CIRCULAR DATED 8 MARCH 2021

THIS CIRCULAR IS IMPORTANT AND REQUIRES YOUR IMMEDIATE ATTENTION.

If you are in any doubt in relation to the contents of this Circular or as to the action you should take, you should consult your stockbroker, bank manager, accountant, solicitor, tax advisor or other professional adviser immediately.

This Circular, together with the Notice of Extraordinary General Meeting ("**EGM**") and the accompanying Proxy Form have been made available on SGXNet and the Company's website at http://investor.gear.com.sg/circulars.html. **Printed copies of this Circular together with the Notice of EGM and the accompanying Proxy Form will NOT be despatched to Shareholders.**

If you have sold or transferred all your shares in the capital of Golden Energy and Resources Limited (the "**Company**"), you should immediately inform the purchaser or transferee or to the bank, stockbroker or other agent through whom the sale or transfer was effected for onward notification to the purchaser or transferee that this Circular, together with the Notice of EGM and the accompanying Proxy Form, could be accessed via SGXNet and the Company's website at http://investor.gear.com.sg/circulars.html.

The Singapore Exchange Securities Trading Limited (the "**SGX-ST**") assumes no responsibility for the correctness of any of the statements made, reports contained or opinions expressed in this Circular. The approval of the SGX-ST shall not be taken as an indication of the merits of the Proposed Transactions (as defined in this Circular), the Company and/or its subsidiaries.

golden energy and resources

GOLDEN ENERGY AND RESOURCES LIMITED

(Incorporated in the Republic of Singapore)
(Company Registration No. 199508589E)

CIRCULAR TO SHAREHOLDERS

in relation to

(I) THE PROPOSED RATIFICATION OF THE A$70 MILLION INVESTMENT INTO RAVENSWOOD GOLD GROUP PTY LTD AND PROPOSED JOINT VENTURE WITH RAVEN GOLD NOMINEE PTY LTD (AS TRUSTEE ON BEHALF OF INVESTORS MANAGED OR ADVISED BY EMR CAPITAL MANAGEMENT LIMITED);

(II) THE PROPOSED INVESTMENT OF UP TO AN ADDITIONAL A$75 MILLION INTO RAVENSWOOD GOLD GROUP PTY LTD; AND

(III) THE PROPOSED DIVERSIFICATION OF THE COMPANY'S EXISTING BUSINESS.

IMPORTANT DATES AND TIMES

Due to the current COVID-19 situation in Singapore, shareholders will NOT be allowed to attend the Extraordinary General Meeting ("**EGM**") in person. The EGM will be convened and held by electronic means. Shareholders MUST appoint the Chairman of the EGM as their proxy to attend, speak and vote on their behalf at the EGM.

Last date and time for lodgement of Proxy Form	:	21 March 2021 at 3.00 p.m.
Date and time of Extraordinary General Meeting	:	24 March 2021 at 3.00 p.m.
Place of Extraordinary General Meeting	:	The EGM will be held by electronic means

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PROXY FORM

In this Circular, the following definitions apply throughout unless otherwise stated:

"**1H2019**"	:	The six month period ending 30 June 2019
"**1H2020**"	:	The six month period ending 30 June 2020
"**A$**"	:	The lawful currency for the time being of Australia
"**Bidco**"	:	Ravenswood Gold Pty Ltd (formerly known as Mining Gold Investment Pty Ltd)
"**Board**"	:	The board of Directors
"**Business Days**"	:	Means a day other than a Saturday, Sunday or a public holiday in Jakarta, Melbourne, Brisbane or Singapore
"**CDP**"	:	The Central Depository (Pte) Limited
"**Change of Control**"	:	In respect of a shareholder which is not an individual, if a change occurs after the date of the Shareholders' Deed such that a new person or persons directly or indirectly have the power to: (a) direct the management or policies of the shareholder; or (b) control the membership of the board of the shareholder, whether or not the power is legally binding or arises out of formal or informal arrangements, provided that notwithstanding paragraphs (a) and (b) above: (c) a Change of Control shall be taken to have occurred in respect of GEAR SPV if GEAR SPV ceases to be a wholly owned subsidiary of the Company; and (d) a Change of Control shall be taken to have occurred in respect of Raven Gold if the beneficial owners of EMR Capital Resources Fund II, LP and their affiliates cease to own the beneficial interest in at least 30% of the issued securities of Topco; and further provided that the following shall not constitute a Change of Control: (e) in the case of Raven Gold: (i) the acquisition of a direct or indirect interest (including, without limitation, a beneficial interest) in Raven Gold by (A) any fund, vehicle or investment portfolio managed or advised by EMR Capital Management Limited or its affiliates, or (B) any limited partner or co-investor of a person listed in (A); (ii) any change in the composition of the limited partners of a fund managed or advised by EMR Capital Management Limited or its affiliates, which holds a direct or indirect interest in Raven Gold, if the fund is managed by an EMR Capital entity at the relevant time; and

(iii) any transfer by Raven Gold or a fund managed by EMR Capital Management Limited to a special purpose vehicle or fund managed or advised by an EMR Capital Management Limited entity,

provided that, in each case, at all times, the beneficial owners of EMR Resources Fund II, LP and their affiliates retain the beneficial interest in no less than 30% of the issued securities of Topco; and

(f) in the case of the Company or GEAR SPV, any transfer by a party nominated by the Company pursuant to the Subscription Agreement who satisfies the relevant requirements of the Shareholders' Deed to the Company or GEAR SPV

"**CIL**" : Carbon-in-leach, which is a gold extraction process

"**Companies Act**" : The Companies Act, Chapter 50 of Singapore

"**Company**" or "**GEAR**" : Golden Energy and Resources Limited

"**Corporations Act**" : Corporations Act 2001 (Cth) of Australia

"**Default Call Option**" : Has the meaning given to it in paragraph 2.6.3 of this Circular

"**Development Plan**" : Has the meaning given to it in paragraph 2.1 of this Circular

"**Directors**" : The directors of the Company for the time being

"**DSS**" : PT Dian Swastatika Sentosa Tbk

"**EGM**" : The extraordinary general meeting of the Company, notice of which is given on page N-1 of this Circular

"**EMR**" : Raven Gold, together with its affiliates

"**EPS**" : Earnings per share

"**GAR**" : Gross As Received

"**Group**" : The Company and its subsidiaries

"**Insolvent**" : A person is Insolvent if:

(a) it is (or states that it is) an insolvent under administration or insolvent (each as defined in the Corporations Act);

(b) it is in liquidation, in provisional liquidation, under administration or wound up or has had a Controller (as defined in the Corporations Act) appointed to its property;

(c) it is subject to any arrangement, assignment, moratorium or composition, protected from creditors under any statute or dissolved (in each case, other than to carry out a reconstruction or amalgamation while solvent on terms approved by the other parties to this deed);

(d) an application or order has been made (and in the case of an application, it is not stayed, withdrawn or dismissed within 30 days), resolution passed, proposal put forward, or any other action taken, in each case in connection with that person, which is preparatory to or could result in any of (a), (b) or (c) above;

(e) it is taken (under section 459F(1) of the Corporations Act) to have failed to comply with a statutory demand;

(f) it is the subject of an event described in section 459C(2)(b) or section 585 of the Corporations Act (or it makes a statement from which another party to the Shareholders' Deed reasonably deduces it is so subject);

(g) it is otherwise unable to pay its debts when they fall due; or

(h) something having a substantially similar effect to (a) to (g) happens in connection with that person under the law of any jurisdiction

"**JORC Code**"	:	The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition)
"**Koz**"	:	Thousand ounces
"**Latest Practicable Date**"	:	The latest practicable date prior to the printing of this Circular, being 2 March 2021
"**Listing Manual**"	:	The Listing Manual of the SGX-ST
"**Mtpa**"	:	Million tonne per annum
"**NTA**"	:	Net tangible assets
"**Oz**"	:	Ounce
"**Proposed Transactions**"	:	Has the meaning given to it in paragraph 1.1 of this Circular
"**Raven Gold**"	:	Raven Gold Nominee Pty Ltd (as trustee on behalf of investors managed or advised by EMR Capital Management Limited)
"**Ravenswood Group**"	:	Topco, Ravenswood Gold Holdings Pty Ltd and Bidco
"**Securities Account**"	:	Securities accounts maintained by Depositors with CDP, but not including securities sub-accounts
"**SGX-ST**"	:	Singapore Exchange Securities Trading Limited
"**Shareholder Undertaking**"	:	Has the meaning given to it in paragraph 2.8 of this Circular
"**Shareholders**"	:	Registered holders of Shares, except that where the registered holder is CDP, the term "Shareholders" shall, where the context admits, mean the Depositors whose Securities Accounts are credited with Shares
"**Shares**"	:	Ordinary shares in the capital of the Company

"**S$**" or "**Singapore Dollar**"	:	The lawful currency for the time being of the Republic of Singapore
"**Topco**"	:	Ravenswood Gold Group Pty Ltd (formerly known as Mining Gold Group Pty Ltd)
"**VALMIN Code**"	:	Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (2015 Edition), prepared by the VALMIN Committee, a joint committee of the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists and the Mineral Industry Consultants Association with the participation of the Australian Securities and Investment Commission, the Australian Stock Exchange Limited, the Minerals Council of Australia, the Petroleum Exploration Society of Australia, the Securities Institute of Australia and representatives from the Australian finance sector
"**US$**" or "**US Cent**"	:	The lawful currency for the time being of the United States of America
"**%**" or "**per cent.**"	:	Per centum or percentage

Unless the context otherwise requires:

(i) the terms "**depositor**", "**depository register**" and "**depository agent**" shall have the meanings ascribed to them respectively in Section 81SF of the Securities and Futures Act and the terms "**subsidiary**", "**related company**" and "**substantial shareholder**" shall have the meanings ascribed to them in Sections 5, 6 and 81 of the Companies Act respectively;

(ii) the terms ""**associate**" and "**associated company**" shall have the meanings ascribed to them in the Section entitled "Definitions and Interpretation" of the Listing Manual;

(iii) words importing the singular shall, where applicable, include the plural and *vice versa*. Words importing the masculine gender shall, where applicable, include the feminine and neuter genders. Unless the context otherwise requires, any references to persons shall include individuals, corporate bodies (wherever incorporated), unincorporated associations and partnerships;

(iv) any reference in this Circular to any enactment is a reference to that enactment as for the time being amended or re-enacted. Any word defined under the Companies Act, the Securities and futures Act, the Listing Manual or any modification thereof and not otherwise defined in this Circular shall, where applicable, have the same meaning assigned to it under the Companies Act, the Securities and Futures Act, the Listing Manual or any modification thereof, as the case may be, unless the context otherwise requires;

(v) any reference to a time of day in this Circular is made by reference to Singapore time unless otherwise stated;

(vi) any discrepancies between the figures listed and the totals thereof are due to rounding. Accordingly, figures shown as totals in this Circular may not be an arithmetic aggregation of the figures that precede them; and

(vii) the headings in this Circular are inserted for convenience only and shall be ignored in construing this Circular.

In this Circular, unless otherwise stated, conversions of A$ into S$ are based on an exchange rate of A$1.00 to S$1.0335, and conversions of US$ into S$ are based on an exchange rate of US$1.00 to S$1.3314. The exchange rate is for reference only. No representation is made by the Company that any amount in A$ or US$ has been, could have been or could be converted at the above rate or at all.

CAUTIONARY NOTE ON FORWARD LOOKING STATEMENTS

All statements contained in this Circular, statements made in press releases and oral statements that may be made by the Company, the Group, their directors, executive officers or employees acting on their behalf, that are not statements of historical fact, constitute "forward looking statements". Some of these statements can be identified by words that have a bias towards, or are, forward-looking such as "anticipate", "believe", "could", "estimate", "expect", "forecast", "if", "intend", "may", "plan", "possible", "probable", "project", "should", "will" and "would" or similar words. However, Shareholders should note that these words are not the exclusive means of identifying forward looking statements. All statements regarding the Company's and the Group's expected financial position, business strategies, plans and prospects are forward looking statements.

These forward looking statements and other matters discussed in this Circular regarding matters that are not historical fact are only predictions. These forward looking statements involve known and unknown risks, uncertainties and other factors that may cause the Company's and the Group's actual future results, performance or achievements to be materially different from any future results, performance or achievements expected, expressed or implied by such forward looking statements.

Given the risks and uncertainties that may cause the Company's and the Group's actual future results, performance or achievements to be materially different from that expected, expressed or implied by the forward looking statements in this Circular, undue reliance must not be placed on these statements.

The Company, the Group, their respective directors and executive officers are not representing or warranting to you that the actual future results, performance or achievements of the Company and the Group will be as those discussed in those statements. The respective actual future results may differ materially from those anticipated in these forward looking statements as a result of the risks faced by us. Further, the Company and the Group disclaim any responsibility for updating any of those forward looking statements or publicly announcing any revisions to those forward looking statements to reflect their future developments, events or circumstances.

GOLDEN ENERGY AND RESOURCES LIMITED

(Incorporated in the Republic of Singapore)
Company Registration No. 199508589E

Directors	**Registered Office**
Mr. Fuganto Widjaja (Executive Chairman)	20 Cecil Street
Mr. Dwi Prasetyo Suseno (Executive Director; Group Chief Executive Officer)	#05-05 PLUS
Mr. Mochtar Suhadi (Executive Director)	Singapore 049705
Mr. Mark Zhou You Chuan (Executive Director)	
Mr. Lim Yu Neng Paul (Lead Independent Director)	
Mr. Irwandy Arif (Independent Non-Executive Director)	
Mr. Lew Syn Pau (Independent Non-Executive Director)	
Mr. Djuangga Mangasi Mangunsong (Independent Non-Executive Director)	

8 March 2021

To: The Shareholders of Golden Energy and Resources Limited

Dear Sir/Madam

(I) THE PROPOSED RATIFICATION OF THE A$70 MILLION INVESTMENT INTO RAVENSWOOD GOLD GROUP PTY LTD AND PROPOSED JOINT VENTURE WITH RAVEN GOLD NOMINEE PTY LTD (AS TRUSTEE ON BEHALF OF INVESTORS MANAGED OR ADVISED BY EMR CAPITAL MANAGEMENT LIMITED);

(II) THE PROPOSED INVESTMENT OF UP TO AN ADDITIONAL A$75 MILLION INTO RAVENSWOOD GOLD GROUP PTY LTD; AND

(III) THE PROPOSED DIVERSIFICATION OF THE COMPANY'S EXISTING BUSINESS.

1. INTRODUCTION

1.1 Purpose of Circular

The Board wishes to convene the EGM to seek the approval of the Shareholders for the following (collectively, the "**Proposed Transactions**"):

(i) (Ordinary Resolution 1) the proposed ratification of the A$70 million investment into Ravenswood Gold Group Pty Ltd and proposed joint venture with Raven Gold Nominee Pty Ltd (as trustee on behalf of investors managed or advised by EMR Capital Management Limited) (*i.e.*, the GEAR Initial Investment, as defined in paragraph 2.1 below);

(ii) (Ordinary Resolution 2) the proposed investment of up to an additional A$75 million into Ravenswood Gold Group Pty Ltd (*i.e.*, the GEAR Additional Investment, as defined in paragraph 2.1 below); and

(iii) (Ordinary Resolution 3) the proposed diversification of the Company's existing business (*i.e.*, the Proposed Diversification, as defined in paragraph 6.1 below).

By approving Ordinary Resolution 1 and Ordinary Resolution 2, Shareholders are deemed to have approved the Company's entry into of the terms of the Shareholders' Deed (as described in paragraph 2.6.1 of this Circular), and the performance of the Company's obligations under the Drag Along Right[1] (as described in paragraph 2.6.2 of this Circular) and the Default Call Option[2] (as described in paragraph 2.6.3 of this Circular) pursuant to the Shareholders' Deed.

Notwithstanding the above, Shareholders should note that if the exercise of any of the Company's rights (for example, the pre-emptive right, tag-along right and right of first offer) under the Shareholders' Deed will require the Company to seek Shareholders' approval under the rules of the Listing Manual (for example, under Rule 1006), the Company intends to first seek Shareholders' approval as is appropriate and required under the rules of the Listing Manual prior to the Company exercising its rights and/or completing the acquisition or disposal of interests in the Ravenswood Group pursuant to the exercise of such rights.

See paragraphs 2.6.1, 2.6.2 and 2.6.3 of this Circular for more information on the terms of the Shareholders' Deed, the Drag Along Right and the Default Call Option, respectively.

The purpose of this Circular is to explain the reasons for, and to provide Shareholders with relevant information relating to the Proposed Transactions, and to seek Shareholders' approval for the same at the EGM to be convened.

The SGX-ST assumes no responsibility for the contents of this Circular, including the accuracy of any of the statements or opinions made or reports or letters contained in this Circular.

1.2 Legal Adviser

Latham & Watkins LLP is the legal adviser to the Company as to Singapore law in relation to the Proposed Transactions.

2. THE PROPOSED RATIFICATION OF THE A$70 MILLION INVESTMENT INTO RAVENSWOOD GOLD GROUP PTY LTD AND PROPOSED JOINT VENTURE WITH RAVEN GOLD NOMINEE PTY LTD (AS TRUSTEE ON BEHALF OF INVESTORS MANAGED OR ADVISED BY EMR CAPITAL MANAGEMENT LIMITED)

2.1 Overview

On 15 January 2020, the Company announced that its wholly-owned subsidiary, Golden Investments (Australia) II Pte. Ltd. ("**GEAR SPV**"), had entered into a joint venture (the "**Joint Venture**") with Raven Gold (together with its affiliates, "**EMR**") to establish a joint venture company, Ravenswood Gold Group Pty Ltd (formerly known as Mining Gold Group Pty Ltd) ("**Topco**"), to (through Topco's wholly-owned indirect subsidiary, Ravenswood Gold Pty Ltd (formerly known as Mining Gold Investment Pty Ltd) ("**Bidco**")) acquire the Ravenswood gold mine from Carpentaria Gold Pty Ltd ("**Carpentaria Gold**") and its parent company, Resolute Mining Limited (the "**Ravenswood Acquisition**", and the announcement dated 15 January 2020, the "**Joint Venture Announcement**").

In connection with the Ravenswood Acquisition, the Company entered into a subscription agreement on 14 January 2020 with GEAR SPV, Raven Gold and Topco (the "**Subscription Agreement**"), and the Company and EMR issued equity commitment letters (such equity commitment letters issued by GEAR, the "**GEAR Commitment Letters**"). Pursuant to the GEAR Commitment Letters, the Company committed to provide a total capital contribution to Topco of up to A$70 million (the "**GEAR Initial Investment**").

[1] Under Chapter 10 of the Listing Manual, an option to acquire or dispose of assets by the Company which is (i) not exercisable at its discretion, or (ii) exercisable at its discretion and the exercise terms are fixed at the time of grant, Shareholders' approval will be required at the time of grant of the option. Rule 1019(1) of the Listing Manual applies to the Drag Along Right (when exercised by Raven Gold) as such right is not subject to the discretion of the Company.

[2] Rule 1019(1) of the Listing Manual applies to the Default Call Option (when exercised by Raven Gold) as such option is not subject to the discretion of the Company.

All capital contributions in Topco were made on a pro-rata basis by both shareholders, GEAR and EMR. The capital contributions referred to above were to enable Topco and Bidco to (i) meet its payment obligations of A$50 million payable by Bidco on completion of the Ravenswood Acquisition ("**Ravenswood Completion**") (subject to working capital and net debt adjustments post-completion) and (ii) fund the development of the Ravenswood gold mine and other working capital needs. As of the date of this Circular, GEAR has funded all of the GEAR Initial Investment. EMR has similarly funded its share of the capital contribution of A$70 million in Topco at the same time when GEAR funded its capital contribution in Topco.

In connection with the GEAR Initial Investment, the Company, Topco, Raven Gold and GEAR SPV also entered into a shareholders' deed on 14 January 2020 (as amended on 26 March 2020) in relation to the respective rights and obligations of the parties with respect to the ownership of shares of Topco ("**Shareholders' Deed")**. See paragraph 2.6.1 of this Circular for a summary of the material terms of the Shareholders' Deed.

On 31 March 2020, the Company announced the Ravenswood Completion. Following completion, Bidco now owns the Ravenswood gold mine. Please refer to paragraph 3.7 of this Circular for the shareholding structure of Bidco.

Copies of the Joint Venture Announcement and the announcement of the Ravenswood Completion by the Company can be found on the website of the SGX-ST at www.sgx.com.

Since the Ravenswood Completion, Bidco has conducted feasibility studies in respect of the Ravenswood gold mine and have (with the advice of technical consultants) prepared a draft development plan ("**Development Plan**") that contemplates each of the Company and EMR investing up to an additional A$75 million in Topco (such investment by the Company, the "**GEAR Additional Investment**"). The Company has not committed to fund the GEAR Additional Investment, and will only do so if Shareholder approval to Ordinary Resolution 2 is obtained. See paragraph 3 of this Circular for more details on the Development Plan and the GEAR Additional Investment.

2.2 Application of Chapter 10 of the Listing Manual to the GEAR Initial Investment

The GEAR Initial Investment constituted a discloseable transaction for the Company as defined in Chapter 10 of the Listing Manual as:

(i) although the net losses attributable to the Assets acquired in respect of the GEAR Initial Investment compared with the Group's net profits was a negative figure, the absolute relative figure under Rule 1006(b) was less than 5%, and net loss attributable to the Assets is less than 5% of the consolidated net profits of the Group (taking into account only the absolute values); and

(ii) the value of GEAR Initial Investment exceeded 5% but was not more than 20% of the Company's market capitalisation as at 13 January 2020, being the last market day preceding the date of the Subscription Agreement on which the Shares were traded on the SGX-ST, at a volume weighted average price of S$0.1916 for each Share.

Please refer to paragraph 5 of this Circular for more information on the computations of the GEAR Initial Investment under Rule 1006 of the Listing Manual, which were also set out in the Joint Venture Announcement made by the Company on 15 January 2020.

Pursuant to the Company's consultation with the SGX-ST, the Company announced on 26 March 2020 (such announcement, the "**26 March Announcement**") that:

(i) the SGX-ST informed the Company that it was not required to obtain approval from the Shareholders for the GEAR Initial Investment pursuant to Rule 1007(1) read with Practice Note 10.1 of the Listing Manual subject to the Company issuing an announcement via the SGXNet setting forth the matters announced in the 26 March Announcement; and

(ii) the SGX-ST may aggregate any increase in investment (including any form of financial assistance and corporate guarantee) by the Group in Topco or its subsidiaries with the GEAR Initial Investment.

Notwithstanding the above, the Company is seeking a ratification by Shareholders for GEAR Initial Investment as the Company would like the Shareholders to consider the GEAR Initial Investment and GEAR Additional Investment holistically, including the way in which the terms of the Shareholders' Deed would apply to the shares in Topco obtained by GEAR SPV in the GEAR Initial Investment and GEAR Additional Investment.

As detailed in paragraph 2.8 of this Circular, DSS, a majority shareholder of the Company who holds a direct 86.87% interest in the Company, has on 31 January 2020 provided a Shareholder Undertaking (as defined below) to vote in favour of, among other things, the GEAR Initial Investment, any additional funding to be provided by GEAR SPV beyond the amount of the GEAR Initial Investment or any corporate action taken by GEAR pursuant to the Shareholders' Deed to transfer or acquire further securities in Topco, that is proposed for shareholder approval at a general meeting of the Company.

If the GEAR Additional Investment is not duly ratified by Shareholders, this would be a breach by the Company of its obligations under the Shareholders Deed, constituting a Default Event under the Shareholders' Deed for which EMR will be entitled to exercise its Default Call Option to acquire the Company's securities in Topco, at a 5% discount to the fair market value of these securities (as described in paragraph 2.6.3 of this Circular). In addition, DSS would be in breach of its Shareholder Undertaking as noted above.

2.3 Information on EMR, Topco, the Ravenswood Gold Mine and the Assets

2.3.1 EMR

EMR is a specialist mining private equity fund which invests in global resource projects and companies, primarily focusing on copper, gold, hard coking coal and potash. Excluding Ravenswood gold mine, as of the date of this Circular, EMR is currently the owner or major investor of eight mines and projects globally, including the producing Capricorn Copper and Kestrel Coal Resources mines in Queensland, the Golden Grove zinc/copper/precious metals mine in Western Australia and the Lubambe copper mine in Zambia, and employs over 4,800 staff and contractors around the world.

2.3.2 Topco

Topco is a private limited company incorporated in Australia and its principal activities are investment holding.

Topco was established to form the Joint Venture and to (through Bidco) undertake the Ravenswood Acquisition and operate and develop the Ravenswood gold mine. As at the date of this Circular, each of GEAR SPV and Raven Gold have a 50% interest in Topco.

As at the date of this Circular, Topco has no other assets or liabilities other than its nominal share capital (in the form of equity shares and redeemable preference shares issued equally to GEAR SPV and EMR), its indirect shareholding in Bidco and the Ravenswood gold mine.

