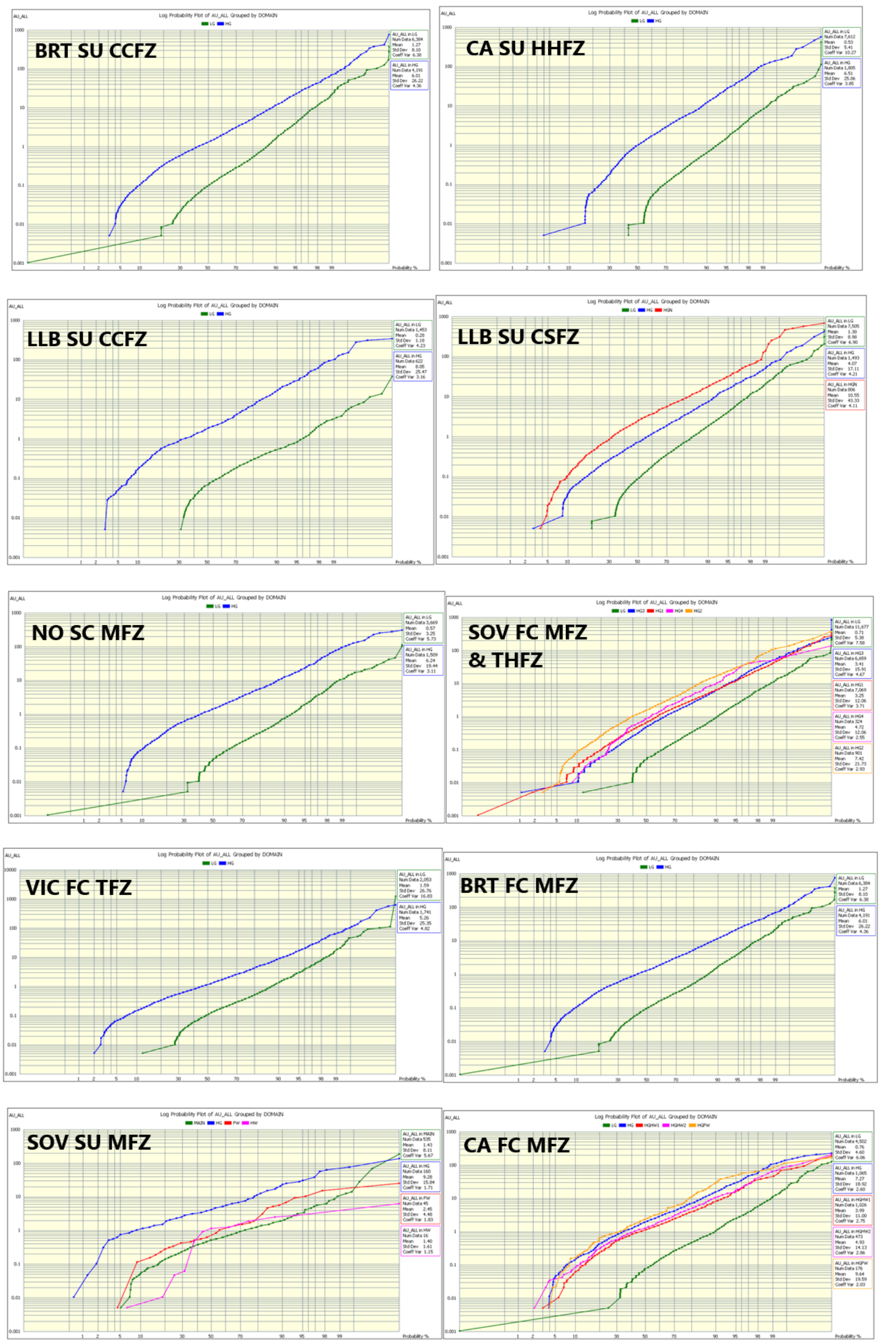


Figure 8-18 1m Composite of Au grade probability plots by deposit.

Table 8.5.1 Univariate statistics for raw data by domain (1m composites)

Deposit	Domain	No	Min	Max	Mean	Median	Std Dev	Variance	Coeff Var
BRT SU CCFZ	ALL	1,021	0.01	257.97	3.37	0.28	14.26	203.24	4.23
	LG	832	0.01	110.39	1.32	0.20	6.26	39.19	4.74
	HG	189	0.01	257.97	12.40	3.21	28.79	828.89	2.32
CA SU HHFZ	ALL	9,420	0.01	563.73	1.68	0.04	12.23	149.48	7.30
	LG	7,612	0.01	395.00	0.53	0.01	5.41	29.31	10.27
	HG	1,808	0.01	563.73	6.51	1.02	25.04	626.88	3.85
LLB SU CCFZ	ALL	2,075	0.01	337.60	2.61	0.16	14.42	207.92	5.53
	LG	1,453	0.01	35.07	0.28	0.07	1.18	1.38	4.23
	HG	622	0.01	337.60	8.05	1.83	25.47	648.79	3.16
LLB SU CSFZ&Nth	ALL	10,032	0.01	634.14	2.48	0.17	16.35	267.21	6.58
	LG	7,701	0.01	463.72	1.29	0.09	8.97	80.37	6.95
	HG	1,494	0.01	405.81	4.07	0.73	17.11	292.73	4.21
	HGNth	837	0.01	634.14	10.47	2.50	42.90	1840.54	4.10
NOR SC MFZ	ALL	5,311	0.00	286.13	2.22	0.12	11.15	124.35	5.02
	LG	3,801	0.00	107.25	0.57	0.05	3.25	10.56	5.73
	HG	1510	0.01	286.13	6.24	1.46	19.44	377.99	3.12
SOV FC MFZ&THFZ	ALL	26,630	0.00	825.00	2.34	0.21	11.62	134.94	4.97
	LG	11,677	0.01	302.57	0.71	0.05	5.38	28.89	7.58
	HG1	7,069	0.00	340.35	3.25	0.67	12.07	145.70	3.71
	HG2	901	0.01	365.70	7.42	1.61	21.73	472.38	2.93
	HG3	6,659	0.01	825.00	3.41	0.50	15.91	252.99	4.67
	HG4	324	0.01	129.00	4.72	0.86	12.06	145.41	2.56
VIC FC TFZ	ALL	3,796	0.01	1185.57	3.28	0.37	26.19	685.76	7.99
	LG	2,054	0.01	1185.57	1.59	0.11	26.76	716.34	16.83
	HG	1,742	0.01	594.18	5.26	1.18	25.35	642.79	4.82
BRT FC MFZ	ALL	10,575	0.00	949.35	3.15	0.30	17.82	317.45	5.66
	LG	6,384	0.00	350.90	1.27	0.10	8.10	65.58	6.38
	HG	4,191	0.01	949.35	6.01	1.32	26.22	687.52	4.36
SOV SU MFZ	ALL	814	0.01	171.60	3.32	0.75	11.28	127.14	3.39
	MAIN	576	0.01	171.60	1.41	0.52	7.84	61.51	5.57
	FW	47	0.01	23.96	2.37	0.73	4.40	19.35	1.86
	HW	17	0.01	6.25	1.34	0.99	1.58	2.48	1.17
	HG	174	0.01	138.70	10.11	4.38	18.12	328.48	1.79
CA FC MFZ	ALL	7,290	0.00	210.30	2.66	0.26	10.60	112.34	3.98
	LG	4,547	0.00	119.65	0.76	0.08	4.60	21.20	6.06
	HG	1,067	0.01	210.30	7.27	1.98	18.92	358.01	2.60
	HGFW	176	0.01	158.62	9.64	2.36	19.59	383.59	2.03
	HGHW1	1,026	0.01	181.11	3.99	1.14	11.00	120.90	2.76
	HGHW2	474	0.01	203.63	4.93	1.30	14.13	199.66	2.86

8.5.4 Treatment of Outliers

Linear interpolation methods such as Ordinary Kriging are sensitive to the presence of high-grade outliers. For the resource estimation, the current model has individually assessed the high-grade outliers and top cut values for all domains and lodes. The high-grade outliers were treated using an approach of top cut to each of the domains based on a review of the domain histogram, log probability plot, and an assessment of the effects of cutting on data numbers and the reduction of metal in the domain. Details of how these thresholds are applied during kriging estimation are provided in Section 8.8.

Top cut effect charts of Higher-Grade domains are shown in Figure 8.19**.** A summary of top cuts used for the estimation is shown in Table 8.5.2.

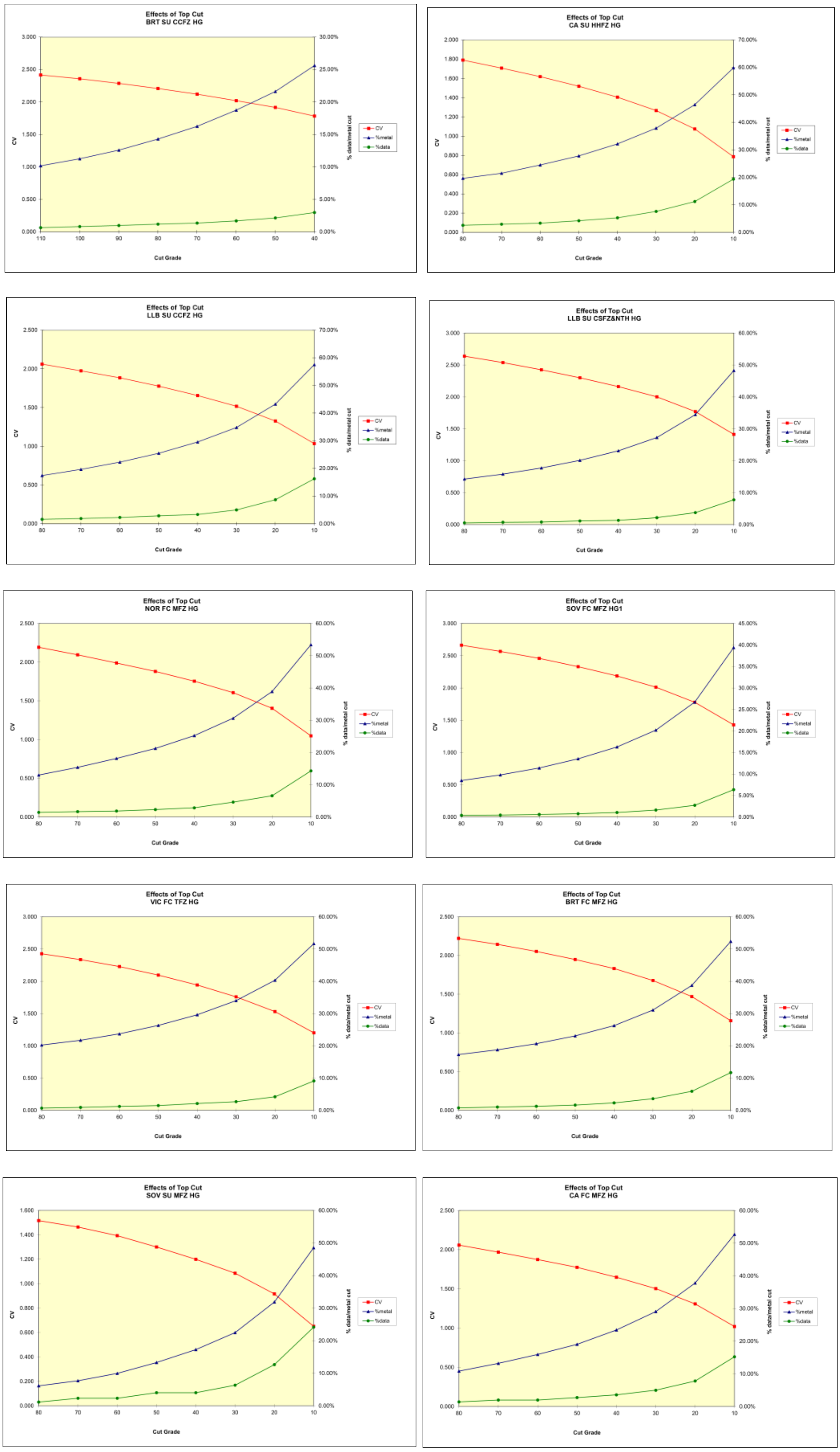


Figure 8-19 Effect of top cuts for Higher-Grade (HG) domains.

Based on the statistical analysis, there are some isolated extremely high grades existing in the Ballarat Goldmine gold grade database. That makes the coefficient of variation ('CV') very high, meaning that extremely high grade composites would have an influence on the estimation.

During the high grade treatment, multiple trials have been conducted, to make a balance between data cut off (numbers and percent of samples cut) and estimated results (validation of results vs composites). The purpose was trying to minimise the effects from some extremely high grades within the domains. The estimated grade distribution was very sensitive to the high grade treatment results.

Table 8.5.2 Top Cuts by domain

Deposit	Domain	Composite Number	Top Cut (Au g/t)	Metal Cut estimated	Data Cut	Data Cut Numbers
BRT SU CCFZ	LG	832	28.00	22.0%	0.6%	20
	HG	189	100.00	11.3%	0.8%	16
CA SU HHFZ	LG	7,612	10.00	32.2%	0.8%	62
	HG	1,808	50.00	27.9%	4.2%	43
LLB SU CCFZ	LG	1,453	4.00	13.3%	0.6%	9
	HG	622	40.00	29.5%	3.4%	21
LLB SU CSFZ&Nth	LG	7,701	8.00	30.2%	1.0%	75
	HG	1,494	35.00	23.1%	1.3%	31
	HGNth	837	55.00	35.0%	2.5%	20
NOR SC MFZ	LG	3,801	10.00	46.6%	1.6%	52
	HG	1510	50.00	21.2%	2.3%	24
SOV FC MFZ&THFZ	LG	11,677	10.00	32.2%	1.2%	137
	HG1	7,069	25.00	20.2%	1.6%	112
	HG2	901	50.00	22.0%	2.4%	22
	HG3	6,659	30.00	26.1%	2.3%	138
	HG4	324	30.00	12.2%	3.1%	14
VIC FC TFZ	LG	2,054	10.00	57.0%	1.1%	35
	HG	1,742	30.00	29.6%	2.1%	34
BRT FC MFZ	LG	6,384	8.00	43.3%	2.4%	152
	HG	4,191	36.00	26.3%	2.3%	96
SOV SU MFZ	MAIN	576	10.00	30.4%	1.2%	7
	FW	47	20.00	3.6%	2.1%	1
	HW	17	no top cut			
	HG	174	50.00	13.3%	4.0%	7
CA FC MFZ	LG	4,547	8.00	31.9%	1.1%	44
	HG	1,067	50.00	19.0%	2.7%	29
	HGFW	176	50.00	13.8%	4.5%	8
	HGHW1	1,026	35.00	12.1%	1.5%	13
	HGHW2	474	35.00	18.0%	2.3%	11

8.6 Variography Analysis

8.6.1 Objective

Variography is used to describe the spatial variability or correlation of the attribute (Au). The spatial variability is traditionally measured by means of a variogram, which is generated by determining the averaged squared difference of data points at a nominated distance (h), or lag (Srivastava and Isaacs, 1989). The averaged squared difference (variogram or γ(h)) for each lag distance is plotted on a bivariate plot, where the X-axis is the lag distance and the Y-axis represents the average squared differences (γ(h)) for the nominated lag distance.

The objectives of the variography analysis are to:

- establish the directions of major grade continuity for Au in the mineralised domains; and
- provide variogram model parameters for use in geostatistical grade interpolation.

8.6.2 Variography Analysis Procedure

Variography and evaluation of suitable estimation parameters based on the final variogram models were undertaken using GeoAccess (2018) software. The variography analysis was based on the 1m composites for individual domain.

Variography has been carried out using a three-dimensional directional. The angular and distance search tolerances used are provided in (Table 8.6.1) which illustrates the various tolerances for directional variogram calculation.

Down hole variograms are used to determine the nugget effect, then a fan of horizontal variograms is used to select major and semi-major variograms; these will usually be aligned with (major) and at right angles (semi-major) to the strike of the mineralised domains. A vertical or down hole variogram can then be used for the down-dip direction.

Table 8.6.1 The Parameters Used for Variogram Generation

Parameter	Value
Start Azimuth (ang)	0°
End Azimuth	175°
Step Azimuth	5°
Horizontal Angle Tolerance (atol)	15°
Horizontal Angular Increment	5°
Lag Distance (xlag)	10m
Lag Tolerance (xltol)	5m

NB: Azimuth (horizontal direction vector) is defined as a clockwise bearing from grid north (0°). Plunge (vertical direction vector) is defined from the horizontal plane (0°), where a negative plunge is down and positive is up.

An overview of the variography procedure for 1m composite dataset is as follows:

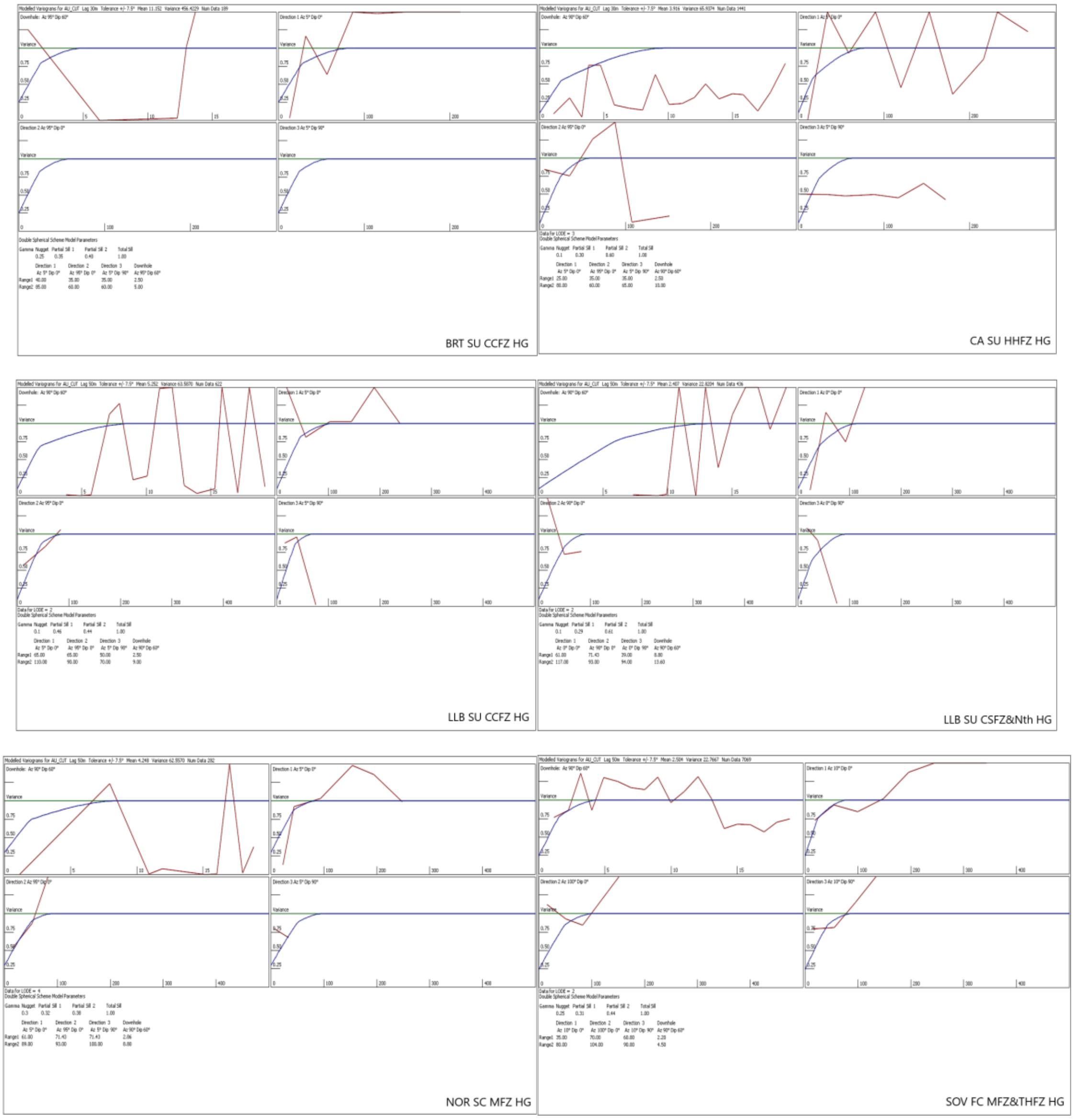
- 1m composite of major domains with top cut dataset were applied for the variography analysis.
- The nugget variances were modelled from the down hole variograms based on a 1m lag interval.
- Variograms were generated with a 10m lag interval and used to select major and semi-major variograms, with 5° increments horizontally to provide complete vector coverage in 2D.
- Normal variograms were used as these generally produced the clearest variogram structure compared to absolute variograms and pair-wise relative variograms.
- Variogram map trends were related back to the expected geological continuity directions. Orientations were modelled consistent with the interpretations and supported by the continuity trends indicated by the variography and geological understanding.

- The two orthogonal orientations which best reflected the major and semi major axes of continuity were selected; A vertical or down hole variogram can then be used for the minor direction.

The variograms were calculated for 'Au_Cut' using the above approach. Variogram modelling was then carried out approach for major domains, the parameters were used for other minor domain estimation; in general, a double spherical scheme model was adequate to represent the raw variograms and defined the shorter and longer scale variability. As a final step, the variogram models were normalised to a variance of 1 to facilitate comparison of Kriging variances after interpolation.

Nugget effects in the major lodes are typically over 25 - 35%, which is moderate for a gold deposit and illustrates the high skewed grade distribution of the 1m composite data as used for variogram calculation. Major ranges are mainly 60m, with a limited range across the mineralisation of typically 15m.

The variogram plots of main Higher-Grade lodes have been shown in Figure 8.20. The variogram parameters were used for lode estimation (Table 8.6.2).



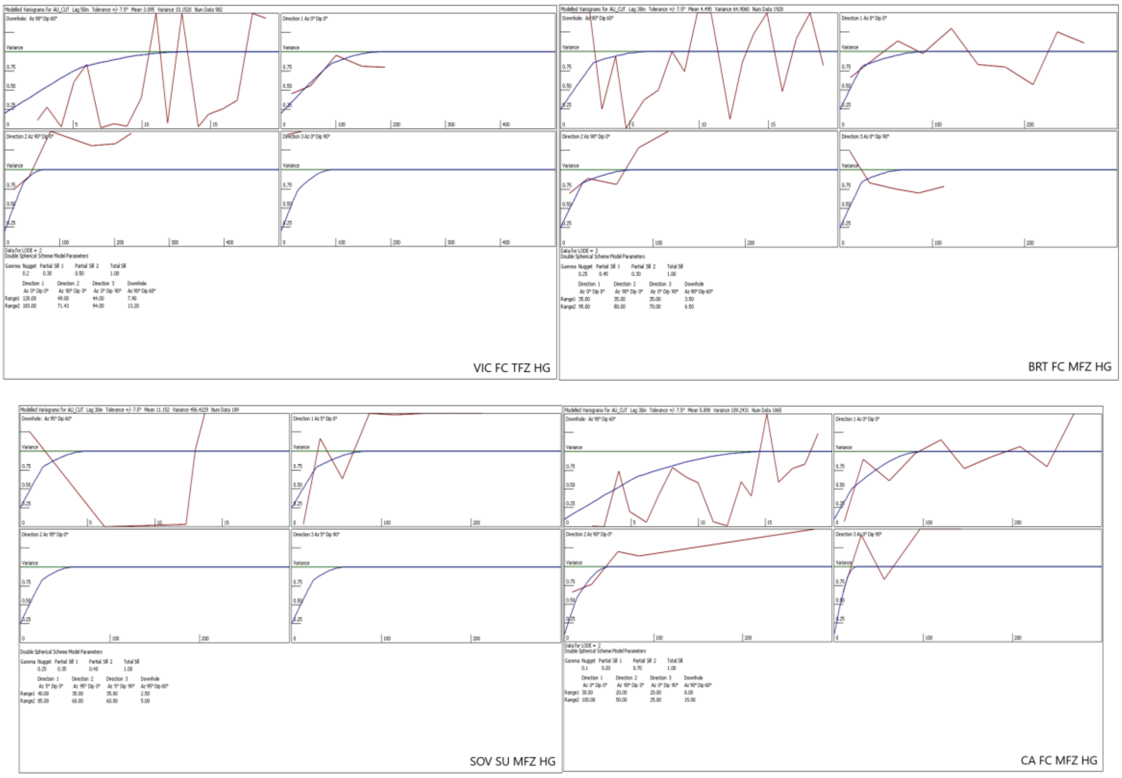


Figure 8-20 Experimental variograms of Higher-Grade Vein domains as examples.

Table 8.6.2 Normalised Variogram Parameters

Deposit	Domain	lode	Direction		Nugget	C1	C2	Sill	Range1	Range2
BRT SU CCFZ	LG	1	Along-strike	Y	0.20	0.46	0.34	1.00	55.00	130.00
			Across-Strike	X	0.20	0.46	0.34	1.00	60.00	77.00
			Down-dip	Z	0.20	0.46	0.34	1.00	60.00	78.00
	HG	2	Along-strike	Y	0.25	0.35	0.40	1.00	40.00	85.00
			Across-Strike	X	0.25	0.35	0.40	1.00	35.00	60.00
			Down-dip	Z	0.25	0.35	0.40	1.00	35.00	60.00
CA SU HHFZ	LG	1	Along-strike	Y	0.10	0.20	0.70	1.00	35.00	80.00
			Across-Strike	X	0.10	0.20	0.70	1.00	35.00	55.00
			Down-dip	Z	0.10	0.20	0.70	1.00	35.00	60.00
	HG	2	Along-strike	Y	0.20	0.40	0.40	1.00	30.00	75.00
			Across-Strike	X	0.20	0.40	0.40	1.00	60.00	80.00
			Down-dip	Z	0.20	0.40	0.40	1.00	35.00	50.00
		3	Along-strike	Y	0.10	0.30	0.60	1.00	25.00	80.00
			Across-Strike	X	0.10	0.30	0.60	1.00	35.00	60.00
			Down-dip	Z	0.10	0.30	0.60	1.00	35.00	65.00
LLB SU CCFZ	LG	1	Along-strike	Y	0.20	0.30	0.50	1.00	65.00	125.00
			Across-Strike	X	0.20	0.30	0.50	1.00	65.00	99.00
			Down-dip	Z	0.20	0.30	0.50	1.00	33.00	67.00
	HG	2	Along-strike	Y	0.10	0.46	0.44	1.00	65.00	110.00
			Across-Strike	X	0.10	0.46	0.44	1.00	65.00	90.00
			Down-dip	Z	0.10	0.46	0.44	1.00	50.00	70.00
LLB SU CSFZ & Nth	LG	1	Along-strike	Y	0.10	0.59	0.31	1.00	30.00	95.00
			Across-Strike	X	0.10	0.59	0.31	1.00	60.00	60.00
			Down-dip	Z	0.10	0.59	0.31	1.00	89.00	120.00
	HG	2	Along-strike	Y	0.10	0.29	0.61	1.00	61.00	117.00
			Across-Strike	X	0.10	0.29	0.61	1.00	70.00	93.00
			Down-dip	Z	0.10	0.29	0.61	1.00	39.00	94.00
		3	Along-strike	Y	0.20	0.40	0.40	1.00	106.00	125.00
			Across-Strike	X	0.20	0.40	0.40	1.00	70.00	181.00
			Down-dip	Z	0.20	0.40	0.40	1.00	70.00	100.00
		4	Along-strike	Y	0.20	0.40	0.40	1.00	56.00	72.00
			Across-Strike	X	0.20	0.40	0.40	1.00	77.00	93.00
			Down-dip	Z	0.20	0.40	0.40	1.00	83.00	83.00
		5	Along-strike	Y	0.20	0.22	0.58	1.00	70.00	144.00
			Across-Strike	X	0.20	0.22	0.58	1.00	49.00	55.00
			Down-dip	Z	0.20	0.22	0.58	1.00	56.00	111.00
NOR SC MFZ	LG	1	Along-strike	Y	0.35	0.32	0.33	1.00	62.50	156.00
			Across-Strike	X	0.35	0.32	0.33	1.00	55.00	66.00
			Down-dip	Z	0.35	0.32	0.33	1.00	39.00	67.00
	HG	2	Along-strike	Y	0.30	0.50	0.20	1.00	50.00	78.00
			Across-Strike	X	0.30	0.50	0.20	1.00	71.00	82.00
			Down-dip	Z	0.30	0.50	0.20	1.00	39.00	78.00
		3	Along-strike	Y	0.15	0.59	0.26	1.00	67.00	89.00
			Across-Strike	X	0.15	0.59	0.26	1.00	38.00	60.00
			Down-dip	Z	0.15	0.59	0.26	1.00	44.00	83.00
		4	Along-strike	Y	0.30	0.32	0.38	1.00	61.00	89.00
			Across-Strike	X	0.30	0.32	0.38	1.00	71.00	93.00
			Down-dip	Z	0.30	0.32	0.38	1.00	70.00	100.00
SOV SU MFZ	LG	1	Along-strike	Y	0.10	0.10	0.80	1.00	122.00	178.00
			Across-Strike	X	0.10	0.10	0.80	1.00	62.50	100.00
			Down-dip	Z	0.10	0.10	0.80	1.00	62.50	100.00
	HG	2	Along-strike	Y	0.25	0.35	0.40	1.00	40.00	85.00
			Across-Strike	X	0.25	0.35	0.40	1.00	35.00	60.00
			Down-dip	Z	0.25	0.35	0.40	1.00	35.00	60.00

Deposit	Domain	lode	Direction		Nugget	C1	C2	Sill	Range1	Range2
SOV FC MFZ & THFZ	LG	1	Along-strike	Y	0.30	0.35	0.35	1.00	40.00	110.00
			Across-Strike	X	0.30	0.35	0.35	1.00	60.00	70.00
			Down-dip	Z	0.30	0.35	0.35	1.00	35.00	75.00
	HG	2	Along-strike	Y	0.25	0.31	0.44	1.00	35.00	80.00
			Across-Strike	X	0.25	0.31	0.44	1.00	70.00	104.00
			Down-dip	Z	0.25	0.31	0.44	1.00	60.00	90.00
		3	Along-strike	Y	0.30	0.30	0.40	1.00	35.00	85.00
			Across-Strike	X	0.30	0.30	0.40	1.00	71.00	82.00
			Down-dip	Z	0.30	0.30	0.40	1.00	70.00	78.00
		4	Along-strike	Y	0.30	0.50	0.20	1.00	56.00	144.00
			Across-Strike	X	0.30	0.50	0.20	1.00	38.00	88.00
			Down-dip	Z	0.30	0.50	0.20	1.00	28.00	72.00
		5	Along-strike	Y	0.30	0.50	0.20	1.00	70.00	156.00
			Across-Strike	X	0.30	0.50	0.20	1.00	70.00	104.00
			Down-dip	Z	0.30	0.50	0.20	1.00	28.00	94.00
VIC FC TFZ	LG	1	Along-strike	Y	0.20	0.30	0.50	1.00	62.00	111.00
			Across-Strike	X	0.20	0.30	0.50	1.00	60.00	82.00
			Down-dip	Z	0.20	0.30	0.50	1.00	30.00	40.00
	HG	2	Along-strike	Y	0.20	0.30	0.50	1.00	128.00	183.00
			Across-Strike	X	0.20	0.30	0.50	1.00	49.00	71.00
			Down-dip	Z	0.20	0.30	0.50	1.00	44.00	94.00
		3	Along-strike	Y	0.20	0.39	0.41	1.00	65.00	139.00
			Across-Strike	X	0.20	0.39	0.41	1.00	65.00	125.00
			Down-dip	Z	0.20	0.39	0.41	1.00	50.00	50.00
BRT FC MFZ	LG	1	Along-strike	Y	0.20	0.30	0.50	1.00	37.00	47.00
			Across-Strike	X	0.20	0.30	0.50	1.00	35.00	40.00
			Down-dip	Z	0.20	0.30	0.50	1.00	35.00	40.00
	HG	2	Along-strike	Y	0.25	0.45	0.30	1.00	35.00	95.00
			Across-Strike	X	0.25	0.45	0.30	1.00	35.00	80.00
			Down-dip	Z	0.25	0.45	0.30	1.00	35.00	70.00
		3	Along-strike	Y	0.10	0.40	0.50	1.00	20.00	50.00
			Across-Strike	X	0.10	0.40	0.50	1.00	25.00	50.00
			Down-dip	Z	0.10	0.40	0.50	1.00	25.00	50.00
		4	Along-strike	Y	0.10	0.20	0.70	1.00	55.00	215.00
			Across-Strike	X	0.20	0.30	0.50	1.00	35.00	90.00
			Down-dip	Z	0.20	0.30	0.50	1.00	35.00	40.00
		5	Along-strike	Y	0.20	0.60	0.20	1.00	30.00	65.00
			Across-Strike	X	0.20	0.60	0.20	1.00	35.00	55.00
			Down-dip	Z	0.20	0.60	0.20	1.00	30.00	55.00
CA FC MFZ	LG	1	Along-strike	Y	0.10	0.30	0.60	1.00	25.00	65.00
			Across-Strike	X	0.10	0.30	0.60	1.00	35.00	40.00
			Down-dip	Z	0.10	0.30	0.60	1.00	35.00	40.00
	HG	2	Along-strike	Y	0.10	0.20	0.70	1.00	30.00	100.00
			Across-Strike	X	0.10	0.20	0.70	1.00	20.00	50.00
			Down-dip	Z	0.10	0.20	0.70	1.00	20.00	25.00
		3	Along-strike	Y	0.10	0.20	0.70	1.00	35.00	110.00
			Across-Strike	X	0.10	0.20	0.70	1.00	35.00	75.00
			Down-dip	Z	0.10	0.20	0.70	1.00	35.00	75.00
		4	Along-strike	Y	0.10	0.50	0.40	1.00	30.00	60.00
			Across-Strike	X	0.10	0.50	0.40	1.00	30.00	75.00
			Down-dip	Z	0.10	0.50	0.40	1.00	35.00	75.00
		5	Along-strike	Y	0.10	0.40	0.50	1.00	40.00	90.00
			Across-Strike	X	0.10	0.40	0.50	1.00	40.00	85.00
			Down-dip	Z	0.10	0.40	0.50	1.00	45.00	85.00

8.7 Block Model Construction

Three-dimensional block models were generated to enable grade estimation. The selected block size was based on the geometry of the domain interpretation and the data configuration. During model construction, a parent block size of 2.5mE by 5mN by 2.5mRL was selected with sub-blocking to a 0.25mE by 2.5mN by 0.25mRL cell size to honour wireframe domains and to improve volume representation of the interpreted wireframe models. Sufficient variables were included in the block model construction to enable grade estimation and reporting.

The block model construction parameters are displayed in Table 8.7.1.

Table 8.7.1 The Geometry Summary of Block Models

Deposit	Direction	Min	Max	Parent Size	Sub-size	Blocks
BRT SU CCFZ	Easting	52900	53100	2.5	0.5	80
	Northing	38200	38550	5	2.5	70
	RL	9900	10050	2.5	0.5	60
CA SU HHFZ	Easting	52600	52900	2.5	0.5	120
	Northing	37100	37700	5	2.5	120
	RL	9700	10000	2.5	0.5	120
LLB SU CCFZ	Easting	52850	53030	2.5	0.5	72
	Northing	37750	38150	5	2.5	80
	RL	10000	10150	2.5	0.5	60
LLB SU CSFZ & NTH	Easting	52750	53000	2.5	0.5	100
	Northing	37700	38250	5	2.5	110
	RL	9650	10000	2.5	0.5	140
NOR SC_MFZ	Easting	52500	52800	2.5	0.5	120
	Northing	36100	36850	5	2.5	150
	RL	9750	10050	2.5	0.5	120
SOV FC MFZ&THFZ	Easting	52700	53000	2.5	0.5	120
	Northing	36700	37250	5	2.5	110
	RL	9750	10100	2.5	0.5	140
VIC FC TFZ	Easting	53150	53300	2.5	0.5	60
	Northing	38600	38950	5	2.5	70
	RL	9700	9950	2.5	0.5	100
BRT FC MFZ	Easting	53000	53300	2.5	0.5	120
	Northing	38250	38660	5	2.5	82
	RL	9690	10000	2.5	0.5	124
SOV SU MFZ	Easting	52550	52850	2.5	0.5	120
	Northing	36750	37200	5	2.5	90
	RL	9600	9900	2.5	0.5	120
CA FC MFZ	Easting	52800	53150	2.5	0.5	140
	Northing	37150	37600	5	2.5	90
	RL	9700	10025	2.5	0.5	130

The density values were assigned to the block model based on the logging data provided by GPG (Table 8.7.2).

Table 8.7.2 Densities Assigned to the Block Model.

Description	Density (g/cm³)
quartz ore	2.66
Sediment/Waste	2.70

8.8 Grade Interpolation

Grade estimation of the Ballarat Goldmine deposits were carried out using Ordinary Kriging geostatistical interpolation method. The method uses estimation parameters defined by the variography parameters. A 1m composite using the top-cut dataset was used for the grade interpolation. Estimation of the resource was completed using Micromine v2020 software.

Based on the statistical analysis, there are some isolated extremely high grades existing in the Ballarat Goldmine gold grade database. That makes the coefficient of variation ('CV') very high, meaning that extremely high grade composites would have an influence on the estimation. The high-grade outliers were treated using an approach of top cut to each of the domains based on a review of the domain histogram, log probability plot, and an assessment of the effects of cutting on data numbers, and the reduction of metal in the domain.

The final block models were exported as CSV format for other software users.

8.8.1 Kriging Neighbourhood Analysis

Quantitative Kriging Neighbourhood analysis (QKNA) was undertaken on a subset of blocks in the main domains to establish optimum search and minimum/maximum composite parameters. Goodness-of-fit statistics are generated to assess the efficiency of the various parameters. The primary statistics used are the Kriging efficiency and the slope of regression.

A general summary of the main steps is provided:

- Run QKNA for a range of potential Kriging neighbourhoods.
- Produce summary graphs for QKNA criteria (Kriging slope of regression, sum of negative Kriging weights, Kriging efficiency).
- Select Kriging neighbourhoods as per QKNA optimisation theory.

Note: The Kriging efficiency is calculated as (block variance-Kriging variance)/block variance, where block variance is the total sill less the variance contained within a block.

The slope of regression is calculated as (block variance – Kriging variance + μ)/ (block variance – Kriging variance + 2μ).

Kriging efficiency (KE) calculates the overlap expected between the estimated block grade histogram and the 'true' block grade histogram. A high efficiency indicates a good match between estimated and 'true' grades, while as parameters become less optimal, KE drops.

The slope of regression estimates the correlation between estimated and 'true' grades; a value closer to 1.0 indicates a good fit. In addition, other statistics, such as the percentage of negative weights generated in a Kriging plan can be considered.

A number of key input parameters can be tested in this way, including:

- Block size.
- Number of discretisation points.
- Search ellipse dimensions.
- Minimum and maximum sample numbers in a search plan.

8.8.2 Estimation Technique and Parameters

Ordinary Kriging interpolation method was used for the current resource estimations. The Micromine Kriging interpolation process offers the robust and flexible resource estimation software, providing maximum control over all the parameters which are used to drive the estimation process. Results are also reproducible and auditable through extensive use of macros and parameter files to control the process.

Sample search neighbourhoods have been optimised based on kriging statistics. Several data configurations (block locations and accompanying data spacing) were considered in this optimisation process. Minimum number of samples, numbers of drill holes, and search distances are determined by drill pattern spacing, and the geometry of the mineralised lodes.

The kriging plan parameters used for grade interpolation are summarised in Table 8.8.1. Specific search ellipsoid rotations were used for each domain reflecting the domain variography orientations. A 3-pass kriging plan was used to estimate blocks which did not receive a grade estimate in a previous pass. Search ellipsoid dimensions were selected in relation to the nominal drill hole data spacing and identified variogram ranges.

The estimation parameters of the selected Kriging neighbourhoods by domain used in the OK are summarised as follows:

- A three-pass estimation strategy was implemented wherein each successive estimate is completed with expanded sample searches and relaxed composite collection criteria.
- To minimise the effect of data clustering, a limit of 4 composites per drillhole was implemented.
- Block discretisation of 2Em x 5Nm x 2RLm points was used.
- The estimation has been completed based on the parent cell (i.e. sub-cells have identical grades to each other based on the parent cell).

Table 8.8.1 Sample Search Parameters for Ordinary Kriging Estimations

Deposit	Domain	Search Ellipse			Search Pass 1		Search Pass 2			Search Pass 3		
		Major	Semi-Major	Minor	Min Samples	Max Samples	Search Factor	Min Samples	Max Samples	Search Factor	Min Samples	Max Samples
BRT SU CCFZ	LG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
CA SU HHFZ	LG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
LLB SU CCFZ	LG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
LLB SU CSFZ&Nth	LG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HGNth	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
NOR SC MFZ	LG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
SOV FC MFZ&THFZ	LG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG1	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG2	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG3	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG4	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
VIC FC TFZ	LG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
BRT FC MFZ	LG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
SOV SU MFZ	MAIN	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	FW	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HW	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
CA FC MFZ	LG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HG	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HGFW	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HGHW1	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24
	HGHW2	15	25.00	10.00	12.00	24.00	1.80	8.00	24.00	2.6	4	24

8.9 Block Model Validation

8.9.1 Visual Validation

Visual model validation was accomplished by comparing composited assay grades with block estimates. Each lode is checked against the composited data used in the estimation process. The onscreen validation process involved comparing block estimates and composites grades in cross section.

The onscreen validation sections showed a strong correlation between the block and composite drill hole grade. There were no un-estimated blocks present within the ore lodes.

Example sections are shown below (Figure 8-21 to Figure 8.22).

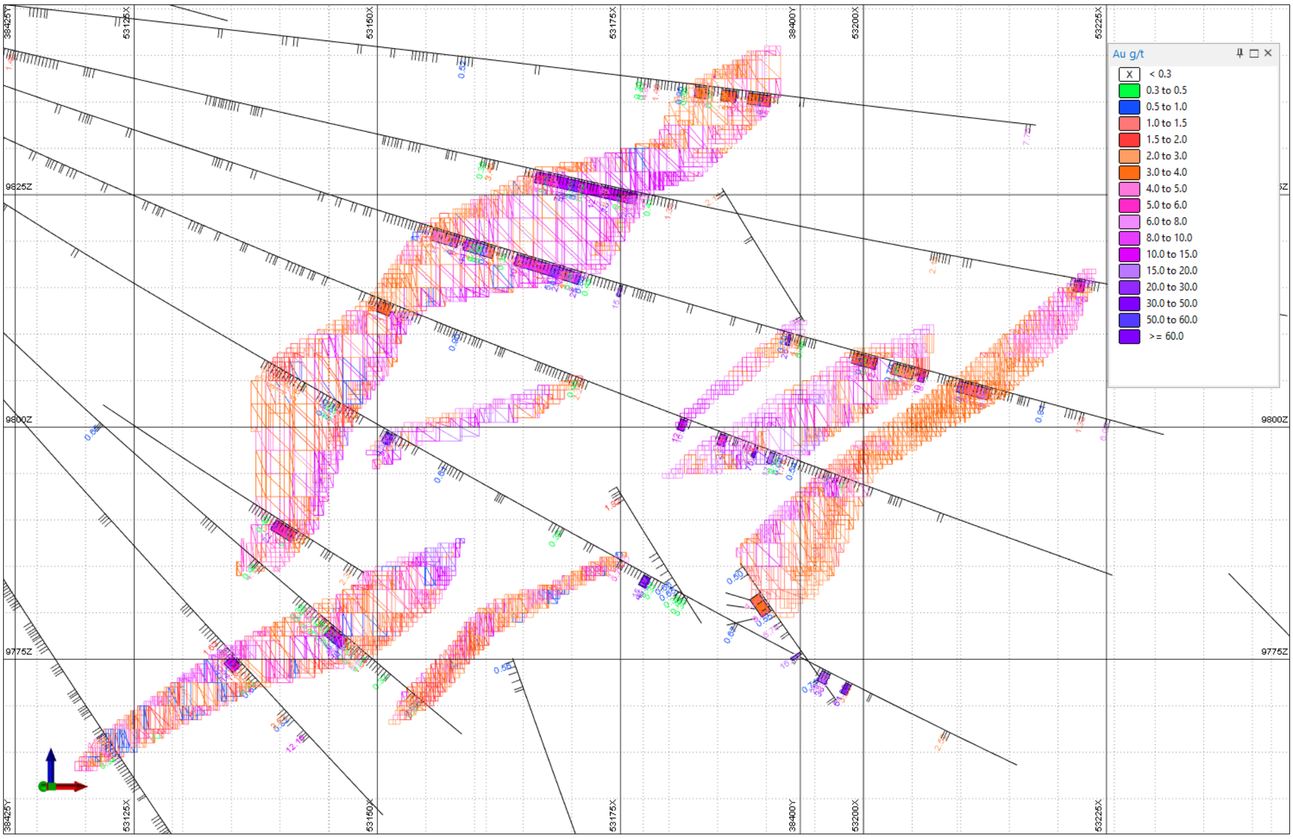


Figure 8-21 Cross Section for Block Model Validation (BRT FC MFZ 38,425mN)

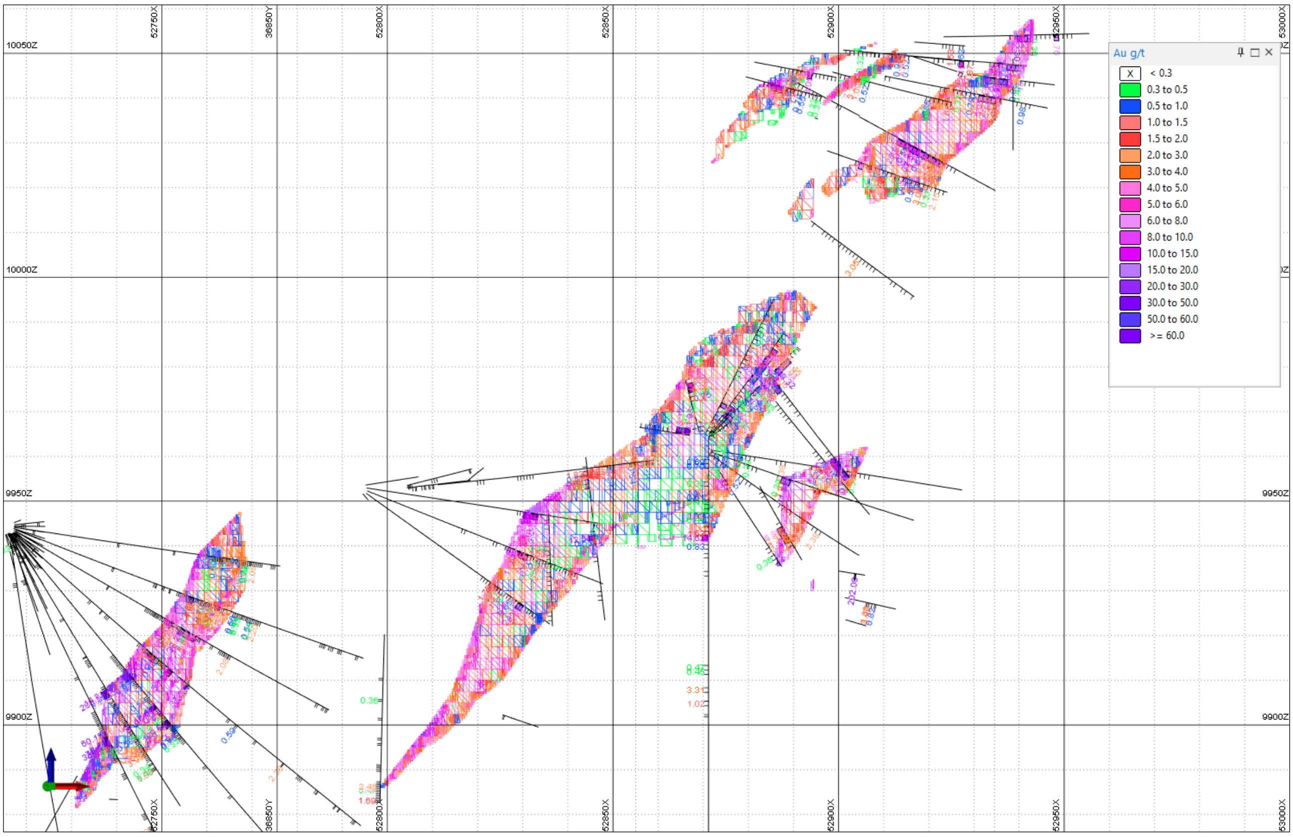


Figure 8-22 Cross Section for Block Model Validation (SOV FC MFZ 36,845mN)

8.9.2 Plots Validation of Interpolated Grades

The process involved averaging both the blocks and samples declustered in panels of 5 m (easting) by 10 m (northing) by 5 m (RL) for the Ballarat Goldmine deposits. Comparisons were made along Easting, Northing and RL slices for the entire deposit are presented in Figure 8.23 to Figure 8.32.

The observations are summarised as:

- Generally good agreement is observed between the data and block model mean grade for all variables for easting, northing and RL slices. For average grade conformance, all domains in low grades and high grades display comparable performance relative to the data.

- QQ and scatter plots for the averaged composite data vs. block model results show deviation from the 45° line, with overstatement of low grades and understatement of high grades by the block model. This is a natural expected behaviour of moving from sample size data to a much bigger volume as represented by Kriged models. This effect is more pronounced for the low grade mineralisation for which smoothing is higher;

- The grades calculated from the individual estimated blocks and composite assay dataset compared reasonably well globally and for all mineralised domains.

Overall, the plot validation process shows that the block model estimates follow the trend of the 1m composite grades across the deposit. Estimation smoothing is present to a larger degree in low grade areas but is more controlled in the more constrained mineralised zones. The Mineral Resources at GPG Mine deposits can be fairly represented as the global Mineral Resource estimates.

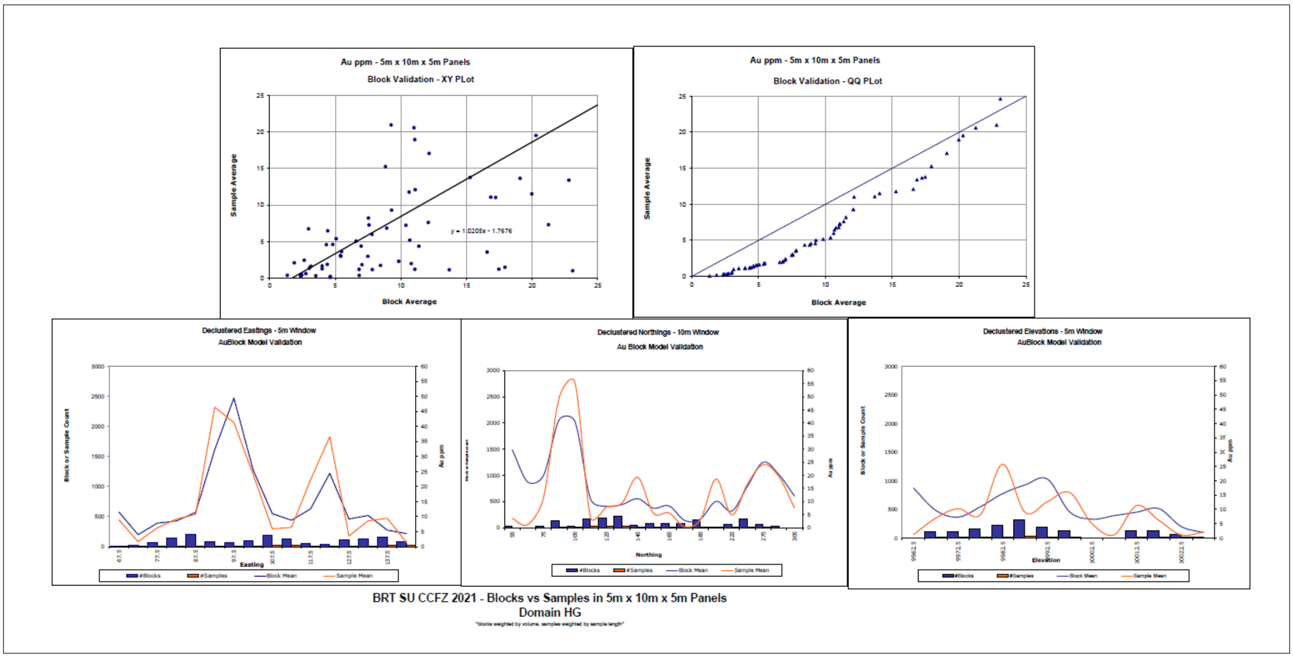


Figure 8-23 Au Estimate Validation Plot of Declustered Composites in Easting, Northing and Elevation Directions of BRT SU CCFZ Higher-Grade domain.

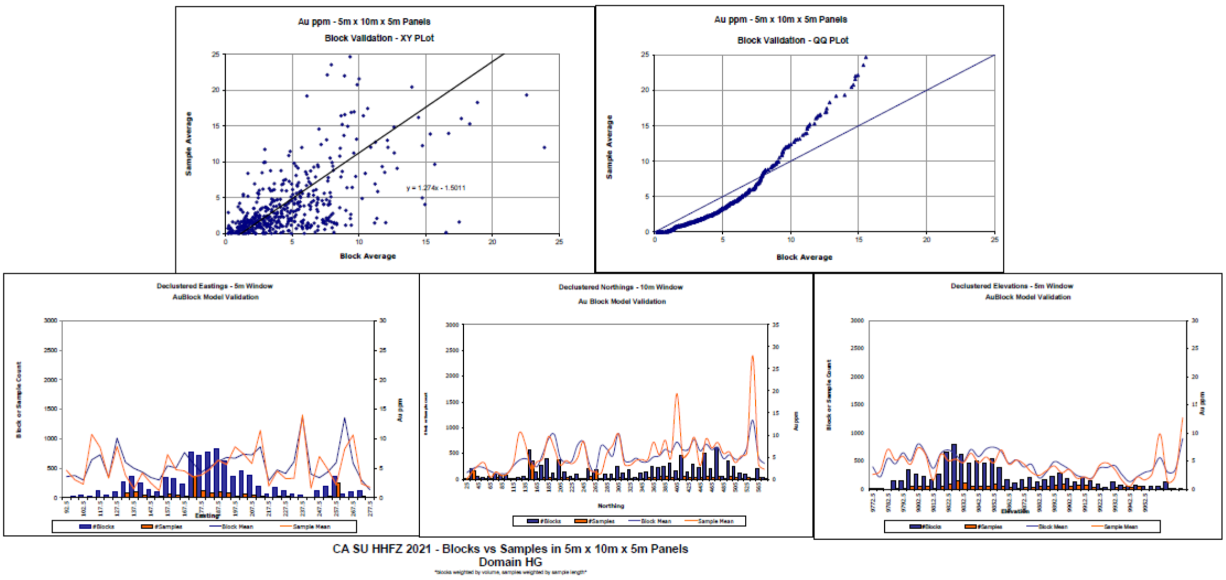


Figure 8-24 Au Estimate Validation Plot of Declustered Composites in Easting, Northing and Elevation Directions of CA SU HHFZ Higher-Grade domain.

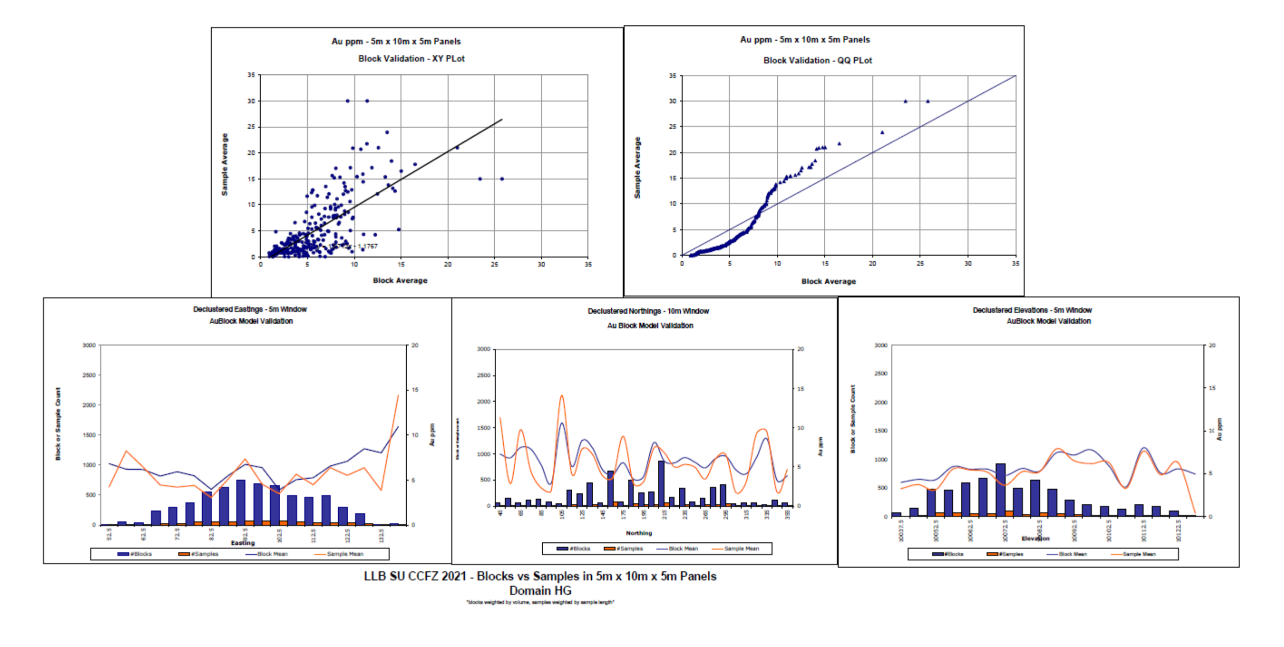


Figure 8-25 Au Estimate Validation Plot of Declustered Composites in Easting, Northing and Elevation Directions of LLB SU CCFZ Higher-Grade domain.

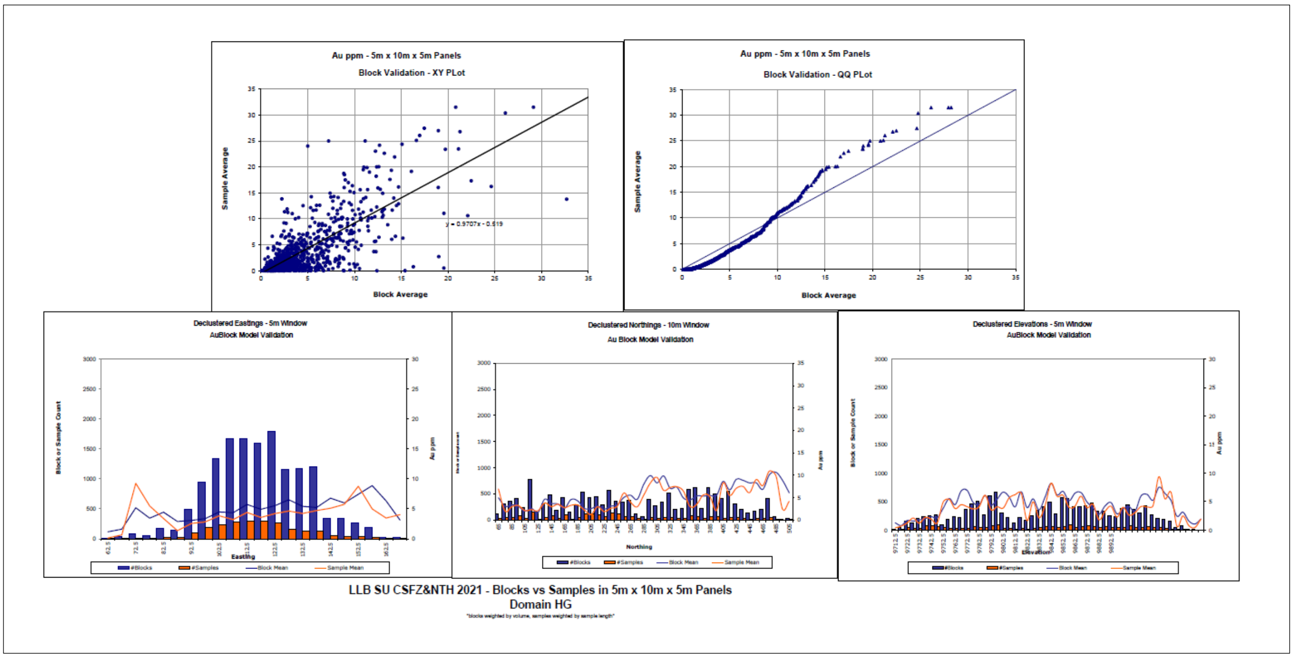


Figure 8-26 Au Estimate Validation Plot of Declustered Composites in Easting, Northing and Elevation Directions of LLB SU CSFZ Higher-Grade domain.