2.3.3 Ravenswood Gold Mine

The Ravenswood gold mine is located in Queensland, Australia, approximately 130 kilometers south of Townsville. The Ravenswood gold mine is an operating mine which produced approximately 54,000 ounces of gold for the year ended 31 December 2019[3]. The Ravenswood gold mine had a total gold resource of 3.74 million ounces and a total gold reserve of 2.60 million ounces as at 30 September 2020.

[3] Based on information obtained from public filings made by Resolute Mining.

The Ravenswood gold mine is currently treating accumulated low grade stockpiles and mining ore at the Buck Reef West pit. The Ravenswood gold mine comprises developed infrastructure which includes triple stage crushing, ball mill grinding, and CIL processing of 5 Mtpa. The two principal areas of Ravenswood gold mine that have been mined in the past are the Buck Reef West pit and the Sarsfield-Nolans pit.

Bidco commissioned SD2 Pty Ltd, which is an independent qualified person in accordance with the requirements of the Listing Manual, to prepare the independent qualified person's reports on the resources of the Buck Reef West pit and the Sarsfield-Nolans pit in accordance with the JORC Code (the "**SD2 Reports**").[4]

Rule 210(9)(b) of the Listing Manual provides that the effective date of the qualified person's report must not be more than six months from the date of lodgement of the offer document. Each of the SD2 Reports is dated 27 November 2020 and has an effective date of 30 September 2020 (the resource statements set out in the SD2 Reports similarly have an effective date of 30 September 2020). As the effective date of each of the SD2 Reports is a date falling less than six months from the date of this Circular, the SD2 Reports therefore meet the requirement under Rule 210(9)(b) of the Listing Manual.

Based on the SD2 Reports:

(a) as at 30 September 2020, the estimated gold resources of the Buck Reef West pit are 0.90 million ounces; and

(b) as at 30 September 2020, the estimated gold resources of the Sarsfield-Nolans pit are 2.84 million ounces.

The following table, taken from the SD2 Reports, summarises the estimated amount of Measured, Indicated and Inferred gold resources within the Buck Reef West pit as at 30 September 2020.

Open Pit Above 0.3 g/t			
Classification	**Kilotonnes**	**Grade (Au g/t)**	**Ounces (koz)**
Measured	–	–	–
Indicated	25,050.0	1.03	833.0
Inferred	1,170.0	1.11	42.0
Total Open Pit Resources	**26,220.0**	**1.04**	**875.0**
Underground Above 3.5 g/t			
Classification	**Kilotonnes**	**Grade (Au g/t)**	**Ounces (koz)**
Measured	–	–	–
Indicated	91.0	4.97	14.6
Inferred	65.0	4.71	9.8
Total Underground Resources	**156.0**	**4.86**	**24.4**
Total Measured and Indicated	**25,141.0**	**1.11**	**899.4**

Note:

(1) Rounding errors may occur.

[4] The report in relation to the Buck Reef West pit and the Sarsfield-Nolans pit are set out in Appendix A1 and Appendix A2, respectively, to this Circular.

The following table summarises the estimated amount of Measured, Indicated and Inferred gold resources within the Sarsfield-Nolans pit as at 30 September 2020.

Classification	Kilotonnes	Grade (Au g/t)	Ounces (koz)
Measured	32,213.0	0.71	739.9
Indicated	71,354.2	0.65	1,498.2
Inferred	29,394.2	0.63	597.8
Grand Total	**132,961.4**	**0.66**	**2,835.9**

Note:

(1) Rounding errors may occur.

For the purposes of the tables above, "Measured", "Indicated" and "Inferred" refer to the classifications of mineral resources under the JORC 2012, and are defined as follows:

(i) A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve.

(ii) An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.

(iii) An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mine.

Based on the SD2 Reports, as at 30 September 2020, the estimated ore resources for the Buck Reef West Pit and the Sarsfield-Nolans Pit, are 0.90 million ounces and 2.84 million ounces respectively, and 3.74 million ounces collectively.

Bidco commissioned Australian Mine Design and Development Pty Ltd, which is an independent qualified person in accordance with the requirements of the Listing Manual, to prepare the independent qualified person's reports on the ore reserves of the Buck Reef West pit and the Sarsfield-Nolans pit in accordance with the JORC Code (the "**AMDAD Report**" and together with the SD2 Reports, the "**Independent Qualified Person's Reports**").[5]

Rule 210(9)(b) of the Listing Manual provides that the effective date of the qualified person's report must not be more than six months from the date of lodgement of the offer document. The AMDAD Report is dated 11 September 2020 and has an effective date of 11 September 2020, the effective date being a date falling less than six months from the date of this Circular. The AMDAD Report therefore meets the requirement under Rule 210(9)(b) of the Listing Manual.

Based on the AMDAD Report, as at 11 September 2020, the estimated ore reserves for the Buck Reef West Pit and the Sarsfield-Nolans Pit, are 0.70 million ounces and 1.90 million ounces respectively, and 2.60 million ounces collectively.

Since the respective effective dates of the Independent Qualified Person's Reports, there have been no changes to the resources and reserves as of 31 December 2020.

The following table, taken from the AMDAD Report, summarises the estimated amount of Proved, Probable and total ore reserves within the Buck Reef West Pit and the Sarsfield-Nolans pit as at 11 September 2020. The ore reserves do not include substantial low-grade stockpiles left from the previous open cut mine which are currently being reclaimed and processed.

Classification	**Million Tonnes**	**Grade (Au g/t)**	**Au koz[(1)]**
Proved	34	0.7	700
Probable	81	0.7	1,900
Total Ore	**115**	**0.7**	**2,600**

Notes:

(1) Au koz refers to contained gold in the mined ore before process recoveries are applied.

(2) Rounding errors may occur.

Please refer to Appendix A to this Circular for further details including the methodologies and assumptions used by SD2 Pty Ltd and Australian Mine Design and Development Pty Ltd in arriving at the above estimates.

There have been no material changes since the effective date of the SD2 Reports set out in Appendix A1 and Appendix A2 of this Circular.

There have been no material changes since the effective date of the AMDAD Report set out in Appendix A3 of this Circular.

The Ravenswood gold mine was purchased from Resolute Mining through Carpentaria Gold. Resolute Mining is an explorer, developer and operator of gold mines in Australia and Africa. As at the date of this Circular, Resolute Mining owns three gold mines and is listed both on the Australian Securities Exchange (ASX) and the London Stock Exchange (LSE).

2.3.4 Assets

As part of the Ravenswood Acquisition, Bidco also purchased from Carpentaria Gold all the assets, tenements, mining information, infrastructure, plant and equipment, inventory, regulatory approvals, contractual rights and other assets associated with the Ravenswood gold mine (collectively, the "**Assets**").

[5] The report is set out in Appendix A3 to this Circular.

2.4. Value of the Assets Acquired under the GEAR Initial Investment

Based on the unaudited financial statements of Carpentaria Gold for the financial year ended 31 December 2019, the book value and the NTA value of the Assets were approximately A$90.76 million and approximately A$61.03 million, respectively, and the net loss before income tax, minority interests and extraordinary items attributable to the Assets was approximately A$5.79 million[6].

Based on the latest unaudited consolidated financial statements of Topco for the financial year ended 31 December 2020[7], the book value of, and the net loss attributable to, the Assets post-acquisition were approximately A$80.1 million and approximately A$14.3 million, respectively. The net loss was primarily attributable to transaction expenses incurred by the Ravenswood Group in connection with the acquisition of the Ravenswood gold mine.

2.5 Principal Terms and Completion of the Ravenswood Acquisition

On 31 March 2020, the Company announced the Ravenswood Completion. On the Ravenswood Completion, Bidco provided Carpentaria Gold with the following consideration for the purchase of the Assets:

(i) payment of an amount in cash equal to A$51.6 million (the "**Completion Payment**") which was paid by Bidco on Ravenswood Completion;

(ii) issuance of a promissory note with a face value of A$50 million (the "**Vendor Financing Promissory Note**") to Carpentaria Gold; and

(iii) issuance of the following instruments (the "**Contingent Instruments**") :

(a) a promissory note for the payment by Bidco of a gold price contingent payment (up to a maximum amount of A$50 million depending on the average gold prices over a four-year period) to Carpentaria Gold if Bidco's gold production exceeds certain specified thresholds or upon the occurrence of certain distributions or disposals of the assets or shares of a member of the Ravenswood Group ("**Liquidity Event**"); and

(b) a promissory note for the payment by Bidco of an upside sharing payment (up to a maximum amount of A$150 million depending on the investment outcomes of the Ravenswood gold mine for EMR and Company consortium) to Carpentaria Gold upon the occurrence of a Liquidity Event.

The aggregate consideration was arrived at on a willing-buyer and willing-seller basis and after negotiations between the parties, taking into account the operational and financial performance of, and development outlook for, the Ravenswood gold mine.

Topco and Bidco utilised funding from the cash contributed by GEAR SPV and EMR to Topco (as detailed in paragraph 2.1 above) to satisfy the Completion Payment. The Ravenswood Group intends to utilise its financial resources that are generated from the operation of the Ravenswood gold mine and/or equity proceeds received by the Group upon a Liquidity Event to satisfy the payments due under the Vendor Financing Promissory Note and the Contingent Instruments.

As of the date of this Circular, GEAR has funded all of the GEAR Initial Investment.

[6] The net losses attributable to the Assets acquired in respect of the GEAR Initial Investment of US$2.03 million for the financial year ended 31 December 2019 were due to the Ravenswood gold mine's operation of the underground mine Mt Wright coming to the end of its production life, thereby resulting in decreased production and a higher cost of production for that year. As Mt Wright is only one of the concessions which Ravenswood owns, the abovementioned net loss is not a meaningful indication of the overall significance of the GEAR Initial Investment.

[7] The financial year ended 31 December 2020 represents the period from 1 April 2020 (i.e., immediately after the Ravenswood Completion on 31 March 2020) to 31 December 2020.

2.6 Shareholders' Deed

2.6.1 Certain salient terms of the Shareholders' Deed

The salient terms of the Shareholders' Deed are set out below:

(i) The maximum number of directors on the board of directors of Topco (the "**Topco Board**") will be eight directors (or such greater number as the shareholders may decide), with each 20% shareholder being entitled to appoint at least one director (and up to four directors if it holds at least 50% shareholding).

(ii) Raven Gold will be entitled to nominate the chairperson of the Topco Board (who will not have a casting vote).

(iii) Raven Gold is the operating partner of the Joint Venture and has primary responsibility for operation and management matters, subject to the terms of the Shareholders' Deed. Raven Gold will be entitled to appoint and replace the Chief Executive Officer, the General Manager (Mine Operations) and the General Manager (Expansion Project) of Topco while GEAR SPV will be entitled to appoint and replace the Chief Financial Officer of Topco. In connection with Raven Gold being the operating partner of the Joint Venture, the Company has agreed to pay EMR certain management fees on a semi-annual basis, and to pay certain carried interest (which is subject to certain thresholds) if the Company and/or EMR sell their interests in the Ravenswood Group.

(iv) Certain customary reserved matters relating to Topco and its subsidiaries (such as winding up, mergers, incurrence of debt, capital expenditure or other commitments above specified thresholds) will require either unanimous shareholder approval (for certain unanimous reserved matters) or the approval of each shareholder holding at least 30 per cent. shareholding (for certain special majority reserved matters), and would therefore require the approval of GEAR SPV or its nominated director so long as GEAR SPV (a) retains its shareholding in Topco (in the case of the former) or (b) maintains at least 30 per cent. shareholding in Topco (in the case of the latter).

(v) Each shareholder has pre-emption rights for transfers or issuances of securities as well as a drag-along right (which is described below) and tag-along right for proposed transfers of securities following the expiration of the specified standstill period and subject to certain conditions being satisfied, as detailed in the Shareholders' Deed.

(vi) Notwithstanding the above, if GEAR SPV is required to dispose of its securities in Topco as a result of being a defaulting party or being subject to drag-along rights, but requires the approvals of any government agency or as required under the rules of the SGX-ST in order to dispose of its shares in Topco, such disposal will only take effect after the Company and GEAR SPV (as applicable) have obtained all required approvals in respect of the disposal (including any requisite shareholder approval in accordance with the rules of the Listing Manual). GEAR SPV has agreed to use all reasonable endeavours to obtain any such required approvals.

If the exercise of any of the Company's rights (for example, the pre-emptive right, tag-along right and right of first offer) under the Shareholders' Deed will require the Company to seek Shareholders' approval under the rules of the Listing Manual (for example, under Rule 1006), the Company intends to first seek Shareholders' approval as is appropriate and required under the rules of the Listing Manual prior to the Company exercising its rights and/or completing the acquisition or disposal of interests in the Ravenswood Group pursuant to the exercise of such rights.

See paragraphs 2.6.2 and 2.6.3 of this Circular for more information on the Drag Along Right and the Default Call Option, respectively

2.6.2 Drag-Along Right

(i) Subject to the terms of the Shareholders' Deed, after the expiry of the date falling 24 months after the date of the Shareholders' Deed (*i.e.*, 14 January 2022) (or the date falling three months after the successful commissioning and ramp-up of the proposed expansion of the Ravenswood gold mine operations, whichever is later), if a shareholder, ("**Drag Seller**") together with its respective affiliates, has a shareholding percentage of 50% or more of the Topco securities and wishes to transfer more than 50% of the Topco securities held by it and its affiliates to a third party that is not an affiliate of the Drag Seller ("**Drag Event**"), then the Drag Seller may give written notice ("**Drag Notice**") to the other shareholders ("**Dragged Shareholders**") with a copy to Topco. A Drag Notice must state, inter alia, the following details:

(a) the number, form and amount of consideration ("**Drag Sale Price**") of Topco securities proposed to be transferred and other material terms of the transfer;

(b) the proportion of Topco securities held by the Drag Seller which is proposed to be transferred ("**Relevant Proportion**"); and

(c) that the Drag Seller requires each Dragged Shareholder to transfer the Relevant Proportion of the Dragged Shareholder's Topco securities ("**Dragged Securities**") on substantially the same terms on which the Drag Seller is proposing to transfer its Topco securities (the right to require such transfer, the "**Drag Along Right**").

A shareholder may only give a Drag Notice if it has first offered to transfer the relevant securities to the other Shareholder in compliance with the right of first offer provisions under the Shareholders' Deed.

(ii) If a Drag Notice is given, each Dragged Shareholder must transfer the relevant number of Dragged Securities to the third party buyer on the terms stated in the Drag Notice *unless*, within 5 Business Days of the date of the Drag Notice:

(a) (if the Drag Notice is received by the Dragged Shareholder <u>prior to</u> 14 January 2025) a Dragged Shareholder, acting reasonably and in good faith, provides the Drag Seller written notice that the relevant transaction will result in the Group achieving a return on investment of less than 2.5 times, in which case the Drag Notice will <u>not</u> take effect, (*i.e.,* the Dragged Shareholder will not be required to transfer the relevant number of Dragged Securities to the third party buyer on the terms stated in the Drag Notice); or

(b) (if the Drag Notice is received by the Dragged Shareholder <u>after</u> 14 January 2025) a Dragged Shareholder, acting reasonably and in good faith, provides the Drag Seller written notice that the relevant transaction:

(I) will result in the Group achieving a return on investment of less than 2.5 times, in which case the Drag Notice will not take effect (*i.e.,* the Dragged Shareholder will not be required to transfer the relevant number of Dragged Securities to the third party buyer on the terms stated in the Drag Notice); or

(II) will result in a Drag Sale Price which is less than 95% of the fair market value of the Dragged Securities, in which case the Drag Seller may engage a valuer in accordance with the terms of the Shareholders' Deed to determine the fair market value of the Dragged Securities.

If the valuer determines that the Drag Sale Price:

(A) is equal to or more than 95% of the fair market value of the Dragged Securities, the Drag Notice will nonetheless take effect, and be deemed valid and binding on the Dragged Shareholder from the date of such determination (*i.e.*, the Dragged Shareholder will be required to transfer the relevant number of Dragged Securities to the third party buyer on the terms stated in the Drag Notice);

(B) is less than 95% of the fair market value of the Dragged Securities, the Drag Notice will not take effect (*i.e.,* the Dragged Shareholder will not be required to transfer the relevant number of Dragged Securities to the third party buyer on the terms stated in the Drag Notice).

(iii) As the Drag Along Right is only exercisable at earliest after 14 January 2022 (or later, depending on the date of the successful commissioning and ramp-up of the proposed expansion of the Ravenswood gold mine operations), the Company presently does not foresee that it will exercise the Drag Along Right in the near term. The Company is also of the view that the Ravenswood project needs to be further developed in order to be able to achieve the required minimum return for the drag sale, as set out under sub-paragraph (ii) above.

2.6.3 Default Call Option

(i) Under the Shareholders' Deed, each shareholder will become a "**Defaulting Shareholder**" if, inter alia:

(a) it commits a breach of any of its funding obligations under the Subscription Agreement which remains unremedied for a stipulated period;

(b) it, or in relation to GEAR SPV only, the Company, becomes Insolvent;

(c) the shareholder commits a breach of any of its material obligations under the Shareholders' Deed which remains unremedied for a stipulated period, or for which the shareholder has not compensated Topco or the other shareholder(s) in respect of a breach that cannot be remedied;

(d) in the case of GEAR SPV, DSS commits a breach of the Shareholder Undertaking which remains unremedied for 30 days after notice of the breach has been given to GEAR SPV by Topco or another shareholder; or

(e) a Change of Control occurs in respect of the shareholder without the consent of the other shareholder(s) (such consent not to be unreasonably withheld),

(collectively, the "**Default Events").**

(ii) Upon the occurrence of a Default Event, the non-Defaulting Shareholder can exercise a default call option ("**Default Call Option") to acquire the Defaulting Shareholder's securities in Topco ("Sale Shares") at a price ("Sale Price") which, subject to paragraph 2.6.3(iii) below, represents a 5% discount to the fair market value of the Sale Shares.**

(iii) Where the shareholder is a Defaulting Shareholder as a result of the Default Event under paragraph 2.6.3(i)(a) which occurs before all of the funding in the Development Plan has been contributed pursuant to the Subscription Agreement, the Sale Price shall be a 10% discount to the fair market value of the Sale Shares or subscription price for the Sale Shares paid by the Defaulting Shareholder (whichever is lower). Where such Default Event occurs after all of the funding in the Development Plan has been contributed pursuant to the Subscription Agreement, the Sale Price shall be a 10% discount to the fair market value of the Sale Shares. The 10% discount shall be reduced to 5% if a court finally determines that such discount is unenforceable or otherwise constitutes a penalty.

(iv) Upon the occurrence of a Default Event, all rights to the Topco securities held by the Defaulting Shareholder as well as the Defaulting Shareholder's director appointment rights will be suspended.

(v) The Company is currently not aware of any Default Event occurring with respect to either party, and presently does not foresee an exercise of the Default Call Option by the Company in the near term.

2.6.4 Determination of Fair Market Value

The fair market value of the Dragged Securities or the Sale Shares, as the case may be, shall be determined by the appointed valuer in accordance with the procedure set out in the Shareholders' Deed. The valuer shall be instructed to determine the fair market value of the Dragged Securities or the Sale Shares, as the case may be, within 6 weeks after being appointed. The costs of the valuer are to be borne by Topco to the extent permitted by the Corporations Act.

2.7 Shareholders' Approval under Rule 1019 of the Listing Manual

2.7.1 Drag-Along Right

Under Rule 1019(1) of the Listing Manual, in the case of an option to acquire or dispose of assets, if the option is not exercisable at the discretion of the Company, shareholder approval must be obtained at the time of the grant of the option. The Drag-Along Right is subject to Rule 1019(1) of the Listing Manual for which Shareholders' approval is required, as the Drag-Along Right may be exercisable by Raven Gold against GEAR SPV upon a Drag Event by Raven Gold.

The Drag Along Right shall be deemed to be specifically approved if Shareholders approve Ordinary Resolution 1 (*Proposed ratification of the A$70 million investment into Ravenswood Gold Group Pty Ltd and proposed joint venture with Raven Gold Nominee Pty Ltd (as trustee on behalf of investors managed or advised by EMR Capital Management Limited)*) – see paragraph 1 of this Circular.

2.7.2 Default Call Option

Under Rule 1019(1) of the Listing Manual, in the case of an option to acquire or dispose of assets, if the option is not exercisable at the discretion of the Company, shareholder approval must be obtained at the time of the grant of the option. The Default Call Option is subject to Rule 1019(1) of the Listing Manual for which Shareholders' approval is required, as the Default Call Option may be exercisable by Raven Gold against GEAR SPV upon GEAR SPV becoming a Defaulting Shareholder.

The Default Call Option shall be deemed to be specifically approved if Shareholders approve Ordinary Resolution 1 (*Proposed ratification of the A$70 million investment into Ravenswood Gold Group Pty Ltd and proposed joint venture with Raven Gold Nominee Pty Ltd (as trustee on behalf of investors managed or advised by EMR Capital Management Limited)*) – see paragraph 1 of this Circular.

2.8 Shareholder Undertaking

In satisfaction with its obligation the Subscription Agreement, on 31 January 2020, GEAR SPV obtained from DSS, a majority shareholder of the Company who holds a direct 86.87% interest in the Company, an irrevocable undertaking to the Company and Raven Gold ("**Shareholder Undertaking**") to vote in favour of, among other things, the GEAR Initial Investment, any additional funding to be provided by GEAR SPV beyond the amount of the GEAR Initial Investment or any corporate action taken by GEAR pursuant to the Shareholders' Deed to transfer or acquire further securities in Topco, that is proposed for shareholder approval at a general meeting of the Company.

DSS is not related to Carpentaria Gold Pty Ltd (the seller of the Ravenswood gold mine) nor its parent company, Resolute Mining Limited (which is listed on the Australian Securities Exchange (ASX) and the London Stock Exchange (LSE)). DSS is also not related or connected to Raven Gold, other than through DSS' majority shareholding in the Company, which is a joint venture partner (through GEAR SPV) with Raven Gold.

3. THE PROPOSED INVESTMENT OF UP TO AN ADDITIONAL A$75 MILLION INTO RAVENSWOOD GOLD GROUP PTY LTD

3.1 Background

Since the Ravenswood Acquisition, Bidco has completed further feasibility studies and have concluded that there is an opportunity to develop the Ravenswood gold mine further in order to increase the production levels, improve yields and optimize operating cost.

In this regard, Bidco (with the advice of technical consultants) has prepared the Development Plan that contemplates (i) the Company investing the GEAR Additional Investment, (ii) EMR investing up to an additional A$75 million (the "**EMR Additional Investment**"), and (iii) the Ravenswood Group obtaining up to A$250 million non-recourse senior financing and equipment financing (the "**Senior Financing Facilities**"). Each of the Group and the EMR group will not be providing any guarantees for the borrowings to be incurred under the Senior Financing Facilities (however some or all of the Ravenswood Group will guarantee those borrowings). Topco will issue securities (which may be in the form of ordinary or redeemable preference shares) to the Company and Raven Gold in exchange for the GEAR Additional Investment and the EMR Additional Investment, respectively.

Under the terms of the Joint Venture, any additional funding to be provided by GEAR SPV beyond the amount of the GEAR Initial Investment for the development of the Ravenswood gold mine shall be subject to the approval of GEAR SPV. GEAR SPV has agreed to use all reasonable endeavours to obtain any approvals, consents or waivers necessary to ensure its compliance with the rules of the SGX-ST so as to be in a position to fund any such additional funding under the Development Plan as and when such commitment falls due.

3.2 Application of Chapter 10 of the Listing Manual to the GEAR Additional Investment

As elaborated under paragraph 5 below, as the value of the GEAR Additional Investment exceeds 20% of the Company's market capitalisation as of the Latest Practicable Date, the GEAR Additional Investment constitutes a major transaction for the Company as defined in Chapter 10 of the Listing Manual. Accordingly, the GEAR Additional Investment is subject to Shareholders' approval.

3.3 Development Plan

The existing operations at the Ravenswood gold mine are currently confined to the processing of low-grade stockpiles of gold ore which accumulated during past open pit mining operations. The current processing facilities handle approximately 5Mtpa of gold ore to produce around 60,000 to 70,000oz of gold per year.

The Development Plan proposes expanding the mining operation of Ravenswood gold mine by expanding the ore processing facilities, commissioning new primary crushers, and restarting open pit mining. Ravenswood gold mine returned to open-pit mining at Buck Reef West in December 2020. The mine's production will be supplemented as required by the processing of low-grade of existing stockpiles of gold ore, which will be screened and beneficiated. As part of the Development Plan, new equipment will be installed in the ore processing facilities in three stages between March 2021 to January 2022.