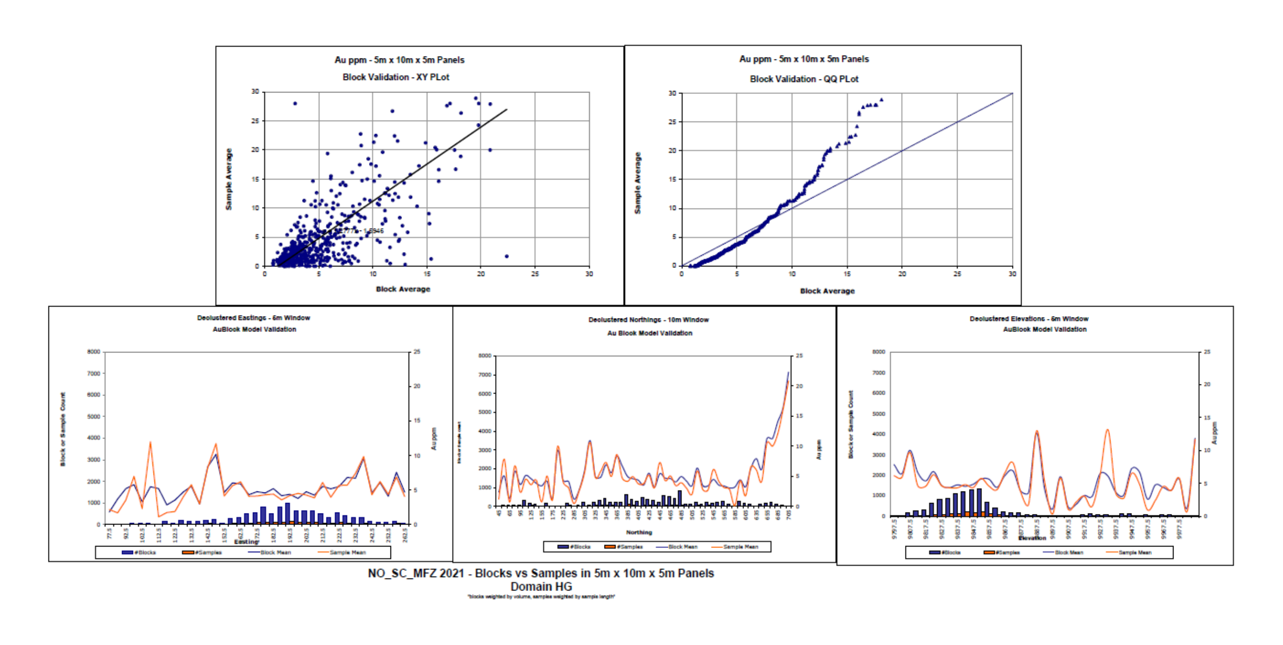


Figure 8-27 Au Estimate Validation Plot of Declustered Composite in Easting, Northing and Elevation Directions of NOR SC MFZ Higher-Grade domain.

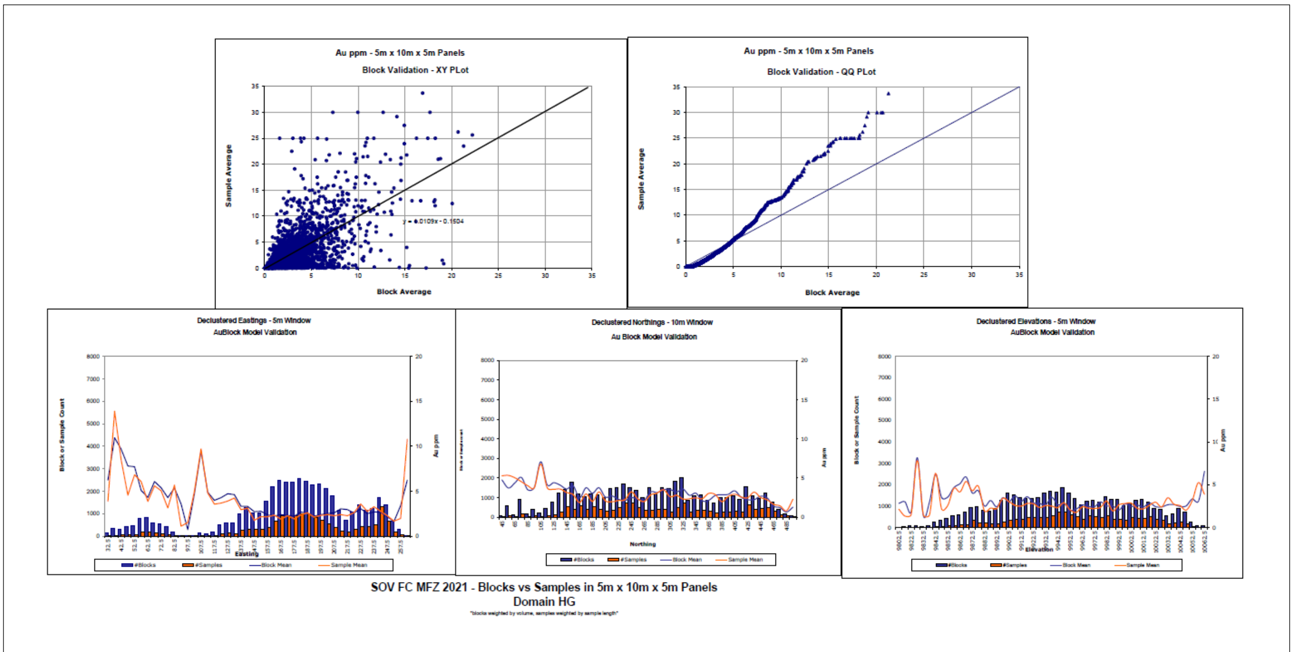


Figure 8-28 Au Estimate Validation Plot of Declustered Composite in Easting, Northing and Elevation Directions of SOV FC MFZ Higher-Grade domain.

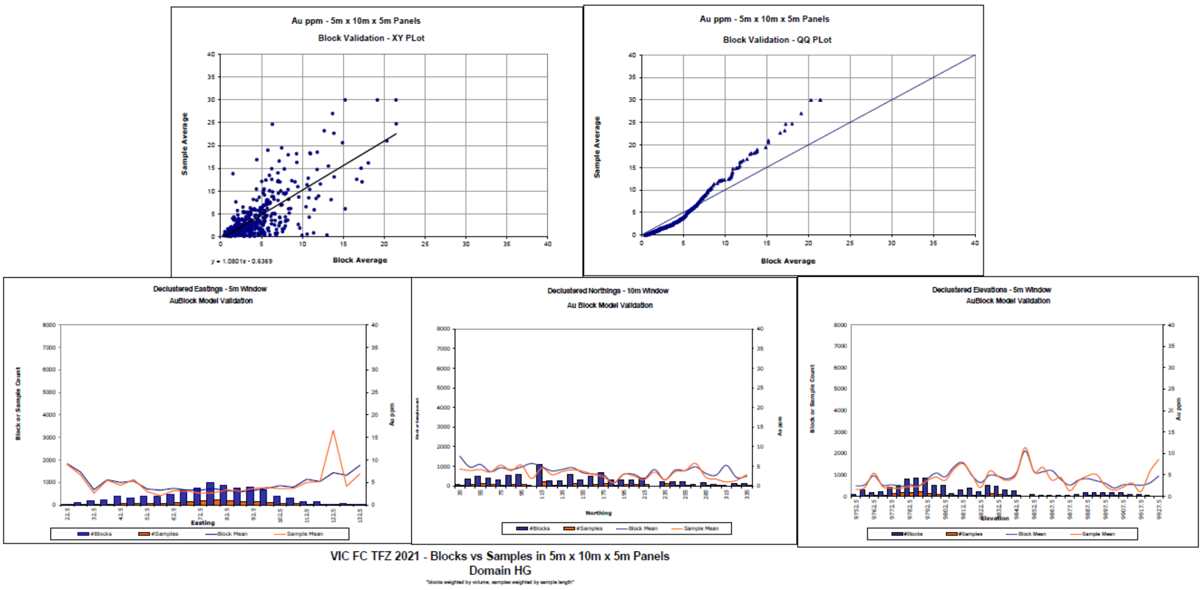


Figure 8-29 Au Estimate Validation Plot of Declustered Composites in Easting, Northing and Elevation Directions of VIC FC TFZ Higher-Grade domain

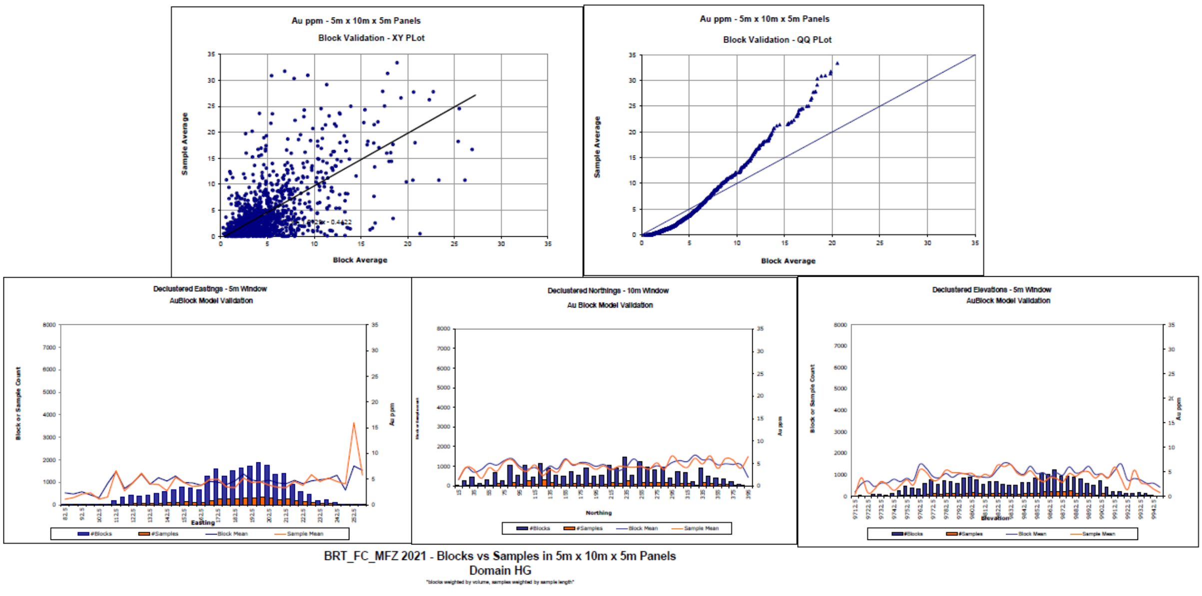


Figure 8-30 Au Estimate Validation Plot of Declustered Composites in Easting, Northing and Elevation Directions of BRT FC MFZ Higher-Grade domain

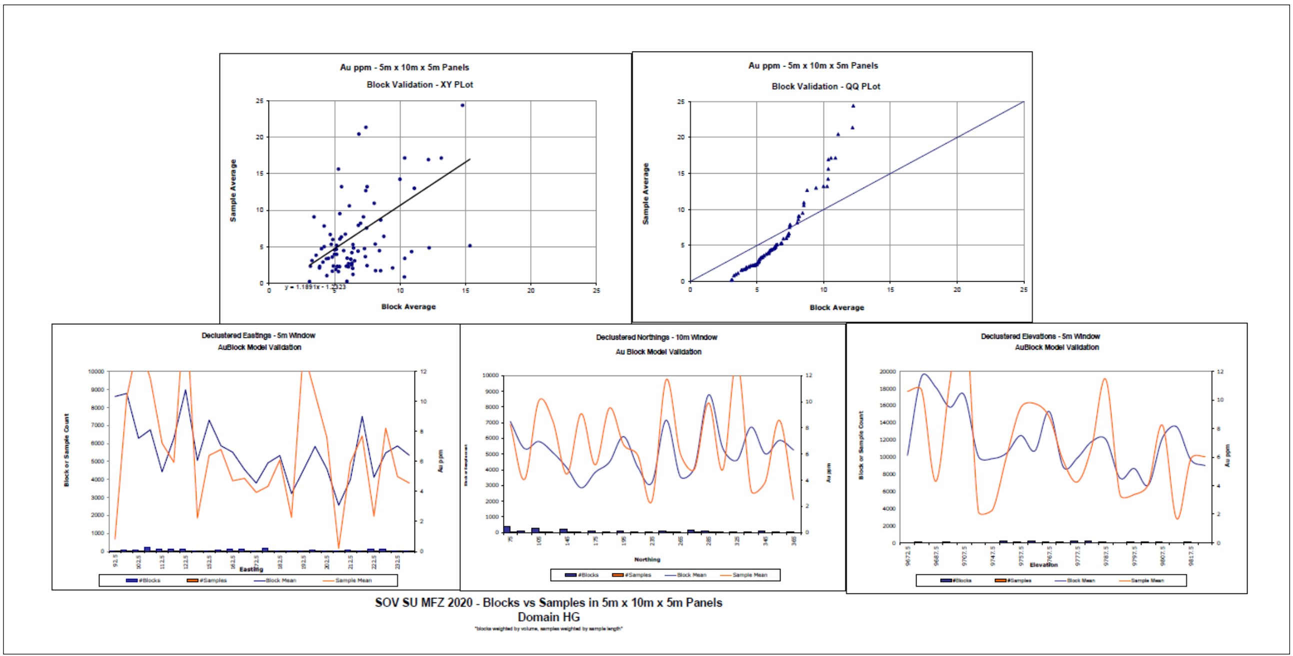


Figure 8-31 Au Estimate Validation Plot of Declustered Composites in Easting, Northing and Elevation Directions of SOV SU MFZ Higher-Grade domain

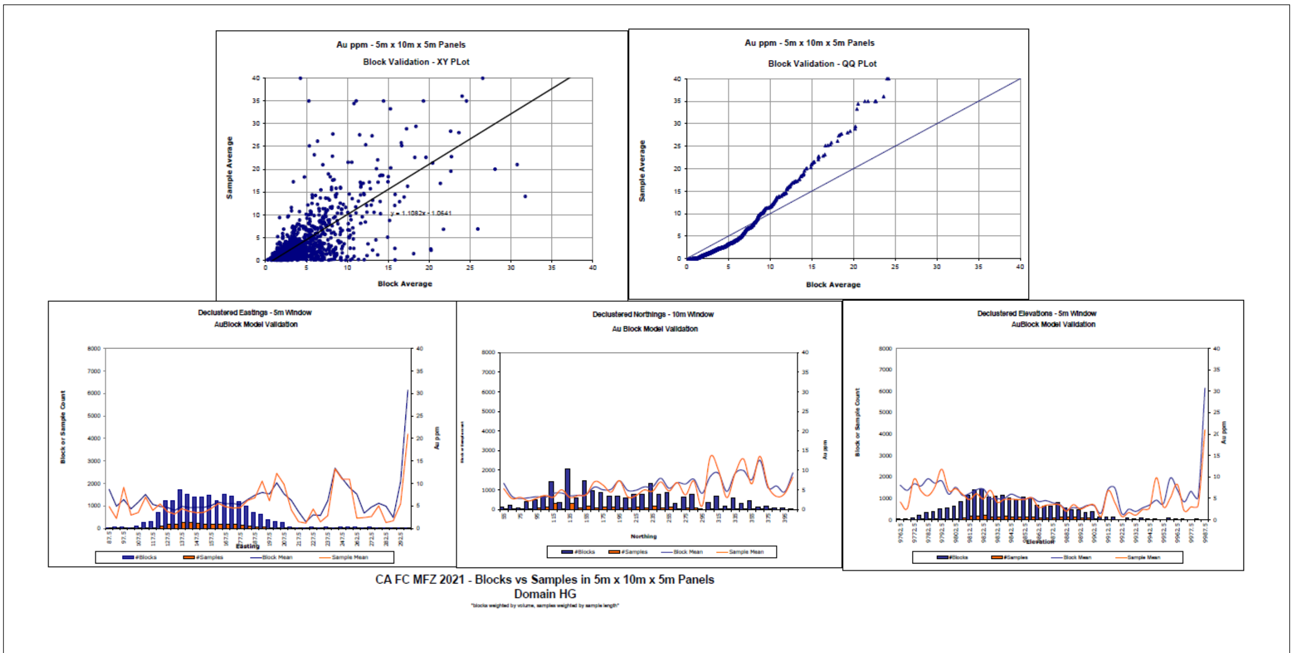


Figure 8-32 Au Estimate Validation Plot of Declustered Composites in Easting, Northing and Elevation Directions of CA FC MFZ Higher-Grade domain

8.10 Resource Classification

The Ballarat Goldmine Mineral Resources have been classified and reported in accordance with The Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). Resource classification is based on confidence in the geological domaining, drill spacing and geostatistical measures.

The initial classification process was based on an interpolation distance and minimum samples within the search ellipse as defined by the Micromine macro. The main components of the macro are summarised as follows:

Initial classification:

- The resource was classed as Inferred if the average weighted sample distance was greater than 40m.
- The resource was classed as Indicated if the average weighted sample distance was between 25m and 40m.
- If the numbers of drill holes -< 2 then the Indicated resource was downgraded one class.

The initial classification was reviewed visually. Based on the initial classification, two solids rescat_ind and rescat_inf were created to define Indicated and Inferred resources. This defined resource categories based on a combination of data density and geological confidence.

The resource classification codes in the model are as follows:

Indicated Resource	(class = 2)
Inferred Resource	(class = 3)
Unclassified Resource	(class = 4)

A range of criteria has been considered in determining the classification including:

- Geological continuity
- Data quality
- Drill hole spacing
- Modelling technique
- Estimation parameters including search strategy, number of samples, average distance to samples to blocks and relative Kriging variance.

8.10.1 Data Quality

Resource classification is based on data collected and stored in GPG database, provided for the resource estimation. It is considered that drilling techniques, survey, sampling and sample preparation, analytical techniques and database management and validation are well within industry standards.

8.10.2 Drill Spacing

Drill hole location plots have been utilised to ensure the drilling spacing meets the expected minimum requirements for resource classification. Indicated material is defined where drilling is typically 25 to 40m spaced, and where lode continuity confidence is high. Inferred material lies beyond the indicated boundaries and within the wireframe domains.

8.10.3 Modelling Technique

A conventional 3D OK modelling technique has been used, with an unfolding methodology applied to provide a dynamic element to the allocation of search ellipses. The modelling technique is suitable to the domains being estimated allowing reasonable expectation of mining selectivity across the mineralised domain.

8.10.4 Estimation Properties

Information from the estimation process, including search pass, number of composites used in the search ellipse and Kriging variance are all used in conjunction with drill spacing to finalise classification domains.

Figure 8-34 and Figure 8.34 present the updated Mineral Resource classification with drill hole traces as examples.

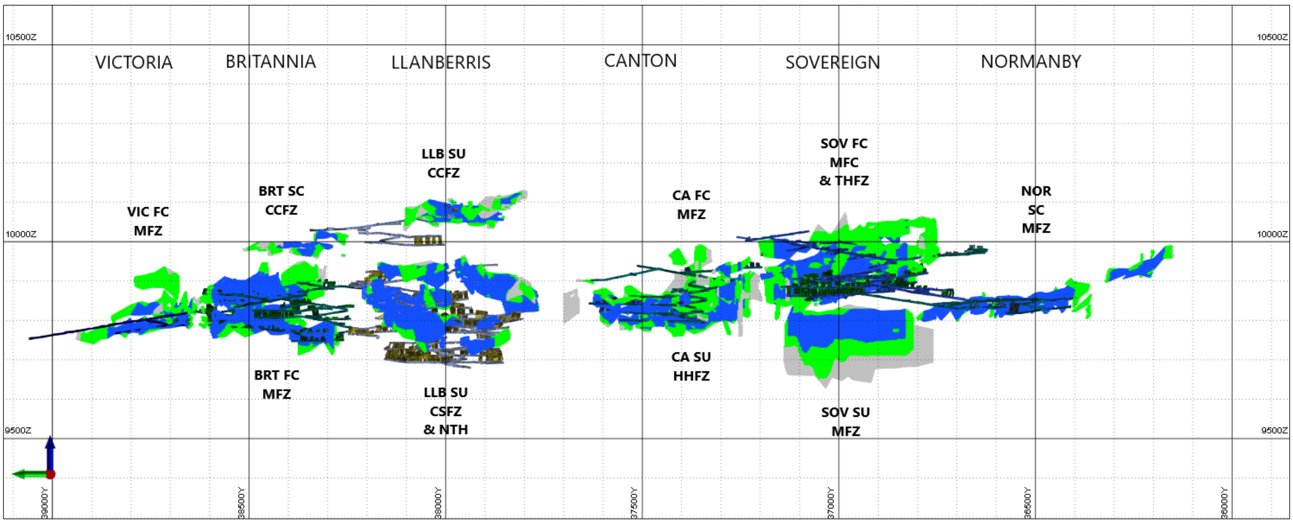


Figure 8-33 The updated Mineral Resource category distribution *(Long-section, view looking to east, blue-Indicated; green-Inferred; grey-Unclassified).*

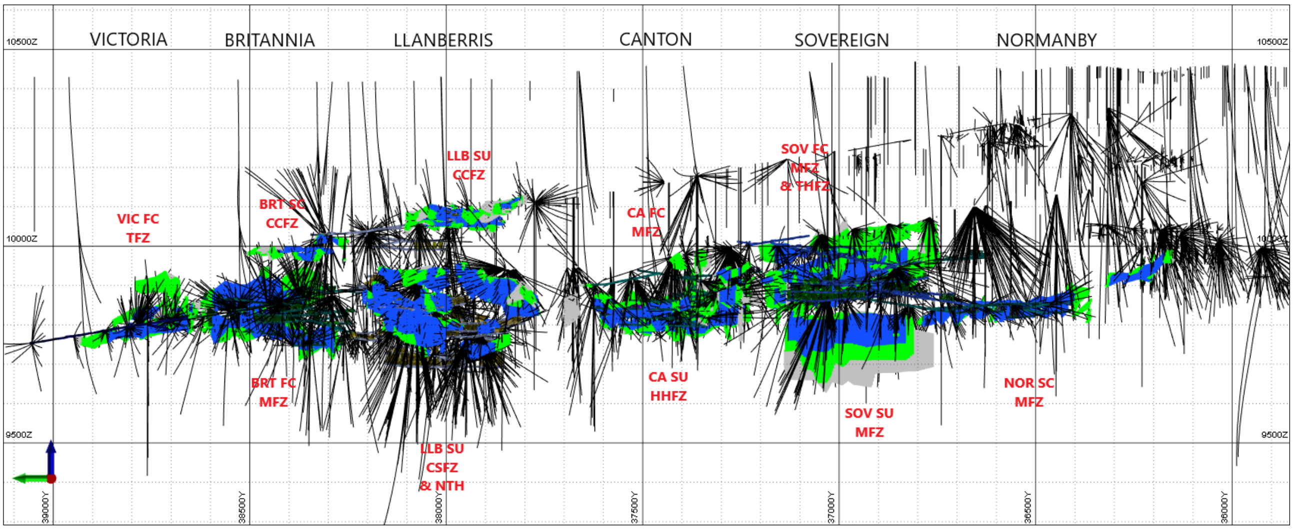


Figure 8-34 The updated Mineral Resource category distribution with drill hole traces *(Long-section, view looking to east, blue-Indicated; green-Inferred; grey-Unclassified).*

8.11 Mining Depletion

8.11.1 Depletion by Modern Mining

All reported Resources were depleted to account for mining up until the reporting date of 28th February 2021 (Figure 8-36 and Figure 8-3636).

The depletion model represents both mined voids and the sterilisation zones around unstable voids such as un-filled stopes. Depletion modelling was conducted in consultation with GPG geotechnical staff. This zone is considered sterilised, and the mineralisation tonnes and grade are depleted from the block model. In areas that are presently being actively mined, depletion domains were based on ore drive volumes and active stope volumes.

Depletion strings were collected using a total station for ore drives, and a CMS for stope voids. The strings were used to generated depletion shapes in Surpac software by the mine surveyor. Depletion shapes were loaded into Micromine and form the basis of the depletion model. Depletion zone shapes and underground mine development are shown in Figure 8-35 and Figure 8-36.

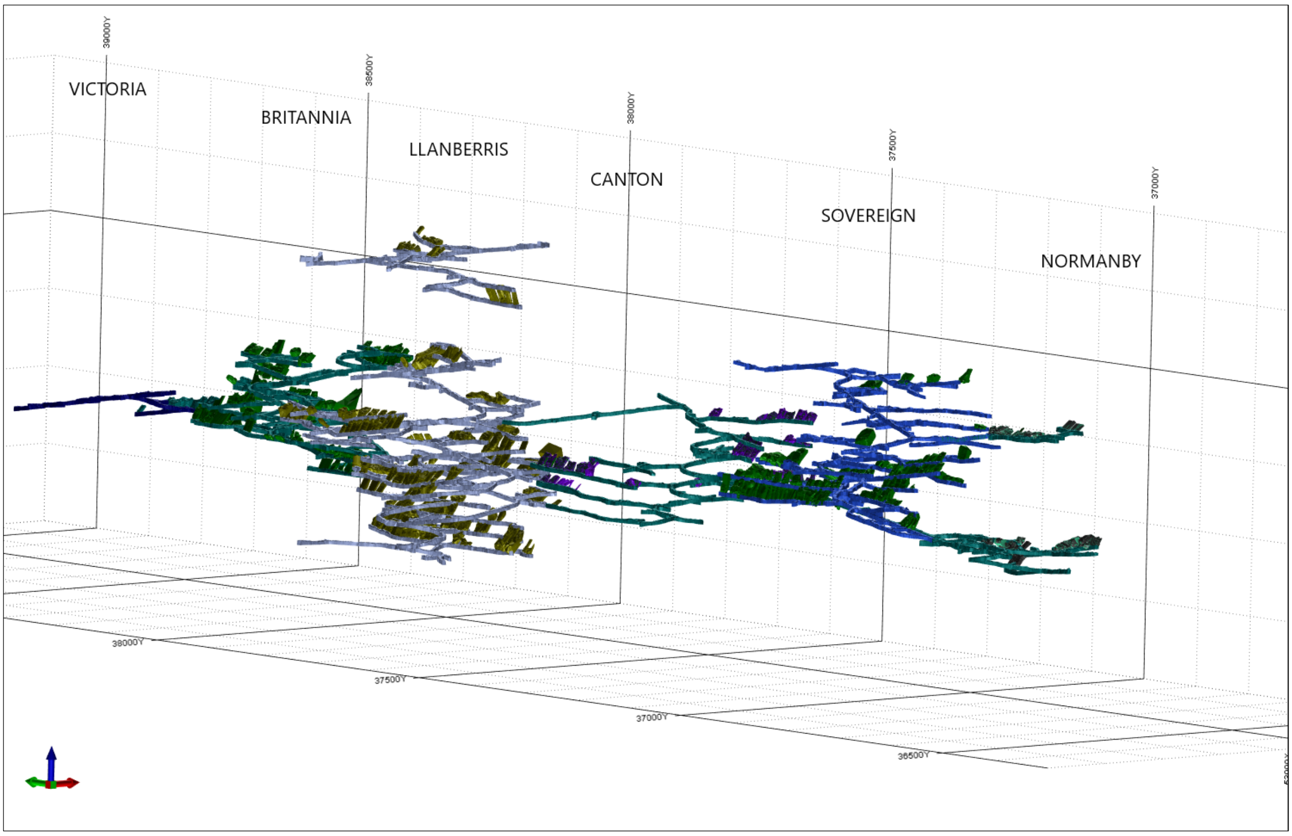


Figure 8-35 Mining depletion wireframes and development (3D view).

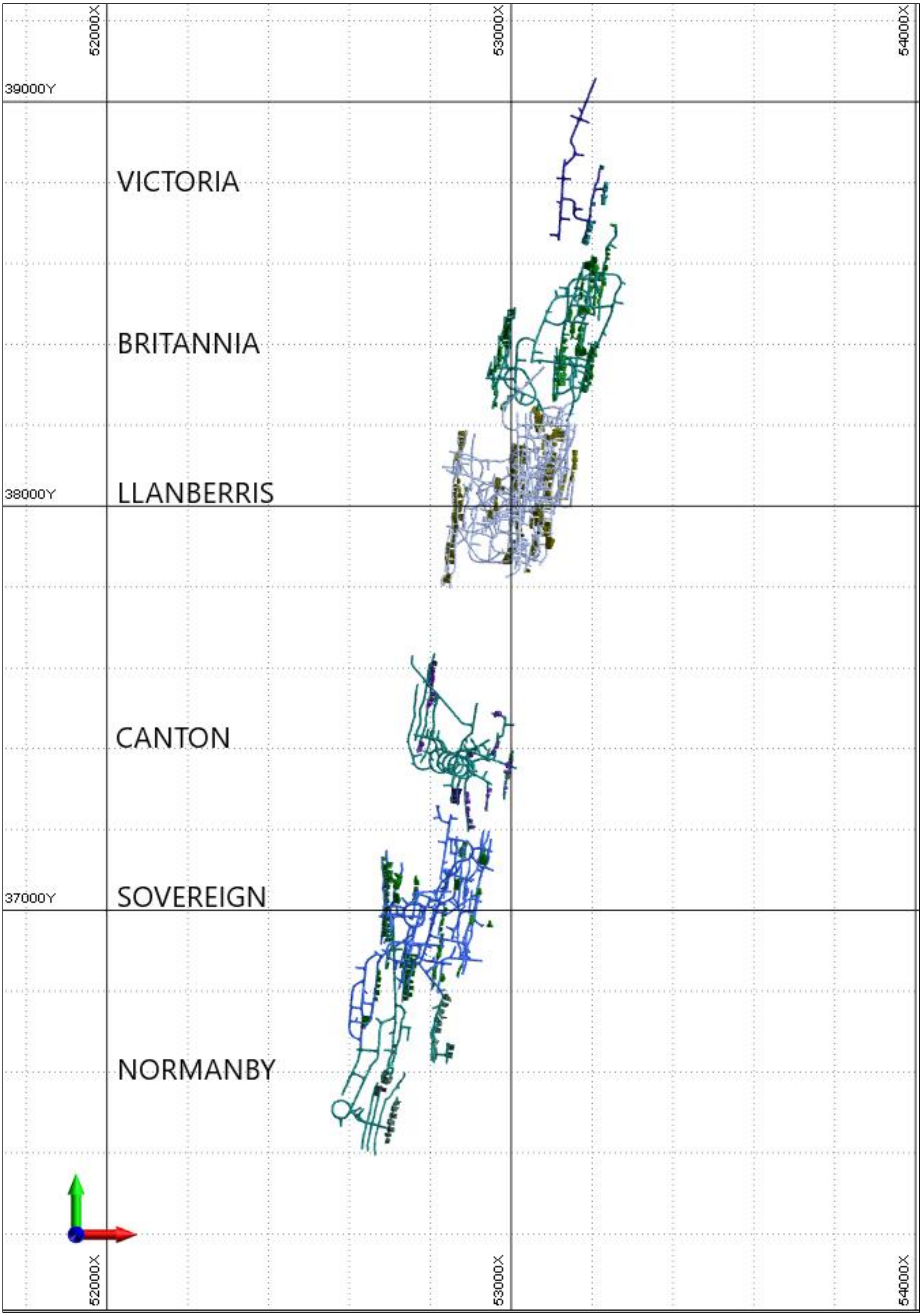


Figure 8-36 Mining depletion wireframes and development (Plan view).

8.11.2 Depletion by Historical Mining

The upper portions of the Golden Point Hammerhead and Llanberris Hammerhead lodes are located adjacent to historical underground workings mined during the late 19th and early 20th Century. Using historical mine managers' reports, level plans and survey data, 3D void models were generated to replicate these workings including shafts, drives and stopes. These models were verified against void intersections in recent diamond drilling and updated where necessary.

8.12 TSF Resource Estimate

8.12.1 Introduction

Since 2005, 2.32 Mt of tailings have been deposited at the Terrible Gully TSF (Figure 8-3737). Preliminary test work by GPG suggest that it is potentially economically viable to reprocess these tailings using a finer grind to liberate gold that was not captured by initial processing. In 2016–2017, GPG purchased a second-hand ball mill which it plans to add to the current processing plant circuit. GPG intends to build a new tailings facility to allow reprocessing of the current TSF.

Studies commissioned by GPG suggest that gold in the tails comprises:

1) agglomerated clasts, consisting of either gold-quartz or gold-sulphide grains that do not respond to gravity or flotation;
2) gold that has bypassed capture because of faults in the mill; and
3) fine gold that bypasses the Dutch State Mine screens and is not subjected to the flotation circuit (Davies and Marshall, 2015).

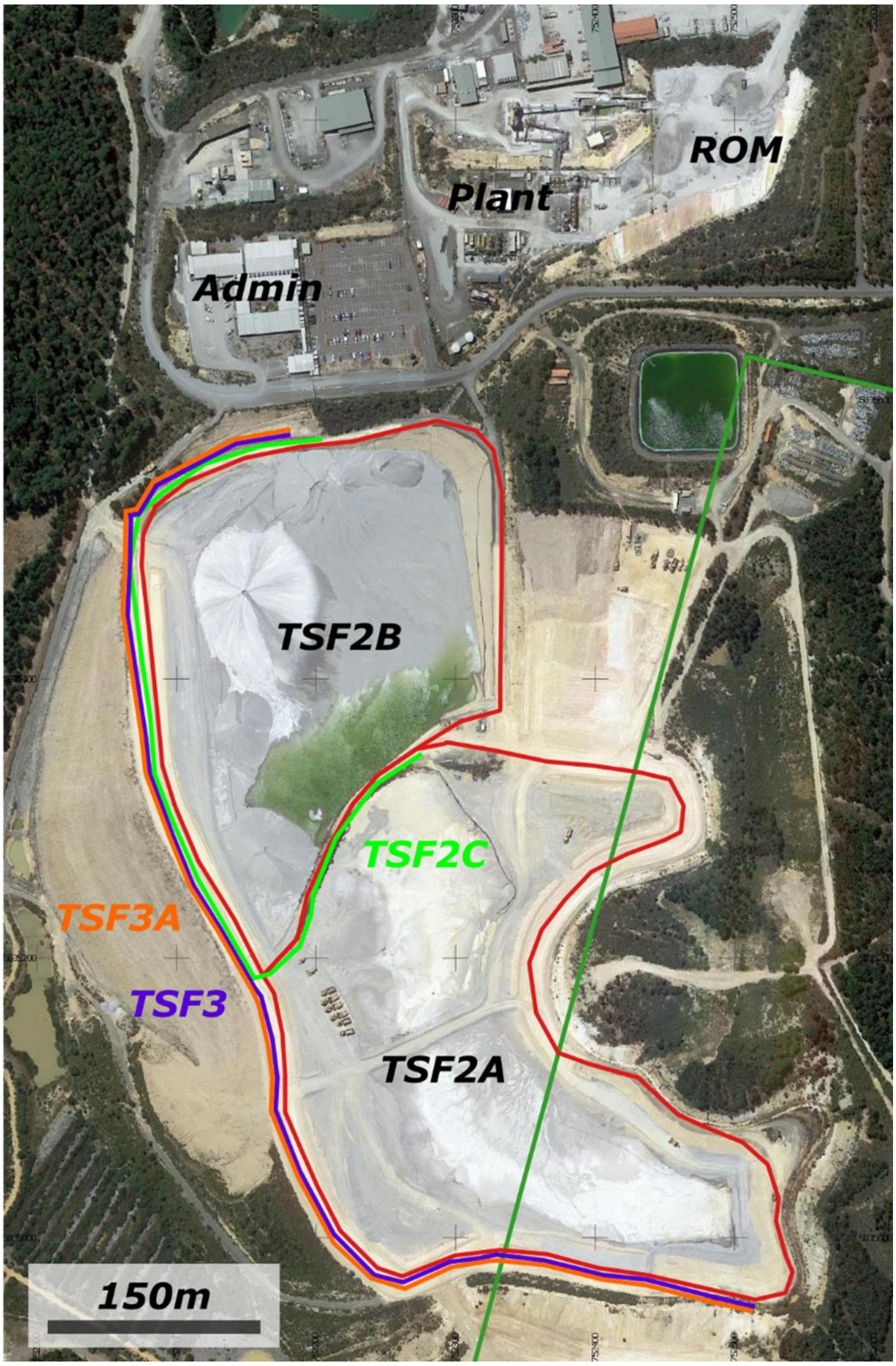


Figure 8-37 Plan view of the Terrible Gully TSF.

8.12.2 Informing Data

Throughout the mine life, several phases of processing have occurred: gravity only (2005–2008), gravity + leach (2008–2015), and gravity + leach + float (2015 to present). Figure 8-3838 shows the annual tailings tonnage and tailing grade since 2006.

The TSF is divided into two cells: TSF2 & 2A and TSF2B. TSF2 and 2A comprise a single cell that was constructed in two stages (RL432.0 & RL437.0), which were commissioned in 2005 and 2008 respectively. TSF2B was constructed in 2013 to RL 432.0. In 2016, a five-metre downstream lift was completed on TSF2B bringing the new cell (TSF2C) to the same RL as TSF2A (RL437.0m). Subsequently, TSF3, a three-metre upstream raise incorporating both cells were completed bringing the RL to 439.8m (the two TSF's became one) followed by a further raise (TSF3A) to bring the tailings infrastructure at this location to a final height of 440.8m. A new storage facility with a separate footprint is in its planning stages (TSF4).

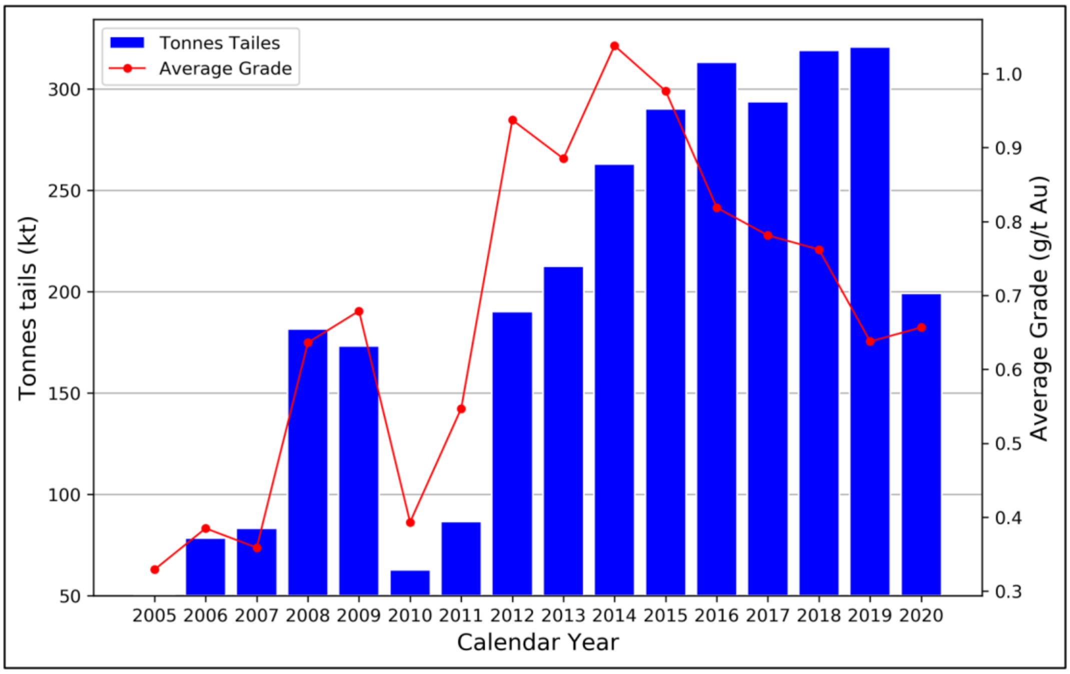


Figure 8-38 Ballarat mill annual tailings grade and tailings tonnage by year

8.12.2.1 Mineralisation

Tailings are deposited as a slurry from spigots at varying locations around the margins of the dam, forming low angle, weakly gravity-sorted sand and silt wedges that prograde towards the centre of the TSF. Spigot locations have varied throughout the TSF life and have not been recorded, so potential internal stratification with the dam is unknown. It is unlikely that coherent predictable areas of higher-grade tails are present that could be selectively mined. It is assumed that all tailings material will be mined and processed. Tailings Au grades may be lower in the lower sections of the dam from lower grade tails produced early in the mine life, but drilling would be needed to resolve this.

8.12.2.2 Volume

The volume and location of the tails is well-constrained. GPG have modelled volumes of the tails based on as-built surveyed pick-ups of the tailings dam before tailings emplacement and have regular surveyed pick-ups of the current tailings dam surface.

8.12.2.3 Tonnage

The tonnage of tails emplaced in the dam is well-constrained. Daily tailings tonnages are available for the life of the mine to date from routine milling figures. Daily tails tonnages are based on measurements from through-belt-meter weights as the ore is processed. Based on these figures, a total of 2.51 Mt of tails had been placed in the TSF as at n 28 February 2021.

8.12.2.4 Tailings Grade

The TSF Mineral Resource is based on detailed sampling data from the tailings hopper at the processing plant. The samples were taken as wet samples and include all size fractions from the mixed tailings stream using a well-designed full stream cutter. Samples were taken every 1–3 hours and aggregated into 12-hour samples corresponding to each shift—irrespective of total throughput. The tailings processing rate (throughput) was effectively constant. There was no variation in tailings stream velocity over the full stream sampler. The 12-hour samples have a combined mass of 1–2 kg and were composited on a 12-hour basis and filter-pressed into a de-watered cake prior to submission to the laboratory. The plant tailings data were provided to the QP as an excel spreadsheet.

Milling data from the start of operation of the mine in December 2005 until 30 June 2020 have been used in the estimate. The informing data comprise mill tails assays for 2,491 days. Summary statistics of the tailings data are shown in Table 8.12.1 and Figure 8-3939. Tailings assays were top cut to 2.0 g/t Au (99.5%), which has a minimal effect on the grade mean. For the estimate, tailings assays were weighted by the daily throughput.

In 2019, GPG completed a verification sampling programme of the in-situ tailings material to supports the grades returned from the mill samples. Samples were taken from 56 locations across the TSF (Figure 8-4040). Sampling locations were largely on the perimeters of the dam as central locations were not accessible. Approximately 15 to 20 kg samples were taken using a shovel from the surface of the dam at each sampling locality. Samples were split using a riffle splitter into 2–6 kg sub samples. A total of 189 samples were submitted for assay to Gekko for analysis by LW2000. The batch returned assays values ranging from 0.27 to 5.93 g/t with a mean of 1.24 g/t Au.

It is noted that while these samples support the tails grades, these surface samples are not representative for the entire tails dam and additional sampling (drilling) through the entirety of the tailings profile is required to further increase confidence in the mineral resource estimate.

Table 8.12.1 Summary of daily mill tailings Au grades.

	Count	Mean	SD	CV	Variance	Min	Max
Value	2,491	0.73	0.38	0.52	0.15	0.00	3.36

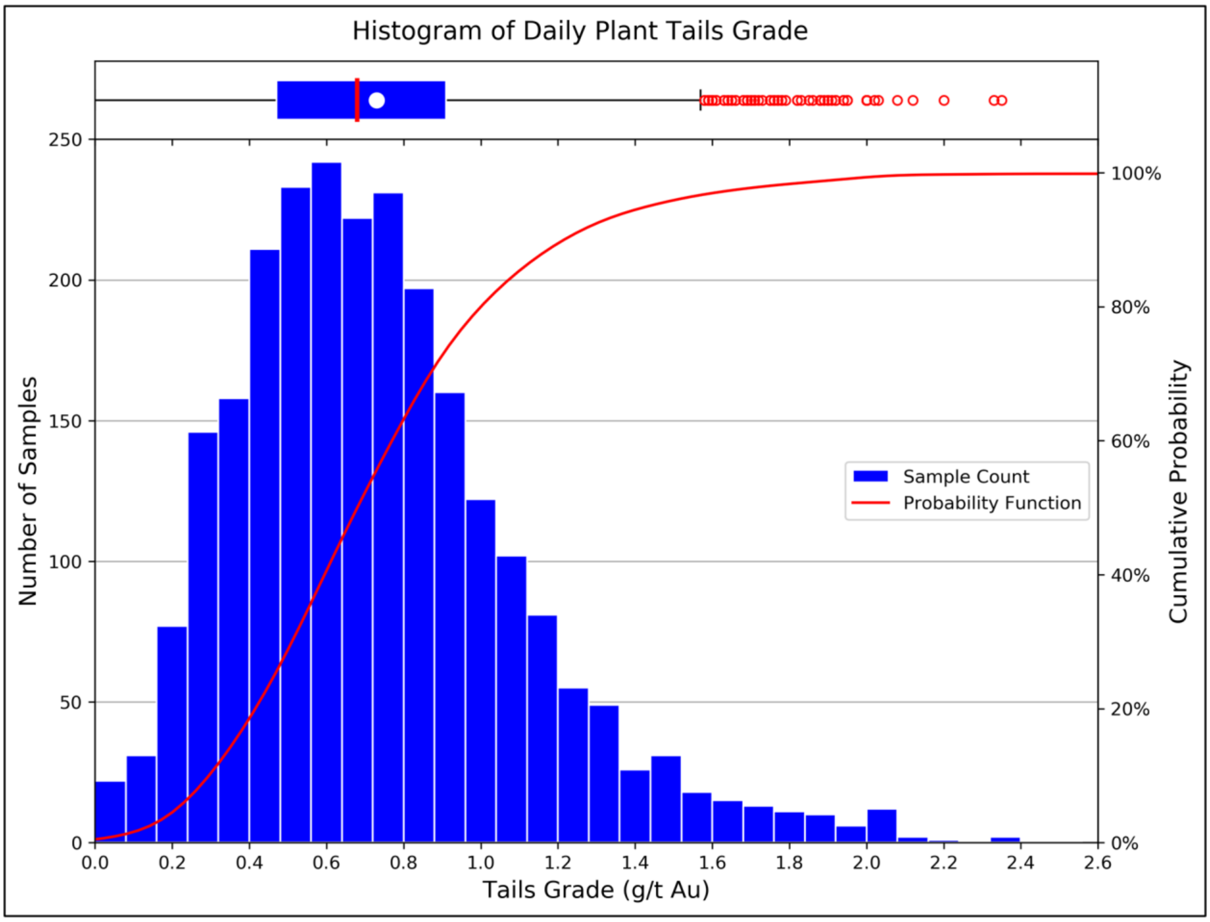


Figure 8-39 Histogram and log-probability plots of TSF plant tailings gold grades.

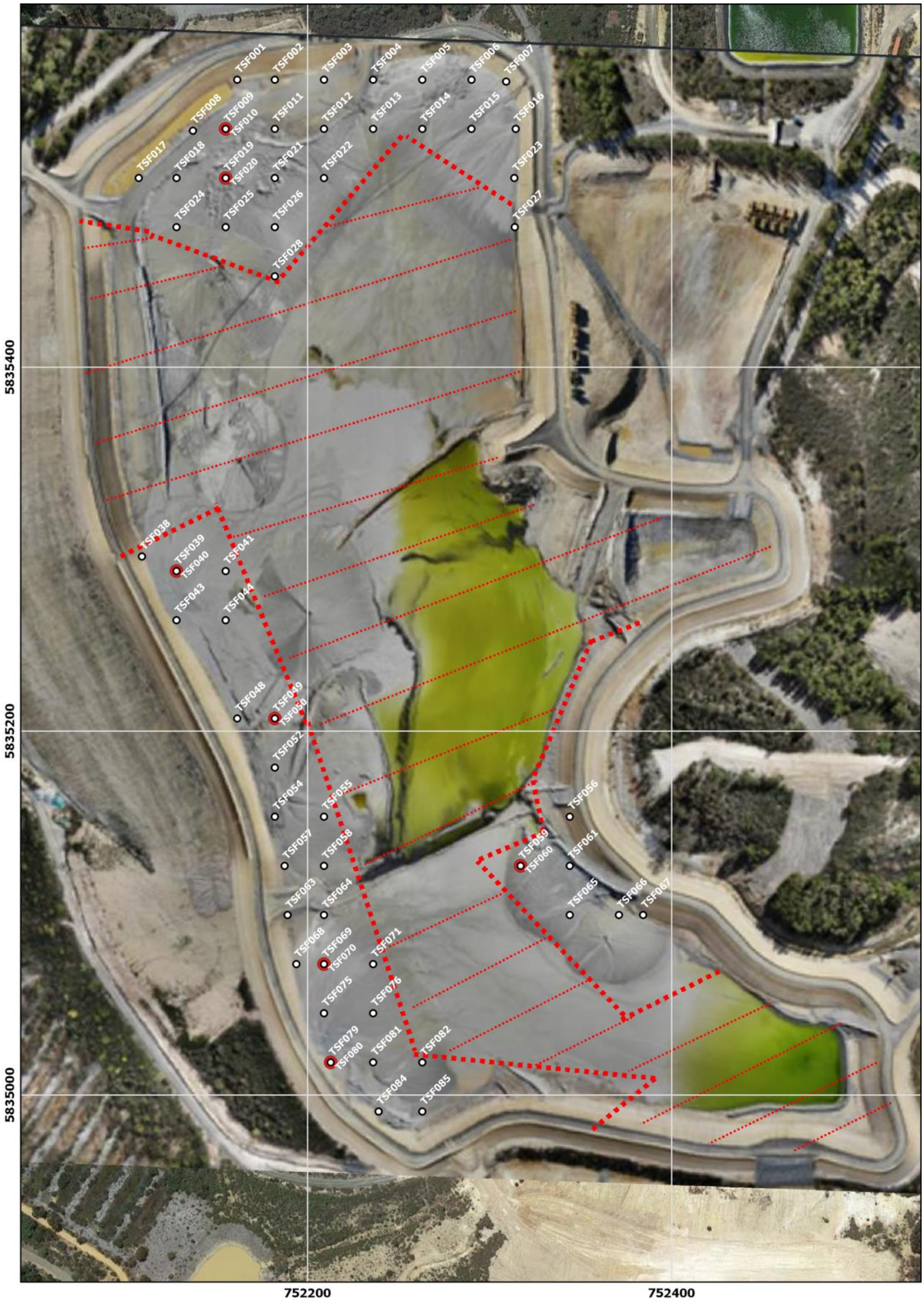


Figure 8-40 Sampling locations of the 2019 TSF sampling programme.

8.12.3 Metallurgy and Recovery

In 2015, a study was completed by Australian Minmet Metallurgical Laboratories Pty Ltd (Furlong, 2015) in which two samples of tailings material were assessed to determine the effect of a finer grind on gold recoveries. The grind sizes chosen were representative of the grind size expected with the addition of a ball mill to the Ballarat Goldmine's process plant. Table 8.12.2 shows the recoveries achieved during this study. The study suggests that between 86% and 89% of Au currently within the TFS could be reasonably expected to be recovered.

Table 8.12.2 Summary of tailings re-grind testing (from Furlong, 2015).

Grind Size (p80)	75 µm	105 µm
Calc Feed Grade (g/t)	1.12	1.12
Float Tails Grade (g/t)	0.16	0.13
Conc grade (g/t)	44.4	57.6
Recovery (%)	**86**	**89**

8.12.4 Capital and Operating Cost Estimate

In February 2021, a scoping study was undertaken by Mincore looking at possible improvements to the Ballarat Goldmine's processing plant. During this study, cost estimates were completed for the refurbishment and installation of a second-hand ball mill which was procured by the Ballarat Goldmine; the establishment of infrastructure and equipment to enable re-treatment of existing tails; and the associated additional operating costs once commissioned. Table 8.12.3 gives an abbreviated summary of the results of this study, with the addition of some extra treatment costs which GPG predict will be incurred due to processing the TSF sands.

Table 8.12.3 Cost Estimates for Ball Mill installation and re-treatment of Tails (modified from Bain et al., 2020).

Upgrade Option	CAPEX ($M)	OPEX ($/tonne)
Option 1 Second hand Ball Mill Circuit	5.4	5.5
Option 6 Tails Retreatment (requires Ball Mill to be installed)	0.7	9
Additional treatment costs estimated by GPG*		3.6
Combined Totals	**6.1**	**18.1**

**includes additional operating costs of flotation, leaching, gold-room and tailings disposal*

8.12.5 Economic Assumptions

GPG have completed some initial economic modelling of treatment of the TSF which is summarised here. Based on an average grade of 0.8 g/t Au and an operating cost of $18.10 per tonne, the potential profit margins which could be expected are outlined in Table 8.12.4. Assuming 85% of gold within the TSF sand is recoverable and is sold at $2,500/oz, the mine predicts a profit margin of $36.56 per tonne. Positive profit margins are also predicted at lower recovery and gold prices, demonstrating a low sensitivity to these factors.

The report by Bain *et al*. 2020 estimates the capital cost of refurbishment and installation of the second-hand ball mill plus additional infrastructure and equipment to allow re-treatment of the tailings sand at $6.1M.

Given the relatively low capital expenditure requirements and the low sensitivity to recovery and grade to achieve favourable estimated profit margins as outlined in Table 8.12.4, the gold contained within the TSF is considered to have reasonable prospects of eventual economic extraction and can be classified as a Mineral Resource in accordance with the JORC Code (2012).

Table 8.12.4 Tailings re-treatment Profit Margin Sensitivity analysis.

	Gold Price (A$)																		
Recovery	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800
40%	-$7.81	-$6.78	-$5.75	-$ 4.73	-$ 3.70	-$ 2.67	-$ 1.64	-$ 0.61	$ 0.42	$ 1.45	$ 2.48	$ 3.51	$ 4.53	$ 5.56	$ 6.59	$ 7.62	$ 8.65	$ 9.68	$10.71
43%	-$7.17	-$6.08	-$4.98	-$ 3.89	-$ 2.80	-$ 1.70	-$ 0.61	$ 0.48	$ 1.58	$ 2.67	$ 3.76	$ 4.86	$ 5.95	$ 7.04	$ 8.14	$ 9.23	$10.32	$11.41	$12.51
45%	-$6.53	-$5.37	-$4.21	-$ 3.05	-$ 1.90	-$ 0.74	$ 0.42	$ 1.58	$ 2.73	$ 3.89	$ 5.05	$ 6.21	$ 7.36	$ 8.52	$ 9.68	$10.84	$11.99	$13.15	$14.31
48%	-$5.88	-$4.66	-$3.44	-$ 2.22	-$ 1.00	$ 0.23	$ 1.45	$ 2.67	$ 3.89	$ 5.11	$ 6.33	$ 7.56	$ 8.78	$10.00	$11.22	$12.44	$13.66	$14.89	$16.11
50%	-$5.24	-$3.95	-$2.67	-$ 1.38	-$ 0.10	$ 1.19	$ 2.48	$ 3.76	$ 5.05	$ 6.33	$ 7.62	$ 8.91	$10.19	$11.48	$12.76	$14.05	$15.34	$16.62	$17.91
53%	-$4.60	-$3.25	-$1.90	-$ 0.55	$ 0.80	$ 2.15	$ 3.51	$ 4.86	$ 6.21	$ 7.56	$ 8.91	$10.26	$11.61	$12.96	$14.31	$15.66	$17.01	$18.36	$19.71
55%	-$3.95	-$2.54	-$1.12	$ 0.29	$ 1.70	$ 3.12	$ 4.53	$ 5.95	$ 7.36	$ 8.78	$10.19	$11.61	$13.02	$14.44	$15.85	$17.27	$18.68	$20.10	$21.51
58%	-$3.31	-$1.83	-$0.35	$ 1.13	$ 2.61	$ 4.08	$ 5.56	$ 7.04	$ 8.52	$10.00	$11.48	$12.96	$14.44	$15.92	$17.39	$18.87	$20.35	$21.83	$23.31
60%	-$2.67	-$1.12	$0.42	$ 1.96	$ 3.51	$ 5.05	$ 6.59	$ 8.14	$ 9.68	$11.22	$12.76	$14.31	$15.85	$17.39	$18.94	$20.48	$22.02	$23.57	$25.11
63%	-$2.02	-$0.42	$1.19	$ 2.80	$ 4.41	$ 6.01	$ 7.62	$ 9.23	$10.84	$12.44	$14.05	$15.66	$17.27	$18.87	$20.48	$22.09	$23.70	$25.30	$26.91
65%	-$1.38	$0.29	$1.96	$ 3.63	$ 5.31	$ 6.98	$ 8.65	$10.32	$11.99	$13.66	$15.34	$17.01	$18.68	$20.35	$22.02	$23.70	$25.37	$27.04	$28.71
68%	-$0.74	$1.00	$2.73	$ 4.47	$ 6.21	$ 7.94	$ 9.68	$11.41	$13.15	$14.89	$16.62	$18.36	$20.10	$21.83	$23.57	$25.30	$27.04	$28.78	$30.51
70%	-$0.10	$1.70	$3.51	$ 5.31	$ 7.11	$ 8.91	$10.71	$12.51	$14.31	$16.11	$17.91	$19.71	$21.51	$23.31	$25.11	$26.91	$28.71	$30.51	$32.31
73%	$0.55	$2.41	$4.28	$ 6.14	$ 8.01	$ 9.87	$11.74	$13.60	$15.47	$17.33	$19.19	$21.06	$22.92	$24.79	$26.65	$28.52	$30.38	$32.25	$34.11
75%	$1.19	$3.12	$5.05	$ 6.98	$ 8.91	$10.84	$12.76	$14.69	$16.62	$18.55	$20.48	$22.41	$24.34	$26.27	$28.20	$30.13	$32.06	$33.98	$35.91
78%	$1.83	$3.83	$5.82	$ 7.81	$ 9.81	$11.80	$13.79	$15.79	$17.78	$19.77	$21.77	$23.76	$25.75	$27.75	$29.74	$31.73	$33.73	$35.72	$37.71
80%	$2.48	$4.53	$6.59	$ 8.65	$10.71	$12.76	$14.82	$16.88	$18.94	$21.00	$23.05	$25.11	$27.17	$29.23	$31.28	$33.34	$35.40	$37.46	$39.51
83%	$3.12	$5.24	$7.36	$ 9.49	$11.61	$13.73	$15.85	$17.97	$20.10	$22.22	$24.34	$26.46	$28.58	$30.70	$32.83	$34.95	$37.07	$39.19	$41.31
85%	$3.76	$5.95	$8.14	$10.32	$12.51	$14.69	$16.88	$19.07	$21.25	$23.44	$25.63	$27.81	$30.00	$32.18	$34.37	$36.56	$38.74	$40.93	$43.12
88%	$4.41	$6.66	$8.91	$11.16	$13.41	$15.66	$17.91	$20.16	$22.41	$24.66	$26.91	$29.16	$31.41	$33.66	$35.91	$38.16	$40.41	$42.66	$44.92
90%	$5.05	$7.36	$9.68	$11.99	$14.31	$16.62	$18.94	$21.25	$23.57	$25.88	$28.20	$30.51	$32.83	$35.14	$37.46	$39.77	$42.09	$44.40	$46.72

8.13 Statement of Mineral Resources

8.13.1 Mineral Resource Summary

The Ballarat Goldmine Mineral Resources have been classified and reported in accordance with The Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). Mineral Resource classification is based on confidence in the geological domaining, drill spacing and geostatistical measures. The updated underground Mineral Resources have been depleted by the underground development: “DTM_DEPLETED” provided by GPG.

Accordingly, the underground Mineral Resource estimate has been reported above a 2.0 g/t cut-off grade. A full summary of the Mineral Resource is shown in **Table 8.13.1**.

Table 8.13.1 Summary of Mineral Resources for the Ballarat Goldmine as of 28th February 2021.

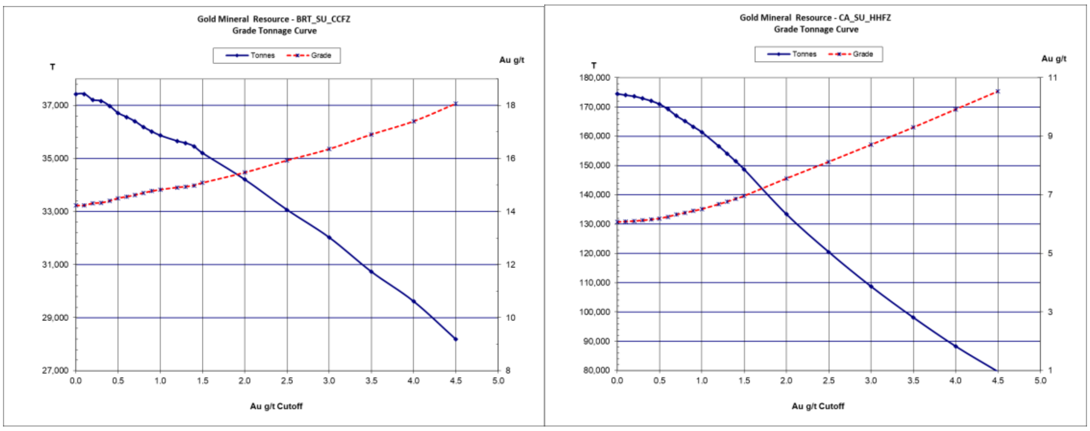
Mineral Resources 28th February 2021. Grade Tonnage Reported above a Cut off Grade of 2.0 g/t Au				
Deposit	Category	Tonnes (t)	Au (g/t)	Au Metal (Oz)
BRT SU_CCFZ	Indicated	17,000	13.9	8,000
	Inferred	17,000	17.1	9,000
	Sub-Total	34,000	15.5	17,000
CA SU HHFZ	indicated	90,000	7.6	22,000
	inferred	44,000	7.4	10,000
	Sub-Total	134,000	7.6	32,000
LLB SU CCFZ	Indicated	102,000	7.0	23,000
	Inferred	44,000	6.3	9,000
	Sub-Total	146,000	6.8	32,000
LLB SU CSFZ&Nth	Indicated	354,000	6.4	73,000
	Inferred	63,000	6.9	14,000
	Sub-Total	417,000	6.5	87,000
NOR SC MFZ	Indicated	317,000	6.3	64,000
	Inferred	61,000	7.0	14,000

	Sub-Total	378,000	6.4	77,000
SOV FC MFZ&THFZ	Indicated	777,000	4.9	123,000
	Inferred	515,000	5.0	82,000
	Sub-Total	1,292,000	5.0	206,000
VIC FC TFZ	Indicated	108,000	5.3	19,000
	Inferred	142,000	5.5	25,000
	Sub-Total	250,000	5.4	44,000
BRT FC MFZ	Indicated	528,000	5.9	100,000
	Inferred	251,000	5.8	47,000
	Sub-Total	779,000	5.9	147,000
SOV SU MFZ	Indicated	107,000	4.6	16,000
	Inferred	89,000	4.0	11,000
	Sub-Total	196,000	4.3	27,000
CA FC MFZ	indicated	511,000	6.7	110,000
	inferred	286,000	5.9	54,000
	Sub-Total	797,000	6.4	164,000
TOTAL INDICATED		**2,911,000**	**6.0**	**558,000**
TOTAL INFERRED		**1,512,000**	**5.7**	**275,000**
TOTAL		**4,423,000**	**5.9**	**833,000**

Note: Mineral Resources which are not Ore Reserves do not have demonstrated economic viability. Tonnage is reported in metric tonnes (1 kt = 1,000 t), grade as grams per tonne gold (g/t Au) and contained gold in troy kilo-ounces (1 koz = 1,000 oz Au). Tonnages rounded to the nearest 1 kt. Ounces rounded to the nearest 1k oz Au. The underground Mineral Resource is reported above a cut-off grade of 2.0 g/t Au. The Mineral Resource has been depleted for mining up until 28th February 2021. Totals may vary due to rounding.