The Development Plan aims to increase both production capacity and processing power, and is designed to increase throughput rate while maintaining or improving gold recovery. It is planned that, post completion and commissioning of the expansion of the ore processing facilities, Ravenswood gold mine will have an annual nameplate capacity of around 7.2Mtpa and will produce approximately 200,000oz of gold per annum over a targeted 14-year mine life, supported by current stockpiles of gold ore.

3.4 Source of Funds for the GEAR Additional Investment

The Company intends to fund the GEAR Additional Investment through the existing cash reserves of the Group.

The Ravenswood Group intends to utilise funding from a combination of cash from the Senior Financing Facilities, the GEAR Additional Investment, the EMR Additional Investment and its financial resources that are generated from the operation of the Ravenswood goldmine and cash reserves to fund the Development Plan.

3.5 Timing of the GEAR Additional Investment

The Company expects to fully fund the GEAR Additional Investment over a period of up to six months commencing from March 2021 immediately after obtaining Shareholder approval for the GEAR Additional Investment.

3.6 Basis of the GEAR Additional Investment

The GEAR Additional Investment was arrived at after taking into consideration, inter alia, the following factors:

(a) the financing proposed to be available pursuant to the Senior Financing Facilities;

(b) the prospects of the Ravenswood gold mine;

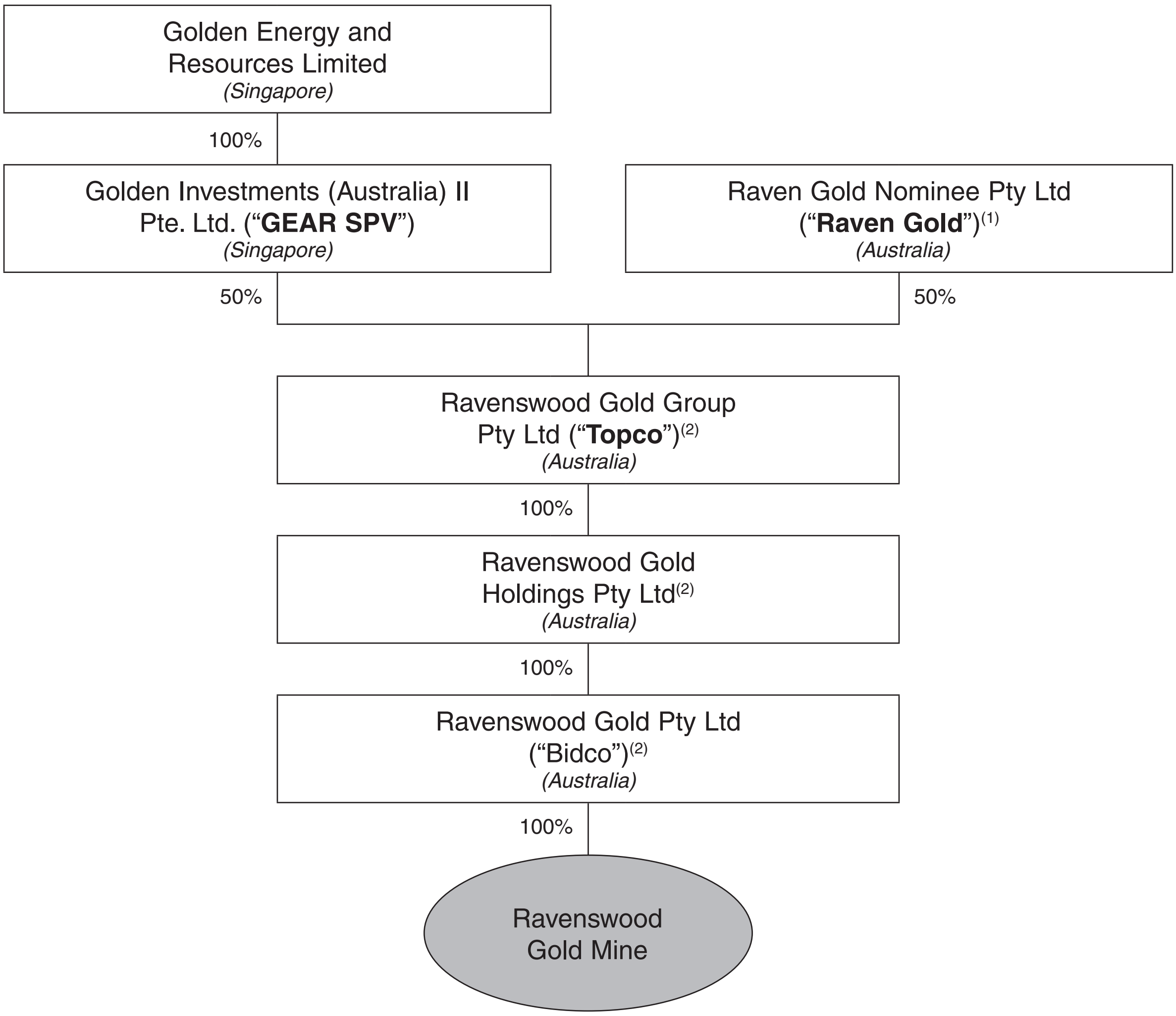
(c) the Independent Qualified Person's Reports; and

(d) the independent valuation report on the Ravenswood gold mine and the proposed expansion of the Ravenswood gold mine operations in line with the Development Plan produced by Behre Dolbear Australia Pty Limited in accordance with the VALMIN Code, with an effective date of 1 October 2020, dated 18 November 2020[8] (the "**Independent Valuation Report**").

[8] The report is set out in Appendix B to this Circular.

3.7 Structure following funding of the GEAR Additional Investment

As Topco will issue an equal number of shares to the Company and Raven Gold in exchange for the GEAR Additional Investment and the EMR Additional Investment, respectively, there will be no changes to the shareholding structure of GEAR SPV in Topco following funding of the GEAR Additional Investment, which is as follows:



Notes:

(1) As trustee on behalf of investors managed or advised by EMR Capital.

(2) The "**Ravenswood Group**" refers to Topco, Ravenswood Gold Holdings Pty Ltd and Bidco.

3.8 Valuation

The Company has commissioned Behre Dolbear Australia Pty Limited, which is an independent qualified person in accordance with the requirements of the Listing Manual, to prepare the Independent Valuation Report on the Ravenswood gold mine and the proposed expansion of the Ravenswood gold mine operations in line with the Development Plan in accordance with the VALMIN Code.

Rule 210(9)(b) of the Listing Manual provides that the effective date of the qualified person's report must not be more than six months from the date of lodgement of the offer document. The Independent Valuation Report is dated 18 November 2020 and has an effective date of 1 October 2020, the effective date being a date falling less than six months from the date of this Circular. The Independent Valuation Report therefore meets the requirement under Rule 210(9)(b) of the Listing Manual.

Based on the Independent Valuation Report, Behre Dolbear Australia Pty Limited is of the opinion that as at 1 October 2020, the project value of the Ravenswood gold mine is in the range of A$419 million to A$720 million, with a preferred value of A$527 million.

Please refer to the Independent Valuation Report as set out in Appendix B to this Circular for further details including the methodologies and principal assumptions used in arriving at the above valuation in respect of the Ravenswood gold mine and the proposed expansion of the Ravenswood gold mine operations in line with the Development Plan.

There have been no material changes since the effective date of the Independent Valuation Report set out in Appendix B of this Circular.

4. FINANCIAL EFFECTS OF THE GEAR INITIAL INVESTMENT AND THE GEAR ADDITIONAL INVESTMENT

4.1 Bases

The proforma financial effects of the GEAR Initial Investment and the GEAR Additional Investment on the Group are based on:

(a) the unaudited financial statements of Ravenswood Gold Group Pty Ltd for the financial year ended 31 December 2020 ("**FY2020**"); and

(b) the unaudited consolidated financial statements of the Group for FY2020.

4.2 Assumptions

For the purposes of illustrating the financial effects of the GEAR Initial Investment and the GEAR Additional Investment, the financial effects have been prepared based on, inter alia, the above bases and the following assumptions:

(a) the aggregate amount payable by the Company for the GEAR Initial Investment and the GEAR Additional Investment are A$70 million and A$75 million, respectively;

(b) the costs and expenses incurred or to be incurred in connection with the GEAR Initial Investment and the GEAR Additional Investment are disregarded for the purposes of calculating the financial effects;

(c) the Company's investment in Topco is accounted using the equity method of accounting;

(d) the financial effects of the GEAR Initial Investment and the GEAR Additional Investment on the GEAR Additional NTA are computed assuming that the GEAR Initial Investment and the GEAR Additional Investment had been completed on 31 December 2020;

(e) the financial effects of the GEAR Initial Investment and the GEAR Additional Investment on the Group's EPS are computed assuming that the GEAR Initial Investment and the GEAR Additional Investment had been completed on 1 January 2020; and

(f) the financial effects of the GEAR Initial Investment and the GEAR Additional Investment on the net gearing of the Group are computed assuming that the GEAR Initial Investment and the GEAR Additional Investment had been completed on 31 December 2020.

4.3 Proforma Financial Effects

The proforma financial effects of the GEAR Initial Investment and the GEAR Additional Investment as set out below are strictly for illustrative purposes and do not necessarily reflect the actual financial position and performance of the Company or the Group, prepared according to the relevant accounting standards, following the GEAR Additional Investment.

(i) Effect on NTA per Share

	Before completion of the GEAR Initial Investment	After completion of the GEAR Initial Investment	After completion of the GEAR Initial Investment and the GEAR Additional Investment
NTA (US$ million)	178.32	178.32	178.32
Number of issued Shares	2,353,100,380	2,353,100,380	2,353,100,380
NTA per Share (US Cents)	7.58	7.58	7.58

(ii) Effect on EPS

	Before completion of the GEAR Initial Investment	After completion of the GEAR Initial Investment	After completion of the GEAR Initial Investment and the GEAR Additional Investment
Profit after tax and minority interests (US$ million)	13.80	8.09	8.09
Number of issued Shares	2,353,100,380	2,353,100,380	2,353,100,380
EPS (US Cents)	0.59	0.34	0.34

(iii) Effect on Net Gearing

	Before completion of the GEAR Initial Investment	After completion of the GEAR Initial Investment	After completion of the GEAR Initial Investment and the GEAR Additional Investment
Net Gearing Ratio(1)	0.52	0.55(2)	0.58(3)

Notes:

(1) The Net Gearing Ratio is computed as (total liabilities excluding taxes - cash and cash equivalents) / (equity attributable to owners of the Company + total liabilities excluding taxes - cash and cash equivalents).

(2) The Net Gearing Ratio after completion of the GEAR Initial Investment and before completion of the GEAR Additional Investment shows an increase because of the use of the Company's existing cash reserves to fund the GEAR Initial Investment.

(3) The Net Gearing Ratio after completion of the GEAR Initial Investment and the GEAR Additional Investment shows an increase because of the use of the Company's existing cash reserves to fund the GEAR Additional Investment.

(iv) Effect on Share Capital

The GEAR Initial Investment did not, and the GEAR Additional Investment will not have any impact on the issued share capital and shareholding structure of the Company as each of the GEAR Initial Investment and the GEAR Additional Investment does not involve the allotment and issuance of any new shares in the Company and is to be satisfied in cash only.

5. LISTING MANUAL COMPUTATIONS (RELATIVE FIGURES UNDER RULE 1006) OF THE GEAR INITIAL INVESTMENT AND THE GEAR ADDITIONAL INVESTMENT

The relative figures of the GEAR Initial Investment and the GEAR Additional Investment computed on the applicable bases set out in Rule 1006 of the Listing Manual are as follows:

Rule 1006	Base	Investment Amount	The Group	Relative Figures
(a)	NAV of assets to be disposed of, compared with the NAV of the Group	Not applicable as no assets are being disposed of by the Company.		
(b)	(i) Net profits/ (losses) attributable to the Assets acquired in respect of the GEAR Initial Investment compared with the Group's net profits(1) (US$ million)	(6.55)(2)	66.72	(9.82)%
	(ii) Net profits/ (losses) attributable to the Assets acquired in respect of the GEAR Additional Investment compared with the Group's net profits(1) (US$ million)	(6.55)(2)	66.72	(9.82)%
(c)	(i) Aggregate consideration payable by the Company in respect of the GEAR Initial Investment(3) compared with the Company's market capitalization(4) (S$ million)	65.09	359.79	18.09%
	(ii) Aggregate consideration payable by the Company in respect of the GEAR Additional Investment(5) compared with the Company's market capitalization(4) (S$ million)	78.02	359.79	21.69%
(d)	Number of equity securities issued by the Company as consideration for the GEAR Initial Investment and the GEAR Additional Investment, compared with the number of equity securities previously in issue	Not applicable as no equity securities are being issued by the Company as consideration for the GEAR Initial Investment and the GEAR Additional Investment.		
(e)	Aggregate volume or amount of proved and probable reserves to be disposed of, compared with the aggregate of the Group's proved and probable reserves	Not applicable as no proved and probable reserved are being disposed of by the Company.		

Notes:

(1) The net profits or losses including discontinued operations that have not been disposed and before income tax and non-controlling interests attributable to the Company's share of the Assets (being such share attributable through the Company's 50% indirect ownership in Bidco) based on the unaudited financial statements of Resolute Mining for the 6-month period ended 30 June 2020 (taking into account that Ravenswood Completion occurred on 31 March 2020) and the unaudited financial statements of the Ravenswood Group for the 9-month period ended 31 December 2020, have been compared with the Group's net profits or losses including discontinued operations that have not been disposed and before income tax and non-controlling interests for its financial year ended 31 December 2020 (which are based on the latest unaudited consolidated financial statements of the Group for the financial year ended 31 December 2020). The figures for the Assets are expressed in US$ based on an exchange rate of A$1.00:US$0.7694 being the A$:US$ exchange rate on 31 December 2020 (Source: BloombergLP).

(2) The net losses attributable to the Assets of US$6.55 million for the 12-month period ended 31 December 2020 was primarily attributable to transaction expenses incurred by the Ravenswood Group in connection with the acquisition of Ravenswood.

(3) Calculated based on the GEAR Initial Investment of A$70 million and expressed in S$ based on an exchange rate of A$1.00:S$0.9299 being the A$:S$ exchange rate on 13 January 2020 (Source: BloombergLP).

(4) The market capitalisation of the Company is based upon 2,353,100,380 Shares in in the capital of the Company in issue (excluding treasury shares) as at the Latest Practicable Date, at a volume weighted average price of S$0.1529 for each Share.

(5) Calculated based on the GEAR Additional Investment of A$75 million and expressed in S$ based on an exchange rate of A$1.00:S$1.0403 being the A$:S$ exchange rate on 2 March 2021 (Source: BloombergLP).

As the relative figure under Rule 1006(c) exceeds 20%, the GEAR Additional Investment constitutes a major transaction for the Company as defined in Chapter 10 of the Listing Manual. Accordingly, the GEAR Additional Investment is subject to the approval of Shareholders.

6. THE PROPOSED DIVERSIFICATION OF THE COMPANY'S EXISTING BUSINESS

6.1 Proposed Diversification

The Group's existing business ("**Existing Business**") is principally focused on mining of natural resources such as coal, including the mining and the trading of thermal coal through its subsidiary PT Golden Energy Mines Tbk operating in Indonesia and the mining and trading of metallurgical coal through its subsidiary in Stanmore Coal Limited. The Company is also involved in various investments in precious metals such as gold.

From November 2017 to September 2020, the Company held a minority interest in Westgold Resources Limited (the "**Westgold Investment**"), a top ten gold producer in Australia as of the date of this Circular. The Westgold Investment was a profitable investment for the Company, and provided the Company the opportunity to gain access and insight into the running of large gold mine operations (including the challenges involved), an understanding of the Australian regulatory regime and their environmental obligations, as well as the prevailing Australian mining costs. The Ravenswood Acquisition is the Company's second investment in the gold producing industry.

Given the Group's investment experience and the challenging environment of softer coal prices that the Company currently faces, and with the overall goal of enhancing shareholder value and providing Shareholders with diversified returns and long-term growth, subject to Shareholders' approval being obtained at the EGM, the Group intends to extend its core business within the mining of natural resources to include precious metals, base metals and minerals ("**Proposed New Business**"). Precious metals include, among others, gold and silver, and base metals and minerals include, among others, copper, cobalt, zinc, nickel and ferroalloys. The focus areas of the Proposed New Business include resource rich geographies such as Australia, Canada and the United States of America, as well as Indonesia, where our primary operations are currently located.

The extension of the Group's existing business will change the existing business scope and risk profile of the Company and/or the Group. Accordingly, the Company is seeking Shareholders' approval for the proposed diversification of the Existing Business to include the Proposed New Business ("**Proposed Diversification**").

6.2 Application of Chapter 10 of the Listing Manual to the Proposed Diversification

Upon Shareholders' approval of the Proposed Diversification, any acquisition or disposal which is in, or in connection with, the Proposed New Business, may be deemed to be in the Group's ordinary course of business and therefore not fall under the definition of a "transaction" under Chapter 10 of the Listing Manual.

Accordingly, the Group may, in its ordinary course of business, enter into transactions relating to the Proposed New Business which will not change the risk profile of the Group, in an efficient and timely manner without the need to convene separate general meetings from time to time to seek Shareholders' approval as and when such potential transactions arise. This will substantially reduce the administrative time and expenses in convening such meetings, without compromising the corporate objectives or adversely affecting the business opportunities available to the Group.

For the avoidance of doubt, notwithstanding that Shareholders' approval of the Proposed Diversification has been obtained, in respect of transactions involving the Proposed New Business:

(a) where the acquisition of assets (whether or not the acquisition is deemed in the ordinary course of business of the Company) is one where any of the relative figures as computed based on the bases set out in Rule 1006 of the Listing Manual exceeds 100%, or results in a change of control of the Company, the transaction will be classified as a very substantial acquisition or reverse takeover and will be subject to Rule 1015 of the Listing Manual, and such transaction must be, *inter alia,* made conditional upon approval by Shareholders at a general meeting;

(b) pursuant to Practice Note 10.1 of the Listing Manual, where any acquisition will change the risk profile of the Group, such acquisition must also be made conditional upon, *inter alia*, approval by Shareholders at a general meeting; and

(c) which constitutes an "interested person transaction" as defined under the Listing Manual, Chapter 9 of the Listing Manual will apply to such transaction and the Company will comply with the provisions of Chapter 9 of the Listing Manual.

Pursuant to Rule 1005 of the Listing Manual, separate transactions completed within the last 12 months may also be aggregated and treated as if they were one transaction in determining whether a transaction falls into category (a), (b), (c) or (d) of Rule 1004 of the Listing Manual.

Notwithstanding the above requirements as prescribed under the Listing Manual, when the Group enters into its first major transaction as defined under Rule 1014 of the Listing Manual (the "**First Major Transaction**") involving the Proposed New Business, or where any of the Rule 1006 figures in respect of several transactions involving the Proposed New Business which are aggregated (the "**Aggregated Transactions**") over the course of a financial year exceeds 20%, such First Major Transaction or the last of the Aggregated Transactions will be made conditional upon approval of the Shareholders at general meeting.

The Company will also be required to comply with any applicable and prevailing rules of the Listing Manual as amended or modified from time to time.

6.3 Management of the Proposed New Business

The Proposed New Business will be overseen by the Board, and it is worth noting that the Board and senior management of the Group comprise individuals with varied qualifications and experience who will provide strategic vision and policy on the Proposed New Business. In making their investment decisions, they will, where necessary and appropriate, seek the advice of reputable external consultants and experts. The Group will monitor developments and progress in the Proposed New Business and take the necessary steps to identify suitable candidates both from within the Group as well as externally to manage the Proposed New Business to take it forward as and when required.

Participation in the Proposed New Business will be under the supervision of an investment committee ("**Investment Committee**") set up by the Company of which the initial composition shall comprise Mr. Fuganto Widjaja (*Executive Chairman*) and Mr. Dwi Prasetyo Suseno (*Executive Director; Group Chief Executive Officer*).

Mr. Fuganto Widjaja has more than 16 years of experience in leadership management and supervisory responsibilities in the coal industry.

Mr. Dwi Prasetyo Suseno has over 20 years of experience in mining, commodities and oil and gas related industries with exposures in operations, general management, trading, finance, business development, merger and acquisitions, corporate legal and international taxation.

Prior to making an investment, the Company's investment team, which comprises members with technical and corporate financial experience and led by Mr. Mark Zhou You Chuan (*Executive Director*) (the "**Investment Team**"), will evaluate and do due diligence on each investment (the "**Investment Criteria**") based on, *inter alia*, the location, tenure of the concession, size of resources and reserves, stage of development of the project, status of key approvals and infrastructure, synergies of the project, forecasted cash flows including profitability, valuation of the project/company and the estimated rate of return, before making the investment recommendation to the Investment Committee.

Mr. Mark Zhou You Chuan has over 12 years of experience in the mining and investment banking industries, having assumed senior management positions in mining companies overseeing investments, mergers and acquisitions, fund raising as well as investor relations.

The Investment Committee will continue to be supported by the Investment Team as well as additional key executives and managers with suitable experience and skill sets relevant to the Proposed New Business, as and when required. The Group believes that by leveraging on the Group's status as a public-listed company, the Group will be able to attract and hire experienced personnel to assist in the Proposed New Business, if required.

The Board and the Audit Committee, in consultation with the Investment Committee, will provide oversight and adopt internal policies and procedures (which will include the Company's investment objectives, investment strategies or approach, and investment restrictions and guidelines) to evaluate each investment and ensure there are sufficient safeguards in place to manage risk, as and when required. Where necessary, the Board and the Audit Committee will seek the advice of reputable financial advisors and/or other experts.

The Investment Committee, together with the Investment Team, will set certain pre-determined criteria for the Investment Criteria. Each investment recommended by the Investment Team to the Investment Committee will then be evaluated by the Investment Committee based on the Investment Criteria and an investment recommendation will be made to the Board by the Investment Committee when an investment fulfils the Investment Criteria. The Board will then decide whether to proceed with an investment. Upon approval by the Board, the management of the Group will then be authorised to perform all acts and take all measures necessary and required to implement the respective investment.

The Investment Committee and the Board will review and evaluate the performance of each investment on a regular basis. Based on the foregoing, the Investment Committee will then conduct a review and assessment of the adequacy and effectiveness of the Investment Criteria if necessary and propose changes to the Investment Criteria after consultation with the Board.

7. RATIONALE FOR THE PROPOSED TRANSACTIONS

The Directors are proposing for Shareholders to approve the Proposed Transactions (*i.e.,* the GEAR Initial Investment, the GEAR Additional Investment and the Proposed Diversification) for the following reasons:

Proposed Diversification

7.1 The Proposed Diversification will provide the Group with new revenue streams

The Directors believe that the Proposed Diversification will allow the Group to have better prospects of achieving profitability and ensure longer-term growth. The Group had successfully invested and exited the Westgold Investment, through which the Group also gained valuable insight into the workings and challenges of running large gold mine operations. Key members of the Company's senior management and in-house technical team also have extensive experience in the mining industry, including the mining of other minerals such as gold and nickel, and have been involved in the evaluation of numerous projects (ranging from base metals to precious metals, and from thermal coal to coking coal). The Company aims to leverage on its experience and the knowledge and capabilities of its key management team to diversify and expand its product suite, allowing the Group access to cash flow streams from counter-cyclical metals and more business opportunities.

7.2 The Proposed Diversification will enable the Group to reduce its reliance on the Existing Business

The Group currently faces a challenging environment of softer coal prices. The average Indonesian Coal Index price for 4,200 GAR coal was US$30.55/tonne in 1H2020, 16% lower from US$36.37/tonne in 1H2019. The global coal price may face further challenges in the future despite the rising appetite for coal in India and other Asian countries, due to the declines in demand in the United States and Europe, and plans to move towards renewable energy in China. The Proposed Diversification would facilitate the Company's aim to reduce its reliance on the Existing Business and achieve the right commodity mix to enhance its overall asset portfolio and meet the changing needs of the key demand markets.

GEAR Initial Investment and GEAR Additional Investment

7.3 The GEAR Initial Investment and the GEAR Additional Investment are consistent with the Company's aim of enhancing shareholder value

The GEAR Initial Investment and the GEAR Additional Investment provide the Group with a more diversified business and income base for future growth by expanding the Group's exposure to gold and gold mining. Through the GEAR Initial Investment, the Group acquired an interest in Ravenswood gold mine, which has a long mining history, and is an established gold producing asset with potential in scalability, exploration and aggregation. The GEAR Additional Investment allows the funding of the Development Plan put together to help to achieve such potential, as the Development Plan proposes an expansion of and improvements to Ravenswood gold mine's operations, and aims to improve Ravenswood gold mine's ability to extract operational synergies through the benefits of scale and integration of operations. This would in turn help to increase the production levels, improve yields and optimize operating cost of Ravenswood gold mine, enhancing its viability as an alternative revenue stream for the Group, its revenue contributions to the Group and overall shareholder value.