8.13.2 Grade Tonnage Curves

Detailed resource grade tonnage curves for The Ballarat Goldmine Mineral Resources are presented in the following figure (Figure 8-41).



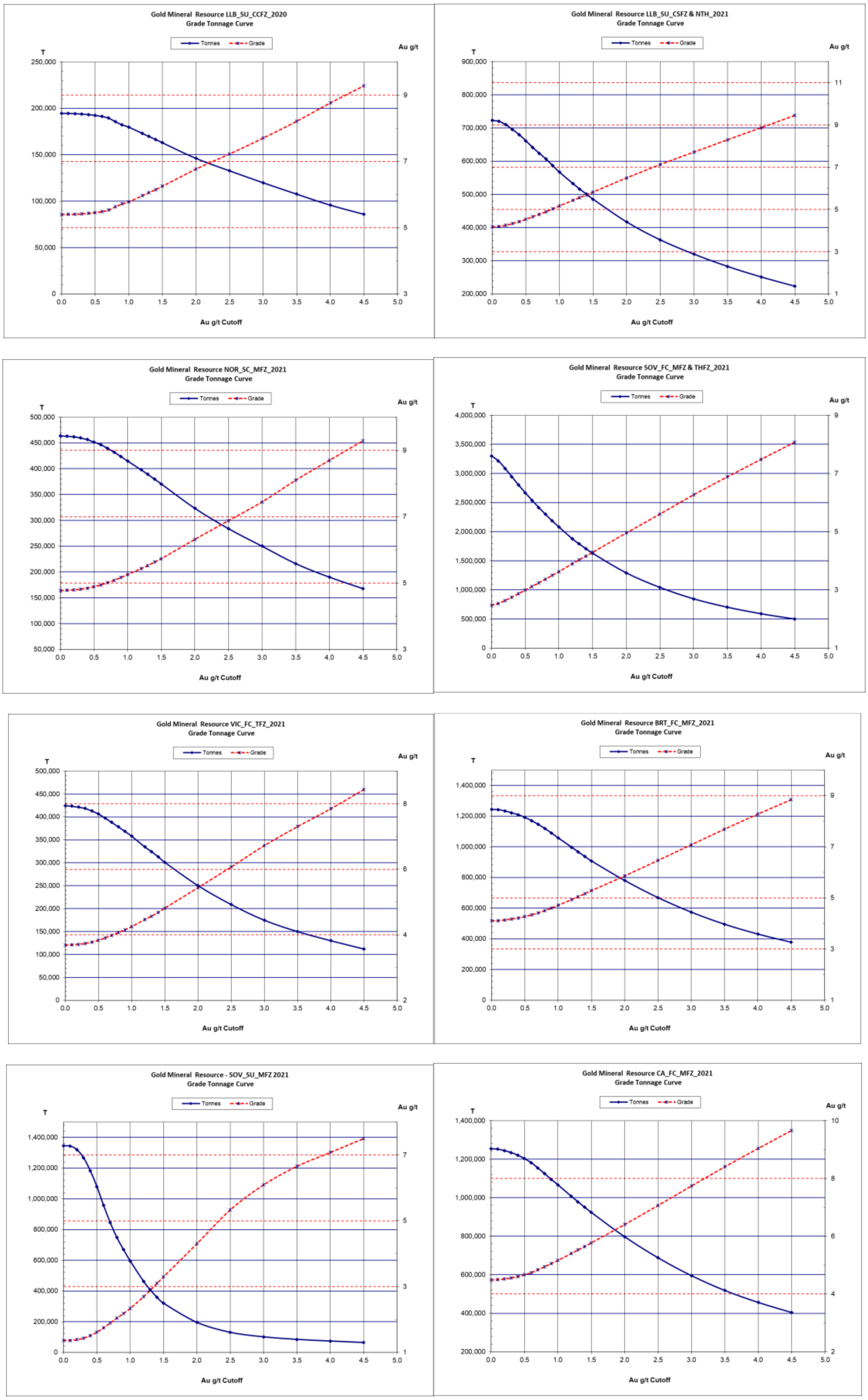


Figure 8-41 Grade-tonnage curve for the Ballarat East underground Mineral Resources at 28th February, 2021.

8.13.3 TSF Resource

The TSF Resource estimate was classified in accordance with the JORC Code (2012). The TSF Resource is reported above a cut-off grade of 0.0 g/t Au (Table 8.13.2) It is expected that the TSF Resource may be reprocessed in its entirety.

Table 8.13.2 Inferred Mineral Resource estimate for the TSF as of 28th February, 2021.

Deposit	Tonnes (kt)	Grade (g/t Au)	Ounces (koz Au)
TSF	2,300	0.8	59
Total	**2,300**	**0.8**	**59**

Note: The TSF Resource is reported at a 0.0g/t cut-off as it is assumed that the TSF Resource may be reprocessed in its entirety. Totals may vary due to rounding.

8.13.4 Comparisons with Previous Mineral Resource Estimate

GPG conducted resource estimations for Ballarat Goldmine deposits on the 30th June 2020 and 28th February 2021 using OK interpolation method (Table 8.13.3). Compared to the previous MRE, the current models (remaining material) have significantly increased tonnages of Indicated Mineral Resources with the contribution of the recent the new wireframe interpretations by explicit method instead of implicit. The interpretation difference between the previous and current models has been explained at Section 8.4.2.6.

The delineation of ten mineralised deposits has added significant tonnes to the global Mineral Resource and has offset Mineral Resources depleted by mining over the previous year (Table 8.13.3). Overall, there has been an increase in the Underground Mineral Resources from 205 to 830 koz. Table 8.13.3 and Table 8.13.4 provide details of the cumulative changes to the tonnes, grade and contained ounces reported.

Table 8.13.3 Comparison of the previous Inferred Mineral Resource estimates for the underground lodes and TSF.

Lode	30-Jun-20			28-Feb-2021		
	Tonnes (kt)	Grade (g/t Au)	Ounces (koz Au)	Tonnes (Kt)	Grade (g/t Au)	Ounces (koz Au)
Britannia Cookie Cutter	35	7.5	8.5	34	15.5	17
Britannia Mako	-	-	-	780	5.9	147
Canton Mako	-	-	-	797	6.4	164
Canton Hammerhead	101	5.6	18	133	7.6	32
Golden Point Hammerhead	27	6.7	5.5	-	-	-
Llanberris Catshark	71	7.6	17	417	6.5	87
Llanberris Catshark North	17	5.9	3	-	-	-
Llanberris Hammerhead	85	4.6	12.5	-	-	-
Llanberris Cookie Cutter	-	-	-	146	6.8	32
Llanberris Mako	93	6.2	18.5	-	-	-
Llanberris Tiger	-	-	-	-	-	-
Normanby Gummy	7	14.6	3	-	-	-
Normanby Mako	83	10.7	29	378	6.4	77
Sovereign Thresher	79	4.6	12	-	-	-
Sovereign Thresher & Mako	-	-	-	1,292	5.0	206
Sovereign Sulieman Mako	-	-	-	196	4.3	27
Sovereign Tiger	42	8.8	12	-	-	-
Victoria Tiger	39	8.3	7.5	250	5.4	44
TSF	2300	0.8	58.8	2300	0.8	58.8
Total	**3000**	**2.2**	**205**	**6,723**	**4.1**	**892**

Table 8.13.4 The current Mineral Resource estimates for the underground deposits.

Mineral Resources 28th February 2021. Grade Tonnage Reported above a Cut off Grade of 2.0 g/t Au				
Deposit	**Category**	**Tonnes (Kt)**	**Au (g/t)**	**Au Metal (KOz)**
BRT SU_CCFZ	Ind+Inf	34	15.5	17
CA SU HHFZ	Ind+Inf	133	7.6	32
LLB SU CCFZ	Ind+Inf	146	6.8	32
LLB SU CSFZ&Nth	Ind+Inf	417	6.5	87
NOR SC MFZ	Ind+Inf	378	6.4	77
SOV FC MFZ&THFZ	Ind+Inf	1,292	5.0	206
VIC FC TFZ	Ind+Inf	250	5.4	44
BRT FC MFZ	Ind+Inf	780	5.9	147
SOV SU MFZ	Ind+Inf	196	4.3	27
CA FC MFZ	Ind+Inf	797	6.4	164
TOTAL		**4,423**	**5.9**	**833**

8.14 Risk Assessment

In medium-high nugget, narrow-vein gold deposits such as Ballarat East, proving continuity of both mineralisation (geology) and grade can be economically prohibitive. Consequentially, such deposits may remain at high risk even during mining operations (Dominy, 2014). The various components contributing to the risk of the MRE are summarised in Table 8.14.1. A quality score from 1(Low quality) –10 (high quality) has been assigned to each of the informing data components.

Table 8.14.1 Summary of the risk components of the Ballarat East Mineral Resource.

Category	Item	Risk Factor	Score (1–10)	Comment
Informing Data	Sample Quality	Low	8	Informing samples are primarily full-core samples from NQ diamond holes. Core recoveries are good. Sampling was managed by an appropriate SOP. Only two lodes are informed by a significant portion of half-core samples. This has been considered in the classification.
Informing Data	Subsampling & Preparation	Low	9	No subsamples are taken. The samples are crushed in whole by an ISO accredited laboratory.
Informing Data	Quality of Assay Data	Low	8	Samples are analysed in an ISO accredited laboratory, which routinely inserts CRMs in the sample stream. Disguised CRMs inserted by GPG indicate the laboratory work was in control and accurate.
Informing Data	Verification	Low	8	Samples accurately reflect the sampled intervals. 96 instances of grades assigned to voids were identified in the database and excluded from the estimate.
Informing Data	Data Spacing	Moderate	5	Drill-fan is wide, ranging from 25–50 m. Due to the necessity to drill in fans, drill-spacing is irregular. Considerable risk is associated with interpretation between drillholes at this spacing.

Informing Data	Sample Security	Low	9	Core shed and assay laboratory are all located on the mine site compound which has a fenced perimeter and is only accessible to employees and authorised visitors.
Informing Data	Location of Data Points	Low	8	All collars were picked up by a surveyor or approximated using collars in the same drill-fan. Downhole surveys were carried out at 30-m spacing for all holes and at 3-m spacing for most holes. Collars are verified against survey pick-ups when encountered.
Informing Data	Database Integrity	Low-Medium	6	The necessary SOPs are in place for database entries and include data validation steps. A small risk is associated with historical database entries and missing sample types or sample collection dates. Current database requires further cleaning up.
Modelling & Estimation	Interpretation	Low	9	Considering the environment of an operating mine, the interpretation of the geology is considered robust.
Modelling & Estimation	Domaining	Low-Moderate	7	Estimation domains are based on a moderate amount of exploration data and low-medium risk is associated with the interpretation of the westdipper structures.
Modelling & Estimation	Top Cut	Low	8	High CV values necessitate top cuts for all domains. Top cuts were generally applied using a distance buffer to allow high-grade samples to only influence the nearest blocks. The top cut grades were supported by mean-CV and log-probability plots but are subject to considerable uncertainty and some risk is associated with the choice of the top cut.
Modelling & Estimation	Variography	Low	8	For some domains, insufficient data were available to model a variogram. In such instances, a generalised variogram was applied, which comes with the risk of overstating the continuity in that domain. Closer spaced drilling and, better quality grade-control samples and field duplicate data, are required to increase confidence in the variogram model.
Modelling & Estimation	Extrapolation	Low	8	High grade domain wireframes were closed off at half the drill-spacing or less.
Modelling & Estimation	Block Size	Low	9	The block size choice is supported by Kriging Neighbourhood Analysis and is considered to present a low risk.
Modelling & Estimation	Density	Low	9	Density variations between the lithologies involved are small (< 3%) and the associated risk is low.
Modelling & Estimation	Classification	Low	9	The model is classified as a both indicated and inferred. There is enough drilling data to have a high confidence of two classifications.

9 MINING OVERVIEW

The current mine covers a relatively narrow area approximately 400 metres in width and five kilometres in length, extending to a depth of approximately 760 m below the surface. Much of the mine extends under the Ballarat residential area, with operating restrictions placed around noise, dust and blasting vibration.

Primary access underground is via the Woolshed Gully decline, nominal dimensions of 4.6 metres high and 4.6 metres wide at a gradient of 1:6.5 down to a depth of approximately 130 metres below the surface. The mine entrance (portal) is located at the southern end of the mine (Figure 9-1).

The decline system below the Woolshed Gully decline has been developed at nominal dimensions of 5.3 metres high by 5.0 metres wide at a gradient of 15%. At approximately 1,200 m from the portal, twin declines split into the Suleiman decline (approximately 1,900 m long) and the Woah Hawp decline (approximately 3,700 m long).

A number of internal declines (Canton, Prince, Normanby, Sovereign, Llanberris, Britannia and Britannia West) are developed off the Woah Hawp decline to access ore zones within each compartment.

Fresh “intake” air is supplied by the Woolshed Gully decline and the 6.1-metre diameter concrete lined 318-metre deep Golden Point ventilation shaft. The mine operates on a through-flow ventilation principal, with air returning to the surface via the 6.1-metre diameter concrete lined 129-metre deep North Prince Extended shaft.

The mine is dewatered as outlined in section 11.3 of this report.

Underground mining includes development drilling, ground support, blasting, loading and hauling. All works are carried out by GPG as an “owner-operator”.

Production drilling and mechanised cable bolting are carried out by a separate contractor (MacMahon).

Exploration drilling is carried out by a separate contractor (Deepcore Drilling).

9.1 Mining Operations

Underground development is carried out using conventional drill and blast techniques with twin boom 1000V electric hydraulic jumbos. Jumbos drill blast holes in development faces, blast holes are then charged with explosives and fired breaking the rock. Jumbos are also utilised for the installation of ground support in the walls and backs of the excavation.

The ground support design for mine development considers the expected prevailing ground conditions and service life of the excavation. For example, the minimum support requirements for:

- Capital infrastructure/permanent access with a life span greater than two years includes galvanized primary support (split sets) and secondary support (full encapsulated rock bolts or cable bolts) and floor to floor surface support (typically 50 mm fibrecrete)
- Waste access or ore development with a life span less than 12 months includes black or galvanized primary and secondary support and surface support less than 0.5 m from the floor (typically mesh).

Rubber-tyred diesel-powered loaders and trucks are used to move broken rock (ore and waste) from development drives or stopes.

Development waste is preferentially placed in underground voids (development or stope) as backfill or trucked via the decline to the surface waste rock facility.

Ore from development or stopes is trucked via the decline to the surface ROM pad.

The current mine production plan is based on a combination of ore generated from Jumbo development along the strike of the ore zone and longhole open stoping. The mining method is selected based on geotechnical conditions and geometry of the ore body.

A minimum stope width of 2.5 m is used in the current mine plan based on levels approximately 20 m vertically apart. Production drilling involves the drilling of either 64 mm or 76 mm diameter production holes. Long hole stoping is a combination of “blind uphole” stopes with no backfill and stopes where top access is present allowing the stope void to be backfilled.

Mining dilution factors have been applied according to historical data from stoping and development. The Ballarat Goldmine is a complex orebody with mineralisation associated closely with faulting, hence dilution factors vary. A 95% recovery factor has been used for longhole stoping.

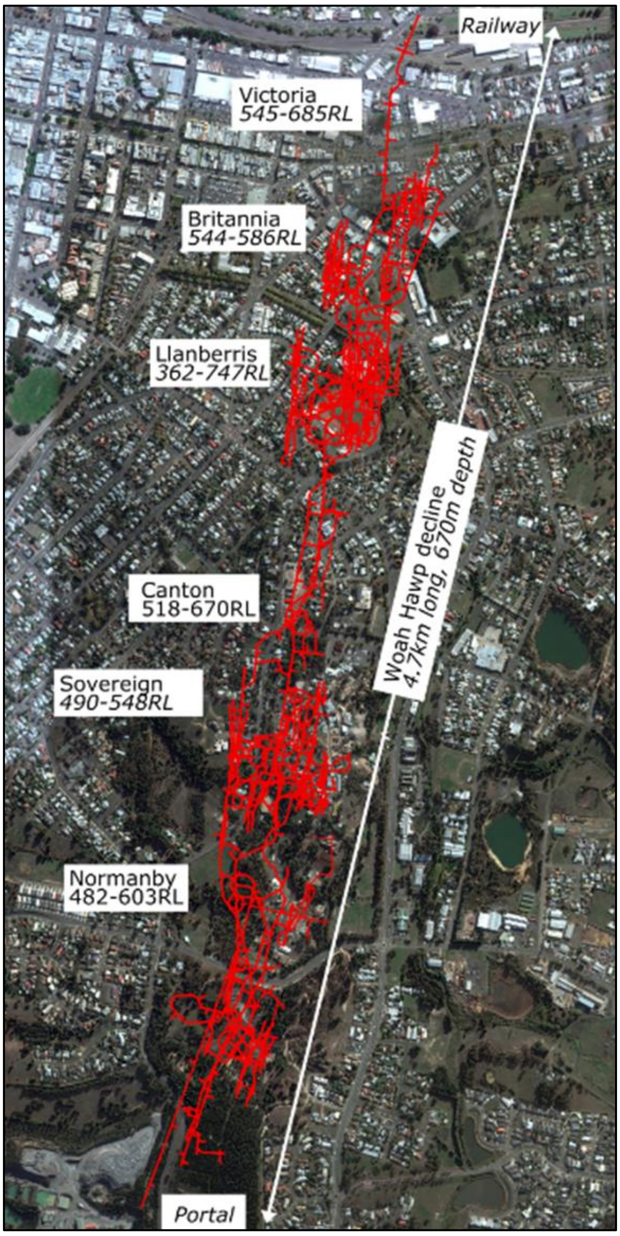


Figure 9-1 Plan view of the Ballarat Goldmine.

9.2 Production Schedule

The 2020/2021 production schedule is discussed in the following subsections.

9.2.1 Development

Lateral development totalling 4,199 m is planned for the 2020/2021 financial year.

Development advance (capital waste, operating waste and ore development) rates of approximately 350 m per month are required.

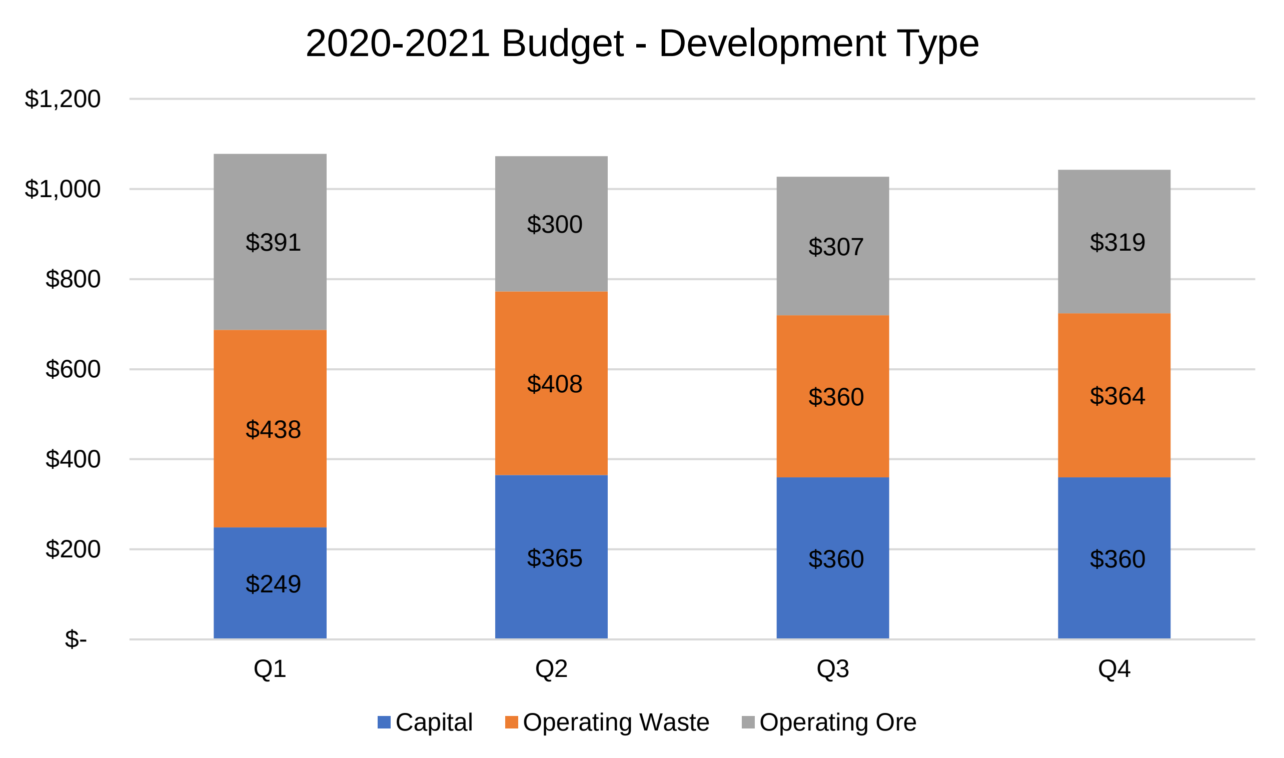


Figure 9-2 Quarterly development cost break-down.

9.3 Geotechnical Inputs

9.3.1 Geological Structures

Five basic lithological/structural/weathering domains exist as per Table 9.3.1.

Table 9.3.1 Main geologic types and their failure modes.

Domain	Failure mode	Specification
Sandstone	Sidewall slabbing	Sparsely bedded
Shale/Siltstone	Sidewall slabbing, deformation, creep	Closely bedded and inherently weaker than the sandstone
Cross Course Faults	Unravelling	Small pug zones (decomposed rock flour), surrounded by a zone of highly jointed rock.
West Dipping Faults	Wedge failure	Quartz veins and rotated sandstone/siltstone/shale beds
Weathered rock	Sidewall degradation	Weak interbedded sandstone and siltstone

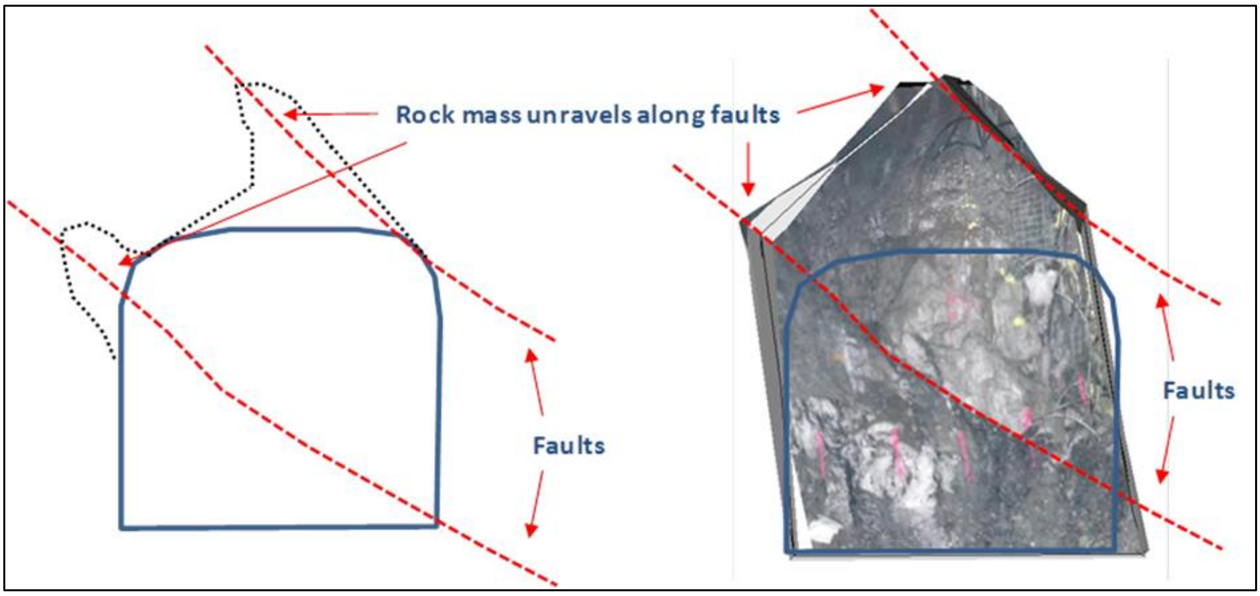


Figure 9-3 Failure style associated with shallow angle faults

9.3.2 Ground Support

Typical ground support in current development drives and declines include fibrecrete, split set, Mech-lok bolts and mesh. The typical support regimes are outlined in Table 9.3.2.

Table 9.3.2 Ground condition and additional support guidelines

Ground Condition	Typical ground control strategy
Fault zone (clayey and/or soft ground conditions)	4.5 m long spiling bars (rebar) and 100 mm fibrecrete
West dipping fault in the face (non-ore zone)	Mechanically anchored 3 m bolts in backs only, cable bolts may be required
Wedge	Cable bolts, 1.5 m x 1.5 m pattern (typical), 6 m length single strand bulbed type.
Ground deforming (bulging, creeping); Fibrecrete cracking Friction bolt plates popping off/bending	Replace bolts with additional friction bolts, Mech-LOK bolts or cables. Mesh over significant fibrecrete damage. Use mesh straps.
Wide development – planned or excavated. >5.6m >7m	Change bolt lengths 3 m split sets Cablebolts 1.5 m x 1.5 m spacing, 6m single strand bulbed type.

9.3.3 Stope Reinforcement

Stope support has been very successful at Ballarat. This has improved further with the use of a cable bolter on site allowing large quantities of cables to be installed rapidly.

9.3.4 Monitoring and Stress Measurements

Geotechnical instrumentation is used to measure rock mass movement, monitor ground support system performance and assist with validating ground control design assumptions. Monitoring locations, instrument type and measurement frequencies are determined by the Geotechnical Engineer and may vary depending on data acquisition requirements and ground movement observations and trends.

The following monitoring equipment is currently used:

- SMART Multipoint Borehole Extensometers (MPBX)
- SMART Cablebolts
- Convergence pins

Various stress measurements have been taken. Results show a considerable variation in magnitude and orientation. This is quite possible due to the complex geology, anisotropic, and locations that measurements were taken in. Observations indicate the stress direction is likely to be perpendicular to the orebody and dominant fault direction.

10 PROCESSING

10.1 Processing Overview

The gold processing plant was constructed in 2005 and was purposely designed to suit the coarse-grained nuggetty Ballarat ore with the aim of capturing gold and sulphides at the point of liberation without over-grinding. The gold and sulphide minerals are separated away from the waste using the difference in density.

Approximately 70% of the recovered gold is 'free' and is directly smelted into bars, with the other 30% present as sulphide-bound gold which must be leached first. Silver is a minor component in the gold produced at Ballarat with only 0.2% to 0.5% Ag present in the gold bullion produced.

The processing plant consists of a three-stage crushing and screening plant, a gravity separation circuit with pressure jig separators, falcon concentrator and tables to recover both direct smeltable gold as well as sulphide concentrate, the latter requiring further processing via the Intensive Leach Plant (ILR).

A flotation circuit is also used to recover fine gold and sulphides from the gravity tail which is below the recoverable size range of the gravity circuit. The flotation concentrate joins the gravity sulphides for leaching. Since there is currently no grinding of the gravity tail prior to flotation, the flotation circuit receives only the fine material (sub 300 micron) pre-existing in the gravity tail. Further recovery of the fine gold which is still locked will require the installation of a ball mill.

The gold processing facility has a current capacity of around 260,000 - 280,000 t of ore per annum and ~ 520,000 tpa when fully resourced.

The processing plant can be split into two main stages, Crushing, Gravity & Flotation (Figure 10-1) and Leaching (Figure 10-1).

10.1.1 Crushing, Gravity and Flotation Separation

Three stages of crushing are used to liberate the gold and sulphide minerals prior to gravity recovery. The primary and secondary crushing stages are in a separate part of the circuit and operate on a batch basis. The crushing plant capacity is around 250 t per hour, shutting down at 2200 hrs, which allows the crushed product to be stored in bins providing approximately 12 hours of feed supply to the downstream tertiary crushing and screening circuit.

The tertiary crushing and screening circuit operates on a continuous basis at a nominal rate of 70 t per hour and consists of two crushers (one duty and one standby) and two wet vibrating screens. The purpose of this circuit is to control the feed size of ore presented to the gravity jigs.

Free gold particles and sulphide minerals which are liberated in the crushing and screening circuit are pumped to the jigs, where the mineral bed is fluidized with pulsated water. The high-density gold and sulphides settle through the bed to form a concentrate whilst the lighter materials remain on top of the bed and are removed as tailings. There are three parallel trains of jigs, with two jigs in each train, and each capable of processing 25 t per hour. The jig tailings are processed through a Falcon concentrator to scavenge fine gold and then over a Sieve Bend Screen to separate the fine portion for Flotation and divert the oversize for tailings disposal.

The flotation circuit aims to recover the fine liberated native gold and sulphides that the gravity circuit misses. Collector and frothing reagents are added to render the gold and sulphides hydrophobic such that they collect on air bubbles and rise to the surface of the flotation cell to affect a separation. This gold containing froth (concentrate) is thickened to remove water before joining the sulphide component of the jig concentrate for leaching.

The jig concentrate is cleaned in two additional jig stages and an in-line spinner, with the final concentrate delivered to the gold room for processing over Wilfley and Gemini tables. The sulphide component of the concentrate cannot be smelted directly and is tabled away from the free gold and sent to the leaching circuit.

10.1.2 Leaching

The gold associated with the sulphides is not refractory and can be leached directly with cyanide. The sulphide concentrates are first ground in a small ball mill to a size of 130 microns and sent to the cyanide leaching circuit. Only the sulphide concentrate, which equates to approximately 5% of the total ore mass is leached. Hence the leaching plant differs from many gold processing facilities that employ Carbon in Leach/Carbon in Pulp (CIL/CIP) to leach the entire volume of ore.

Leaching occurs in two rotating drum leach reactors (Gekko Inline Leach Reactor) to ensure maximum contact between cyanide and the gold. The gold is dissolved into solution and then separated from the barren solids by thickening. The solution is pumped across a resin column where the gold is transferred onto an ion exchange resin. The resin performs a similar role to carbon in a conventional CIP/CIL circuit. The resin is periodically stripped of its gold into a concentrated gold solution which forms the electrolyte feed to the electrowinning circuit. The gold is plated out of the electrolyte using an electrical current and deposited onto stainless steel cathode wool. The wool is periodically stripped of its gold and the gold is smelted in a gas fired furnace to form gold doré.

The residual cyanide remaining in the leach tailings is destroyed prior to disposal in the TSF. The cyanide destruction process is known as the INCO method and uses sodium metabisulphite and copper sulphate for the destruction of the cyanide complexes.

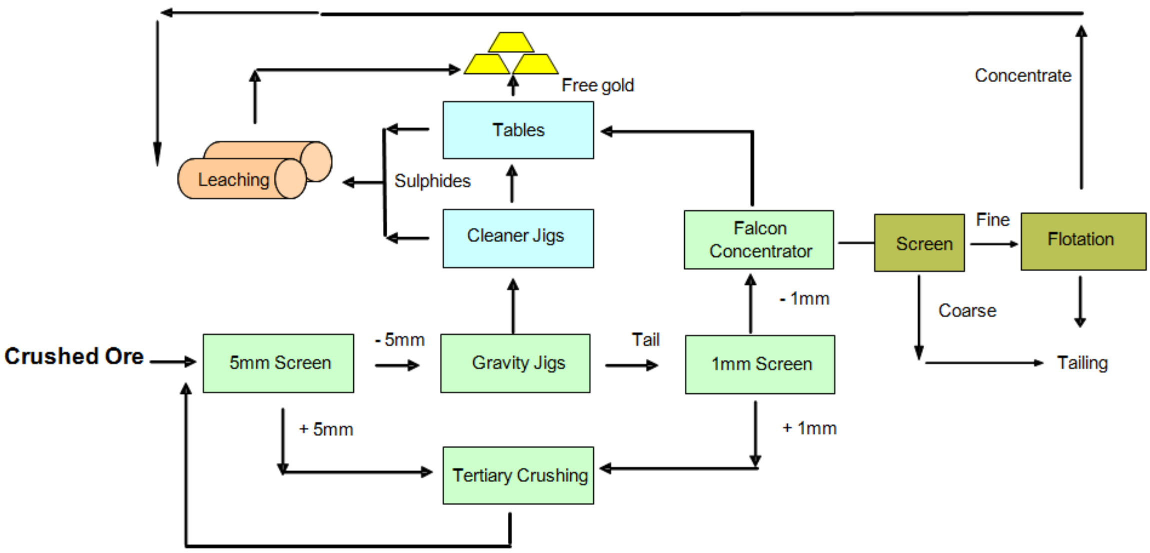


Figure 10-1 Simplified separation circuit flow diagram

Figure 10-2 Simplified leach circuit flow diagram

10.1.3 Gold room

Free gold produced from the Gemini tables is smelted with fluxes in a gas fired furnace and poured as doré gold. The gold sludge from the electrowinning cathodes is separately fluxed and smelted to also produce doré gold.

10.2 Performance

The Ballarat Processing plant performance for the IQPR period is detailed in Table 10.2.1; the forecast recovery rate for the 2019–2020 financial year was 84.6%.

Table 10.2.1 Processing plant performance

Month	Milled Ore (t)	Head Grade (g/t Au)	Recovery overall (%)
Jul-20	25,361	5.3	83%
Aug-20	25,798	4.8	81%
Sep-20	27,906	5.1	85%
Oct-20	25,186	3.3	73%
Nov-20	24,411	4.2	83%
Dec-20	28,902	3.7	82%
Jan-21	25,549	4.7	84%
Feb-21	25,169	4.3	83%
Total	**208,282**	**4.4**	**82%**

11 INFRASTRUCTURE

11.1 Mine Infrastructure

Site Infrastructure includes the following:

- Administration buildings
- Maintenance workshops
- Stores building
- Core shed
- Gold room
- Process plant
- Independent Laboratory
- Electrical infrastructure supporting above ground and underground operations

11.2 Power

GPG Purchases electricity directly from the national electricity grid under a contracted supply agreement with Energy Australia. This agreement is due to expire at the end of July 2020. A new contract has been awarded to Origin energy for the supply of power commencing the 1st August 2020 through to December 2022 and is for the supply of 33 GWH pa.

Power is supplied from the local 66kV grid to the Company owned Elsworth Street substation (commissioned in 2008) which consists of incoming SF6 gas filled circuit breakers, 66kV/11kV 5MVA transformer and 11kV switch room.

From there, power is fed underground to the nearby North Prince Extended ventilation shaft leading to the UGRMU No 1 (underground ring main unit) situated in the First Chance decline approximately 150 m directly below the surface.

UGRMU No 1 feeds a total of nine underground substations each consisting of incoming protection fuses or circuit breakers, 11kV/1000V 1.5MVA transformers and switchboards located in the First Chance, Suleiman, Sovereign, Llanberris and Woah Hawp declines.

UGRMU No 1 also feeds Substation 1 situated at the surface which has two RMU's situated in the switch room which in turn feed:

- The Process Plant main substation (Sub 3) via two 11kV/433 V,1 x 2MVA transformer and 1 x 1MVA transformer.
- Surface mine substation (Sub 2) which supplies the part of the mine surface infrastructure including the workshops via an 11kV/433V 500kVA step-down transformer.
- Substation 6 which then feeds via 3 x 500kVA, 1 x 315kVA and 1 x 750kVA 11kv/433V step-down transformers:
- RO plant (not used but still remains powered for some control processes),
- Workshops,
- Laboratory building,
- Concrete batch plant,
- Office buildings.

11.3 Water

Ballarat has a positive water balance due to the dewatering of the historic mine voids and groundwater entering the underground mine. This water is either used on site for dust suppression or processing, the remainder being discharged to the environment under strict EPA discharge licence conditions.

The mine dewatering system comprises approximately 13 “Mono” pump stations, which are fed by submersible Flygt pumps in decline face and settling sumps, these pump approximately 1.5 ML per day. Mine water passes through two parallel trains of aeration tanks where blowers force air bubbles to help form iron, arsenic and manganese precipitates which separate into the first of three settling ponds. The treated water is then reused within the mine or processing plant with any surplus passing through wetland/polishing ponds before discharge to the nearby Yarrowee River.

Recycled process water from the TSF flows into the lined process water dam which is topped up from the mine dewatering system. This is a zero-release closed water circuit between the TSF and the process plant.

The main mine operation is connected to a reticulated potable water supply managed by Central Highlands Region Water Authority (CHW).

11.4 Staff and Accommodation

The mine employs 230 permanent staff and 60 contractors. The mine is residential based and no accommodation for employees is required.

12 SOCIAL, ENVIRONMENTAL, HERITAGE AND HEALTH AND SAFETY MANAGEMENT

12.1 Social, Environmental, Heritage and Health and Safety Management

All exploration and mining conducted by GPG is undertaken in a manner to ensure minimal impact on the existing land use, environment and community and there is comprehensive Environmental Management, Community Engagement and Safety Management System in place. An Environmental Risk Register has been developed to identify the broad aspects/hazards and impacts associated with the various activities that are either currently undertaken, or planned to be undertaken. The register is reviewed regularly.

Environmental monitoring results for noise, blast vibration, air quality, surface and ground water quality are compared against regulatory limits and reported to the various state and federal regulatory authorities and the Ballarat Mine Environmental Review Committee (ERC). Breach of licence conditions can result in financial losses in the form of remedial costs, fines or loss of the licence in question.

12.1.1 Noise

Noise control has been an integral part of the design of the Ballarat Goldmine site including locating all infrastructures away from residences and below the natural surface to minimise the noise impact of the operation and to comply with noise limits specified within the work plan.

12.1.2 Blast Vibration

Regular review of blast performance allows for any potential improvements of blasting practices to be implemented as the underlying geology may change as underground mining proceeds.

The community is informed of current and planned mining activities and complaints followed up to identify areas of concern.

12.1.3 Air Quality

Air emissions and dust resulting from surface activity have been identified as issues that affect local air quality. Dust suppression is an ongoing task and monthly depositional dust monitoring occurs at 8 locations surrounding the mine site and monitoring of the North Prince Extended ventilation shaft emissions occurs biennially.

12.1.4 Water Quality

Regular water analysis is undertaken of both surface and groundwater to ensure protection of the environment and compliance with regulatory limits.

Two waterways are located adjacent to the site, the Canadian Creek and Yarrowee River. EPA Waste Discharge Licence 18092 provides for discharge of treated groundwater to the Yarrowee River, and whilst not currently in use, the licence also has provision to allow discharge into the Canadian Creek. Monitoring has been undertaken for the last 26 years to ensure water discharged meets the regulatory requirements.

The impact of mine dewatering on the groundwater in the region was addressed in the BGF Environmental Effects Statement prepared in 1987; it was concluded that the resultant lowering of the water table will not have a significant effect on the users in the area. The main area of potential groundwater impact is around the TSF. As per the TSF Work Plan Variation (2005), potential leakage from the TSF is monitored by GPG.

12.1.5 Waste Rock

The chemical nature of the waste rock generated at the Ballarat site has been analysed for acid mine drainage (AMD) generating potential. Tests indicated that most of the rock is inert and will not pose a risk of producing AMD when exposed to air and water.

12.2 Heritage Management

Heritage sites have been identified and documented within the EL3018 and site management processes are in place to ensure there is no future disturbance. Preference will always be given to areas where cultural heritage features have not been identified to carry out work. Consultation will occur with the relevant Registered Aboriginal Party (RAP) to ensure an appropriate assessment is completed prior to work being undertaken.

12.3 Health and Safety Management

The health, safety and welfare of its employees, contractors and the community are of paramount importance to GPG. The highest standards of health, safety and welfare are to be maintained in accordance with GPG's Occupational Health and Safety Policy, Safety Management System and associated policies and procedures.

GPG's Safety Management System (SMS) provides a framework for the management and continual improvement of Health and Safety in all mine and exploration related activities. The GPG SMS includes:

limit GPG activities until they are satisfied that the hazard/incident has been dealt with accordingly.

13 FINANCIAL ANALYSIS

13.1 Historical Financial Analysis

All currency values are in Australian Dollars unless otherwise denoted. The actual financial period 1 July 2020 to 28 Feb 2021 operating expenditure by department is detailed in Table 13.1.1.

Table 13.1.1 Ballarat mine actual operating costs by department. Currency A$

	Total Expenditure	Cost / Tonne Ore Mined
Geology (excluding UG exploration)	3,583,785	16
Mining (excluding capital development)	22,947,305	100
Processing	6,016,583	26
HSE, Admin & Security	5,632,150	25
Total	38,179,823	167

Table 13.1.2 Ballarat mine operating cost per ounce sold. Currency A$

	Total
Operating cost per ounce sold	2,250

13.2 Forecast Capital Costs

Capital mine development totals A$6.2M in the 2020-2021 budget year to support the development to and extraction of the scheduled ore sources, at a budgeted cost of A$4,283.4/m of advance.

Site sustaining capital and productivity improvements total A$8.6M, with the larger items including:

- Maintaining (through replacement or rebuilds) some of the underground mobile equipment
  - Trucks (A$1.3M)
  - Loaders (A$2.4M)
  - Light vehicles ($A.3m)
- TSF 4 construction ($A0.5m)
- TSF 3a 1 Metre lift (A$1.5M)
- TSF generator and decant pump (A$0.25M)
- Plant auto samplers Ball Mill circuit (A$0.5)

13.3 Forecast Operating Costs

The 2020-2021 budget expenditure across all departments has been worked up from cost element/first principles basis. Current costs have been used where known (salaries and wages, and key consumables – power, cyanide, diesel, explosives, ground support, tyres etc.). The operating and capital development cost by expense element is summarised in Figure 13.1.

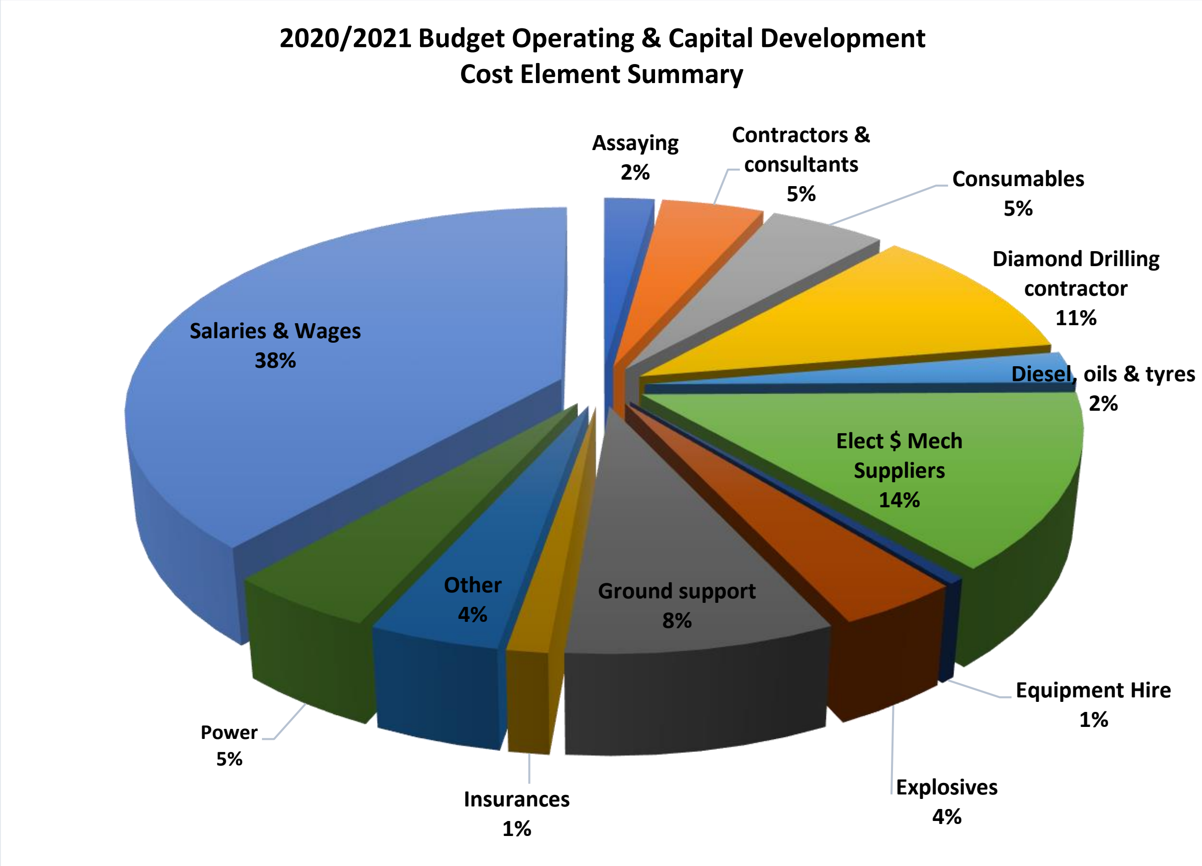


Figure 13-1. Ballarat mine cost breakdown

13.3.1 Royalties

Gold mineral royalties are payable to the State, in Victoria, Australia as from 1 January 2020 at a rate of 2.75% on gold production.

Further as part of original acquisition negotiated in 2010, there is a 2.5% royalty on gold production payable to Newcrest Mining Ltd, capped at A$50M, from inception to date (28th February 2021) A$16.58M of this royalty has been paid.

13.3.2 Company Tax

The current Australian Company Tax rate of 30% on net profit, payable to the Australian Federal Government is applicable.

13.3.3 Sale of Product

GPG sells to a gold refiner at “Australian spot market” prices. The company is paid on the refined weight of gold by the refiner at the “Australian spot market” price on the day of sale.

13.3.4 Hedging Program

GPG is undertaking hedging activities through its parent company for the purpose of eliminating the risk of uncertainty and volatile gold prices.

13.3.5 Exchange Rate and Gold Price Factors

Based on an internal review of various methods and sources it was decided to use the method where the average over the year to 28 February 2021of the Gold futures price and our Bankers (National Bank Limited) forecast of the AUD exchange rate with the USD. The AUD/USD exchange rate has been set at $0.75 and a gold price of US$1,800 per troy ounce. This represents an Australian Gold price of A$2,400 per troy ounce. This price is seen as representative of economic forecast for the period and GPG has used these assumptions in the 2020-2021 mine site budget.

14 INTERPRETATION AND CONCLUSIONS

GPG has completed an update of the Mineral Resource estimate for the Ballarat Goldmine. The Ballarat East Mineral Resource consists of mineralisation hosted in 10 discrete underground deposits and also includes 59,000 oz hosted in the mine's TSF. Tonnage and grade values of the primary lodes were estimated based on diamond drillholes drilled between 1993 and 2020. Estimation wireframes were constructed within each of the lodes using explicit modelling in Micromine. Block models were constructed for each of the 10 deposits in Micromine. Grade estimation was completed using Ordinary Kriging. The Mineral Resources are reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (the JORC Code, 2012).

The Ballarat Goldmine has excellent infrastructure: including surface buildings, a fully operating plant, a fleet of mining vehicles (e.g. light vehicles, trucks, jumbos, etc.) and underground decline access to development. Production areas are accessed via the 1,200-m long Woolshed Gully decline and the 3,700-m long Woah Hawp decline; development in the Llanberris Compartment is at a depth of 750 m below the portal. The entire underground network comprises some 26 km of tunnels. Mining costs, parameters and methods are well-constrained after eight consecutive years of mining.

The 2020–2021 budget aims to schedule ore from the current Mineral Resource. Previously, fifty-two per cent of the tonnes scheduled to be mined are from the existing Mineral Resource while the remaining 48% is based on the assumption that ongoing exploration success will be achieved from drilling the exploration targets from within the existing mine footprint. The most current interpretation of the Lodes detailed in this most recent IQPR has produced many more tonnes from existing and new locations. Detailed mine schedule plans are currently being re-designed in respect to the new interpretations and block models.

During the reporting period, six diamond drill rigs currently operate underground on a 24/7 basis. GPG has, over the last eight years, demonstrated its capacity to replace Mineral Resources depleted by mining. The existing infrastructure allows quick exploitation of areas identified in the next 12 months.

15 RECOMMENDATIONS

A number of recommendations are made in order to improve the quality of future exploration data collection and Mineral Resource estimation.

- Continue ongoing geological studies to understand the nature of the mineralisation, especially the controls on grade distribution, with a specific focus on improving estimation domaining.
- It is recommended to use optimised stope shells as a guide to create drilling program that maximise the conversion from lower category resources (Inferred to Indicated) and reduces mining risk attributed to data density and quality. Careful consideration of mining dilution is warranted as it seems to be hard to exclude much of the internal waste between the lodes.
- The updated MRE shows a substantial volume of material classified as Inferred and 'unclassified'. This material is an immediate target for resource category upgrading.
- Tidy up drillhole database to allow better data analytics. Assign appropriate meta data to the various stages of sampling and analysis. Collecting orientation data to allow a better understanding of the geology and structural controls on mineralisation of the deposit.
- Keep maintaining the current QA-QC procedures to ensure high quality data is available for subsequent resource upgrades. Resume collection of core splitting duplicates and submission of half-core samples to the lab to collect important information on the variability of data going into the estimates.
- Use of diamond grade-control drill samples and abandon inclusion of sludge samples, which have a demonstrated bias.
- Use channel-cut, or at the very minimum a better quality-controlled face chipping method to replace the current face-chip sampling method.
- Fully separate exploration resource models from grade control models and create workflows that optimise both. Adopt collecting better quality grade-control samples at closer spacing. Appropriate mining decisions cannot be made on exploration block models using exploration samples as they lack the right sample support.
- Continue to refine reconciliation procedures and carry out systematic reconciliation testing. Consider implementation of better plant-feed sampling procedures such as a stop-belt sampling or, better, a cross-stream cutter to replace ROM sampling.
- In relation to mining:
  - ongoing review of stoping methods and seek opportunities for improvement where possible;
  - continued rigorous ground control and monitoring, and control of additional mining dilution where possible; and,
  - reconciliation of mining dilution and over-break by ore style should be implemented in order for over-break and dilution numbers for specific mineralisation styles to be included in scheduling.

16 REFERENCES

Allibone, A. (2009). Internal Lihir Gold Report.

Australian Bureau of Meteorology (2017). http://www.bom.gov.au/climate/averages/tables/cw_089002.shtml Accessed 24-04-2017 – Footnote "Product IDCJCM0026 Prepared at Thu 20 Apr 2017 01:13:30 AM EST"

Bain, C, Binks, M (2020). Ballarat Gold Mine Project No 5014 Process plant Scoping Study Report, June 2020. Mincore unpublished company report.

Baragwanath, W. (1923). The Ballarat Goldfield. Geological Survey of Victoria Memoir 14.

Canavan, F. and Hunt, F.L. (1988). Ballarat East Project, Resource Report, Ballarat Goldfields NL unpublished company report.

Carnie, C. and Cox, B. (2007). Ballarat East Resource Report, September 2007. Ballarat Goldfields NL unpublished company report.

Coombes, J. (2016) I'd Like to be OK with MIK, UC? A Critique of Mineral Resource Estimation Techniques. Coombes Capability, Perth, Australia.

Cox, B. (2008). Ballarat East Fact File. Ballarat Goldfields NL unpublished company report.

D'Auvergne, P. (2009). Exploration Licence 3018 and Mining Licences 5396, 4847 and 5444, annual Technical Report for the Period 1 July 2008 to 30 June 2009. Ballarat Goldfields Pty Ltd (LGL) unpublished company report to Victorian Department of Primary Industries.

D'Auvergne, P. (2010). Exploration Licence 3018 and Mining Licences 5396, 4847 and 5444, Progress Report for the Period 1 July 2000 to 28 February 2010. Ballarat Goldfields Pty Ltd (LGL) unpublished company report to Victorian Department of Primary Industries.

Dominy, S. C. (2014). Predicting the unpredictable: evaluating high-nugget effect gold deposits, Mineral Resource and ore reserve estimation – The AusIMM guide to good practice, Monograph #30, 659-678, Melbourne, Australasian Institute of Mining and Metallurgy.

Dominy, S. C. and Edgar, W. B. (2012). Approaches to reporting grade uncertainty in high nugget gold veins, Applied Earth Sciences, 121, pp 29-42.

Dominy, S. C. and Hernan, M.J. (2012). Castlemaine Goldfields Ltd: Ballarat Mine Mineral Resource Report, March 2014, JORC 2012 Mineral Resource Report.

Earth Resources Victoria (2017) http://earthresources.vic.gov.au/earth-resources/maps-reports-and-data/geovic Accessed 28-04-2017

Fairmaid, A, Kendrick, M.A., Phillips, D. and Fu, B. (2011). The Origin and Evolution of Mineralizing Fluids in a Sediment-Hosted Orogenic- Gold Deposit, Ballarat East, Southeastern Australia. Economic Geology, 106, 653-666.

Fairmaid, A. M., Phillips, D., & Wilson, C. J. (2017). Episodic gold mineralisation correlated with discrete structural events at Ballarat East, southeast Australia. Ore Geology Reviews, 91, 541-558.

Fairmaid, A. M., Phillips, D., & Wilson, C. J. (2017). Episodic gold mineralisation correlated with discrete structural events at Ballarat East, southeast Australia. Ore Geology Reviews, 91, 541-558.

Finlay, I.S. and Douglas, P.M. (1992). Ballarat Mines and Deep Leads, Geological Survey of Victoria Report 94.

Furlong, G (2015) Metallurgical Testwork (Part E) Cyclone Underflow (U/F) and Tailings Flotation, November 2015. Australian Minmet Metallurgical Laboratories Pty Ltd, unpublished company report.

Gregory, J.W. and Baragwanath, W. (1907). The Ballarat East Goldfield, Memoir No 4, 53p, Geological Survey of Victoria.

JORC (2012). Australasian code for reporting of exploration results, mineral resources and ore reserves. Australian Institute of Mining and Metallurgy, Melbourne, 44.

Leader, L. D., Wilson, C. J., & Robinson, J. A. (2013). Structural constraints and numerical simulation of strain localization in the Bendigo goldfield, Victoria, Australia. Economic Geology, 108(2), 279-307.

Lidggey, E. (1893). Report on the Ballarat East goldfield, Special Report for the Department of Mines, Victoria.

Livingstone R., and D'Auvergne, P. (1992). Mining Lease 1158 Resource Report. Ballarat Goldfields NL unpublished company report.

Olsen, S. and Cox, B. (2005) Ballarat East Resource Report, July 2006. Ballarat Goldfields NL unpublished company report.

Olsen, S. and Cox., B. (2003) Ballarat East Resource Report Summary, June 2003. Ballarat Goldfields NL unpublished company report.

O'Neill, W., Livingstone R., D'Auvergne, P. and Horvath., H. (1992). Ballarat Goldfields NL. Stage 1 Report. North Broken Hill-Peko/Ballarat Goldfields NL unpublished joint venture report.

Osborne, D.J. (2008) The Ballarat East Goldfield – New Insights on an Old Model. In Proceedings Narrow Vein Mining Conference, 59-70. Ballarat, Australia. The Australasian Institute of Mining and Metallurgy, Melbourne.

Peel MC, Finlayson BL & McMahon TA (2007), Updated world map of the Köppen-Geiger climate classification, Hydrology and Earth System Sciences Discussions, European Geosciences Union, 11(5), 1633-1644.

Phillips, G.N. and Hughes, M. Victorian Gold Deposits (1998), AGSO Journal of Australian Geology and Geophysics 17(4), 213 -216.

Reid, B., Clarke, D. and Adams, M. (2016). Information Memorandum March 2016. GPG internal document – unpublished.

Stanley, C. (2014). Duplicate sampling and the retention of archival diamond drill-core: no longer a contradiction. Geochemistry: Exploration, Environment, Analysis, Vol. 14, 2014, 369–379

Sterk, R. (2015). Quality Control on Assays: Addressing some Issues, paper presented to 2015 AusIMM New Zealand Branch Annual Conference, Dunedin.

Taylor, D.H., (2003). Ballarat Goldfields Region, Victoria, Geological Survey of Victoria, Report 101

Taylor, D.H., Whitehead, M.L., Olshina, A., and Leonard, J.G. (1996). Ballarat 1:100 000 Map Geological Report, Geological Survey of Victoria, Report 101

Vandenberg, A., Willman, C.E., Maher, S., Simons, B.A., Cayley, R.A., Taylor, D.H., Morand, V.J., Moore, D.H., and Radojkovic, A. (2000). The Tasman Fold Belt System in Victoria, Special Publication, Geological Survey of Victoria.

Vann, J., Jackson, S., Bertoli, O. (2003) Quantitative Kriging Neighbourhood Analysis for the Mining Geologist – A Description of the Method With Worked Case Examples. In 5th International Mining Geology Conference Proceedings, Vol. 1, 215-223. Bendigo, Australia. Australian Institute of Mining & Metallurgy, Melbourne.

Wilson, C. J., Osborne, D. J., Robinson, J. A., & Miller, J. M. (2016). Structural constraints and localization of gold mineralization in Leather Jacket Lodes, Ballarat, Victoria, Australia. Economic Geology, 111(5), 1073-1098.

17 DATE AND SIGNATURE PAGES

The following people are responsible for supervising and/or preparing this report:

Certificates

I, Bielin Shi, do hereby certify that:

1. I am a Principal Consultant and Director of DW Resources Industry Consulting Co., Limited.
2. This certificate applies to the Mineral Resource report entitled titled "*Independent QPR for the Ballarat Goldmine for the year ending 28 February 2021*".
3. I am a professional geologist having graduated with a PhD from The University of Melbourne, Australia, majoring in economic geology and geochemistry.
4. I am a Fellow and Chartered Professional of The Australasian Institute of Mining and Metallurgy and a Member and Registered Professional Geologist of the Australian Institute of Geoscientists.
5. I have worked as a geologist for a total of thirty years since my graduation from university.
6. I am responsible for the preparation of the Mineral Resource estimation.
7. I am independent of the issuer, Shen Yao Holdings Limited and Golden Point Group Pty Ltd.
8. The partners, directors, substantial shareholders of DW Resources Consulting Co, Limited and their associates are independent of the issuer, the issuer's directors, the issuer's substantial shareholders, the issuer's advisers and their associates.
9. I and DW Resources Consulting Co, Limited's partners, directors, substantial shareholders and their associates do not have any interest, direct or indirect, in the issuer, the issuer's subsidiaries or associated companies, and will not receive benefits (direct or indirect) other than remuneration paid to the qualified person in connection with the qualified person's report.
10. The remuneration paid to the qualified person or the qualified person's firm in connection with the qualified person's report is not dependent on the findings of the qualified person's report.
11. As of the date of this certificate, to the best of my knowledge, information and belief, the Independent QPR contains all scientific and technical information that is required for be disclosed to make the Mineral Resources not misleading.