8. RISK FACTORS OF THE PROPOSED TRANSACTIONS

The Group could be affected by a number of risks that may relate to the Proposed Transactions. Risks may arise from, inter alia, economic, business, market and political factors. Shareholders should carefully consider and evaluate each of the following considerations and all other information contained in this Circular.

To the best of the Directors' knowledge and belief, all the risk factors that are material to the Shareholders in making an informed decision on the Proposed Transactions are set out below. The risks described below are not intended to be exhaustive and are not presented in any particular order of importance. There may be additional risks not presently known to the Company or are currently not deemed to be material. If any of the considerations and uncertainties described below develops into actual events, the business, results of operations, financial condition and prospects of the Group could be materially and adversely affected.

Shareholders should carefully consider and evaluate the following risk factors and all other information contained in this Circular before deciding on whether to vote in favour of the Proposed Transactions.

8.1 Risks relating to the GEAR Initial Investment and the GEAR Additional Investment

8.1.1 We may be unable to complete the expansion proposed under the Development Plan

The proposed expansion under the Development Plan will require substantial capital outlay and it may take years before positive cashflow may be generated by Ravenwood gold mine's expanded operations. Under the Development Plan, the proposed expansion activities are scheduled to be carried out between March 2021 to January 2022. However, development activities are subject to a multitude of risks including technical risks (such as unforeseen engineering or geological problems and shortage and increased cost of labour and materials), project management risks (such as labour disputes, project site safety, work stoppages, changes in regulations and failure or delay in obtaining necessary regulatory permits and approvals), environmental risks (such as the need to remove toxic or hazardous substances found on the property and weather and natural disaster interference), financial risks (such as increased costs of construction and decreased gold prices or market demand during the development of a project, increase in operating cost, and disputes with third parties), and execution risks (such as any reliance on third party contractors to complete according to agreed specifications, quality standards or schedule). As a result of this and other factors described herein, no assurance can be given as to whether or when the Development Plan will be successfully completed and that the completed proposed expansion will generate anticipated returns (including but not limited to increased production capacity and processing power) and profits. Non-completion or delays in completion of the Development Plan may result in substantial capital outlay being required to complete the proposed expansion and lower returns on investments than originally expected.

8.1.2 There may be adverse changes in the business environment

Changes in the business environment including the following could have a material adverse effect on the revenue and profitability of the Ravenswood Group and the Group:

(i) delays in procuring or renewing the necessary relevant approvals, licences or certificates from government bodies;

(ii) changes in laws, regulations and policies in relation to the gold mining and processing business;

(iii) fluctuations in demand for gold; and

(iv) fluctuation in the operating costs of Ravenswood gold mine driven by increase in input cost such as labour cost, power, fuel and costs of doing business in Australia.

8.1.3 The Ravenswood Group's operations may be subject to disruptions caused by uncontrollable and unforeseen events and influences

The Ravenswood Group may face severe disruption in operations from events or circumstances not within its control which, sustained over time, may negatively impact the Ravenswood Group's financial condition and performance. Examples of these events or circumstances include conflicts, wars, terrorism, global pandemics (including the COVID-19 pandemic) and other social disruptions, adverse weather and natural disasters including floods and earthquakes, increased costs, unexpected delays from the engagement of third party contractors and service providers, accidents or fires which may result in injuries, damages to critical equipment, power supply or infrastructure and disruptions caused by members of the local community. Any of these events or conditions could materially and adversely affect the Ravenswood Group's business, financial condition, financial performance, results of operations and prospects.

8.1.4 The operations of Ravenswood gold mine are susceptible to risks and hazards inherent in the mining industry

The operations of Ravenswood gold mine may be affected by various factors and subject to risks and hazards inherent in the mining industry, including but not limited to, unanticipated variations in grade and other geological problems, operational and technical difficulties encountered in mining, insufficient or unreliable infrastructure, water conditions, surface or underground conditions, metallurgical and other processing problems, mechanical equipment performance problems, plant breakdowns, the lack of availability of materials and equipment or trained manpower, the occurrence of accidents, labour force disruptions, force majeure factors, unanticipated transportation costs, and weather conditions. Any of these factors may materially and adversely affect our Group's business, financial condition, results of operations and ability to realise value from the Ravenswood Acquisition.

8.1.5 Gold mining is a capital intensive industry and our ability to carry out business activities depends on the availability of funding

The availability of adequate financing to the Ravenswood Group is critical to its ability to invest in its existing processing facilities and mining operations. There is no assurance that the Ravenswood Group will have sufficient internal funds for such investments.

The Ravenswood Group's ability to carry out the Development Plan is also dependent on securing the Senior Financing Facility, which may be dependent on factors outside its control, including the general market conditions, the market's perception of the quality of its assets and the relevant industry risk, and interest rate fluctuations. Negative sentiment in the capital and credit markets in which the Ravenswood Group sources its financing could lead to commercial banks or other financial institutions being less willing to provide the full amount of Senior Financing Facilities sought, or on terms that are not commercially viable.

The Ravenswood Group may be dependent on GEAR SPV, the Company and EMR to seek external financing to fund working capital or capital expenditure to support the growth and maintenance of its business operations, including the Development Plan. The Ravenswood Group's ability to arrange for external financing on terms that will allow the Ravenswood Group a commercially acceptable return and the cost of such financing are dependent on numerous factors that are beyond its control, including general economic and capital market conditions, interest rates, credit availability from banks or other lenders, investor confidence in the Ravenswood Group, success of the Ravenswood Group's businesses, tax and securities laws that may be applicable to our efforts to raise capital, changes in laws and regulations which may affect the terms on which financial institutions are willing to extend credit to the Ravenswood Group, any restrictions imposed by various banking institutions on providing financing to companies operating in the mining sector in the relevant countries and political and economic conditions.

8.1.6 The Group relies on EMR and skilled and qualified staff to run and operate Ravenswood gold mine

EMR is a specialist mining private equity fund which invests in global resource projects and operating companies and the operating partner of the Joint Venture. Ravenswood gold mine is run by staff employed by Bidco. There is no assurance that there will not, in the future, be any disputes between the Group and EMR, or that Bidco will be able to attract and retain essential qualified or skilled personnel in the future. Any disputes between the Group and EMR, which may cause EMR to exit the Joint Venture, or inability by Bidco to attract, recruit, train and/or retain key personnel or skilled workers could adversely affect Ravenswood gold mine and our Group's business, financial condition, results of operations and prospects.

8.1.7 The Group's joint venture with Raven Gold could be adversely affected by disputes between the Group and Raven Gold

There are risks associated with joint venture arrangements. If there are disagreements between the Group and our joint venture partner, Raven Gold, regarding the business and operations of the Ravenswood Group, we cannot assure you that we will be able to resolve them in a manner that will be in the best interests of the Group or which will maintain the business relationship with Raven Gold. In addition, joint ventures involve additional risks associated with the possibility that Raven Gold may (i) have economic or business interests or goals that are inconsistent with ours; (ii) take actions or omit to take actions contrary to our instructions, requests or objectives or good corporate governance practices or the law; (iii) be unable or unwilling to fulfil their obligations (iv) have financial difficulties; or (v) have disputes with the Group as to the scope of their responsibilities and obligations. In addition, the Group needs EMR's cooperation and consent in connection with the operations of the Ravenswood Group, especially since EMR is the operating partner of the Joint Venture and has primary responsibility for operation and management matters, subject to the terms of the Shareholders' Deed. Such cooperation and consent may not always be forthcoming. Disagreements with EMR may lead to deadlock situation, which could adversely affect our ability to undertake commercial decisions in an efficient and timely manner. There is no assurance that we will be able to resolve disagreements with EMR in a manner that will be in the Group's best interests or at all. Any of these and other factors may materially and adversely affect the Group's business relationships with EMR and the performance of the Ravenswood Group, which may in turn adversely affect the Group's business, financial condition, results of operations and prospects.

8.2 Risks relating to an investment in Australia

8.2.1 The Ravenswood Group may be exposed to risks associated with changes to laws and policies in Australia

The Ravenswood Group is subject to, among others, mining laws, environmental laws, labour laws, securities laws and tax laws in Australia, and any unexpected changes to the same. There can be no assurance that the Company's investments will not be negatively impacted as a result of measures and policies changes by the relevant domestic and foreign government and authorities at the local and national levels.

8.2.2 The Company may be exposed to risk of loss from interruptions resulting from industrial disputes and work stoppages

Our employees are not party to any collective bargaining agreement or union. However, many employees in Australia are unionised and are covered by collective bargaining agreements. Our operating costs may be adversely affected if our employees were to unionise. There may from time to time be major bargaining agreement renegotiations that may result in increase in costs. Further, in the event of any breakdown in talks with the labour unions, strikes or disruptions leading to work stoppages may arise. Any strikes or disruptions arising from such labour disputes could have a material adverse effect on the business operations of Ravenswood gold mine and in turn may significantly affect the business and financial condition of the Group.

8.2.3 Ravenswood gold mine may incur losses arising from natural disasters in Australia

Certain areas of Australia are particularly susceptible to natural disasters and adverse weather conditions such as droughts or floods. Insurance obtained may not be sufficient to cover all potential losses arising from these events, which could greatly damage the infrastructure of the gold mine and have a material adverse impact on operations of the gold mine, as it may result in work stoppages and delays. There can be no assurance that insurance coverage or procedures currently put in place are sufficient to address such extraordinary events. The Company may have to commit additional resources, which may adversely affect the financial performance of the Company and the Group.

8.2.4 Further investments by the Company may be subject to Australia's foreign investment regime

In relation to investments in Australia, the Company is currently a "foreign person" for the purposes of the FATA. Further investments in Australia by the Company may be subject to notice requirements under the FATA (which may or may not be given subject to conditions). If such approval is required and not given in relation to an investment, the Company may not be able to proceed with that investment.

There can be no assurance that the Company will be able to obtain or renew the required government approvals, permits and licences required for its activities in Australia and in the event that the requisite approvals are not obtained or renewed, there may be an adverse effect on the business, financial condition and results of operations of the Company.

8.2.5 The Company may be exposed to risks associated with fluctuations in foreign exchange rates and changes in foreign exchange regulations

A large proportion of the Company's revenue arising from the Ravenswood Group may be received in United States dollars and the Ravenswood Group may hold from time to time large amounts of currency and or financings in Australian or United States dollars. As the Group's books of accounts and records are recorded in Singapore dollars, such revenue received in Australian dollars will have to be converted to Singapore dollars at the Group level for financial reporting or repatriation purposes. Accordingly, the Company may be exposed to risks associated with fluctuations in foreign exchange rates which may adversely affect the reported financial results of the Company.

The Company may also be subject to the imposition or tightening of exchange control or repatriation restrictions and may encounter difficulties or delay in relation to the receipt of its proceeds from divestments and dividends due to such exchange controls existing in Australia.

8.2.6 The Company may be exposed to risks associated with fluctuations in interest rates in Australia

The Ravenswood Group will operate in Australia and may obtain financing in Australia. If the prevailing interest rates, or any economic or political factors at the time of refinancing, result in higher interest rates in Australia, their interest expenses will increase. This will adversely affect the reported financial results of the Company and the business, financial condition, results of operations and prospects of the Ravenswood Group and the Group.

8.3 Risks relating to the Proposed Diversification

8.3.1 The Group does not have proven track record and/or business history in the mining of base metals and precious metals

While the Group has had experience through the Westgold Investment and the Ravenswood Acquisition, the Group held only a minority interest in Westgold and the Group does not have a proven track record in managing and operating the Proposed New Business. In addition, as the Ravenswood Completion only occurred on 31 March 2020, it is uncertain whether it will achieve its desired returns from the Ravenswood Acquisition. In particular, the majority of the current management of the Group may not have the relevant experience and expertise required, in the carrying out or implementation of the Proposed New Business. Further, as the Proposed New Business is a new area of business to the Company, the Company will face the usual risks, uncertainties and problems associated with the entry into any new business which it has limited prior experience or track record in. For example, mining for precious metals, base metals and/or minerals may involve the use of different types of equipment that the Company has no experience with, and would have to learn and set up new facilities to process the resources extracted from the mine. These risks, uncertainties and problems include the inability to manage the operations and costs, the failure to attract customers, the failure to provide the results, level of revenue and margins the Company is expecting, the failure to identify, attract, retain and motivate qualified personnel, and the inability to find the suitable joint venture, strategic or other business partners. There is no assurance that the management of the Company will be able to ensure success in undertaking the Proposed New Business.

8.3.2 Future acquisitions, joint ventures or investments may expose the Group to increased risks

Following the Proposed Diversification, the Group may, as a matter of business strategy, undertake larger investments in or acquisitions of other entities in the Proposed New Business, or, as in the case of the Ravenswood Acquisition, enter into joint ventures or other investment structures in connection with the Proposed New Business. Acquisitions that the Group may undertake, along with potential joint ventures and other investments, may expose the Group to additional business and operating risks and uncertainties, including but not limited to the following:

(i) the direct and indirect costs in connection with such transactions;

(ii) the inability to effectively integrate and manage the acquired businesses;

(iii) the inability of the Group to exert control over the actions of its joint venture partners, including any non-performance, default or bankruptcy of the joint venture partners;

(iv) the inability of the Group to exert control over strategic decisions made by these companies;

(v) the time and resources expended to coordinate internal systems, controls, procedures and policies;

(vi) the disruption in ongoing business and diversion of management's time and attention from other business concerns;

(vii) the risk of entering markets in which the Group may have no or limited prior experience;

(viii) the potential loss of key employees and customers of the acquired businesses;

(ix) the risk that an investment or acquisition may reduce the Group's future earnings; and

(x) exposure to unknown liabilities.

If the Group is unable to successfully implement its acquisition or extension strategy or address the risks associated with such acquisitions or extensions, or if the Group encounters unforeseen expenses, difficulties, complications or delays frequently encountered in connection with the integration of acquired entities and the extension of operations, the Group's growth and ability to compete may be impaired, the Group may fail to achieve acquisition synergies and be required to focus resources on integration of operations, rather than on its business. This will have a negative impact on the financial performance of the Group.

Activities to extend its operations may also bring the Group into contact, directly or indirectly, with new entities or new markets. These business activities expose the Group to new and enhanced risks including reputation risks arising from dealing with a range of new counterparties, along with these activities bring exposure to the range of risks described in this Circular. If these risks materialise the business, financial condition, results of operations and prospects of the Group will be materially and adversely affected.

8.3.3 The Group may be unable to identify and secure new projects to grow the Proposed New Business

The performance and success of the Proposed New Business depends on the Group's ability to identify profitable projects and following such identification, to successfully implement and complete such projects. The project may take the form of securing a new site for exploration or investing in or acquiring and operating existing mines, among others. This ability may be negatively affected by various factors, including competition for new sites from other competitors, changes to the general economic conditions in countries where the Group intends to operate its Proposed New Business or the acquisition price of these projects may be very high due to high demand from other investors. There is thus no guarantee that the Group will always be successful in identifying suitable projects or completing such projects profitably. The Group's inability to identify and secure projects at commercially acceptable prices could impair its ability to compete with other competitors and materially and adversely affect the Group's ability to grow the Proposed New Business.

8.3.4 To finance the Group's extension into the Proposed New Business, the Group may need to obtain additional equity or debt financing

Additional equity fundraising may result in a dilution to our Shareholders. If such additional equity fundraising activities do not generate a commensurate increase in earnings, the Company's EPS may be diluted, and may result in a decline in Share price.

Additional debt financing may limit the Company's ability to pay dividends, increase vulnerability to general adverse economic and industry conditions, require the Company to dedicate a substantial portion of its cash flows to fund capital expenditure, working capital and other requirements, as well as limit its flexibility in planning for or reacting to changes in its business and its industry.

In addition, there is no assurance that the Company will be able to continue to secure financing on commercially viable terms or at all. The cost of external financing is subject to uncertainties beyond the Company's control, including (i) the Group's future results of operations, financial condition and cash flows; (ii) the condition of the international and domestic financial markets and financing availability from the markets; (iii) changes in the monetary policies of the relevant government with respect to bank interest rates and lending practices; and (iv) changes in policies regarding regulation and control of the mining industry. Any inability to secure adequate equity or debt financing may adversely affect the Company's business, financial condition, results of operations and prospects.

8.3.5 The Proposed New Business will be dependent on the recruitment and retention of qualified employees and consultants for its operations and profitability and may be affected by a shortage of skilled resources

In addition to the existing management team, the Company may recruit appropriate management resources for its Proposed New Business to provide guidance, and/or approach investment partners to jointly undertake the projects coming within the Proposed New Business. The Company cannot guarantee that it will not experience initial operational difficulties or disputes with its investment partners or that its operations will achieve the expected level of revenue and profitability. The growth of the Proposed New Business will be dependent on the Group's ability to identify, recruit, train and retain qualified employees to form a relevant and strong management team with the requisite technical expertise to oversee the operations of the Proposed New Business. The competition for qualified personnel in the Proposed New Business may be intense, and the loss of services of one or more of such individuals without adequate replacement, or the inability to attract qualified personnel at a reasonable cost could have a material adverse effect on the Group's business, financial condition, results of operations and prospects.

If any of the above risks materialise, the Group's business, financial condition, results of operations and prospects may be materially and adversely affected.

8.3.6 The Group's evaluation of potential investments in the Proposed New Business involves reserve and resource estimates, which are subject to change

The Company evaluates the viability of a potential investment on several factors, including the mineral reserve and resource estimates. Such estimates are based on certain assumptions and involve expressions of judgment based on various factors such as knowledge, experience and industry practice, and the accuracy of these estimates may be affected by many factors, including quality of the results of exploration drilling and analysis of coal samples, as well as the procedures adopted by and the experience of the person making the estimates.

Estimates of the reserves and resources may change significantly when new information becomes available or new factors arise, and interpretations and deductions on which reserves and resources estimates are based may prove to be inaccurate. Following investment into a project, the Company may encounter mineralisation different from that predicted by past drilling, sampling and similar examination, and in such case, mineral resource and/or reserve estimates may have to be adjusted downward. This downward adjustment could materially affect the development and mining plans, which could materially and adversely affect our investment returns and results of operations.

8.3.7 The Proposed New Business may be affected by outbreaks of communicable diseases and other events beyond the Group's control

The Proposed New Business is susceptible to outbreaks of communicable diseases and other events beyond the Group's control which may lead to many uncertainties and cause disruptions to parts of its business and have an adverse effect on its business operations and financial performance. The Proposed New Business may also be materially and adversely impacted if the key suppliers of the Proposed New Business are affected by such occurrences and are unable to provide the raw materials needed on a timely basis or on terms that the Group finds acceptable.

In the instance of the recent COVID-19 outbreak, there may be significant disruptions in the Proposed New Business. The Group may also be unable to proceed with its usual business operations due to control orders imposed by the government in view of any outbreak of any contagious disease.

8.3.8 There are risks relating to the mining of precious metals and base metals in the Proposed New Business

Please refer to paragraphs 8.1.1 to 8.1.4 above for certain risks associated with the mining of precious metals and base metals in the Proposed New Business.

9. INTERESTS OF DIRECTORS AND CONTROLLING SHAREHOLDERS

9.1 Interests in the Shares

As at the Latest Practicable Date, the Company has an existing issued and paid-up share capital of 2,353,100,380 Shares. As at the Latest Practicable Date, the interests of Directors in the capital of the Company as recorded in the Register of Directors' Shareholdings are as follows:

	Direct Interest		Deemed Interest	
	No. of Shares	%	No. of Shares	%
Directors	–	–	–	–
Mr. Fuganto Widjaja(1)	–	–	–	–
Mr. Dwi Prasetyo Suseno	–	–	–	–
Mr. Mochtar Suhadi	–	–	–	–
Mr. Mark Zhou You Chuan	–	–	–	–
Mr. Lim Yu Neng Paul(2)	–	–	320,000	0.0136%
Mr. Irwandy Arif	–	–	–	–
Mr. Lew Syn Pau	–	–	–	–
Mr. Djuangga Mangasi Mangunsong	–	–	–	–

Notes:

(1) Mr. Fuganto Widjaja is the son of Mr. Indra Widjaja and the nephew of Messrs Franky Oesman Widjaja and Muktar Widjaja. Messrs Indra Widjaja, Franky Oesman Widjaja and Muktar Widjaja are the ultimate controlling shareholders of the Company.

(2) Held through Citibank Nominees Singapore Pte Ltd and DBS Nominees Pte Ltd.

As at the Latest Practicable Date, the interests of the substantial shareholders in the capital of the Company as recorded in the Register of Substantial Shareholders are as follows:

	Direct Interest		Deemed Interest	
	No. of Shares	%*	No. of Shares	%
Substantial Shareholders				
DSS(1)	2,044,145,469	86.87%	–	–
PT Sinar Mas Tunggal(2)	–	–	2,044,145,469	86.87%
PT Sinar Mas(2)	–	–	2,044,145,469	86.87%
PT Sinar Mas Cakrawala(2)	–	–	2,044,145,469	86.87%
PT Sinarindo Gerbangmas(2)	–	–	2,044,145,469	86.87%
Franky Oesman Widjaja(3)	–	–	2,044,145,469	86.87%
Muktar Widjaja(3)	–	–	2,044,145,469	86.87%
Indra Widjaja(3)	–	–	2,044,145,469	86.87%

Notes:

* The percentage of shareholding above is computed based on the total number of issued voting shares of 2,353,100,380

(1) The 2,044,145,469 shares are held by Citibank Nominees Singapore Pte Ltd on behalf of DSS as bare trustee.

(2) PT Sinar Mas Tunggal is deemed interested in 2,044,145,469 shares held by DSS by virtue of its shareholding of no less than 20% of the issued share capital of DSS. PT Sinar Mas is deemed interested in 2,044,145,469 shares held by DSS by virtue of its shareholding of no less than 20% of the issued share capital of PT Sinar Mas Tunggal. PT Sinar Mas Cakrawala is deemed interested in 2,044,145,469 shares held by DSS by virtue of its shareholding of no less than 20% of the issued share capital of PT Sinar Mas. PT Sinarindo Gerbangmas is deemed interested in 2,044,145,469 shares held by DSS by virtue of its shareholding of no less than 20% of the issued share capital of PT Sinar Mas Cakrawala.

(3) Mr Franky Oesman Widjaja, Mr Muktar Widjaja and Mr Indra Widjaja are deemed interested in 2,044,145,469 shares held by DSS by virtue of their individual shareholdings of no less than 20% of the voting shares in PT Sinarindo Gerbangmas.

9.2 Interest in the Proposed Transactions

Save as disclosed in this Circular, none of the directors and controlling shareholders of the Company has any interest, other than through their respective shareholdings direct or indirect, in the Proposed Transactions.

10. DIRECTORS' SERVICE AGREEMENT(S)

No service contract is proposed to be entered into between the Company and any person in connection with the Proposed Transactions.

11. DIRECTORS' RECOMMENDATION

11.1 GEAR Initial Investment

The Directors having considered, *inter alia*, the terms and the rationale of the GEAR Initial Investment and the Joint Venture, and after discussion with the management of the Company, are of the opinion that the GEAR Initial Investment and the Joint Venture are in the interests of the Company and the Shareholders. Accordingly, the Directors recommend that Shareholders vote in favour of Ordinary Resolution 1 relating to the proposed ratification of the GEAR Initial Investment and the proposed Joint Venture.

11.2 GEAR Additional Investment

The Directors having considered, *inter alia*, the terms and the rationale of the GEAR Additional Investment, and after discussion with the management of the Company, are of the opinion that the GEAR Additional Investment is in the interests of the Company and the Shareholders. Accordingly, the Directors recommend that Shareholders vote in favour of Ordinary Resolution 2 relating to the GEAR Additional Investment.

11.3 Proposed Diversification

The Directors having considered, *inter alia*, the terms and the rationale of the Proposed Diversification, and after discussion with the management of the Company, are of the opinion that the Proposed Diversification is in the interests of the Company and the Shareholders. Accordingly, the Directors recommend that Shareholders vote in favour of Ordinary Resolution 3 relating to the Proposed Diversification.

12. EXTRAORDINARY GENERAL MEETING

12.1 Background on COVID-19

The Directors refer to:

(i) the COVID-19 (Temporary Measures) Act 2020 passed by Parliament on 7 April 2020 which enables the Minister for Law by order to prescribe alternative arrangements for listed entities in Singapore to, inter alia, conduct general meetings, either wholly or partly, by electronic communication, video conferencing, tele-conferencing or other electronic means;

(ii) the COVID-19 (Temporary Measures) (Alternative Arrangements for Meetings for Companies, Variable Capital Companies, Business Trusts, Unit Trusts and Debenture Holders) Order 2020 which was gazetted on 13 April 2020 and subsequently amended on 14 April 2020 and 24 April 2020, and which sets out the alternative arrangements in respect of, inter alia, general meetings of Companies;

(iii) the joint statement released by the ACRA, the Monetary Authority of Singapore and SGX RegCo on 13 April 2020 (and subsequently updated on 27 April 2020, 22 June 2020 and 1 October 2020), providing additional guidance on the conduct of general meetings during the period from 27 March 2020 to 30 June 2021; and

(iv) the Amendments to the COVID-19 (Temporary Measures) (Alternative Arrangements for Meetings for Companies, Variable Capital Companies, Business Trusts and Debenture Holders) Order 2020, which came into force on 29 September 2020 and has extended the meeting orders to 30 June 2021 and refined the Order to facilitate entities to hold meetings via electronic means.