28 February 2021

Signed and dated: 24 May 2021

Dr Bielin Shi
FAusIMM CP(Geo) MAIG

18 GLOSSARY OF TERMS

Alteration	A change in mineralogical composition of a rock commonly brought about by reactions with hydrothermal solutions or by pressure changes.
Au	The chemical element gold
Breccia	A rock mass composed of large, angular fragments of pre-existing rocks
Cambrian	Period of geological time between 542 Ma and 488 Ma
Carbonates	Any carbonate mineral, compound composed of carbonate ions and metal such as calcium, magnesium or iron
Carboniferous	Period of geological time between 359 Ma and 299 Ma
Chalcopyrite	The mineral copper iron sulphide
Cleavage	A regular parting in rock formed as a result of compression. Typically seen in slate
Development	Underground activity to access an orebody (vein) for evaluation and mining
Devonian	Period of geological time between 416 Ma and 359 Ma
Diamond (core) drilling	Method of obtaining a cylindrical core of rock by drilling with a diamond impregnated bit. Produces a high-quality sample
Dip/dipping	Angle and direction of steepest slope on a planar surface
Fault	A fracture plane in rocks showing significant movement between the two sides
Galena	The mineral lead sulphide
Grade	The relative quantity or percentage of mineral content. Gold grade is commonly expressed in the terms: g/t - grams per tonne, ppb – parts per billion, ppm – parts per million
Group	A major sequence of sedimentary rocks forming a distinctive unit by virtue of rocks and/or fossils present
g/t	Grams per tonne, used to express concentration of rare metals in rock. 1 g/t is equivalent to 1 ppm and 1,000 ppb
Indicated Mineral Resource	An 'Indicated Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed
Inferred Mineral Resource	An 'Inferred Mineral Resource' is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from limited geological evidence and implied but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes which may be limited or of uncertain quality and reliability

JORC / the JORC Code 2012	The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition)
Ma	Millions of years
Measured Mineral Resource	A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. The locations are spaced closely enough to confirm geological and grade continuity
Metamorphism	The process of recrystallisation of rock as result of increased temperature and pressure
Micron (µm)	A measurement of distance – 1,000 µm is equivalent to 1 mm. A µm is 1 x 10^{-6} of a metre
Mineral Resource	A technical term which is controlled in its use by the JORC Code (2012). A 'Mineral Resource' is a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are subdivided, in order of increasing confidence, into Inferred, Indicated and Measured categories. The words 'ore' and 'reserves' must not be used in describing Mineral Resources as the terms imply technical feasibility and economic viability and are only appropriate when all relevant Modifying factors have been considered
Nugget effect	A term that describes grade variability for samples at small distances apart (less than a few cm). A low nugget effect (<20%) indicates minimal grade variation, whereas a high nugget effect (>70%) indicates that grade is highly variable and potentially relatively unpredictable. Pure nugget effect (100%) indicates an almost random grade distribution.
Ordovician	Period of geological time between 488 Ma and 443 Ma.
Ore Reserve	A technical term which is controlled in its use by the JORC Code (2012). An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could be reasonably justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves
Ore shoot / shoot	A high-grade zone within a mineral vein
Pyrite	The mineral iron disulphide
QA/QC (for sampling and assaying)	There are two components to a QA/QC system – quality assurance and quality control. Quality assurance (QA) refers to the protocols and procedures, which ensure that sampling and assaying is completed to the required quality. Quality control (QC), however, is the use of control samples and statistical analysis to ensure that the assay results are reliable

QKNA	Qualitative Kriging Neighbourhood Analysis, a statistical technique used to test the appropriateness of the parameters used in kriging-based estimations.
Quartz	The mineral silicon dioxide
Strike	Trend of a horizontal line on any geological plane
Strike slip	Movement parallel to the strike of a fault plane
Sulphides	Minerals composed of metals combined with sulphur
Variogram	A graphic representation of spatial correlation between samples in a given orebody. The variogram allows the calculation of the nugget effect and the sphere of influence of samples (the range)
Vein	A relative thin (millimetres to 10-m scale) sheet of quartz or other minerals cutting across pre-existing rocks

APPENDIX A – JORC TABLE 1

Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Primary samples of underground mineralisation were collected from NQ diamond core (95%) and LTK60 core (5%) at nominal 0.4 m and, since 2014, 0.7 m intervals. Sample intervals are constrained to the mineralised intercepts based on geological logging. Samples were taken as full-core comprising 2–2.5 kg of material, which was pulverised for analysis using the Leachwell 2000 (LW2000) analytical technique. • The collection of full-core samples from diamond core is considered to yield the most representative sample in nuggety gold deposits. The quality of the samples is considered high and is deemed fit for purpose for the estimation of mineral resources. Core-split duplicates are not presently collected to monitor representivity of the primary sample. • Samples were normally taken at nominal lengths of 0.4 and 0.7 m. Sample start- and endpoints were selected to match the boundaries of mineralised zones which may result other-than-nominal length intervals. Primary samples were pulverised and approximately 2-kg aliquots taken for digestion over a 24-hour period in concentrated cyanide solution. The resultant liquor was extracted and analysed by Atomic Absorption Spectroscopy. Samples were prepared and analysed at the ISO-accredited Gekko Assay Laboratory.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Primary samples were collected from diamond core. Core types comprise NQ (50.6 mm – Approximately 95% of all drilling) LTK60 (43.9 mm) and HQ (63.5 MM) • Core orientation was carried out using either the Globaltech Orifinder® Orientation tool or by reference to the upright, north-south-trending cleavage that is pervasive throughout the Ballarat goldfield.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Intervals of lost core were marked by drilling staff using core-blocks and verified by geology staff during logging. Drilling staff were consulted if necessary to determine the most likely position of lost core. Core loss was recorded in the lithological logs as 'lost core'. • Sampling intervals are selected not to overlap with lost core intervals to prevent attribution of assays to intervals of lost core. • Poor recovery can be associated with faulted mineralised zones and it is anticipated that core loss may result in under-reporting of the true grade of the intersection. Core-loss accounts for < 1% of the mineralisation

		intersected. In the QP's opinion, core-loss issues do not significantly affect the quality of the mineral resource estimate.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Qualitative logging was undertaken for lithology, alteration, veining and geotechnical rock quality. Structural measurements were collected for bedding, cleavage and fault planes to aid interpretation. • All drill-holes informing the mineral resource estimate were logged for geology, geotechnical properties and structure. • Core photos were taken for all core trays of holes informing the mineral resource estimate. • Since the start of modern exploration, various changes were implemented to streamline and optimise the logging process. These changes did not affect the way in which mineralised intervals were identified and interpreted and are not considered to materially impact the mineral resource estimate.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Before GPG assumed stewardship in 2011, half-core samples were taken at nominal 1-m intervals from core, cut by diamond saw. From 2011-2014 full-core samples were taken at nominal 0.4-m intervals. Since 2014 full-core samples were collected at nominal 0.7-m intervals. Approximately 2-3.5 kg material is sent for analysis. • Samples are pulverised for 4 minutes using an LM5 pulveriser. A 2-g aliquot is taken from every 10th sample and tested using laser sizing analysis to ensure that 95% of the sample passes 75 µm. • Core-split duplicates are not currently submitted to the laboratory. A set of 107 half-core duplicates was submitted to the laboratory in 2010 and showed poor precision, demonstrating the high variability of the ore. Since then, the change was made to full-core sampling to improve sample representativity. GPG considers resuming submission of core-split duplicates to get a better understanding of the variability of the ore. • In the QP's opinion the sample size is appropriate for the style of mineralization and is the largest possible given economic constraints.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• From November 2010 samples have been assayed by the Gekko Laboratory at the Golden Point Group Pty Ltd("GPG") Ballarat mine site. Samples prior to this date were processed in house at the BGF laboratory at the Ballarat Goldmine site or at Genalysis laboratory in Adelaide. • LeachWELL is not a total assay method; this technique generally recovers 95% - 98% of gold at Ballarat on a 24 hour leach. • QA/QC Procedures include the submission of standards and blanks. A campaign of duplicate sampling was carried out in 2010 whilst half core sampling was carried out. No duplicate samples have been submitted with

		full core samples. • Internal laboratory standards were analysed within all submitted batches. • Since June 2020, GPG has been submitting six alternative CRMs with certificate values determined by cyanide leach, which are more relevant to the LW2000 method than previous aqua regia measured CRMs. • Drill hole samples have been supported by the submission of certified reference standards and blanks, details of which are given in Section 6.3 of the report.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• Significant intersections were identified and modelled during detailed geological interpretation by company geologists. All significant intersections were reviewed by the Geology Manager. • No twinned holes were drilled to investigate short-range variability. • Sample intervals were assigned unique identification numbers, which were entered directly into an acQuire database. Assay results were received from Gekko as comma-separated text files and imported directly into the database. Data validation functions of the acQuire database reduce the potential of importing incorrect data. • No adjustments were made to the assay data, lab results were used as-is.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drillhole collars were surveyed by GPG surveyors using a one-man total station. Collars lost before pick-up were estimated from a minimum of two drill-holes with known collar position drilled from the same fan. Downhole surveys were carried out using Globaltech Pathfinder® downhole multi-shot cameras until 2015 and using Reflex EZ-Trac 6393 cameras since 2015. Single-shot downhole surveys are completed at 30-m spacing during drilling and multi-shot surveys at 3-m spacing upon completion of the hole. If poor ground conditions prevent completion of a multi-shot survey, holes are surveyed using single-shot surveys at nominal 15-30 m intervals. • Surveys are located relative to a local mine grid. The Mine grid is based on a modified AMG66 grid where northings are AMG66 minus 5,800,000 m and eastings are AMG66 minus 700,000. Reduced levels are based on the Australian height datum 1971 (AHD), where relative levels are AHD plus 10,000. • A topographic surface level for the mine has been provided by SpatialVision in August 2012. Accuracy of the topography is not a primary concern as only three drillcollars were located above surface.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral*	• Diamond holes are drilled in east-west oriented drill fans spaced 25–50 m apart. Within fans, drillholes are spaced 7-15 m apart. • The drillhole spacing is considered wide and is irregular due to the

	Resource and Ore Reserve estimation procedure(s) and classifications applied. • *Whether sample compositing has been applied.*	necessity to drill in fans. These factors have been considered by the QP and were reflected in the classification of the resource. • No sample compositing has been applied at the core sampling stage.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Drill fans are oriented east-west, perpendicular to the main orientation of mineralised structures (striking north-south). The orientation of mineralisation is well constrained after decades of mine operation and research. • There is no apparent bias in the drilling orientation used. The necessity to drill from fans inevitably results in data clustering at the fan centre. Mineralised structures are steep- to shallowly west-dipping and this may result in intersection angles that are not orthogonal to the plane of mineralisation. In the QP's opinion, these issues do not materially affect the mineral resource estimate as the geological model is robust and controls on mineralisation are well-understood.
Sample security	• *The measures taken to ensure sample security.*	• Samples from drilling used in the estimate are kept within the perimeter of the Ballarat mine site. The assay laboratory is located on the mine site and subject to the same security monitoring as the mine site.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The QP has not visited the Ballarat Goldmine because of COVID-19 pandemic. However, the Competent Persons on site have reviewed sampling techniques and audited the data. The QP has audited the data and made a number of recommendations based on the findings of this audit. Key recommendations are: 1) to carry out geological interpretations directly in 3-D software to avoid sectional bias; 2) to continue using explicit modelling techniques and to validate the modelling approach through systematic reconciliation and 3) to fully separate exploration models from grade control models and to create workflows to optimise both. This is not considered material for the MRE.

Section 2 – Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The project area is held under Mining Licences MIN5396 and MIN4847, Exploration Licences EL3018 and EL006442 and Exploration Licence Application EL006851. All licences are 100% owned by GPG through its subsidiary Balmaine Gold. The land tenure consists of freehold and Crown Land managed by a range of entities. Dominant land use of the Mining Licences is residential. • GPG is awaiting renewal of Mining Licence MIN4847 and anticipates it will be renewed for a period of five years. Mining Licence MIN5396 is due to expire in October 2023. Exploration Licence EL3018 is due to expire in October 2020 with no further renewals available. GPG seeks to secure the prospective portions of the EL3018 as a Retention or Mining Licence.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Exploration and appraisal of the project area by other parties is detailed in section 4. Historical mining has occurred at Ballarat East from the 1850s to 1918. Modern exploration commenced in 1985 by Ballarat Goldfields (BGF) and was resumed in 1991 by BGF in a joint venture with North Broken Hill-Peko. Construction the Woolshed Gully decline started in 1994 but was stalled in 1996. Exploration activity resumed in 2003 from surface and the Woolshed Gully decline and first modern stope production occurred from 2008-2010 after Lihir Gold Limited (LGL) acquired the project in 2007. GPG through its subsidiary Balmaine Gold, acquired the project in 2010 and resumed underground mining activity in March 2011. GPG became a wholly owned subsidiary of Shen Yao Holdings in August 2012.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Ballarat East is an orogenic gold deposit dominated by narrow quartz veins with disseminated gold. The lodes are confined to quartz-rich en-échelon vein arrays linked to vertically stacked west-dipping faults within closely spaced, asymmetric, tight- to isoclinal anticlines of Ordovician metasediments.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth*	• A summary table of significant intervals (> 10 gram-metres) drilled during the reporting period including collar locations, dip, azimuth and length is presented in Appendix B. • Comprehensive reporting of all exploration results is not practicable or purposeful. Summaries of informing material from historic exploration campaigns can be found in Canavan & Hunt (1988), O'Neill et al. (1992) and Olsen & Cox (2003). Significant intercepts drilled during BGF's stewardship have been reported in BGF quarterly reports dated: 30/01/04,

	○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	29/04/04, 30/07/04, 11/10/04, 21/01/05, 28/04/05, 28/07/05, 19/10/05, 30/01/06, 26/04/06, 28/07/06, 17/10/06 and 30/01/07, which are publicly available from: https://www.asx.com.au/asx/statistics/announcements.do, ticker 'BGF'.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Significant Intercepts reported in Appendix B are those above 10 gram-metres, minimum thickness of 0.5 m (downhole), and minimum grade of 1.0 g/t Au. Intercepts include up to 2 m internal dilution and no external dilution. Intervals are downhole lengths (m). Samples are full core samples and have a minimum length 0.4 m. No top cuts were applied in determining the significant intervals. • No metal equivalents were used in the mineral resource estimate.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Drill fans were oriented east-west and drillholes were designed to be orthogonal to the mineralised structures (striking north-south, dipping west). However, due to variations in dip angle of the mineralised structures (steep to shallow), some holes intercept mineralisation at oblique angles, in which case intercepts do not represent true widths. • The mineralised structures are known to be narrow (< 1 m) and steep to shallow west-dipping. If observations from development faces (face photos) were available, these were used in constructing the geological model. • Intervals reported in the significant intervals table (Appendix B) are down-hole lengths and were not converted to true widths.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Appropriate maps and tabulations have been included in the main body of the report and Appendix B.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Comprehensive reporting of all Exploration Results is not practicable or purposeful. Since all drill holes included are considered "brown-field", near-mine and within-mine drilling, the QP does not consider this to materially affect this report. A summary of significant intervals drilled during the reporting period is presented in Appendix B.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or*	• The QP is unaware of substantive exploration data that are not included in the report.

	contaminating substances.	
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• GPG aims to increase confidence in its Mineral Resources and convert part of the Inferred Resources to Indicated Resources through further system improvements and drilling during the first two quarters of 2021. • The Ballarat East deposit is still open at depth and the Oregon Line has been identified as a near-mine exploration target: its position allows projection of faults from the First Chance Line onto the Oregon Line. A focus on resource extension and in-mine exploration has recently taken priority over regional exploration.

Section 3 – Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• Geological logging data were entered directly into an acQuire database with validation functions set to prevent invalid logging codes and overlapping intervals from being entered. • Geology logs were validated visually against core photos. • Collar positions were inspected visually in Micromine to ensure positions were consistent with the location of development. • Before assays were entered, CRM and blank results were reviewed, and inconsistencies addressed with Gekko before import. • Access to the acQuire database is restricted to geological and selected technical staff.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The QP has not visited the Ballarat Goldmine because of COVID-19 pandemic. However, the experts on site have reviewed sampling techniques and audited the data. The QP has audited the data and made a number of recommendations based on the findings of this audit. Key recommendations are: 1) to carry out geological interpretations directly in 3-D software to avoid sectional bias; 2) to continue using explicit modelling techniques and to validate the modelling approach through systematic reconciliation and 3) to fully separate exploration models from grade control models and to create workflows to optimise both. This is not considered material for the MRE.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The geological interpretation of the Ballarat East deposit is very robust after decades of exploration and operation. • The wireframes were generated based on cross sections widths of 20m – 20m spacing. This was based on exploration and grade control drilling patterns. The mineralisation domains were constructed based on primary assay grade, lithology logs and structural data. Grade control sludge drillholes were used to refine estimation domains created based on diamond drilling. • Mineralisation cut-off grades of 0.5g/t Au combined with the geological logging were used to define the Lower-Grade (LG) mineralised envelopes. Above cut-off grades of 2.0g/t Au

Criteria	JORC Code explanation	Commentary
		combined with the geological logging were used to define the Higher-Grade (HG) mineralised envelopes. • The geological interpretation of mineralised boundaries is considered robust and alternative interpretations do not have the potential to impact significantly on the Mineral Resources.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The 10 individual underground deposits extend from 52,500mE to 53,250mE, spanning 750 m cross-strike width (east-west) and 36,130mN to 38,930mN, spanning 2,800 m along-strike length (north-south), and are located 300-700 m below surface. A plan view of the lodes. • The TSF Resource spans an area of 600 m north-south by 300 m east-west.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.*	• 1m composites was created and used for the statistical, variography analyses and estimation. • Thorough univariate statistical analysis of density weighted, 1m, mineralogy flagged, downhole composites has been completed for gold and for all lodes and top-cuts established where applicable. • Statistical analysis indicated that outlier management was crucial to prevent severe high grade smearing that could result in potential overestimation for some elements. The approach used has been capping (Top-cuts were defined by domain following thorough examinations of histograms, probability curves and the spatial locations of the outliers). Top cuts ranged for Lower-Grade domains from 5g/t to 10g/t and 35g/t to 60g/t for Higher-Grade domains based on analysis of individual lodes statistics. • Variogram modelling completed within GeoAccess™ software and used to define the characterization of the spatial continuity of gold within all lodes and parameters used for the interpolation process. Variogram model are cross-validated to ensure parameters are accurate. • Quantitative Kriging Neighbourhood analysis (QKNA) using goodness of fit statistics to optimize estimation parameters has been undertaken. Parameters optimised include block size, search parameters, number of samples (minimum and maximum) and

Criteria	JORC Code explanation	Commentary
	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	block descritization. • Directional ranges have been determined from variogram modelling and are used to constrain the search distances used in block interpolation, incorporating geologists' interpretation of ore geometry and continuity. Estimation search strategies implemented have sought to ensure robust estimates while minimising conditional bias. Three search estimation runs are used with initial short-search runs extending the sample influence in later runs. • Block model creation parameters for individual deposits are detailed in Section 8.6. Parent blocks were typically 5 m by 10m by 5 m (x–y–z) and were sub-blocked to 0.25 m by 0.5 m by 0.25 m. • Block estimation has been completed within Micromine™ software. Three-dimensional mineralisation wireframes were completed within Micromine™ software. These wireframes are used as hard boundaries for the interpolation. • Ordinary Kriging using a local dynamic anisotropy search is used for block grade estimates using uniquely coded 1m composite data for respective lodes. • All block estimates are based on interpolation into parent blocks. Parent block estimates are then assigned to sub-blocks. Mineral Resource estimation does not include any form of dilution. • Only a signal variable gold was estimated. • No selective mining units were assumed in this estimate. • Standard model validation has been completed using visual and numerical methods and formal peer review sessions by key geology staff on site. • A comparison of block volume weighted mean versus the drillhole cell de-clustered mean grade of the composited data was undertaken. • Efficiency models using block Kriging Efficiencies (KE) and Slope of Regression (ZZ) were used to quantitatively measure estimation quality to ensure the desired level of quality of estimation.

Criteria	JORC Code explanation	Commentary
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• The underground mineral resource estimate is based on dry tonnage. Moisture content has not been included. • The TSF Resource estimate is based on dry tonnage determined by through-belt weightometers at the processing plant.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• A breakeven cut-off grade of 2.0 g/t Au for Higher-Grade domains has been estimated for the Ballarat East underground Mineral Resource. • The Mineral Resource reported is global in nature and reported at a 2.0 g/t cut-off. • The TSF Resource is reported at a cut-off grade of 0.0 g/t Au. It is assumed that the tailings dam may be reprocessed in its entirety.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Mining at Ballarat is a combination of conventional drive development and open stoping. • Based on a combined mining and processing cost of $126, a gold price of A$2,400 per oz, an exchange rate of 0.75 and a mill recovery of 82.2%, a break-even cut-off of 2.0 g/t was established for the period 2020–2021. • Based on this, the mineralisation is considered to have reasonable prospects for eventual economic extraction.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• The recovery from the primary ore is variable to head grade and based on actual plant performance data. The model has been updated after commissioning of the flotation circuit and reflects the most accurate information currently available. The recovery model assumptions are reviewed periodically against performance as part of the forecasting process. • Recovery of gold from the tails material was determined by metallurgical testing of two tails samples collected in 2015, which suggest that 85-89% recovery can be anticipated.
Environmen-tal factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the*	• The Ballarat Goldmine has sufficient waste and TSF in place to store any by-products generated as a result of processing the ore contained in this Mineral Resource. • All required permits are in place.

Criteria	JORC Code explanation	Commentary
	mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	• All required monitoring is undertaken to ensure compliance with the licences.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Bulk densities were determined from 632 samples collected from 2007–2008 by the water immersion technique. • A bulk density of 2.66 g/cm^3 for quartz and 2.74 g/cm^3 for other lithologies has been determined and was applied to all estimations in this mineral resource. • Bulk densities are assigned based on block grades with all blocks > 3 g/t Au being assigned a density of 2.66 g/cm^3 and all other blocks a density of 2.74 g/cm^3.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person’s view of the deposit.*	• The Ballarat East hard-rock and tailings Mineral Resource estimate was classified in accordance with the JORC Code (2012). The classification is based on the geological understanding, data spacing and data integrity, grade and geological continuity and the quality of the estimate as supported by kriging metrics (slope of regression and kriging efficiency). • The initial classification process was based on an interpolation distance and minimum samples within the search ellipse as defined by the Micromine macro. The main components of the macro are summarised as follows: Initial classification − The resource was classed as Inferred if the average weighted sample distance was greater than 40 m. − The resource was classed as Indicated if the average weighted sample distance was between 25 m and 40 m − Numbers of drill holes -< 2 Indicated and Inferred resources downgraded one class. • The initial classification was reviewed visually. Based on the initial classification, three solids rescat_ind and rescat_inf were created

Criteria	JORC Code explanation	Commentary
		to define Measured, Indicated and Inferred resources. This defined resource categories based on a combination of data density and geological confidence. • In the view of the QP, the Mineral Resource is a realistic inventory of the mineralisation that after preliminary evaluation of technical, economic and development conditions might, in whole or in part, become economically extractable. The Ballarat Goldmine is currently operational and has demonstrated an ability to use mineral resources to plan its mining activities and extract resources at a profit. The QP considers the Mineral Resource to have reasonable prospects for eventual economic extraction.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The QP has audited the estimation process and has made a number of recommendations which are detailed in the main body of this report and in section 15. Key recommendations are: 1) to continue the use of Ordinary Kriging for mineral resource estimates in favour of inverse distance weighting; 2) to put more emphasis on statistical analysis for validating estimation domains and determination of top-cuts; 3) to use quantitative kriging neighborhood analysis to optimise estimation and search neighborhood parameters. • The Mineral Resource and the underlying geological model and informing data have been reviewed in detail by the QP. The Mineral Resource was internally peer reviewed.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*	• Mineral Resources has been reported in accordance with the guidelines of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and reflects the relative accuracy of the Mineral Resources estimates. • The current Mineral Resource model represents a robust global estimate of the in-situ remaining gold mineralisation. • The Mineral Resource estimate was optimised for global non-bias but is not locally accurate at the scale of the smallest mining unit. • It is recommended to use optimised stope shells as a guide to create drilling programmes that maximise the conversion from lower category resources (Inferred to Indicated) and reduces

Criteria	JORC Code explanation	Commentary
	• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	mining risk attributed to data density and quality. Careful consideration of mining dilution is warranted, it seems to be hard to exclude much of the internal waste between the lodes.

APPENDIX B – EXPLORATION DRILLING SIGNIFICANT INTERCEPTS

Hole ID	Dip (°)	Azi (°)	Depth (m)	Easting	Northing	R.L.	Target	From (m)	Sig Int	Gram metres	Includes
CBU5333	-57.4	44.2	101.3	53164.799	38584.391	9768.841	BRT_FC1_MFZ	76.81	4.39m @ 2.21g/t Au	10	
CBU5472	-72	74	107.3	53155.923	38559.226	9763.404	BRT_FC1_MFZ	74.1	2.1m @ 31.5g/t Au	66	
CBU5510	-60.3	161.5	113.4	53145.538	38511.148	9762.006	BRT_FC1_MFZ	82.8	2.1m @ 4.68g/t Au	10	
CBU5478	-48.9	168.3	170.4	52770.694	37536.5	9806.165	CA_SU2_HHFZ	121.25	6.15m @ 18.72g/t Au	115	3.5m @ 31.88g/t Au from 123.9m
CBU5479	-53.3	173.8	185.4	52757.517	37597.372	9873.374	CA_SU2_HHFZ	29.8	6.3m @ 6.82g/t Au	43	
CBU5479	-53.3	173.8	185.4	52763.484	37530.733	9787.275	CA_SU2_HHFZ	140.6	2.8m @ 5.12g/t Au	14	
CBU5480	-39.1	174.6	212.2	52757.892	37584.085	9873.307	CA_SU2_HHFZ	40.4	2.8m @ 13.28g/t Au	37	2.1m @ 16.86g/t Au from 40.4m
CBU5480	-39.1	174.6	212.2	52758.343	37578.926	9869.136	CA_SU2_HHFZ	48.1	0.7m @ 22.46g/t Au	16	
CBU5481	-43	178.4	227.4	52755.742	37484.71	9790.612	CA_SU2_HHFZ	170.2	2.1m @ 16.47g/t Au	35	
CBG043	5.4	104.4	31	52681.556	36512.301	9845.046	Geotech	9.3	8.4m @ 5.09g/t Au	43	3.5m @ 6.27g/t Au from 9.3m
CBU5452	-2.9	87	449	53044.978	37610.521	9904.339	GP_FC_MFZ	285.5	5.6m @ 5.31g/t Au	30	
CBU5453	-11.2	87	393	53010.611	37613.772	9872.782	GP_FC_MFZ	253.7	3.5m @ 4.73g/t Au	17	
CBU5454	-19.1	87	348.8	53011.886	37620.956	9837.205	GP_FC_MFZ	262.1	1.4m @ 10.14g/t Au	14	
CBU5454	-19.1	87	348.8	53044.868	37619.333	9832.545	GP_FC_MFZ	295.9	0.5m @ 21.74g/t Au	11	
CBU5455	-28.6	87	328.4	52818.945	37620.378	9867.583	GP_FC_MFZ	68.3	3.2m @ 3.19g/t Au	10	
CBU5455	-28.6	87	328.4	52843.692	37620.764	9855.034	GP_FC_MFZ	97.3	0.7m @ 15.13g/t Au	11	
CBU5455	-28.6	87	328.4	52910.633	37619.961	9824.756	GP_FC_MFZ	170.8	0.7m @ 86.73g/t Au	61	
CBU5455	-28.6	87	328.4	52933.479	37619.357	9815.79	GP_FC_MFZ	193.6	4.2m @ 5.53g/t Au	23	
CBU5456	-39.6	87	322	52774.253	37619.853	9886.617	GP_FC_MFZ	20.9	1.8m @ 13.58g/t Au	24	
CBU5456	-39.6	87	322	52829.132	37621.446	9845.096	GP_FC_MFZ	87.88	5.52m @ 2.03g/t Au	11	
CBU5456	-39.6	87	322	52964.076	37624.315	9757.307	GP_FC_MFZ	251.4	0.7m @ 23.23g/t Au	16	
CBU5456	-39.6	87	322	52968.96	37624.319	9754.566	GP_FC_MFZ	257	0.7m @ 35.48g/t Au	25	
CBU5456	-39.6	87	322	52976.377	37624.311	9750.414	GP_FC_MFZ	265.5	0.7m @ 42.53g/t Au	30	
CBU5459	-84.7	87	359.6	52759.131	37619.322	9872.24	GP_FC_MFZ	26.1	3.3m @ 9.01g/t Au	30	2.4m @ 10.96g/t Au from 26.1m
CBU5459	-84.7	87	359.6	52783.805	37619.188	9644.485	GP_FC_MFZ	255.8	2.1m @ 6.59g/t Au	14	
CBU5459	-84.7	87	359.6	52785.905	37619.316	9629.23	GP_FC_MFZ	270.5	3.5m @ 5.99g/t Au	21	

CBU5460	-88.6	269.7	371	52752.554	37619.309	9871.807	GP_FC_MFZ	24.3	7.6m @ 2.39g/t Au	18	
CBU5460	-88.6	269.7	371	52752.274	37619.254	9859.96	GP_FC_MFZ	37.5	4.9m @ 5.1g/t Au	25	
CBU5460	-88.6	269.7	371	52753.316	37618.247	9678.787	GP_FC_MFZ	220.8	0.7m @ 15.13g/t Au	11	
CBU5460	-88.6	269.7	371	52754.576	37617.903	9630.055	GP_FC_MFZ	269.2	1.4m @ 18.43g/t Au	26	
CBU5460	-88.6	269.7	371	52754.97	37617.762	9617.687	GP_FC_MFZ	281.7	1.15m @ 11.79g/t Au	14	
CBU5607	-16.3	76.6	353	53073.276	37661.187	9842.474	GP_FC_MFZ	324.7	0.7m @ 282.92g/t Au	198	
CBU5608	-28.9	73.8	255.9	52816.724	37635.582	9866.819	GP_FC_MFZ	68.9	2.45m @ 20.27g/t Au	50	1.75m @ 26.4g/t Au from 69.6m
CBU5608	-28.9	73.8	255.9	52830.887	37639.256	9859.139	GP_FC_MFZ	83.5	6.3m @ 10.11g/t Au	64	
CBU5609	-40	68	314.5	52823.521	37643.783	9843.758	GP_FC_MFZ	88.2	3.5m @ 34.26g/t Au	120	2.1m @ 55.13g/t Au from 88.9m
CBU5609	-40	68	314.5	52828.333	37645.316	9839.991	GP_FC_MFZ	93.8	4.9m @ 2.77g/t Au	14	
CBU5620	-43.4	96.3	181.9	53002.114	37574.146	9895.521	GP_SCA_TFZ	72.4	4.9m @ 1.94g/t Au	10	
CBU5620	-43.4	96.3	181.9	53009.805	37573.308	9888.952	GP_SCA_TFZ	84.3	1.4m @ 25.87g/t Au	36	
CBU5620	-43.4	96.3	181.9	53034.611	37570.627	9868.599	GP_SCA_TFZ	116	2.4m @ 5.35g/t Au	13	
CBU5621	-61.2	98.8	191.5	53007.948	37570.677	9832.766	GP_SCA_TFZ	126.5	5.5m @ 1.99g/t Au	11	
CBU5621	-61.2	98.8	191.5	53014.559	37569.508	9821.693	GP_SCA_TFZ	140.1	4.2m @ 3.69g/t Au	15	1.4m @ 6.36g/t Au from 142.9m
CBU5622	-76.1	103.7	224.5	52986.485	37568.983	9784.963	GP_SCA_TFZ	165.2	2.1m @ 13.14g/t Au	28	
CBU5622	-76.1	103.7	224.5	52991.826	37567.548	9767.414	GP_SCA_TFZ	183.6	2.1m @ 16.26g/t Au	34	1.4m @ 23g/t Au from 184.3m
CBU5623	-87	152.5	250.9	52945.021	37575.026	9856.684	GP_SCA_TFZ	88.3	1.4m @ 100.24g/t Au	140	
CBU5623	-87	152.5	250.9	52946.692	37571.924	9790.678	GP_SCA_TFZ	153	4.2m @ 4.78g/t Au	20	
CBU5623	-87	152.5	250.9	52948.993	37569.307	9724.436	GP_SCA_TFZ	218.57	5.73m @ 4.82g/t Au	28	
CBU5629	9.2	119.2	119.4	53210.4	38133.076	10032.867	LLB_FC1_HHFZ	76.42	3.78m @ 3.4g/t Au	13	
CBU5630	13.7	90.7	98.6	53215.393	38171.045	10037.606	LLB_FC1_HHFZ	71.3	5.5m @ 3.67g/t Au	20	1.4m @ 8.09g/t Au from 72m
CBU5631	3.3	90.6	83.7	53198.108	38172.326	10023.972	LLB_FC1_HHFZ	54.3	1.5m @ 16.47g/t Au	25	
CBU5631	3.3	90.6	83.7	53207.783	38172.046	10024.598	LLB_FC1_HHFZ	60.9	7.7m @ 6.69g/t Au	52	
CBU5632	-11.9	90.5	68.8	53188.353	38170.676	10010.419	LLB_FC1_HHFZ	44	4.2m @ 10.11g/t Au	42	2.8m @ 13.87g/t Au from 44m
CBU5650	9.9	69.8	110.7	53179.413	38187.536	10028.129	LLB_FC1_HHFZ	38.55	1.4m @ 19g/t Au	27	
CBU5650	9.9	69.8	110.7	53199.789	38194.661	10031.967	LLB_FC1_HHFZ	59.7	2.95m @ 13.08g/t Au	39	2.3m @ 16.41g/t Au from 60.35m
CBU5374	-17.7	270	131.5	52904.277	38216.945	9860.596	LLB_SU2_CSFZ	111.6	4.3m @ 27.78g/t Au	119	1.8m @ 65.08g/t Au from 114.1m