12.2 Date, time and conduct of EGM

The EGM will be convened and held by way of electronic means on 24 March 2021, at 3.00 p.m., for the purpose of considering and, if thought fit, passing with or without modification, the resolutions set out in the Notice of EGM.

Approval by way of Ordinary Resolution is required in respect of Ordinary Resolution 1, Ordinary Resolution 2 and Ordinary Resolution 3.

13. ACTION TO BE TAKEN BY SHAREHOLDERS

13.1 Circular, Notice of EGM and Proxy Forms

The Circular, the Notice of Extraordinary General Meeting and a Proxy Form has been sent to Shareholders by electronic means via publication on the Company's Investor Relations (IR) website at the URL http://investor.gear.com.sg/circulars.html, and is also available on the SGX website at the URL https://www.sgx.com/securities/company-announcements. Printed copies of these documents will **NOT** be sent to members.

13.2 Alternative arrangements for participation at the EGM

Due to the current COVID-19 restriction orders in Singapore, members will NOT be able to attend the EGM in person. Shareholders may participate in the EGM by:

(i) observing and/or listening to the EGM proceedings via live audio-visual webcast or live audio-only stream;

(ii) submitting questions in advance of the EGM; and/or

(iii) appointing the Chairman of the Meeting as proxy to attend, speak and vote on their behalf at the EGM.

A Shareholder (whether individual or corporate) who has Shares entered against his/her/its name in (a) the Register of Shareholder; or (b) the Depository Register as at the cut-off time being 72 hours prior to the time of the EGM (being the time at which the name of the Shareholder must appear in the Register of Shareholders or the Depository Register, in order for him/her/it to be considered to have Shares entered against his/her/its name in the said Registers), shall be entitled to attend (via electronic means), submit questions in advance and vote by proxy at the EGM.

13.3 Steps for pre-registration of attendance at the EGM via electronic means, pre-submission of questions and voting at the EGM

Shareholders will be able to observe and/or listen to the EGM proceedings through a live audio-visual webcast or live audio-only stream by pre-registering, submit questions relating to the resolutions to be tabled for approval at the EGM in advance of the EGM and vote by appointing the Chairman of the Meeting as proxy to attend, speak and vote on their behalf at the EGM.

To do so, they will need to complete the following steps in accordance with the dates / deadlines specified:

Pre-registration		
No	**Steps**	**Dates/ Deadlines**
1.	Shareholders must pre-register for the live audio-visual webcast or live audio-only stream of the EGM proceedings at the pre-registration website with the Company's appointed polling agent at URL: https://complete-corp.com/gear-egm/ by 3.00 p.m. on 21 March 2021 to enable the Company to verify their status as Shareholders.	Pre-registration at the pre-registration website with the Company's appointed polling agent at URL: https://complete-corp.com/gear-egm/ by 3.00 p.m. on 21 March 2021. Shareholders who hold their Shares through relevant intermediaries as defined in Section 181 of the Companies Act, Chapter 50 of Singapore should approach their respective relevant intermediaries through which they hold such Shares as soon as possible in order to make the necessary arrangements. Note:- CPF or SRS investors who wish to appoint the Chairman as their proxy should approach their respective CPF Agent Banks or SRS Operators to submit their votes at least seven (7) working days before the EGM.
2.	Following the verification, authenticated shareholders will receive an email containing the instruction to join the live webcast with the log-in password and the link to access the live audio-visual webcast or toll-free telephone number, meeting ID and password to call for the audio-only stream of the EGM proceedings (the "**Confirmation Email**").	Shareholders who do not receive the Confirmation Email by 12.00 p.m. on 23 March 2021 but have registered by the deadline at 3.00 p.m. on 21 March 2021 should contact the Company's appointed polling agent, Complete Corporate Services Pte Ltd, by email at gear-egm@complete-corp.com.

Submission of Questions		
No	**Steps**	**Dates/ Deadlines**
1.	Shareholders will **NOT** be able to ask questions at the EGM live during the webcast or audio-stream, and therefore it is important for members to pre-register and submit their questions in advance of the EGM. Shareholders (whether individual or corporate) may submit questions relating to the resolutions to be tabled for approval at the EGM in advance of the EGM, in the following manner: (a) if submitted electronically, be submitted: (i) via the pre-registration website at the URL https://complete-corp.com/gear-egm/; or (ii) via email by sending the questions to the Company's appointed polling agent, Complete Corporate Services Pte Ltd, at gear-egm@complete-corp.com; (b) in hard copy by post to the office of the Company's appointed polling agent, Complete Corporate Services Pte Ltd, at 10 Anson Road, #29-07 International Plaza, Singapore 079903, in any case, by 3.00 p.m. on 21 March 2021.	All questions must be submitted by 3.00 p.m. on 21 March 2021. The Company will endeavour to address all substantial and relevant questions received in advance of the EGM from Shareholders, prior to or during the EGM. The Company will publish the responses to the substantial and relevant questions on the Company's website and on SGXNET prior to the EGM. The Company will publish the minutes of the EGM on the Company's website and on SGXNET within one month from the date of the EGM, and the minutes will include the responses to the substantial and relevant questions which are addressed during the EGM.

Submission of Proxy Form to vote		
No	**Steps**	**Dates/ Deadlines**
1.	A Shareholder (whether individual or corporate) **MUST** appoint the Chairman of the EGM as his/her/its proxy to attend, speak and vote on his/her/its behalf at the EGM if such Shareholder wishes to exercise his/her/its voting rights at the EGM. The Proxy Form is available at for download at the Company's website at the URL http://investor.gear.com.sg/circulars.html; and on the SGX website at the URL https://www.sgx.com/securities/company-announcements. Where a Shareholder (whether individual or corporate) appoints the Chairman of the EGM as his/her/its proxy, he/she/it **MUST** give specific instructions as to voting, or abstentions from voting, in respect of a resolution in the Proxy Form, failing which the appointment of the Chairman of the EGM as proxy for that resolution will be treated as invalid.	

Submission of Proxy Form to vote		
No	**Steps**	**Dates/ Deadlines**
2.	The Proxy Form must be submitted in the following manner: (a) if submitted by post, be deposited at the office of the Company's appointed polling agent, Complete Corporate Services Pte Ltd, at 10 Anson Road, #29-07 International Plaza, Singapore 079903; or (b) if submitted electronically, via email to the Company's appointed polling agent, Complete Corporate Services Pte Ltd, at gear-egm@complete-corp.com, in either case not later than 3.00 p.m. on 21 March 2021. A Shareholder holder who wishes to submit the Proxy Form by using the abovementioned (a) or (b) must first download, print, complete and sign the Proxy Form, before scanning and submitting it to the email address or posting it to the office address provided above. In view of the current COVID-19 situation and the related safe distancing measures which may make it difficult for members to submit completed Proxy Forms by post, the Company strongly encourages members to submit completed Proxy Forms electronically via email to the Company's appointed polling agent at gear-egm@complete-corp.com or at URL: https://complete-corp.com/gear-egm/	Proxy Forms to reach the Company's appointed polling agent, Complete Corporate Services Pte Ltd, by 3.00 p.m. on 21 March 2021. A Depositor shall not be regarded as a Shareholder entitled to attend the EGM and to speak and vote thereat unless he is shown to have Shares entered against his name in the Depository Register, as certified by CDP as at 72 hours before the time fixed for the EGM. Shareholders who hold their Shares through relevant intermediaries as defined in Section 181 of the Companies Act, Chapter 50 of Singapore should approach their respective relevant intermediaries through which they hold such Shares as soon as possible in order to make the necessary arrangements, including the submission of their voting instructions by 5.00 p.m. on 12 March 2021 in order to allow sufficient time for their respective relevant intermediaries to in turn submit a Proxy Form to appoint the Chairman of the EGM to vote on their behalf by 3.00 p.m. on 21 March 2021.
		Note:- CPF or SRS investors who wish to appoint the Chairman as their proxy should approach their respective CPF Agent Banks or SRS Operators to submit their votes at least seven (7) working days before the EGM.

13.4 Important Reminder

Due to the constantly evolving COVID-19 situation in Singapore, the Company may be required to change the arrangements for the EGM at short notice. Shareholders should check Company's announcement on SGXNet at the URL: https://www.sgx.com/securities/company-announcements or the Company's website at URL: http://investor.gear.com.sg/circulars.html for the latest updates on the EGM.

14. CONSENT

14.1 SD2 Pty Ltd, which prepared the SD2 Reports, has given and has not before the date of this Circular withdrawn its written consent to the issue of this Circular with the inclusion of Appendix A1 and Appendix A2, its name and all references thereto in the form and context in which they appear in this Circular.

14.2 Australian Mine Design and Development Pty Ltd, which prepared the AMDAD Report, has given and has not before the date of this Circular withdrawn its written consent to the issue of this Circular with the inclusion of Appendix A3, its name and all references thereto in the form and context in which they appear in this Circular.

14.3 Behre Dolbear Australia Pty Limited, which prepared the Independent Valuation Report, has given and has not before the date of this Circular withdrawn its written consent to the issue of this Circular with the inclusion of Appendix B, its name and all references thereto in the form and context in which they appear in this Circular.

15. DIRECTORS' RESPONSIBILITY STATEMENT

The Directors collectively and individually accept full responsibility for the accuracy of the information given in this Circular and confirm after making all reasonable enquiries that, to the best of their knowledge and belief, this Circular constitutes full and true disclosure of all material facts about the Proposed Transactions and the Group, and the Directors are not aware of any facts the omission of which would make any statement in this Circular misleading.

Where information in this Circular has been extracted from published or otherwise publicly available sources or obtained from a named source, the sole responsibility of the Directors has been to ensure that such information has been accurately and correctly extracted from those sources, reflected or reproduced in this Circular in its proper form and context.

16. DOCUMENTS FOR INSPECTION

Copies of the following documents are available for inspection at the registered office of the Company, at 20 Cecil Street, #05-05, PLUS, Singapore 049705, during normal business hours for a period of three months from the date of this Circular:

(a) Constitution of the Company;

(b) Subscription Agreement;

(c) Shareholders' Deed;

(d) GEAR Commitment Letters;

(e) Development Plan;

(f) Independent Qualified Person's Reports; and

(g) Independent Valuation Report.

Yours faithfully
For and on behalf of
the Board of Directors of
GOLDEN ENERGY AND RESOURCES LIMITED

Dwi Prasetyo Suseno
Group Chief Executive Officer

Ravenswood Gold

Buck Reef West Mineral Resource Estimate

April 2020

FINAL

Project Code:	**RAV002003**
Report Date:	**27 November 2020**
Effective Date:	**30 September 2020**
Author:	**Scott Dunham**

Release Date Addendum

Buck Reef West Mineral Resource Report – 27 November 2020

SD2 Pty Ltd (SD2) completed a Mineral Resource Estimate for the Buck Reef West gold deposit in April 2020. This addendum is an addition to the then published Mineral Resource technical report outlining SD2's analysis of changes at Buck Reef West between 20 April 2020 and 30 September 2020 (the 'effective date') and SD2's opinion on the materiality of any changes identified during that period.

Changes Potentially Effecting the Mineral Resource

The Buck Reef West deposit is part of the greater Ravenswood Gold Pty Ltd (Ravenswood) Mineral Resource base. Ravenswood are currently in the process of developing an open pit mining operation to extract the Buck Reef West Mineral Resource. In the period between 20 April 2020 and 30 September 2020 the following resource estimation related activities occurred:

1. Development activities focused on establishing and refurbishing the pre-existing mine camp, ore treatment plant and on procurement and delivery of the new mining fleet;
2. Production was restricted to processing of historical sub-grade stockpiles (not included in this report);
3. No surface mining took place. The topographic surface for 20 April 2020 and 30 September 2020 is identical;
4. Forty-two (42) new drill holes were completed into the mineralisation for a total of 8,827m. This represents a 6% increase in the number of holes and a 7% increase in the drilled metres compared to the data available at 20 April 2020.

Of these four activities, only the additional drilling has the potential for material impact on the quality and quantity of the estimated Mineral Resource.

Materiality Checks

SD2 reviewed the additional 42 drill holes completed between 20 April 2020 and 30 September 2020 (Figure 1).

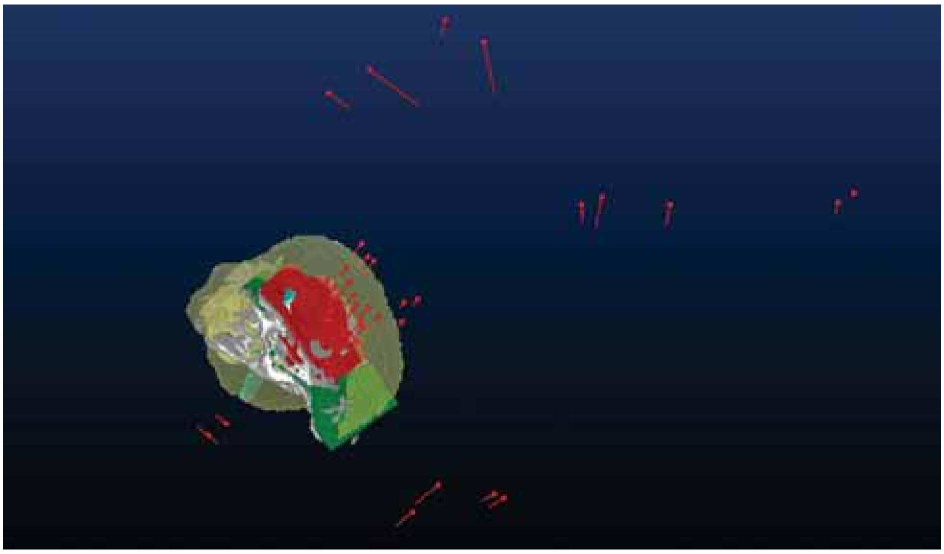


Figure 1. Location of holes drilled between April 2020 and September 2020.

Thirteen (13) of the new drill holes were targeted at areas more than 300m from the crest of the optimised pit shell used to report the Buck Reef West resource. These holes are not considered material to the April 2020 estimate and their inclusion in the available data will not impact on the local or global resource estimate. The remaining 29 holes were focused on the northwest portion of the reported Mineral Resource, targeting potential depth extensions and in-filling regions of low drill density to improve the Mineral Resource classification confidence.

Fifteen (15) of the 29 holes drilled in the footprint of the reported Mineral Resource estimate did not have all sample assays available as at 30 September 2020. Inspection of the remaining 14 holes with complete data sets indicated no material difference in the grade tenor, width of mineralisation or location of the mineralised zones. Some holes (e.g., BRRD469, BRRD470, BRRD472, BRRD474, BRRD483) indicate sporadic medium to high grade mineralisation to the hangingwall of the Duke lodes; however the level of geological understanding of this potential new line of mineralisation was incomplete as at 30 September. Therefore, these holes, while promising, are not considered material to the global resource estimate.

The impact of the holes drilled between April 2020 and September 2020 is summarised in Table 1. The 14 new holes with potential to impact on the Mineral Resource estimate are consistent with the April 2020 estimate. These 14 holes represent a 2% increase in the number of drill holes in the mineralisation.

Table 1. Materiality of new drilling.

Hole category	Number of Holes	Material to Estimate	Comment
Greater than 300m from resource	13	No	Drilled to test exploration targets.
Information incomplete (e.g. awaiting assays)	15	No	Geology is consistent with interpretation. No grade data available to inform resource estimate
Intersected reported resource	14	No	Intersections are consistent with April 2020 estimate (grade, width, location)
Total Number of new holes	**42**		

Conclusions

In SD2's opinion the Buck Reef West April 2020 Mineral Resource estimate is suitable for reporting as at 30 September 2020. No mining activities have occurred at Buck Reef West and therefore the resource estimate does not need to be depleted to allow for extraction. Similarly, in the absence of mining there are no reconciliation data available or geological observations to justify altering the interpretation of the resource.

While Ravenswood drilled an additional 42 holes between April 2020 and September 2020, only 14 of these holes were completed with full assay data and targeted areas within the reported resource. These 14 additional holes confirmed the grade tenor, width and location of the interpreted mineralisation and therefore, in SD2's opinion, they do not materially alter the quality or quantity of the estimate.

Tabulated Mineral Resources as at 30 September 2020.

Buck Reef West Mineral Resource Statement as at 30 September 2020.

Open Pit Above 0.3 g/t	Tonnes	Grade (Au g/t)	Ounces
Measured	-	-	-
Indicated	25,050,000	1.03	833,000
Inferred	1,170,000	1.11	42,000
Total Open Pit Resource	**26,220,000**	**1.04**	**875,000**

Underground Above 3.5 g/t	Tonnes	Grade (Au g/t)	Ounces
Measured	-	-	-
Indicated	91,000	4.97	14,600
Inferred	65,000	4.71	9,800
Total Underground Resource	**156,000**	**4.86**	**24,400**

Total Measured and Indicated	**25,141,000**	**1.11**	**899,400**

Open put resources above AUD3800 shell.
Underground resources within continuous zones >2.0m wide and > 1,000m3
Model: BRW200410.bm
Rounding errors may occur

This resource statement is based on an estimate of the Buck Reef West mineralisation completed 20 April 2020 and an assessment of materiality of changes between April 2020 and September 2020. The complete technical report for the estimate is included in the following documentation.

Executive Summary

The Buck Reef West gold deposit is part of the Ravenswood gold mine in north Queensland. An updated mineral resource estimate was developed incorporating the most recent drilling and geological information as at 18 March 2020. This estimate supersedes previous estimates for the Buck Reef West mineralisation.

The April 2020 Buck Reef West resource model[1] is based on similar geology interpretation and methodology to the previous Resolute Mining Limited 2018 estimate. This a reversion to ordinary kriging as the preferred estimation methodology. This 2020 estimate has simplified the estimation approach and it has been developed to be readily updateable and to be suitable as a basis for future grade control modelling methods.

The resource is classified under the JORC Code (2012) as Indicated and Inferred. There is no Measured resource at Buck Reef West. Classification was on the basis of sample spacing, geological confidence and a range of estimation quality metrics including the block-to-sample distance and configuration.

The Buck Reef West mineral resource estimate includes both open pit and underground potential. Open pit resources are reported at a 0.3 g/t Au cut-off above an AUD4000 optimised pit shell. Underground resources are reported within continuous zones greater than 2m wide and more than 1,000m3 at a cut-off of 3.5 g/t in close proximity to the pit shell. The resource is reported below the topographic surface as at 12 March 2020 and excludes known mined voids from historic workings.

[1] Brwestimate200410.bm.dm completed and released 20 April 2020.

Buck Reef West April 2020 Mineral Resource Statement

Open Pit Above 0.3 g/t	Tonnes	Grade (Au g/t)	Ounces
Measured	-	-	-
Indicated	25,050,000	1.03	833,000
Inferred	1,170,000	1.11	42,000
Total Open Pit Resource	**26,220,000**	**1.04**	**875,000**

Underground Above 3.5 g/t	Tonnes	Grade (Au g/t)	Ounces
Measured	-	-	-
Indicated	91,000	4.97	14,600
Inferred	65,000	4.71	9,800
Total Underground Resource	**156,000**	**4.86**	**24,400**

Total Measured and Indicated	**25,141,000**	**1.11**	**899,400**

Open put resources above AUD3800 shell.
Underground resources within continuous zones >2.0m wide and > 1,000m3
Model: BRW200410.bm
Rounding errors may occur

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1. Introduction and Scope

Ravenswood Gold Pty Ltd (Ravenswood, or RAV) recently acquired the Ravenswood gold mine located 130km by road from Townsville and 90km from Charters Towers. Ravenswood mine is not currently operating; however a feasibility study outlining the mining opportunity and steps required to start production formed a central part of the sale and acquisition process. As part of the acquisition process SD2 Pty Ltd (SD2) was engaged to review the resource model and estimate for Ravenswood and consider the suitability of the model for future mine planning. This investigation identified risks with the resource estimate, mainly around the grade-tonnage distribution. Consequently, RAV engaged SD2 to re-estimate the mineral resources at Ravenswood.

This report outlines the resource estimation approach adopted for the Buck Reef West (BRW) deposit, the first of two major resources in the area.

1.1 Location and History

The Ravenswood gold mine is one of a number of gold deposits in the Ravenswood-Lolworth Province of northeast Queensland. Alluvial gold was discovered at Ravenswood in 1868 followed by the discovery of oxidised gold-bearing quartz reefs. By 1872 most of the near-surface oxide mineralisation had been depleted (McIntosh et al. 1995) and only the refractory sulphide-associated mineralisation remained. A second phase of production started with the formation of the New Ravenswood Company in 1896 and focused on extracting this sulphide-associated gold from lodes and veins including the Duke of Edinburgh, General Grant, Sunset, London, Mellaneur, Shelmallier (MSA) and Black Jack systems. The majority of gold was from the Sunset lode which produced 208,949 oz from a 45° dipping vein to a depth of 200m below surface (Collett et al., 1998). Production decreased rapidly after 1912 due to exhaustion of the Sunset Lode, an extended miner's strike and the impact of World War 1.

There was limited activity at Ravenswood from 1917 to 1980. Silver was produced from the nearby (1.6km north) Totley mine in the 1950s; otherwise production was limited to minor underground extensions and few drill holes. In the early 1980's The North Queensland company reprocessed several old mullock dumps and tails dams. In 1985, MIM Exploration Pty Ltd (MIM) began exploring the Ravenswood district and, following early success MIM's subsidiary Carpentaria Gold (CG) began open pit production at Bucks Reef West (BRW) , Slaughter Yard Creek (SYC) and OCA in 1987. The operation commenced as a heap leach (250 Ktpa) and small (100 Ktpa) CIL operation before the construction of a 2.4 Mtpa CIL plant in 1993. This plant was expanded to 5.5 Mtpa in 2000 to enable treatment of production from the Sarsfield and Nolan's open pits (Lisoweic, 2009).

Production at the Sarsfield open pit was completed in 2009 and the ore treatment plant was de-rated to 1.5 Mtpa in 2011 while focus switched to the nearby Mt Wright underground operation. There was a hiatus at Ravenswood until 2016 when the Nolan's East open pit commenced. As of 2020 production is limited to treating old stockpiles and dumps until the plant is refurbished and approval given to recommence operations at Buck Reef West.

Historically the Ravenswood area has produced approximately 2.4Moz at an overall average grade of 1.7g/t. (Table 2). Excluding production prior to 1987 the area produced 1.5Mz at a grade of 1.1g/t.

Year	Operation	Recorded Production	Ounces	Source
Pre 1987	Lode mineralisation across entire field.	No tonnes and grade reported. Estimated grades reported as 30 g/t (Lisowiec, 2009).	900-950,000	Collett et al. 1998. Lisowiec, 2009.
1987 – 1990	SYC (pit)	526,000 @ 2.7 g/t	45,700	Collett et al. 1998
1987 – 1989	OCA (pit)	290,000 @ 3.4 g/t	31,700	Collett et al. 1998
1988 – 1991	BRW (pit)	160,000 @ 2.8 g/t	14,400	Collett et al. 1998
1991	OCA (ug)	149,000 @ 4.1 g/t	19,600	Collett et al. 1998
1990	Area 4 (pit)	50,000 @ 2.4 g/t	3,900	Collett et al. 1998
1988 -1991	Area 5 (pit)	260,000 @ 2.4 g/t	20,000	Collett et al. 1998
1990 – 1991	MSA (pit)	48,000 @ 3.5 g/t	5,400	Collett et al. 1998
1992 – 1993	Area 2 (ug)	174,000 @ 10.1 g/t	56,500	Collett et al. 1998
1993 – 1996	Nolans (pit)	4,100,000 @ 1.25 g/t	164,800	Collett et al. 1998
2003 – 2005	BRW (ug)	376,000 @ 4.0 g/t	48,400	Lim et al., 2018
2000 – 2003	Sarsfield (pit)	3,900,000 @ 1.24 g/t	155,500	Haoma Mining Annual Report 2003
2004 – 2009	Sarsfield (pit) Note, introduction of MIK for resource estimation	33,490,000 @ 0.91 g/t	980,000	Lim et al., 2018
Total Recorded Production		**44.3Mt @ 1.7 g/t**	**2,400– 2,450,000**	
Open Pit Only		**40.0Mt @ 1.7 g/t**	**2,150-2,200,000**	
Pits After 2000		**37.4 Mt @ 0.9 g/t**	**1,100,000**	

Table 2. Historic Production (Ravenswood).

SD2 note the differences in average mined grade between production at Sarsfield/Nolans in 1993-1996 (1.25 g/t), 200-2003 (1.24 g/t) and 2004-2009 (0.91 g/t). While it is not possible to directly relate the decrease in grade to a single cause, it is notable that the 2004-2009 production was carried out by the new operator (Resolute). At the time of Resolute's acquisition of Ravenswood from Xstrata, there was a stated plan to improve operational performance by reducing strip ratio and changing grade control practices (Resolute 2004 Annual Report; Figure 2).

Since assuming operational control Resolute has reviewed and re-interpreted the resource model which has led to a re-optimisation and re-design of the open pit. The new mine design has significantly reduced the waste removal required for the life of mine and is predicted to improve the economics of future operations. In addition, improved grade control techniques have been

Figure 2. Extract form Resolute 2004 Annual Report.

It is possible this change in strategy was linked to the adoption of multiple indicator kriging (MIK) as the resource estimation and grade control estimation methodology and the decrease in grade may reflect a corresponding decrease in selectivity. Much of the detail of estimation and operational practices in and around the 2003-2004 period have been lost following a legal dispute between Haoma Mining and MIM Holding Limited and the subsequent sale of Haoma's interest in the Nolans open pit to MIM which was shortly followed by Xstrata's acquisition of MIM itself.

1.2 Work Completed

The April 2020 Buck Reef West mineral resource estimate was a complete revision of the previous modelling reported by Resolute Mining Limited. Consequently SD2 completed a comprehensive review of past practices, the data quality and previous estimates as part of developing the new estimation strategy. In addition to the activities completed in the Due Diligence study, SD2's work included the following:

- Review of the geology database and request for an extract covering the Buck Reef West mineralisation;
- Review of surfaces required for the estimate including topography and voids;
- Review of the operational grid system and the history of grid transformations;
- Review of drill hole collars against topography (where appropriate);
- Review of geological logging systems and results. Consideration of ways to best incorporate logging into the resource estimate;
- Review of bulk density data and consideration of its suitability for resource estimation;
- Review of sampling and assay data with a particular focus on high-grade samples occurring adjacent to unsampled intervals;
- Review of quality control performance data collected at the time of drilling and sampling;
- Collation of all files and metadata used for previous estimates where possible;
- Review of the structural geology of the Ravenswood district and BRW specifically. Consideration of how the geological structure influences the resource model and estimate;
- Review and update of the geological interpretation. Development of domains suitable for resource estimation;
- Estimate the BRW mineral resource and document the estimation process and results (this document);
- Prepare the April 2020 estimate for use in mine planning; and
- Prepare a geology/resource risk assessment and report.

All of the work completed for the BRW mineral resource estimate was carried out under the guidelines of the JORC Code[2] (2012 edition) reporting framework.

1.3 Previous Estimates

There have been three recent estimates of the Buck Reef West mineral resource, one developed in 2018 and two developed in 2019. These three estimates all adopted different estimation strategies (Table 3).

Name	Date	Practitioner	Estimation Method	Comment
BRW_2018	June 2018	Resolute (A. Pedersen)	Ordinary and simple kriging in 2D and 3D rotated space	Complex estimate based on interpreted mineralised lodes and indicator proportions for mineralisation outside of lodes
MPR_2019	August 2019	MPR Geological Consultants (J. Abbott)	Multiple indicator kriging (MIK) with broad domains defined by mineralisation trends	MIK estimate exhibits a left-shifted grade-tonnage distribution compared to other estimates reflecting the influence of higher-grade samples spreading into lower grade zones (based on the geological interpretation).
SD2_Sensitivity	September 2019	SD2 Pty Ltd	Ordinary kriging within domains developed from the MPR MIK estimate	Estimate designed to shift the MIK grade-tonnage curve to the right and reduce high-grade to low-grade interference patterns. Estimate also designed as a 'down-side' prediction for evaluation of the Ravenswood acquisition.
SD2_2020	April 2020	SD2 Pty Ltd	Ordinary kriging in 3D using dynamic anisotropy. Based on BRW_2018 domaining logic.	Simplified modelling approach applied to the same geological interpretation used in the BRW_2018 estimate. Higher-grades lying outside of interpreted lodes constrained by a 25% probability iso-surface of the 0.5 g/t Au grade indicator. Soft boundaries applied one-way from this iso-surface domain to background samples (i.e., the domain restrict tonnage but uses background samples as well as samples within the domain for estimation)

Table 3. Previous BRW Estimates.

As part of this report on the 2020 BRW mineral resource estimate, SD2 has compared these three previous estimates to the current estimate using identical reporting parameters as far as possible. The results of these comparisons are shown in Appendix G. In broad terms the estimates are similar (except for the SD2 Sensitivity model); however they differ in the grade-tonnage distribution above a range of cut-offs. This reflects the differences in estimation approaches.

[2] JORC Code – The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

1.4 Changes in Methodology

The April 2020 Buck Reef West estimate is most similar to the BRW_2018 estimate by Pedersen. The estimation strategy uses the following steps:

5. Manual interpretation of lodes and structures for:
    a. Buck Reef Fault;
    b. Duke of Edinburgh (Duke) lodes;
    c. General Grant (Grant) lodes;
    d. Sunset lodes;
6. Development of a buffer zone around each of these lodes to encapsulate near-lode high grade samples;
7. Development of a domain representing 'proto-lodes' or zones of discontinuous mineralisation containing isolated high-grades outside of the lodes and buffer zones;
8. Estimation by ordinary kriging using dynamic anisotropy[3] and parameter developed for each domain;
9. Estimation using a combination of hard and one-way-soft contacts (section 5.6.2) based on domain statistics and estimation performance;
10. Assignment of the estimated domain average grade to blocks that remain unestimated after all permissible sample searches have been applied; and
11. For the background model, apply a broad search with a high number of samples required to provide a grade trend with high degree of smoothing.

The estimate was post-processed to remove any negative grades, and set appropriate flags to indicate rock/air interface, underground voids and maximum reporting volumes (section 5.7.)

1.5 Critical Risks

The Buck Reef West deposit is characterised by a high proportion of isolated, relatively high-grade samples that lie outside of the interpreted lode domains. These samples reflect the sporadic grade distribution at Buck Reef West outside of the main lode and Buck Reef Fault structures (refer section on geology). While these isolated high grades are 'real', modelling and estimating their spatial distribution is challenging and can have a large impact on the contained metal. At the current drill hole spacing these samples often appear discontinuous; however indicator modelling at a range of cut-offs implies that there may be additional 'proto-lodes' at Buck Reef West, zones or corridors of preferential mineralisation (Figure 6). This is consistent with the structural framework model developed by OreFind (2018) which suggests

[3] An approach that dynamically changes the search and (optionally) variogram model orientation on a block-by-block basis to align with the interpreted strike/dip/plunge of the mineralisation.

that Buck Reef West (and the wider Ravenswood district) form an orthorhombic system of vein and faults (Figure 9 and Figure 10).

2. Project Description

2.1 Site and Existing Infrastructure

The Ravenswood gold mine is accessed by sealed road from a turn-off on the Burdekin Falls Dam Road. The site sits adjacent to the historic Ravenswood township (population 200) and there are several heritage-listed structures in and around the district. Mining operations at Ravenswood ceased in 2009; however the ore treatment plant was used to treat production from the nearby Mt Wright underground mine and therefore is still operational. At present (April 2020) low grade stockpiles produced during mining of the Sarsfield-Nolans pit are being treated through the plant.

The site is well equipped with the requisite infrastructure for mining and ore treatment operations (Resolute, 2018). Power is supplied through existing connections to the state-wide grid (PowerLink) via the Ergon Energy distribution network. Water is supplied via a 20km pipeline from the Burdekin River and the site operates two surge dams to manage seasonal flow variations. Telecommunications are provided by Telstra and the site operates a dedicated frame-relay data link provided by Optus.

Other existing site infrastructure includes workshops and warehouses to service the ore treatment plant and mining fleet, offices, sewage treatment plant, on-site accommodation and messing. While much of this infrastructure will require upgrading over the life of the combined BRW and Sarsfield production, there are no known impediments preventing the provision.

The existing tailing storage facilities (TSF) are insufficient for full the currently planned production from BRW and the Sarsfield/Nolan pits. RAV are developing a tailings management strategy and have had several options developed for evaluation. Tails from processing of Sarsfield/Nolans low grade stockpiles are being dewatered and dry-stacked back in the Sarsfield open pit. Discussions with the Queensland Department of Environment and Science (DES) are on-going and SD2 is unaware of any impediment likely to prevent resolution of the tails storage requirements for Buck Reef West.

In SD2's opinion there are no infrastructure-related issues that would prevent production from the Buck Reef West deposit. Further information on the existing and planned infrastructure requirements is contained in the REP 200 feasibility study (Lim et al., 2018).

2.2 Tenements and Tenure

Ravenswood Gold took possession of a number of Mining Leases (ML), Mining Lease Applications (MLA) and Exploration Permits (EPM) as part of the acquisition of the Ravenswood operation in 2020. During the acquisition process (December 2019) Ravenswood engaged Hetherington Exploration and Mining Title Services Pty Ltd (Hetherington) to review the status of the acquired leases. Hetherington prepared a report (Martin, 2019) on the status of the leases based on information obtained from the Department of Natural Resources, Mines and Energy ("DNRME") My-Mines-0nline ("MMOL") database and other information as supplied by DNRME, the tenement holder/s (obtained via the digital data room) and the Department of Environment & Science ("DES").

The titles relating to Buck Reef West include:

- ML 1380 (expires 30 November 2034)
- ML 1412 (expires 31 January 2023)
- ML 1532 (expires 31 October 2027)
- ML 1722 (currently an infrastructure only ML that will be conditionally surrendered on the grant of MLA100172)
- MLA100145
- MLA100149
- MLA100147
- MLA100172

The status of these MLs and MLAs is summarised in Table 4(after Martin, 2019).

Tenement	Native Title	Holder/s	Status	Granted	Expiry	Minerals	Area (Ha)	Security Deposit	Financial Assurance
ML 1380	Section 31	CG	Granted	28-11-74	30-11-34	Gold, copper, lead, molybdenum, silver, zinc	60.79 (total) 58.59 (surface)	Nil	(note 2)
ML 1412	Pre NTA	CG	Granted	15-01-81	31-01-23	Gold, bismuth, cobalt, copper, silver, tungsten, zinc	2.024 (whole)	Nil	(note 2)
ML 1532	Pre NTA	CG	Granted	24-10-85	31-10-27	Antimony, arsenic, bismuth, copper, gold, lead, silver, zinc	0.2023 (whole)	Nil	(note 2)
ML 1722	N/A	CG	Terminated (note 1)	05-09-91	14-05-19	N/A	N/A	Nil	N/A
MLA 100145	Section 31	CG	Granted	13-05-19	31-05-39	Gold, copper, lead, molybdenum, silver, zinc	1.03 (total) 0.34 (surface)	Nil	(note 2)
MLA 100147	Exclusive	CG	Granted	13-05-19	31-05-39	Gold, copper, lead, molybdenum, silver, zinc	0.2023 (whole)	Nil	(note 2)
MLA 100149	Exclusive	CG	Granted	13-05-19	31-05-39	Gold, copper, lead, molybdenum, silver, zinc	1.3 (whole)	Nil	(note 2)
MLA 100172	Section 31	CG	Granted	13-05-19	31-05-39	Gold, copper, lead, molybdenum, silver, zinc	58.46 (whole)	Nil	(note 2)

Note 1 - ML 1722 is not current. This ML was conditionally surrendered in favour of ML 10172 which was granted on 13-5-2019
Note 2 - All of these ML's are currently included in EPML00979013. Carpentaria have advised that they have recently paid an amount of $280,000 into the financial provisioning scheme. This is assumed to be an annual payment.

Table 4. Status of BRW tenements (After Martin, 2019).

At the time of Martin's report the tenement holder was Carpentaria Gold Pty Ltd (CG). SD2 understand that these leases were transferred to RAV at the settlement of the acquisition transaction (1 April 2020). The BRW MLs and MLAs include gold in the list of exploitable minerals and metals. The rent for all BRW leases has been paid to 31-8-2020. The leases are all covered by a site specific Environmental Agreement (EPML00979013).

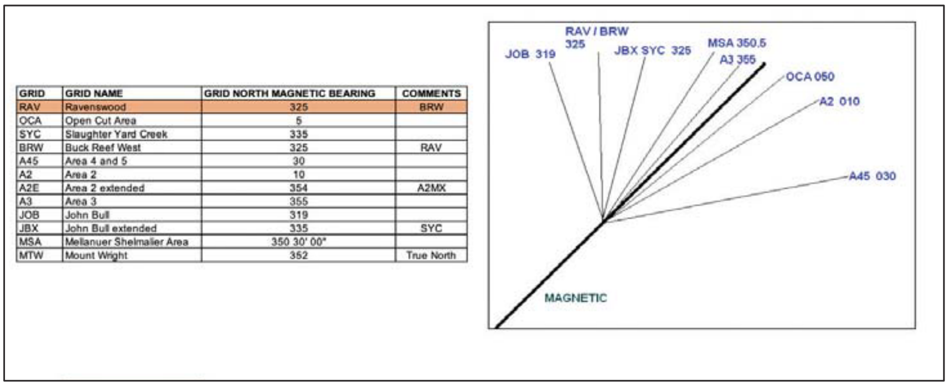
Martin (2019) concluded that the BRW MLs and MLAs appear to be in good standing with two caveats:

1. Local government authority (council) rates for some recently granted leases had not been paid.
2. Hetherington has relied on information provided by CA as the lease holder and therefore recommended a direct search application to DNRME to verify lease status and conditions.

In SD2's opinion there are no material issues related to tenement status and ownership. Ravenswood Gold own 100% of the listed titles.

2.3 Grid System

Multiple grid systems have been used at Ravenswood, reflecting the long production history and variable lode orientations. The BRW grid (known as the A45 grid) has local north oriented to bearing 030° magnetic. Coordinates are truncated and lie between 12,000 and 14,000 in both northing and easting. Complicating matters further there is a 32.813 translation in elevation between the local Nolans grid and other grids in the field. A list of the different grids and their translations was compiled by Kelly & Partners Consulting Surveyors in 1993. This list further validated in 2004. Figure 3 illustrates the differences in orientation between a selection of the known grids and Table 5 shows the 2-point rotation and translation data for conversions between local, AGD84_Z55 and MGA94 mapping grids.



GRID	GRID NAME	GRID NORTH MAGNETIC BEARING	COMMENTS
RAV	Ravenswood	325	BRW
OCA	Open Cut Area	5	
SYC	Slaughter Yard Creek	335	
BRW	Buck Reef West	325	RAV
A45	Area 4 and 5	30	
A2	Area 2	10	
A2E	Area 2 extended	354	A2MX
A3	Area 3	355	
JOB	John Bull	319	
JBX	John Bull extended	335	SYC
MSA	Mellanuer Shelmalier Area	350 30' 00"	
MTW	Mount Wright	352	True North

Figure 3. Ravenswood Local Grids.

LOCAL GRID	Usage	Description	Point1 Local Easting	Point1 Local Northing	Point1 AMG Easting	Point1 AMG Northing	Point1 MGA94 Easting	Point1 MGA94 Northing	Point2 Local Easting	Point2 Local Northing	Point2 AMG Easting	Point2 AMG Northing	Point2 MGA94 Easting	Point2 MGA94 Northing
A45/Nolans/Sarsfield	Current	LocalMine	14000	14000	489344.28	7776709.61	489459.7045	7776888.894	15000	15000	490747.88	7776882.5	490863.2946	7777061.781
RAV/BRW	Current	Underground - Buck Reef West	6250	4450	489344.28	7776709.61	489459.7045	7776888.894	7578.93	3966.31	490747.88	7776882.5	490863.2946	7777061.781
SYC	Historical	Slaughter Yard Creek	1000	2000	488259.10	7776573.19	488374.6221	7776752.477	2000	2000	489150.01	7777027.52	489265.4363	7777206.802
OCA	Historical	Open Cut Area	1000	1000	489138.3	7777113.43	489253.7269	7777292.712	2000	2000	490336.96	7777863.89	490452.3798	7778043.180
A2	Historical	Area 2	1000	1000	488070.24	7776207.38	488185.673	7776386.889	2000	2000	489330.06	7776849.9	489445.4847	7777029.183
A2E	Historical	Area 2 extended	1000	1000	488149.8	7775160.24	488265.2311	7776339.537	2000	2000	489183.71	7776125.13	489299.1349	7776304.419
A3	Historical	Area 3	1000	1000	488492.49	7776297.67	488607.92	7776476.958	2000	2000	489543.09	7777244.36	489658.5137	7777423.64
JOB	Historical	John Bull	1000	1000	491858.81	7774163.68	491974.2133	7774342.959	2000	2000	492154.23	7775546.66	492269.6329	7775725.949
JBX	Historical	John Bull extended	1000	1000	491817.23	7776062.64	491932.636	7776241.926	2000	2000	492480.68	7777311.56	492596.0628	7777490.836
MSA	Historical	Mellanuer Shelmalier Area	1000	1000	488225.66	7777640.15	488341.0936	7777819.429	2000	2000	489200.85	7778664.35	489316.278	7778843.62
AGD84_Z55	Current	Parent Grid												

Table 5. Ravenswood grid twin points.

SD2 note that the BRW local grid is not well aligned with either the Buck Reef Fault or the main lode structures. The lodes dip approximately towards 050 on the local grid and the Buck Reef Fault strikes along 025 local grid. The angular difference between the main structures and the grid introduces an unnecessary complication in the resource modelling requiring either rotated models[4] or acceptance of partial blocks within the interpreted geology. SD2 has chosen the later strategy (section 5.5). Importantly, the orientations of BRW structures are better aligned with MGA84, the Australian national mapping grid system. At the risk of introducing further grid-related complications, SD2 strongly recommend RAV investigate adopting MGA84 (or an equivalent with truncated coordinated) across the Ravenswood operation.

2.4 Site Visit

Scott Dunham completed two site visits to Ravenswood. The first during the due diligence study as part of the acquisition assessment team (August 2019) and the second in January 2020.

[4] Rotated models typically allow blocks to be aligned at any angle compared to the grid system. While this is useful in reducing volumetric errors and block numbers, there is no consistency between different software packages and rotated models in one general mining package are generally incompatible with another. This limits their usefulness.

3. Geology and Mineralisation

3.1 Regional Geology

The geology of the Ravenswood district has been described by several authors including Lim et al. (2018), Derham (2014), Berry et al. (1992), and Switzer (2000). The Ravenswood gold deposits lie within the Lolworth-Ravenswood block of the Charters Towers Province, a poorly exposed part of the regional Thomson Fold Belt (Figure 4). The Lolworth-Ravenswood Block comprises remnant amphibolite-grade metamorphic rocks intruded by an elongate east-west Ordovician-Silurian batholith (the Ravenswood Batholith) with an outcrop of 150km by 220km. The batholith is bound to the south by the Cambrian-Ordovician Seventy Mile Range Group of the Thalanga Province and the Devonian-Carboniferous Drummond Basin. The Devonian Burdekin Basin forms a northern boundary and to the east by the Carboniferous-Permian Coastal Range Igneous Complex, Permian-Triassic Bowen Basin and Quaternary sediments, and to the west by Permian-Jurassic basins such as the Galilee, and Tertiary and younger cover sequences.

The Ravenswood Batholith intruded the basement Cape River Province and Seventy Mile Range Group in three phases:

1. Hornblende and/or biotite bearing I-type granitoids ranging from granite to lesser extent gabbro intruded during the early-to-mid Ordovician contemporaneously with the formation of elements of both the Cape River Province and Seventy Mile Range Group. Minor S-type, peraluminous granites of a similar age have also been identified in the Ravenswood Batholith;
2. The bulk of the batholith (>60%) formed during the development of the Mid-Silurian to mid-Devonian Pama Igneous Complex consisting of undeformed I-type hornblende-biotite bearing granites and granodiorite with lesser s type granitoids. These intrusions were coeval with a regional northeast-southwest compression (D4) and gold mineralisation at both Charters Towers and Hadleigh's Castle, west of Ravenswood; and
3. The late Carboniferous to early Permian Kennedy Igneous Association, a group of high K calc-alkaline intrusions with a diverse range of I, S and lesser A type magmas. Rocks of the Kennedy Igneous Association increase in abundance to the south of the Ravenswood Batholith and typically form localised, ring-fracture controlled stocks and/or trachytic plugs with little preserved deformation. *This intrusive phase is likely associated with gold mineralisation at Ravenswood.*

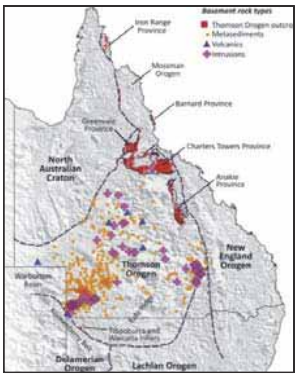


Figure 4. Location of Charters Towers Province

The region is characterised by east-west structures such as the Alex Hill Shear Zone, a 2-5km wide east-west shear zone extending over 100km across the northern edge of the Ravenswood Batholith (Figure 5) and the Mosgardies Shear Zone, a less continuous east-west mylonite zone extending from Ravenswood some 30km west to the Rochford area. The regional structural geology is considered to have formed in seven recognisable events defined as D1 to D7 (Kruezer 2005). Across the district, gold mineralisation is associated with D5 (Charters Towers) and D7 (Ravenswood). The seven deformation events include:

D1: Development of poorly preserved SE striking foliations in the Cape River and Charters Towers Metamorphics as a result of NE-SW compression.

D2: NW striking platy foliations formed during crustal extension and deposition of the Seventy Mile Range Group, synchronous with intrusion of some Ordovician Granitoids.

D3: E-W trending transcurrent shear zones developed as transfer faults or lateral ramps related to eastward progressing accretion (e.g. Alex Hill Shear Zone). Localised N-S compression related to the intrusion of Ordovician – Silurian granitoids into E-W shear zones.

D4: Development of NW-striking structures with both steep-pitching lineations and transcurrent fabrics (e.g. Burdekin River Lineament) as a result of NE-SW compression. Synchronous intrusion of Silurian-Devonian plutons into active transcurrent faults.

D5: Middle Devonian NE-SW compression concurrent with hydrothermal alteration and gold mineralisation at Charters Towers and Hadleigh's Castle.

D6: NW-SE compression producing sinistral movement on the Jessop Ck Fault and dextral movement on the Plumwood-Connolly Fault.

D7: Carboniferous E-W to NW-SE compression concurrent with rhyolitic magmatism, and alteration-gold mineralisation at Ravenswood and Mt Wright.

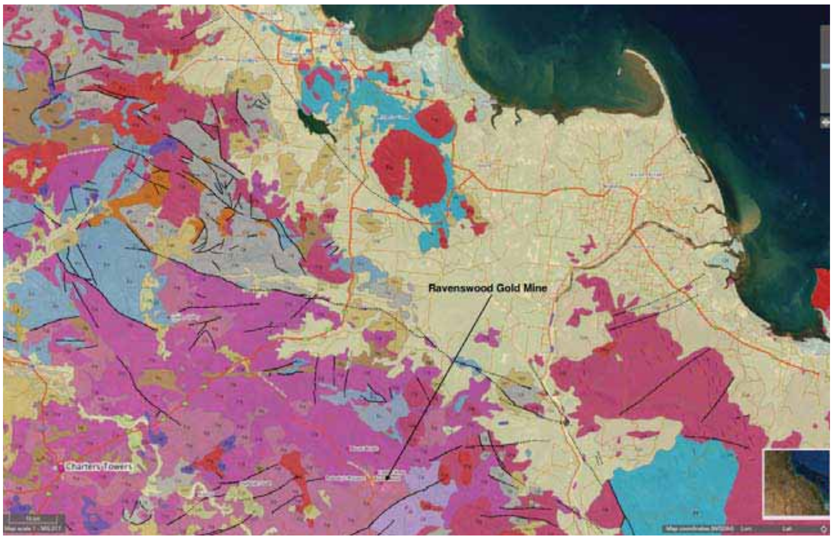


Figure 5. Lithostratigraphy of the Ravenswood District. (AUSGIN Geoscience Portal).

In summary, the regional geology suggests that the Ravenswood gold mineralisation formed during D7 deformation associated with the late Carboniferous to early Permian Kennedy Igneous Association. The regional structural setting at the time of mineralisation included east-west to northwest-southeast compression with a likely corresponding north-south to northeast-southwest dilation.