CBU5303	-78.5	197.9	197.6	52889.092	38067.464	9801.986	LLB_SU2_MFZ	36.6	3.5m @ 3.07g/t Au	11	
CBU5303	-78.5	197.9	197.6	52888.656	38066.192	9795.167	LLB_SU2_MFZ	42.5	5.6m @ 3.29g/t Au	18	
CBU5305	-76.9	221.7	215.5	52880.6	38063.541	9773.851	LLB_SU2_MFZ	63.9	7m @ 5.46g/t Au	38	2.1m @ 12.2g/t Au from 68.8m
CBU5305	-76.9	221.7	215.5	52862.553	38042.743	9656.181	LLB_SU2_MFZ	186.5	3.5m @ 7.47g/t Au	26	
CBU5305	-76.9	221.7	215.5	52861.596	38041.659	9650.049	LLB_SU2_MFZ	192.1	4.9m @ 28.87g/t Au	141	
CBU5307	-74.5	235.6	238.9	52879.662	38068.556	9793.248	LLB_SU2_MFZ	44.44	6.96m @ 2g/t Au	14	
CBU5307	-74.5	235.6	238.9	52874.614	38065.346	9771.973	LLB_SU2_MFZ	69.67	0.7m @ 205.37g/t Au	144	
CBU5307	-74.5	235.6	238.9	52859.295	38055.529	9712.254	LLB_SU2_MFZ	131.2	2.5m @ 34.39g/t Au	86	
CBU5307	-74.5	235.6	238.9	52840.77	38043.325	9639.742	LLB_SU2_MFZ	204.78	7m @ 9.63g/t Au	67	
CBU5309	-72.1	243.9	263.5	52873.687	38067.437	9778.263	LLB_SU2_MFZ	61.4	5.2m @ 3.08g/t Au	16	
CBU5309	-72.1	243.9	263.5	52832.997	38052.077	9636.605	LLB_SU2_MFZ	211.84	0.7m @ 43.43g/t Au	30	
CBU5309	-72.1	243.9	263.5	52831.612	38051.621	9631.927	LLB_SU2_MFZ	215.34	3.5m @ 5.88g/t Au	21	1.4m @ 12.14g/t Au from 217.44m
CBU5309	-72.1	243.9	263.5	52827.497	38050.314	9618.231	LLB_SU2_MFZ	228.7	5.5m @ 6.39g/t Au	35	
CBU5421	-63.9	325.9	323	52879.988	38094.989	9798.543	LLB_SU2_MFZ	45.4	0.7m @ 14.23g/t Au	10	
CBU5421	-63.9	325.9	323	52879.014	38096.435	9795.11	LLB_SU2_MFZ	48.2	2.8m @ 3.62g/t Au	10	
CBU5421	-63.9	325.9	323	52873.84	38103.957	9777.203	LLB_SU2_MFZ	64.9	9.6m @ 2.51g/t Au	24	
CBU5421	-63.9	325.9	323	52859.928	38123.922	9730.233	LLB_SU2_MFZ	121.2	2.8m @ 4.37g/t Au	12	
CBU5421	-63.9	325.9	323	52852.667	38134.312	9706.564	LLB_SU2_MFZ	147.4	4.1m @ 5.36g/t Au	22	2.7m @ 7.58g/t Au from 148.8m
CBU5421	-63.9	325.9	323	52827.738	38168.078	9631.221	LLB_SU2_MFZ	235	1.4m @ 83.8g/t Au	117	
CBU5421	-63.9	325.9	323	52823.262	38173.94	9618.563	LLB_SU2_MFZ	250	0.7m @ 18.82g/t Au	13	
CBU5425	-62.9	344.7	311.1	52873.726	38150.511	9694.578	LLB_SU2_MFZ	162.7	0.7m @ 34.16g/t Au	24	
CBU5425	-62.9	344.7	311.1	52869.52	38168.029	9661.576	LLB_SU2_MFZ	199.6	2.1m @ 6.9g/t Au	14	
CBU5425	-62.9	344.7	311.1	52867.547	38176.529	9646.119	LLB_SU2_MFZ	218.05	0.7m @ 15.53g/t Au	11	
CBU5427	-60.9	356.5	272.4	52890.719	38101.634	9798.023	LLB_SU2_MFZ	45.15	4.9m @ 4.43g/t Au	22	2.1m @ 8.63g/t Au from 45.85m
CBU5427	-60.9	356.5	272.4	52882.262	38192.455	9646.121	LLB_SU2_MFZ	222.7	4.2m @ 2.76g/t Au	12	
CBU5501	-70.9	284.8	419.4	52881.942	38078.449	9815.744	LLB_SU2_MFZ	24.1	2.1m @ 5.65g/t Au	12	
CBU5501	-70.9	284.8	419.4	52874.338	38079.92	9794.845	LLB_SU2_MFZ	47.1	0.7m @ 19.05g/t Au	13	
CBU5501	-70.9	284.8	419.4	52810.654	38097.204	9612.86	LLB_SU2_MFZ	240.7	0.7m @ 21.76g/t Au	15	
CBU5501	-70.9	284.8	419.4	52804.084	38099.639	9594.074	LLB_SU2_MFZ	259	4.2m @ 27.46g/t Au	115	3.5m @ 32.66g/t Au from 259m

CBU5501	-70.9	284.8	419.4	52781.942	38108.914	9530.507	LLB_SU2_MFZ	328.7	0.7m @ 44.83g/t Au	31	
CBU5501	-70.9	284.8	419.4	52779.29	38110.13	9522.684	LLB_SU2_MFZ	332.7	9.4m @ 5.62g/t Au	53	
CBU5503	-73.5	286.9	314.5	52870.51	38082.123	9775.055	LLB_SU2_MFZ	65.15	4.9m @ 2.65g/t Au	13	
CBU5503	-73.5	286.9	314.5	52820.648	38097.105	9613.735	LLB_SU2_MFZ	234.85	4.55m @ 9.75g/t Au	44	2.95m @ 14.47g/t Au from 234.85m
CBU5503	-73.5	286.9	314.5	52803.422	38103.675	9558.19	LLB_SU2_MFZ	293.9	3.5m @ 6.61g/t Au	23	
CBU5503	-73.5	286.9	314.5	52800.563	38104.772	9548.986	LLB_SU2_MFZ	304.3	2.1m @ 4.81g/t Au	10	
CBU5503	-73.5	286.9	314.5	52798.913	38105.405	9543.672	LLB_SU2_MFZ	309.2	3.5m @ 4.33g/t Au	15	
CBU5507	-79.7	300.1	357.8	52879.093	38083.563	9770.088	LLB_SU2_MFZ	70.3	0.7m @ 71.32g/t Au	50	
CBU5507	-79.7	300.1	357.8	52860.661	38096.331	9649.94	LLB_SU2_MFZ	190.75	4.25m @ 10.05g/t Au	43	
CBU5507	-79.7	300.1	357.8	52858.708	38097.853	9636.817	LLB_SU2_MFZ	204.13	4.2m @ 3.5g/t Au	15	
CBU5507	-79.7	300.1	357.8	52855.27	38100.545	9614.011	LLB_SU2_MFZ	229.1	0.7m @ 157.46g/t Au	110	
CBU5507	-79.7	300.1	357.8	52843.431	38110.822	9533.118	LLB_SU2_MFZ	311.5	0.7m @ 70.71g/t Au	49	
CBU5509	-82.9	319.5	304.4	52888.844	38079.386	9810.817	LLB_SU2_MFZ	27.4	2.8m @ 34.96g/t Au	98	2.1m @ 46.21g/t Au from 27.4m
CBU5509	-82.9	319.5	304.4	52887.451	38080.767	9791.265	LLB_SU2_MFZ	47.75	1.4m @ 8.47g/t Au	12	
CBU5509	-82.9	319.5	304.4	52886.645	38081.632	9779.424	LLB_SU2_MFZ	59.65	1.4m @ 7.77g/t Au	11	
CBU5509	-82.9	319.5	304.4	52885.276	38082.991	9760.321	LLB_SU2_MFZ	78.5	2.1m @ 8.89g/t Au	19	
CBU5565	-73.5	331.4	299.5	52883.171	38092.409	9781.194	LLB_SU2_MFZ	60.45	0.6m @ 22.88g/t Au	14	
CBU5565	-73.5	331.4	299.5	52881.628	38095.412	9769.419	LLB_SU2_MFZ	71.4	3.2m @ 3.48g/t Au	11	
CBU5565	-73.5	331.4	299.5	52871.809	38115.777	9693.307	LLB_SU2_MFZ	151.2	2.4m @ 4.85g/t Au	12	
CBU5567	-71.5	318.6	308.6	52881.852	38088.315	9796.813	LLB_SU2_MFZ	44.6	0.7m @ 21.73g/t Au	15	
CBU5567	-71.5	318.6	308.6	52879.334	38091.223	9785.182	LLB_SU2_MFZ	55.8	2.8m @ 5.32g/t Au	15	1.4m @ 9.98g/t Au from 57.2m
CBU5567	-71.5	318.6	308.6	52851.14	38122.887	9662.399	LLB_SU2_MFZ	184.65	4.9m @ 5.06g/t Au	25	
CBU5567	-71.5	318.6	308.6	52835.728	38141.404	9595.984	LLB_SU2_MFZ	256.7	2.1m @ 12.84g/t Au	27	
CBU5567	-71.5	318.6	308.6	52834.13	38143.391	9589.091	LLB_SU2_MFZ	263.7	2.8m @ 21.94g/t Au	61	
CBU5568	-70.2	313.6	317.5	52882.426	38084.654	9808.435	LLB_SU2_MFZ	32.6	0.7m @ 22.23g/t Au	16	
CBU5568	-70.2	313.6	317.5	52804.279	38142.305	9570.838	LLB_SU2_MFZ	288.7	2.1m @ 10.78g/t Au	23	
CBU5569	-69	309.6	330.7	52877.199	38088.071	9795.917	LLB_SU2_MFZ	45.4	2.8m @ 3.42g/t Au	10	
CBU5569	-69	309.6	330.7	52871.135	38092.592	9777.294	LLB_SU2_MFZ	62.7	8.4m @ 2.93g/t Au	25	
CBU5569	-69	309.6	330.7	52842.201	38111.461	9703.915	LLB_SU2_MFZ	147.68	0.7m @ 16.49g/t Au	12	

CBU5571	-66.8	303.9	356.4	52839.512	38111.606	9701.938	LLB_SU2_MFZ	149.6	2.1m @ 5.79g/t Au	12	
CBU5571	-66.8	303.9	356.4	52781.167	38158.47	9554.099	LLB_SU2_MFZ	315.7	1.4m @ 8.53g/t Au	12	
CBU5573	-64.8	299.8	380.1	52871.596	38088.52	9794.51	LLB_SU2_MFZ	49.3	1.2m @ 9.73g/t Au	12	
CBU5461	-34.5	129.8	217.3	52830.575	36561.104	10001.283	NO_FC_MFZ	175.2	1.4m @ 28.1g/t Au	39	
CBU5461	-34.5	129.8	217.3	52833.311	36559.008	9999.063	NO_FC_MFZ	179.3	1.4m @ 36.87g/t Au	52	
CBU5461	-34.5	129.8	217.3	52839.465	36554.342	9994.062	NO_FC_MFZ	187.8	2.8m @ 8.35g/t Au	23	
CBU5462	-38.5	132	214	52833.058	36544.103	9974.62	NO_FC_MFZ	200.8	3.5m @ 4.24g/t Au	15	1.4m @ 9.19g/t Au from 200.8m
CBU5463	-42.3	134.3	215.2	52726.168	36645.851	10089.396	NO_FC_MFZ	15.3	0.7m @ 118.79g/t Au	83	
CBU5463	-42.3	134.3	215.2	52818.656	36562.465	9985.918	NO_FC_MFZ	177.3	0.7m @ 21.62g/t Au	15	
CBU5465	-49.6	139.9	227.3	52798.471	36571.464	9973.708	NO_FC_MFZ	170.7	1.4m @ 8.32g/t Au	12	
CBU5466	-52.9	143	230.4	52784.426	36556.254	9947.119	NO_FC_MFZ	192.8	1.4m @ 41.08g/t Au	58	
CBU5467	-56	146.5	247.8	52788.832	36566.348	9948.095	NO_FC_MFZ	187.9	3.5m @ 18.11g/t Au	63	1.4m @ 41.18g/t Au from 189.3m
CBU5492	-34.6	135.3	262.9	52843.944	36513.07	9974.242	NO_FC_MFZ	225.1	2.8m @ 5g/t Au	14	2.1m @ 6.3g/t Au from 225.8m
CBU5493	-37.5	137.5	262.9	52726.654	36643.175	10089.559	NO_FC_MFZ	16.8	0.7m @ 32.95g/t Au	23	
CBU5494	-40.3	140.1	260.4	52810.429	36532.609	9975.571	NO_FC_MFZ	196.6	0.7m @ 16.96g/t Au	12	
CBU5496	-49.1	149.6	274.3	52742.441	36609.235	10042.662	NO_FC_MFZ	76.2	1.4m @ 30.32g/t Au	42	
CBU5496	-49.1	149.6	274.3	52784.073	36532.892	9952.754	NO_FC_MFZ	199.9	4.2m @ 6.2g/t Au	26	2.8m @ 7.41g/t Au from 201.3m
CBU5524	-32.2	143.2	266	52809.47	36519.876	10004.033	NO_FC_MFZ	187.9	0.7m @ 37.37g/t Au	26	
CBU5526	-38.2	147.7	269.1	52798.653	36517.211	9985.144	NO_FC_MFZ	195.3	0.7m @ 19.52g/t Au	14	
CBP235	3.2	111.8	36	52689.719	36534.569	9841.782	NO_SCA_MFZ	11.4	10.15m @ 3.1g/t Au	32	
CBP236	38.9	111.8	15.9	52673.435	36513.059	9849.469	NO_SCA_MFZ	3.15	7.25m @ 10.24g/t Au	74	
CBP237	47	111.8	19	52670.068	36487.838	9858.018	NO_SCA_MFZ	10	1.4m @ 7.26g/t Au	10	
CBP238	8.6	111.8	33	52677.235	36484.486	9850.408	NO_SCA_MFZ	12.45	5.4m @ 2.08g/t Au	11	
CBU5295	-28.4	102.9	80.5	52793.318	36725.56	9809.669	NO_SCA_MFZ	64.75	2.1m @ 7.31g/t Au	15	
CBU5297	-70	102.9	55.8	52741.725	36739.159	9825.297	NO_SCA_MFZ	14.15	2.85m @ 5.21g/t Au	15	1.3m @ 8.71g/t Au from 14.15m
CBU5382	-66.2	162.5	281.5	52733.013	36609.692	9987.024	NO_SCA_MFZ	122.3	1.4m @ 13.22g/t Au	19	
CBU5593	23.5	130.6	160.9	52674.815	36383.241	9900.542	NO_SCA_MFZ	133.05	1.7m @ 25.4g/t Au	43	
CBU5593	23.5	130.6	160.9	52680.888	36377.702	9903.613	NO_SCA_MFZ	138	9.35m @ 1.35g/t Au	13	

CBU5593	23.5	130.6	160.9	52691.355	36368.163	9908.853	NO_SCA_MFZ	155.05	5.45m @ 22.07g/t Au	120	2.6m @ 36.15g/t Au from 155.05m
CBU5596	8.9	142.1	148	52642.223	36381.798	9862.988	NO_SCA_MFZ	102.8	2m @ 13.57g/t Au	27	1.4m @ 18.27g/t Au from 102.8m
CBU5617	-67	242.1	62.6	52722.958	36734.232	9813.566	NO_SCA_MFZ	24	9.75m @ 5.82g/t Au	57	3.7m @ 12.47g/t Au from 24m
CBU5618	-83.7	232.7	46.3	52731.098	36737.917	9815.353	NO_SCA_MFZ	23.4	2.8m @ 31.3g/t Au	88	
CBU5619	-81.8	268.5	47.7	52722.194	36706.127	9816.665	NO_SCA_MFZ	23.5	3.5m @ 3.19g/t Au	11	
CBU5514	-65.7	93.2	65.6	52740.951	36819.983	9832.765	SOV_SCA1_MFZ	14.47	3.93m @ 6.76g/t Au	27	
CBU5514	-65.7	93.2	65.6	52744.312	36819.68	9825.65	SOV_SCA1_MFZ	22.91	2.8m @ 4.05g/t Au	11	
CBU5515	-80.4	90.8	71.7	52740.582	36821.022	9803.436	SOV_SCA1_MFZ	43	3.5m @ 52.12g/t Au	182	2.8m @ 64.73g/t Au from 43.7m
CBU5520	-65.2	80.1	38.3	52736.395	36757.652	9833.501	SOV_SCA1_MFZ	2.6	5.65m @ 6.47g/t Au	37	
CBU5520	-65.2	80.1	38.3	52745.124	36758.983	9814.531	SOV_SCA1_MFZ	24.95	2.8m @ 3.67g/t Au	10	
CBU5521	-85.6	260.1	47.8	52729.922	36756.324	9812.107	SOV_SCA1_MFZ	23.75	4.9m @ 15.5g/t Au	76	3.5m @ 21.15g/t Au from 25.15m
CBU5534	-44.7	137.8	72.5	52742.833	36808.709	9833.58	SOV_SCA1_MFZ	16.85	5.65m @ 21.48g/t Au	121	2.5m @ 47.43g/t Au from 20m
CBU5535	-56.7	150.6	76.4	52742.695	36800.944	9816.808	SOV_SCA1_MFZ	36.6	0.7m @ 15.69g/t Au	11	
CBU5535	-56.7	150.6	76.4	52744.673	36797.316	9810.669	SOV_SCA1_MFZ	44	0.7m @ 37.67g/t Au	26	
CBU5536	-65	169.3	92.4	52733.65	36809.17	9826.227	SOV_SCA1_MFZ	22.92	1.2m @ 164.38g/t Au	197	
CBU5536	-65	169.3	92.4	52735.195	36799.442	9804.957	SOV_SCA1_MFZ	43.22	7.48m @ 58.97g/t Au	441	1.88m @ 206.68g/t Au from 44.62m
CBU5536	-65	169.3	92.4	52735.799	36795.713	9796.799	SOV_SCA1_MFZ	54.9	2.1m @ 10.41g/t Au	22	
CBU5537	-69.2	190.2	110.6	52729.246	36808.686	9820.27	SOV_SCA1_MFZ	28.95	0.7m @ 14.83g/t Au	10	
CBU5538	-69.9	210.9	131.6	52724.441	36809.477	9814.352	SOV_SCA1_MFZ	34.6	1.4m @ 8.16g/t Au	11	
CBU5542	-13.1	57.1	61.4	52756.592	36771.923	9833.507	SOV_SCA1_MFZ	25.75	0.7m @ 26.3g/t Au	18	
CBU5543	-29	45.6	59.7	52736.596	36761.493	9837.024	SOV_SCA1_MFZ	2.2	3.5m @ 2.82g/t Au	10	
CBU5543	-29	45.6	59.7	52758.364	36782.642	9820.938	SOV_SCA1_MFZ	36	4.6m @ 16.69g/t Au	77	3.9m @ 19.01g/t Au from 36m
CBU5543	-29	45.6	59.7	52761.88	36786.014	9818.385	SOV_SCA1_MFZ	42.75	2.1m @ 14.7g/t Au	31	
CBU5544 A	-44.9	28.3	59.4	52735.487	36763.247	9833.979	SOV_SCA1_MFZ	6	0.7m @ 15.66g/t Au	11	
CBU5544 A	-44.9	28.3	59.4	52746.914	36784.668	9809.609	SOV_SCA1_MFZ	36.3	8.9m @ 3.21g/t Au	29	1.4m @ 13.3g/t Au from 37m
CBU5545	-55.6	6.4	65.4	52733.874	36768.498	9824.744	SOV_SCA1_MFZ	14.8	3.5m @ 34.48g/t Au	121	2.8m @ 42.1g/t Au from 14.8m
CBU5545	-55.6	6.4	65.4	52734.55	36773.803	9817.135	SOV_SCA1_MFZ	25.5	0.7m @ 75.16g/t Au	53	

CBU5545	-55.6	6.4	65.4	52735.41	36780.159	9808.137	SOV_SCA1_MFZ	34.1	5.6m @ 3.22g/t Au	18	
CBU5545	-55.6	6.4	65.4	52737.851	36796.511	9785.354	SOV_SCA1_MFZ	64.7	0.7m @ 19.38g/t Au	14	
CBU5546	-60.2	345	77.4	52727.286	36776.128	9808.825	SOV_SCA1_MFZ	30.8	7m @ 2.51g/t Au	18	
CBU5546	-60.2	345	77.4	52725.829	36782.047	9798.721	SOV_SCA1_MFZ	44.7	2.8m @ 8.14g/t Au	23	1.4m @ 13.83g/t Au from 44.7m
CBU5546	-60.2	345	77.4	52725.27	36784.334	9794.828	SOV_SCA1_MFZ	50.3	0.7m @ 15.63g/t Au	11	
CBU5547	-60.9	326.8	82.3	52727.468	36764.886	9825.722	SOV_SCA1_MFZ	13.4	2.1m @ 33.5g/t Au	70	
CBU5547	-60.9	326.8	82.3	52725.061	36768.601	9818.175	SOV_SCA1_MFZ	18.3	9.8m @ 6.65g/t Au	65	
CBU5547	-60.9	326.8	82.3	52719.55	36777.329	9800.811	SOV_SCA1_MFZ	42.1	2.6m @ 7.56g/t Au	20	
CBU5550	-37.6	56.6	80.4	52764.976	36841.477	9819.193	SOV_SCA1_MFZ	42.9	7.3m @ 3.13g/t Au	23	
CBU5553	-67.2	7.8	125.5	52732.845	36830.044	9830.215	SOV_SCA1_MFZ	18.45	0.55m @ 94.47g/t Au	52	
CBU5553	-67.2	7.8	125.5	52734.096	36840.633	9804.245	SOV_SCA1_MFZ	44.1	5.4m @ 9.24g/t Au	50	
CBU5553	-67.2	7.8	125.5	52734.971	36848.649	9784.801	SOV_SCA1_MFZ	66.8	2.1m @ 23.84g/t Au	50	
CBU5553	-67.2	7.8	125.5	52735.659	36854.347	9771.213	SOV_SCA1_MFZ	81.2	2.8m @ 7.81g/t Au	22	
CBU5554	-68.9	345.7	98.6	52727.975	36836.643	9810.699	SOV_SCA1_MFZ	37.9	2.8m @ 30.26g/t Au	85	
CBU5554	-68.9	345.7	98.6	52726.124	36844.807	9788.26	SOV_SCA1_MFZ	61.1	4.3m @ 3.42g/t Au	15	
CBU5575	-36.8	79.7	53	52750.584	36760.267	9826.919	SOV_SCA1_MFZ	16.9	4.9m @ 10.7g/t Au	52	
CBU5575	-36.8	79.7	53	52756.446	36761.127	9822.569	SOV_SCA1_MFZ	23.9	5.6m @ 4.45g/t Au	25	
CBU5576	-65.7	261.3	62.9	52721.406	36755.906	9818.947	SOV_SCA1_MFZ	17.9	6.3m @ 12.01g/t Au	76	4.9m @ 15.12g/t Au from 17.9m
CBU5576	-65.7	261.3	62.9	52715.772	36755.117	9806.539	SOV_SCA1_MFZ	33.3	2.8m @ 4.49g/t Au	13	
CBU5576	-65.7	261.3	62.9	52709.728	36754.236	9793.554	SOV_SCA1_MFZ	46.6	4.9m @ 2.61g/t Au	13	
CBU5578	-59.3	312.1	93.2	52724.542	36764.459	9823.953	SOV_SCA1_MFZ	12.3	8.4m @ 3.28g/t Au	28	1.4m @ 12.54g/t Au from 18.6m
CBU5578	-59.3	312.1	93.2	52718.518	36769.779	9810.408	SOV_SCA1_MFZ	30.5	3.5m @ 3.86g/t Au	14	
CBU5578	-59.3	312.1	93.2	52711.147	36776.323	9793.873	SOV_SCA1_MFZ	50.1	2.8m @ 6.74g/t Au	19	
CBU5588	-35.3	26.9	95.6	52744.356	36845.439	9830.176	SOV_SCA1_MFZ	30.55	0.6m @ 35.1g/t Au	21	
CBU5589	-43.1	17.1	95.7	52743.291	36857.113	9814.937	SOV_SCA1_MFZ	48.1	0.7m @ 26.03g/t Au	18	
CBU5589	-43.1	17.1	95.7	52750.934	36879.529	9792.9	SOV_SCA1_MFZ	79.3	3m @ 7.26g/t Au	22	
CBU5590	-49.6	7.1	110	52736.026	36854.309	9811.184	SOV_SCA1_MFZ	47.3	1.35m @ 24.99g/t Au	34	
CBU5590	-49.6	7.1	110	52741.002	36888.691	9770.532	SOV_SCA1_MFZ	99	4.9m @ 4.64g/t Au	23	
CBU5591	-53.6	355.7	125.5	52728.794	36875.665	9776.658	SOV_SCA1_MFZ	86.6	2.8m @ 15.9g/t Au	45	1.4m @ 31.05g/t Au from 88m

CBU5603	-66.8	227.9	116.4	52712.397	36805.042	9794.657	SOV_SCA1_MFZ	55.4	4.8m @ 43.34g/t Au	208	4.2m @ 49.28g/t Au from 56m
CBU5614	-3.8	84.9	71.1	52747.829	36759.069	9839.085	SOV_SCA1_MFZ	12.12	1.4m @ 7.53g/t Au	11	
CBU5615	-17.4	83.3	79.6	52766.912	36761.371	9829.679	SOV_SCA1_MFZ	33	0.7m @ 13.67g/t Au	10	
CBU5615	-17.4	83.3	79.6	52792.197	36763.853	9822.695	SOV_SCA1_MFZ	58.5	2.4m @ 13.85g/t Au	33	1.7m @ 18.32g/t Au from 59.2m
CBU5442	-75.4	276.7	182.9	52685.933	37034.732	9705.798	SOV_SU1_MFZ	173	6.5m @ 22.03g/t Au	143	5.1m @ 27.58g/t Au from 173m
CBU5443	-70.2	276.6	248.6	52671.998	37035.822	9708.513	SOV_SU1_MFZ	174.65	5.6m @ 3.32g/t Au	19	
CBU5443	-70.2	276.6	248.6	52667.807	37036.463	9696.594	SOV_SU1_MFZ	188.7	2.8m @ 6.64g/t Au	19	
CBU5443	-70.2	276.6	248.6	52657.471	37038.253	9667.476	SOV_SU1_MFZ	215.8	10.5m @ 3.07g/t Au	32	2.1m @ 10g/t Au from 217.2m
CBU5444	-68.9	276.6	257.8	52639.589	37039.723	9662.742	SOV_SU1_MFZ	230.1	3.5m @ 4.42g/t Au	15	2.8m @ 5.14g/t Au from 230.8m
CBU5444	-68.9	276.6	257.8	52635.716	37040.39	9653.765	SOV_SU1_MFZ	239.9	3.5m @ 12.15g/t Au	43	
CBU5555	-59.4	350.4	195.2	52718.688	37118.776	9731.043	SOV_SU1_MFZ	169.4	1.4m @ 31.5g/t Au	44	
CBU5555	-59.4	350.4	195.2	52718.433	37123.251	9724.296	SOV_SU1_MFZ	175.7	5m @ 3.5g/t Au	18	
CBU5557	-60	339.2	255.7	52697.291	37139.761	9679.263	SOV_SU1_MFZ	225.7	3.75m @ 3.42g/t Au	13	
CBU5485	-67.79	320.5	296.5	52683.293	37085.424	9695.437	SOV_SU2_MFZ	192.4	4.2m @ 7.16g/t Au	30	2.1m @ 13.15g/t Au from 193.1m
CBU5485	-67.79	320.5	296.5	52681.443	37087.621	9688.292	SOV_SU2_MFZ	201.5	1.4m @ 21.25g/t Au	30	
CBU5485	-67.79	320.5	296.5	52660.517	37112.471	9607.478	SOV_SU2_MFZ	288.6	1.4m @ 27.92g/t Au	39	
CBU5487	-65.06	313.2	278.4	52649.208	37106.026	9649.71	SOV_SU2_MFZ	250.3	3.5m @ 47.7g/t Au	167	
CBU5491	-61.17	300	293.3	52707.6	37044.038	9827.025	SOV_SU2_MFZ	55.5	0.7m @ 24.57g/t Au	17	
CBU5580	-78.1	333.3	173.6	52718.949	37050.375	9757.058	SOV_SU2_MFZ	119.8	2.8m @ 11.21g/t Au	31	1.4m @ 21.6g/t Au from 121.2m
CBU5584	-72	299.7	231	52673.968	37065.427	9677.596	SOV_SU2_MFZ	208.2	2.1m @ 5.59g/t Au	12	

Note: Significant Intercepts are considered those above 10 gram-metres, minimum thickness of 0.5 m (downhole), and minimum grade of 1.0 g/t Au. Intercepts include up to 2 m internal dilution and no external dilution. No top-cuts were applied in determining the significant intervals. Intervals are downhole lengths (m). Drill core is NQ. Assays advising the intercepts were returned from 1 April 2019 – 30 June 2020, are full core samples and have a minimum length 0.4 m. Assays results are determined at Gekko Systems – an independent ISO accredited laboratory. CRMs are inserted randomly within assay batches (average 1:20) and blanks are inserted randomly and following samples expected to return high grades (visible gold observed). Sample and assay management uses third-party database software (acQuire) and significant intervals are determined with third-party mining software (Maptek Vulcan 11.0.1).