3.2 Deposit Geology and Structure

The Buck Reef West mineralisation is hosted by the Jessop Creek Tonalite[5], a variable light grey phaneritic to weakly hornblende-phyric medium to coarse grained tonalite. In the BRW area the Jessop Creek Tonalite comprises diorite, quartz diorite and minor gabbro. Boundaries between these units vary from sharp to indistinct and often show complex relationships, including stoping, xenoltihs and irregular dykes. The Jessop Creek Tonalite displays variable degrees of alteration with primary biotite weakly to moderately altered to chlorite and epidote while hornblende is only weakly altered to chlorite in most cases. Alteration in concentrated along grain margins and particularly cleavage plans of biotite. No association

[5] Tonalite – A granitoid (a coarse grained igneous rock with <90% mafics; felsic minerals are composed mostly of quartz (20-60%), Kspar (alkali-feldspar) and plagioclase), where plagioclase is >90% of the total feldspar on the QAPF diagram (quartz - alkali feldspar – plagioclase feldspar – feldspathoids or foids)

between the host lithology and gold mineralisation has been established other than it is a competent host that was amenable to the development of several styles of quartz-sulphide-veins.

The local structural geology is complex. The dominant structure is the Buck Reef Fault (BRF), a northeast trending, vertical zone within the Jessops Creek Tonalite with a strike extent of greater than 3km. The BRF has strong sub-horizontal lineations suggesting a dominantly strike-slip movement. Several authors (e.g., Switzer 2000, Laing 2005, Cowan and Davis 2017) note that the BRF pre-dates gold mineralisation at Ravenswood and has acted as a partial locus for mineralisation; in particular where it is intersected by cross-cutting low angle structures. This pattern can be seen in Figure 7 which shows the grade control ore outlines generated during mining of the BRW open pit draped with the interpreted positions of the major cross-cutting lodes. The grade control outlines have a good correlation to the interpreted lodes and expected higher-grade zones.

Other large-scale structures observed at BRW include sets of moderately dipping quartz-sulphide filled tension veins and joints locally know as 'lodes'. There are three named lode structures; the General Grant (Grant), Duke of Edinburgh (Duke) and Sunset lodes. These lodes developed in preferred structural corridors and the intensity of veining focused the gold mineralisation. Evidence from the drill hole data set indicates that there are potentially other 'proto-lode' structures (Figure 6) lying between the named lodes at BRW. The proto-lodes have similar orientations; however the structural preparation was insufficient to develop more continuous mineralised corridors. The lodes and proto-lodes cut across BRF (Figure 8).

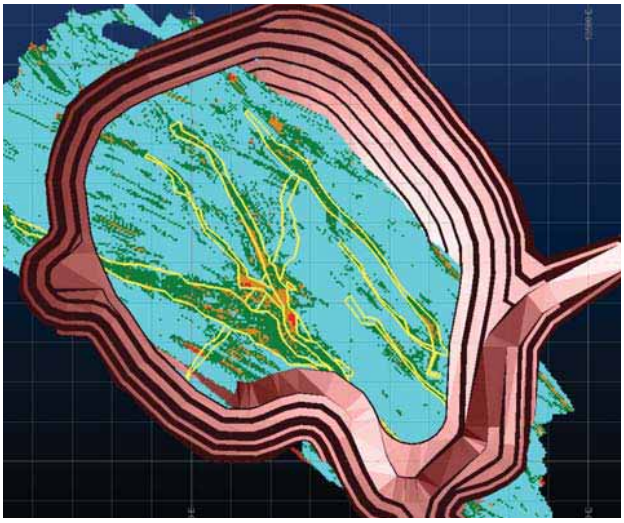


Figure 6. Indicator probability map at 0.25g/t Au showing interpreted lodes (yellow) and proto-lodes lying intermediate to the lode positions.

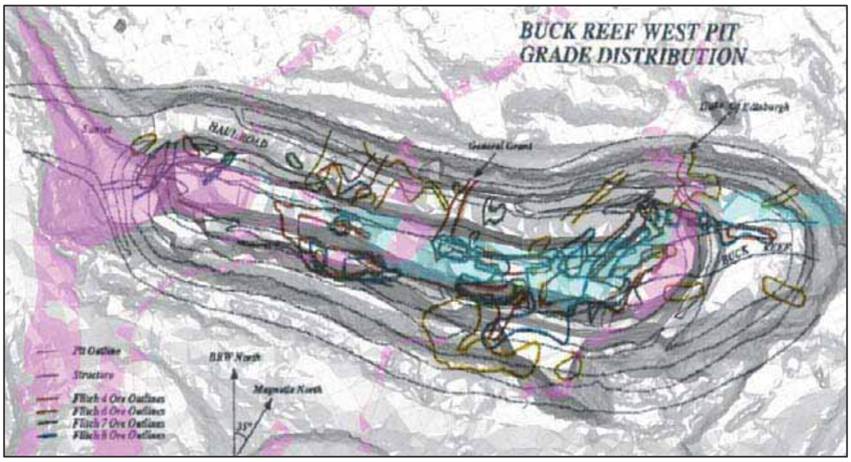


Figure 7. BRW grade distribution (modified from Switzer 2000).

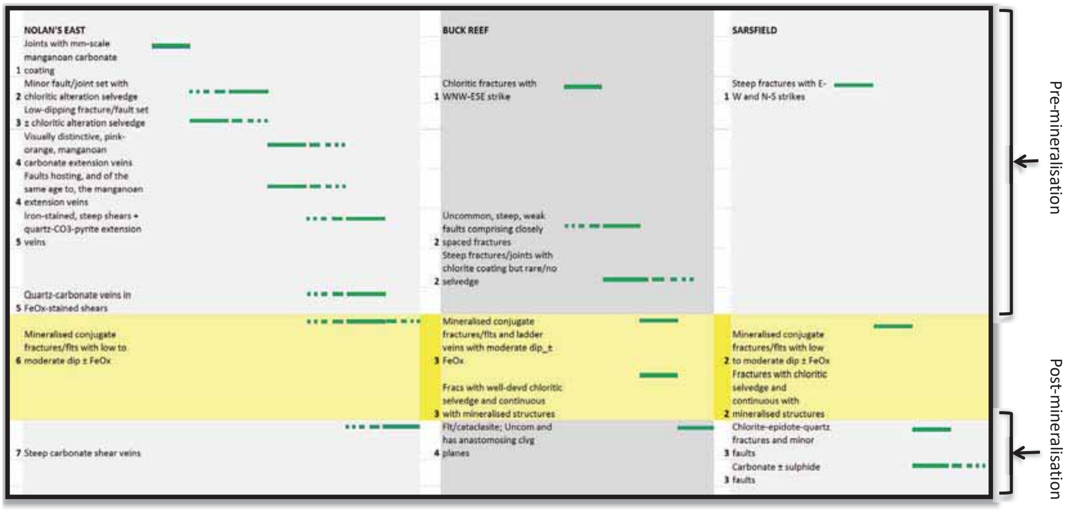


Figure 8. Local structural deformation history and mineralisation timing (After Cowan and Davis, 2017).

Gold mineralisation at BRW is structurally controlled. The tonalite and associated igneous units were subjected to complex brittle deformation resulting in multiple vein orientations. A conjugate orthorhombic structural model is proposed by Cowan and Davis (2017) (Figure 10) with three major classes of veins (Categories A, B and C) each exhibiting a different gold endowment. This simplified structural model predicts widely variable vein patterns and gold distribution. The proposed orthorhombic (non-planar) strain pattern is based on north-south shortening with a maximum extension plunging 50 -> 270[6] (AMG). The system gives rise to a subordinate (intermediate strain axis) plunging 40 -> 090 (AMG).

The three structural categories identified by Cowan and Davis are:

1. Category A characterised by the Sunset-Grant-Duke lodes. These lodes are the most continuous zones of gold mineralisation with an intersection plunge to the northeast). The proto-loads are also Category A features;
2. Category B observed primarily in the Nolans area with an intersection plunge to the south-east. These veins have lower continuity and gold endowment compared to Category A; and
3. Category C sets of sub-horizontal, north-south trending veins with little gold mineralisation.

These lode and vein geometries generate widely variable dilation features with equally variable connectivity and continuity. Mineralisation (gold and sulphides) was inconsistently deposited along the conjugate features (Figure 9). The number of geometries and variety of orientations (in 3D) increases the complexity of modelling the BRW deposit. Locally, some fracture arrays have developed as dominant features persisting 10's of metres to less than 100m as a result of local strain accommodation. Where the distance between the dominant features (i.e. the lodes) increases, weaker stockwork and proto-lode mineralisation developed.

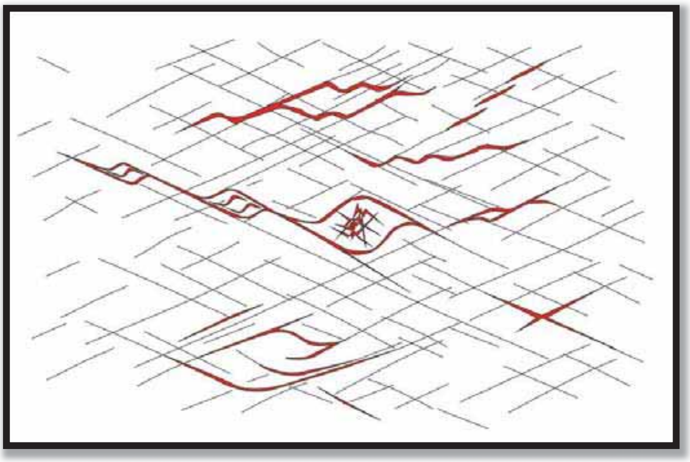


Figure 9. Diagrammatic examples of BRW fracture arrays (After Cowan and Davis, 2017).

[6] Equivalent to 50->240 in the local mine grid (A45)

The number and orientation of mineralised positions in a 3D orthorhombic system like BRW is materially more complex than a simpler 2D conjugate system (Figure 10). The orthorhombic model predicts decreasing strength of mineralisation from

1. Grant-Duke-Sunset and Buck Reef Fault intersection; to
2. Grant/Sunset and Duke intersection.

Other orientations exist at BRW; however they are more sporadic.

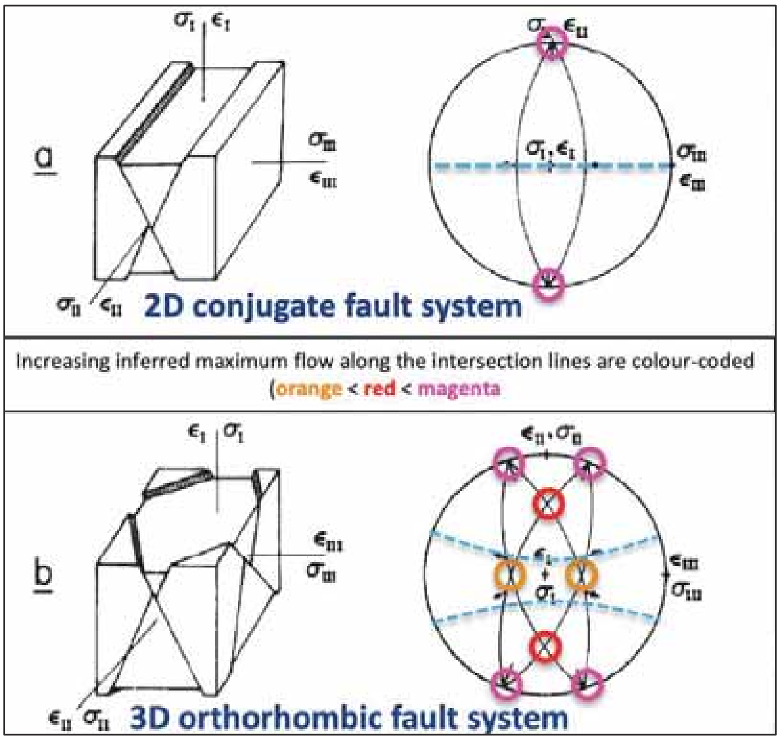


Figure 10. Generalised mineralisation sites 2D conjugate vs. 3D orthorhombic system (After Cowan and Davis, 2017).

This structural model matches well with the observed grade distribution at BRW. A significant proportion (5%) of the sample composites above 0.5 g/t sit outside the interpreted BRF and lode domains (Figure 11). These isolated higher-grade composites reflect samples close to the ‘lode’ domains, proto-lodes and general background scatter. The ‘lode’ domains are preferred corridors where veins of differing orientations concentrate. They are not classic lodes in the sense of massive quartz/sulphide mineralised zones.

The vein corridor lodes have inconsistent and variable contacts. Interpretation of the corridors leaves some adjacent grades outside of the interpreted zones. Adding a buffer zone around the lodes captures a further 2% of the composites above 0.5 g/t Au. The remaining

3% are indicative of short range and highly variable mineralisation in veins corresponding to the less dominant locations indicated in Figure 9 and Figure 10.

Figure 11. Scattered and isolated composites above 0.5g/t Au and outside interpreted lodes.

3.3 Resource Estimation Implications

The complex and discontinuous nature of the BRW mineralisation directly impacts on the resource model and estimate. As described in section 3.2, while three lodes and the BRF can be defined geologically a relatively large percentage of higher-grade composites are not directly captured within the interpretation. While these data are real and reflect the sporadic nature of some of the mineralisation, there is a risk that they may adversely affect the estimated tonnes and grade if they are not well managed during estimation.

Previous resource models have taken different approaches to managing these background composites (Table 6). For this estimate SD2 has applied three constraints:

Estimate	Practitioner	Approach	Discussion
BRW_2018	Resolute (A. Pedersen)	Indictor krige a variable based on gold grade and sulphide mineralogy. Estimate grades for proportion above/below indictor threshold and assign block grade as average grade of each proportion.	Pro: Incorporates sulphide mineralogy known to have an association with gold mineralisation. Con: Mixes mineralised and unmineralised material to determine average block grade. Block proportions from indicator are data-dependent and method will have vastly different performance in areas of close-spaced data compared to more widely-spaced samples.

Estimate	Practitioner	Approach	Discussion
MPR_2019	MPR Geological Consultants (J. Abbott)	Use broad domains to envelop all mineralised composites. Domain on dominant orientation alone and let the indicator kriging manage both in-lode and out-of-lode composites.	Pro: Simple and fast Con: Does not account for geology. Mixes grade populations from different geological features. Results in 'patchwork' grade distributions that bear little resemblance to the underlying geological framework.
SD2_2020 (this estimate)	SD2 (Scott Dunham)	Develop 'buffer' domains surrounding the main lode interpretations to capture high-grade samples in proximity to the lodes (**Figure 12**). Additionally, create grade and sulphide mineralogy based domain using indicator kriging (as per BRW_2018) and select a probability iso-surface from the indicator to represent the spatial domain. Apply one-way soft boundaries for buffer domains. Require high number of samples for background mineralisation. Coupled with steep short-range variogram model (>70% variance within 10m) this acts as a moving window average, dampening the impact of isolated extreme grades	Pro: Buffer captures 'vein leakage' from region around lodes and applies a spatial restriction the high-grades in the buffer to reduce smearing. Indicator capture some proto-lode mineralisation. Applying high number of composites, smoothing and spatial restriction in background model acts to reduce grade smearing for samples not inside a domain. Con: Background stationarity is low, so solution relies on quasi-stationarity of the search ellipse. This is a reasonable assumption in regions of dense data but less reasonable where the samples are sparse. Size of buffer domain is not fully informed by geology. In the next iteration of this estimate the buffer should be more data-driven and incorporate geological observations / knowledge.

- Buffer Zones (Figure 12) were created around the interpreted lode positions. These buffers were estimated as separate domains using a one-way soft contact into the background mineralisation. The impact of these buffers is to capture higher-grades adjacent to the lodes while simultaneously limiting the spatial extent these grade can exert on the estimate. This is particularly effective where lodes intersect and bifurcate. In these cases the buffer zones capture the likely increased veining and fracturing in these complex areas;
- An additional proto-lode domain was developed based on the 20% probability iso-surface of the 0.5g/t Au indicator (Figure 13). This domain captured some of the higher-grade composites lying outside the lode and buffer domains, effectively restricting the spatial extent of these samples; and
- Use of a wide search with high numbers of composites required for the background mineralisation (section 5.6.1). A minimum of 20 composites from at least six drill holes were required for the initial background estimate. If this target was not met, the search ranges were expanded; however the minimum number of composites were also increased which further smoothed the estimated grade, dampening the influence of any isolated high grades. In well drilled areas where there are several high grade samples, this approach allows for the background grade to increase while at the same time reducing the likelihood of high grades smearing into unsampled areas. This approach relies on the concept of quasi-stationarity of the search

neighbourhood and, given the very steep slope of the variogram model (>70% of total variance within 10m) tends towards an estimate based on a moving window average.

Table 6. Difference in modelling approaches for BRW isolated grades.

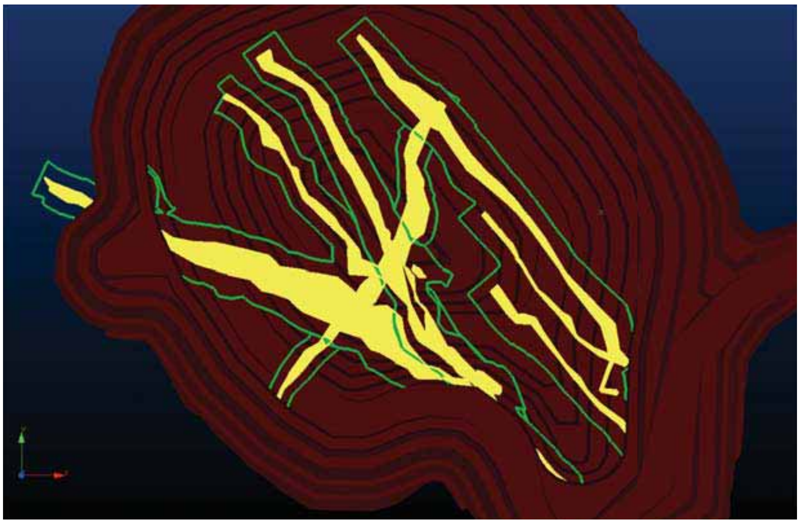


Figure 12. 'Buffer' Domains around interpreted lodes at BRW.

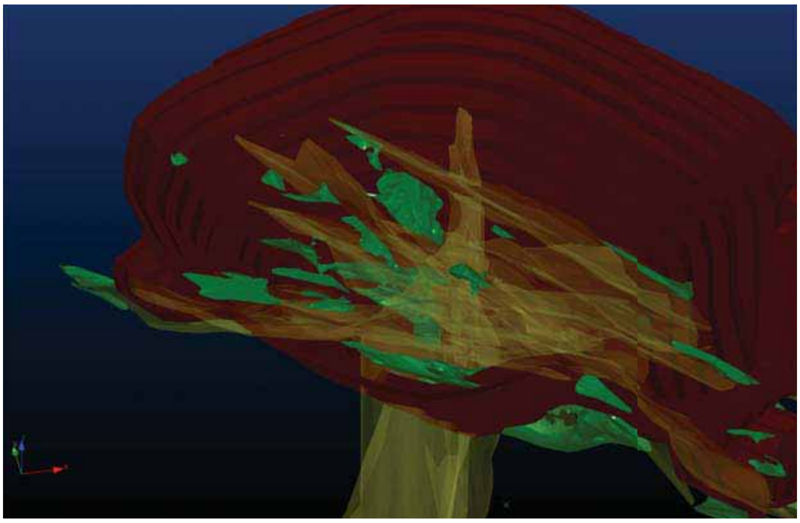


Figure 13. Proto-Lode domain (green).

4. Resource Estimation Data

4.1 Data Provided

SD2 was provided with a comprehensive data set including:

- The geology drill hole database in MS Access format dated 17 February 2020. This database included tables for:
  - Assays
  - Collars
  - Down hole surveys
  - Lithology logs
  - Structural measurements and
  - Magnetic susceptibility.
- The topographic surface for the Ravenswood area including a lidar survey combined with historical end-of-pit mining surfaces;
- Wireframe solids for historical underground mining for all lodes at BRW (stopes and development);
- Wireframe surface for a range of conceptual open pits based on analysis of past resource estimates;
- A variety of reports including general geology descriptions, structural geology analyses and past mineral resource estimation reports; and
- A set of interpreted wireframe solids for the Duke, Grant, Sunset Lodes and the Buck Reef Fault.

4.2 Database Assessment

The geology database contains both recent (post 2006) and historical data (1986-2006) collected by multiple companies in multiple campaigns. Documentation of drilling approach and management methods for the historical data is sparse. The more recent drilling was supervised by Resolute Mining and procedures were well documented.

The data consists of observations from drilling using multiple methods including open hole, aircore, reverse circulation and diamond drilling (Table 7). Aircore, blast holes, RAB and water bore drilling was removed from the data set before estimation. Open hole percussion samples were retained in keeping with previous work by MPR Geological Consultants (Abbott, 2019). MPR compared 266 open hole 2.0m composites against nearby diamond and RC composites (maximum separation 4.0m) and concluded there was a favourable correlation between the different sample types. MPR noted that some very low grade and very high grade data had poorer correlation; however, MPR considered the data did not exhibit a material bias. MPR's pair comparison statistics and data scatter charts are replicated in Table 8 and Figure 14 for reference. SD2 note that the distribution of the open hole data is limited (Figure 15). Many of the holes lie above the current topographic surface or outside the margins of the deposit. The exception to this is some close-spaced, near-surface open hole percussion drilling at the southern end of the General Grant lode. This area is also supported by several RC and diamond drill holes and the potential impact of the open hole percussion samples is limited.

Hole Type	Total Number of Holes	Number Used for BRW Estimate
Air Core	28	0
Air Core – Diamond Tail	16	15
Blast Hole	2	0
Diamond	149	140
Open Hole Percussion	96	96
Open Hole – Diamond Tail	146	146
Rotary Air Blast	34	0
Reverse Circulation	281	273
Reverse Circulation – Diamond Tail	50	48
Sludge	34	0
Water Bore	4	0
Water Bore RAB	4	0
Total Number of Holes	**844**	**718**

Table 7. Number of drill holes at Buck Reef West.

	All Pairs < 4m		Pairs < 10g/t		Pairs 0.05 - 5.0 g/t	
	OHP	Other	OHP	Other	OHP	Other
Number	266		252		96	
Average	1.48	1.22	0.62	0.60	0.87	0.88
Avg. Diff		-18%		-3%		2%
CV	4.15	4.47	2.31	2.12	1.16	1.22
Minimum	0.01	0.01	0.01	0.01	0.05	0.05
1st Quartile	0.01	0.01	0.01	0.01	0.16	0.17
Median	0.09	0.09	0.08	0.09	0.44	0.44
3rd Quartile	0.58	0.62	0.46	0.57	1.23	1.23
Maximum	75.80	77.50	8.68	8.57	4.35	4.97

Table 8. OHP vs RC+DD pair statistics (After MPR, 2018).

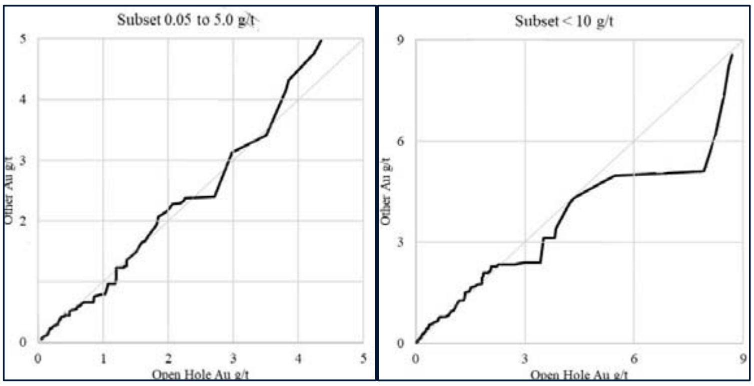


Figure 14. OHP vs RC + DD pair statistics (After MPR, 2018).

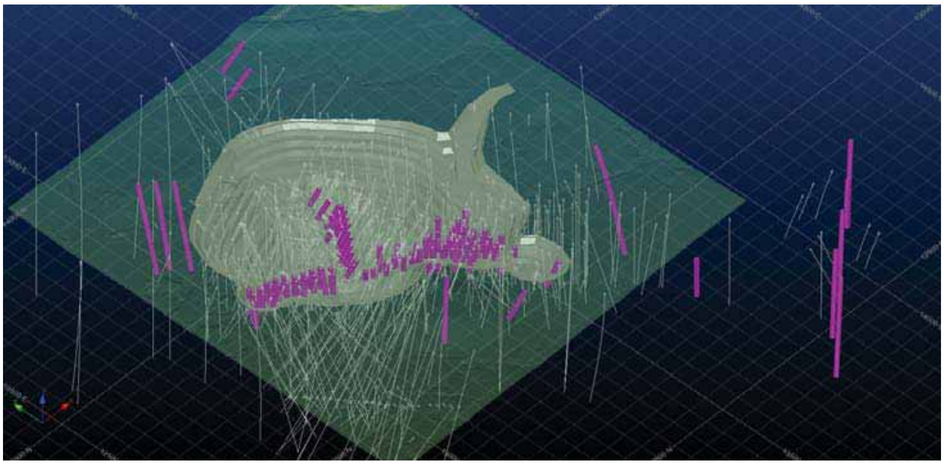


Figure 15. Location of OHP drill holes.

SD2 reviewed the provided MS Access database and discussed data management practices with the on-site team. Both the digital and hard-copy records were examined, and it was clear that significant time and effort had been spent on data quality.

A ran a suite of routine checks were completed identify data errors. Checks included:

- Missing data (collar, survey, assay, lithology);
- Duplicate holes, collars, surveys and samples;
- Sample from/to values beyond the recorded length of the hole;
- Invalid data including out-of-range coordinates, negative grades;
- Spurious survey deviations based on angular rate of change tolerances;

No errors were found by these checks and visual examination of the desurveyed drill hole data supported SD2's opinion of the high quality of the geology database.

4.3 Drilling and Sampling

The drilling and sampling procedures used for recent drilling at BRW are well described in Lim et al. (2018). Drilling at BRW can be divided into roughly 4 periods (Table 9, Figure 16 and Figure 17).

Period	Number of Holes
1900 – 1986	41 (5%)
1986 – 2004	469 (56%)
2004 – 2012	86 (10%)
2012 – Present	248 (29%)
Total	**844**

Table 9. Drill holes by date.

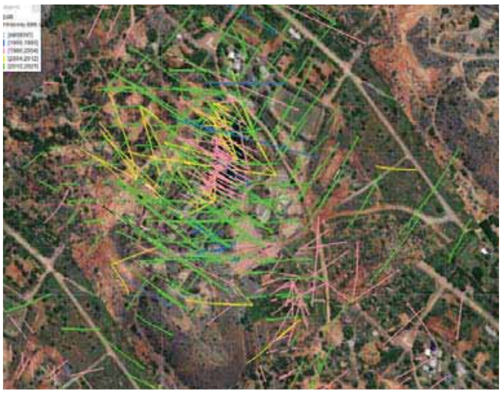


Figure 16. Drill holes by date (plan).

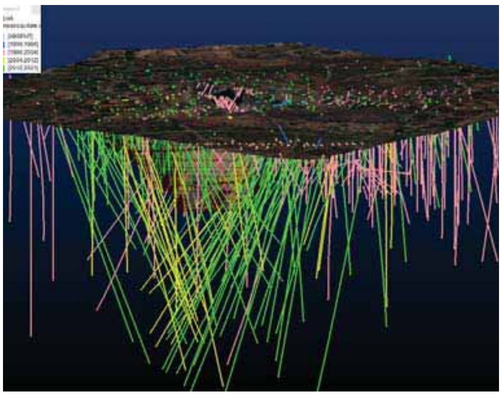


Figure 17. Drill holes by date looking NE.

The majority of drilling occurred between 1986 and 2004 during the ownership of MIM Exploration through their Carpentaria Gold subsidiary. Holes drilled in this period were typically vertical, targeting the Duke of Edinburgh, General Grant and Sunset lodes with a few angled holes intersecting the upper levels of the Buck Reef Fault. From 2004 to 2012, total drilling decreased, and the holes were targeted at the deeper portions of the Buck Reef Fault and extensions of lode mineralisation on the western side of BRF.

From 2012 to present, drilling targeted deeper zones of BRF and also duplicated some of the earlier intersections in the lode mineralisation. Drill intersections were restricted due to previous mining; however, where possible holes were extended through narrow stope voids. This recent drilling was completed using procedures and standards set by Resolute Mining Limited.

The drill hole database contains records for approximately 120km of drilling and six different drill methods (Table 10). The majority of drill holes are diamond core. This drilling consists of a close to equal split of chips and diamond core samples (Table 10).

Hole Type	Metres in Resource Drill Hole Database
RC	29,170.7 (24%)
OPD	26,684.94 (22%)
DD	37,396.58 (31%)
RCD	17,786.98 (15%)
OHP	7,454.6 (6%)
ACD	1,335.87 (1%)
Total Metres	**119,829.67**

Table 10. Metres drilled by hole type.

Sample Type	Metres
Chips	46%
Unrecorded	8%
Core	45%
Void/Stope Fill	0.1%

Table 11. Proportion of sample types.

Drill holes used in the resource estimate were restricted to those holes with validated collar surveys, down hole surveys, lithological logs and assay data.

Limited information is available for drilling and sampling procedures for holes drilled before 2004. Most of these samples were drilled by MIM Exploration, an organisation with well-developed drilling and sampling protocols and practices. MIM's processes in the 1980's and 1990's were at or above the then industry standard.

More detailed records are available for drilling after 2004. This includes a description of the drilling and sampling methods, procedures, protocols and quality management systems (Lim et al., 2018).

For RC drilling prior to 2016, samples were collected using a riffle splitter below cyclone approach with the feed controlled using a 'sock' between the two devices. This initial riffle split divided the sample into 25:75 proportions. The 25% proportion was then further divided using a secondary, smaller riffle splitter to create the final sample to be analysed. Samples were collected at 1.0m intervals. Sample recovery was estimated based on the 25% fraction from the initial split. After 2016, the RC drilling/sampling practice was modified. A cone splitter below cyclone approach was adopted. Sample intervals remained at 1.0m.

Diamond core sampling was standardised to 1.0m intervals regardless of the underlying geology. Given the nature of the mineralisation (effectively stockwork veins with different orientations), standardising on sample interval was a reasonable decision. Core was half-sawn using an automatic saw with the cut made along an offset to the orientation line (where present).

Both RC and Diamond core holes were logged using a standardised logging legend incorporating lithology, alteration, mineralisation styles, structural observations and geotechnical information (DDH only).

All samples collected after 1996 were analysed by Australian Laboratory Services Pty Ltd (ALS) in their Townsville facility. A proportion of samples were also submitted for umpire analysis (SGS Townsville). The sample preparation and analysis procedure has remained largely unchanged. After drying, crushing and splitting (if required), and pulverisation, a 30g or 50g aliquot was selected from pulp for fire assay. A proportion of holes were also analysed using ICP-MS/ICP-AES of a four-acid digest of a 0.25g aliquot.

Some RC and grade control blast hole samples were analysed on-site at the Ravenswood gold mine laboratory using pulverise and leach (PAL) of 1kg samples.

4.3.1 Treatment of absent data

A relatively large proportion of the drill hole database has not been assayed. Of the 96,582 sample records, 38,141 (39%) were not assayed for gold or were reported as below detection limit (i.e., a negative value in the database). For the purpose of this estimate SD2 assigned a very low grade (0.005 g/t) to these intervals.

4.4 Quality Management

Only limited quality management performance information is available for holes drilled prior to 2004. For data collected post-2004, quality management (QAQC) followed general industry guidelines. Quality control samples including certified reference materials (CRM), blanks, quartz flushes and basalt blanks were blind submitted to ALS and to the on-site lab. Additionally, routine checks of pulverisation performance were completed and a selection of samples were chosen for coarse and pulp duplicate analyses. The results of this quality management system are outlined in Resolute, 2018.

Thirteen different CRM standards were submitted (1,725 individual packets) within a total of 462 sample batches between 2009 and 2018. Of these, 135 were part of the quality management system for the on-site lab and 324 were for monitoring ALS Townsville. The CRMs performed better than the statistical expectation with less than 1% of results lying outside of 2 standard deviations. CRM performance was similar across all grade ranges. Normative analysis of ALS Townsville's performance indicates a slight negative bias against certified values for CRM below 2.0g/t and a slight high bias above 2.0 g/t. The biases are less than +/- 2% in all cases. The on-site lab recorded similar or slightly better performance against the certified values.

The performance of blanks submitted (including lab blanks, quartz flushes, basalt blanks and a certified blank from Geostats) was excellent. Of 5,605 blanks submitted to ALS, 50 recorded a 'warning' and 42 recorded a 'fail'. The highest warning rate (5%) was for quartz flushed indicating the need for improved inter-sample hygiene particularly after pulverising very high grade samples. The overall performance of submitted blanks is in line with good practice.

Routine sieve checks used to monitor pulverisation performance showed ALS met or exceeded the 85% passing 75μ threshold more than 99% of the time. The results show that there is a chance the3 samples were over-pulverised (Figure 18) with 40% of the data indicating >95% passing 75μ.

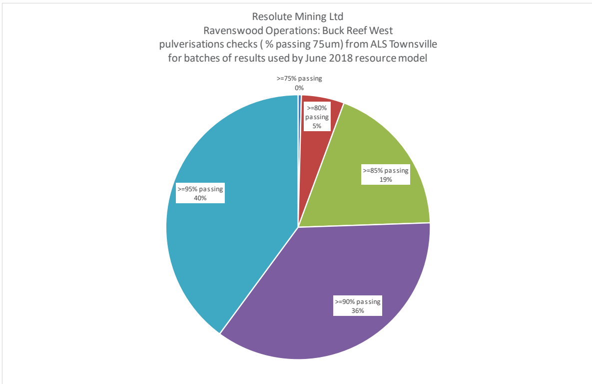


Figure 18. Pulverisation results to June 2018.

Analysis of the 1,590 duplicate samples submitted to ALS Townsville showed a high correlation coefficient (0.945) and a close match on the shape of the histograms for primary and duplicate samples. The scatter plot (Figure 19) shows the typical trends expected for well managed duplicates with high precision.

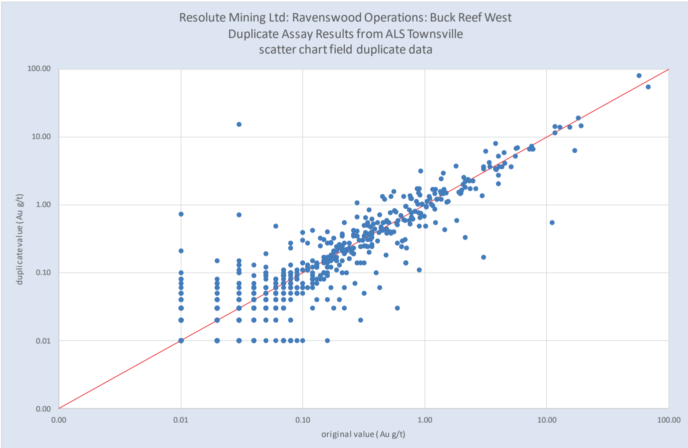


Figure 19. Duplicate sample scatter plot.

Performance at the on-site lab, while lower than ALS, was within acceptable limits. There was a slight bias, largely driven by differences in the higher grade samples. Similar trends were evident for coarse split and pulp duplicate as expected.

The quality management data indicates BRW is based on high quality sample results with good precision and accuracy. The data is considered acceptable for resource estimation and evaluation.

4.5 Collar and Down Hole Survey Data

All data used for the BRW estimate was reported in the local A45 grid, a rotation of 30° clockwise from magnetic north. This grid also includes a datum height adjustment of -32.813m to the Australian Hight Datum.

The practices and standards for drill hole location are reported in Lim et al. (2018).

Drill hole collars were surveyed by the Ravenswood gold mine in-house survey team using Leica TPS1100 total station and optical techniques. A review of the reported collar locations against the LIDAR topography shows good agreement. No collars were independently checked for this estimate and the data is accepted as meeting industry standards.

Down hole surveys exist for the majority of drill holes based on a variety of techniques including electronic multi shot (51%) and either electronic or manual single shot (28%). Three percent (3%) of the down hole survey records were based on the set up hole orientation of a compass measurement). A review of the down hole survey data did not identify any obvious errors. Hole traces were consistent, and no data artefacts were observed.

Sample locations within drill holes were based on the Datamine Studio RM standard desurvey method. This approach calculates the XYZ centre point, bearing and dip for each interval based on spherical arcs. Survey measurements are treated as 3D unit vectors (i.e., they are *not* independent) and therefore sample intervals lie tangential to the unique arc defined by the survey data.

4.6 Data Distribution and Spacing

There are a number of common drilling directions at BRW (Figure 20). The most common is vertical holes (shown as bearing 000 in Figure 20). Followed by two perpendicular orientations 320 and 210. A third subset of east-west holes completes the major directions. This highlights a paucity of drilling in the 030-150 direction. In the two perpendicular directions holes were drilled on nominal 40m grids.

Drill hole coverage is reasonable; however given the complexity of the structure and grade distribution at BRW additional infill drilling is required prior to mining and for grade control to provide sufficient certainty of grade continuity for mineralisation outside the major lode structures. Preliminary analysis based on the variograms of the different domains suggests a grade control spacing on the order of 10m x 10m.

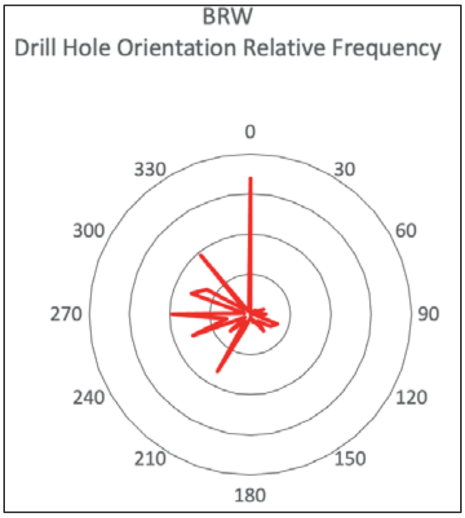


Figure 20. Drill orientation frequency.

4.7 Bulk Density

The bulk density used for BRW is based on 1,957 Archimedes measurements collected from drilling supervised by Resolute Mining Limited between 2014 and 2018. The samples are well spread throughout the mineralisation and indicate a relatively low degree of variability. SD2 examined fresh and oxide densities and compared data from within the lodes and outside of the lodes (Table 12).

	Number	Average	Median	Minimum	Maximum	CV
Oxide	20	2.75	2.73	2.63	2.84	0.020
Fresh	1937	2.80	2.78	1.79	4.13	0.038
In Lodes	329	2.86	2.81	2.28	3.74	0.055
Outside Lodes	1,628	2.78	2.77	1.79	4.13	0.032

Table 12. Basic statistics for bulk density measurements.

The measured bulk density values are supported by tonnage reconciliations from production at BRW and Sarsfield.

Based on the sample data and reconciliation, SD2 assigned a bulk density of 2.85 g/cm^3 to the lode domains and 2.78 g/cm^3 to domain 9999 (background). All oxide material was assigned a bulk density of 2.4 g/cm^3.

5. Resource Estimation

5.1 Interpretation and Domaining

As described in section 3.2, the BRW deposit is structurally controlled and consists of vein-associated gold plus sulphide mineralisation. The location and orientation of the main features are controlled by conjugate veins developed in an orthorhombic stress regime. The structural model predicts three types of vein-associated mineralisation:

- Category A, most commonly characterised by the Sunset-Grant-Duke lodes but also featuring in proto-lodes developed between and parallel to these dominant zones;
- Category B, a vein set more common in the Nolans area that exhibit a south-easterly plunge; and
- Category C sets of sub-horizontal, north-south trending veins that carry little gold.

The Buck Reef Fault itself pre-dates the mineralisation. While gold mineralisation occurs in the BRF, it is dominated by regions where the lodes and proto-lodes intersect the pre-existing BRF structure.

The number and types of veins gives rise to complex geometries which makes interpretation difficult and increases the risk associated with assuming hole-to-hole continuity. While interpreting individual veins or even sets of veins is not practical, analysis of the data clears shows preferred mineralisation corridors (including the lodes themselves). This underlying geological system, the location and orientation of the structurally prepared corridors underpins the interpretation and domain approach adopted for the BRW estimate.

The estimate is based on a combination of manual interpretations and probability-based modelling using iso-surfacing of an underlying indicator kriged estimate. This approach effectively divides the mineralisation into 17 domains. The highest level domains are the manually interpreted lodes. These lodes are in turn enveloped by buffer zones that represent the irregular lode boundaries and act to limit edge-effects associated with applying a hard boundary to the lodes. The BRF is also manually interpreted and has its own buffer zone.

Other mineralisation domains (i.e. the proto-lodes) were developed using the 20% probability iso-surface of the 0.5 g/t Au indicator. This domain captures some (but not all) of the high-grade composites lying outside the lodes, BRF and buffer domains. The remaining high-grade composites were used to estimate the background mineralisation with their zone of influence controlled by the definition of the search neighbourhood. Blocks in the background required a relatively high number of composites (20) spread across multiple drill holes. The search ellipse was discoidal and aligned with the structural fabric of the mineralisation. The impact of this search resulted in minimising the spread (or smearing) of truly isolated composites (their grade being averaged out by the weights applied to other data in the neighbourhood) while also allowing for regions where multiple higher-grade samples across several holes imply previously unrecognised proto-lodes or regions of increased structural preparation associated with lode/BRF intersections.

The domains used in the BRW estimate are outlined in Table 13.

Family	Lode	Domain Code	Default Colour
Buck Reef Fault	BRF Lower	1001	Cyan
	BRF Shear	1002	
	BRF Upper	1003	
	BRF Buffer Zone	1000	
Duke of Edinburgh	Duke 1	2001	Red
	Duke 2	2002	
	Duke 3	2003	
	Duke Buffer Zone	2000	
General Grant	Grant 1	3001	Green
	Grant 2	3002	
	Grant Buffer Zone	3000	
Sunset	Sunset 1	4001	Yellow
	Sunset 2	4002	
	Sunset 3	4003	
	Sunset Buffer Zone	4004	
Proto-Lodes	Proto-lodes	99	Magenta
Background	Background	9999	

Table 13. List of BRW domain codes.

All of the domains were developed as sets of non-overlapping solids in Datamine Studio RM. Lode domains were prioritised over buffers and lode buffers were prioritised over the BRF. The proto-lodes (Domain 99) lies outside of the lodes, buffers and the BRF (Figure 21).

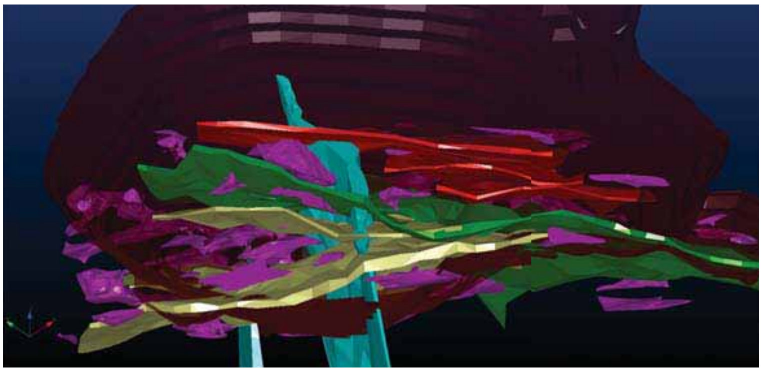


Figure 21. Interpreted BRW domains (looking down towards NE).

5.2 Compositing

The drill hole sampling approach has varied over the different drilling campaigns resulting in a range of down hole sample lengths. The sample length mode is 1.0m; however there are a moderate proportion (15%) of samples with a length of 2.0m, largely from drill campaigns completed before 2004.

SD2 examined the location of samples by length and the relationship between sample length and assay grade. The majority (78%) of samples greater than 1.0m lie within the background mineralisation. Within the lode mineralisation samples longer than 1.5m account for 15% of the intersections. Approximately half (54%) of these longer samples have been duplicated by drill holes with 1.0m sample intervals.

Analysis of grade vs sample length shows low correlation (p = -0.046, Figure 22).

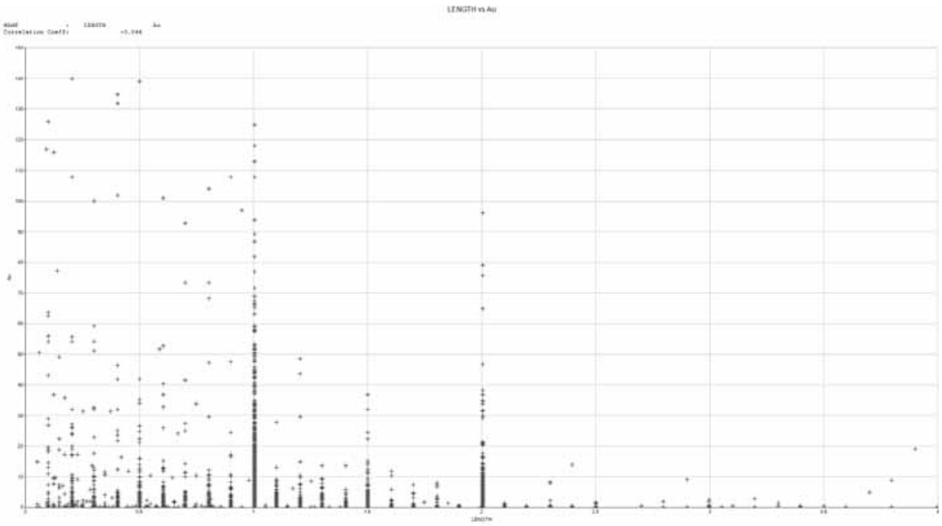


Figure 22. Scatterplot - Length vs Au grade.

Based on this analysis a nominal composite length of 1.0m was selected. While this does result in some 'de-compositing' of longer samples, given the narrow width of the mineralisation and the data density 1.0m is considered a reasonable compromise. Comparison of *all* samples composited to 1.0m against only composites for those samples with a length less than 1.5m indicates that there is a relatively low impact due to de-compositing with modest differences between mean and CV of the two data sets exception of Domain 4003. The outcome for Domain 4003 is adversely impacted by a single sample grading 364g/t Au over 1.5m. This impact of this outlier was mitigated by grade capping (section 5.3.)

Samples were flagged by domain prior to compositing. The minimum composite length allowed was 0.2m. Compositing used Datamine's @mode=1 option which retains all sample data by adjusting the composite length to values approaching the designated metreage. In practice this approach resulted 73% of the composites equalling exactly 1.0m and 99% of the composites having a length of 1.0m +/- 0.05m.

5.3 Grade Caps

Examination of the univariate statistics of the composited data shows that the grade distribution in every domain has a strong positive skew. The distributions include some samples that appeared to be outliers or inconsistent with the distribution of the majority of composites. SD2 examined the rate of change of the CV as the highest-grade samples were removed from the domain data sets. Where the rate of change accelerates rapidly it is likely that it is affected by outlier samples. Figure 23 shows an example of the CV rate of change plot and Appendix B has plots for each domain.

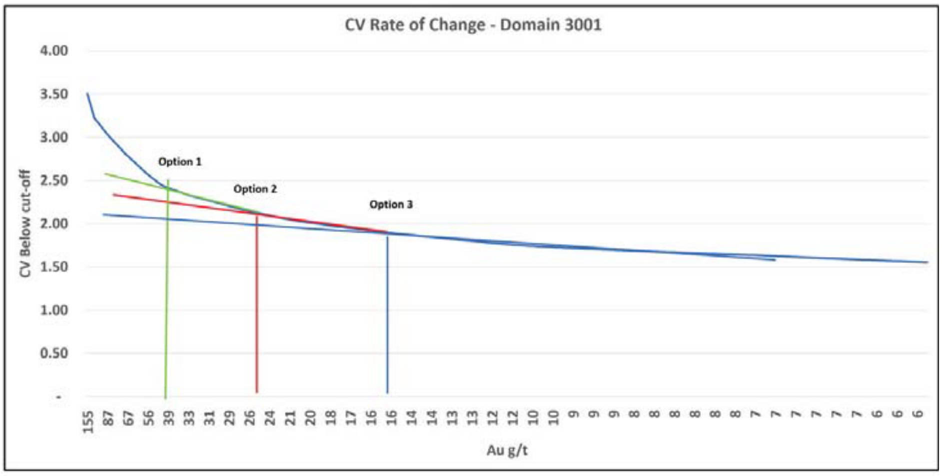


Figure 23. Example of CV rate of change plot for grade cap analysis.

Based on the rate-of-change analyses, grade caps[7] were selected for each domain. The grade cap applied, equivalent percentile and impact of the cap on the mean grade and CV for each domain is presented in Table 2. A total of 521 composite grades were capped, equating to 0.4% of the data. On a domain-by-domain basis the grade cap ranged from the 96th percentile (Domain 4002; 7.0 g/t Au) to the 99.8th percentile (Domain 1003; 35 g/t Au). The average cap percentile across all domains was the 98.4th percentile. The grade caps reduced the proportion of domains with CV's greater than 3 from 64% to 11%.

[7] Grade cap refers to capping the grade for composites within a domain to a maximum value. The composites are kept as members of the domain during estimation.

Description	Domain	Min	Max	Average	Variance	CV	Cap Applied	Cap Percentile	Number Affected	Capped Average	Cap Impact	Capped CV	Cap Impact
Proto Lodes	99	0.001	45.80	0.86	9.0019	3.4787	16.00	97.8%	24	0.78	-10%	2.6863	-23%
Buck Reef Fault Buffer	1000	0.000	77.00	0.41	7.2658	6.6476	3.00	97.6%	124	0.22	-47%	2.6478	-60%
Buck Reef Fault lower	1001	0.001	38.90	1.62	12.1412	2.1498	13.00	98.2%	8	1.50	-7%	1.8225	-15%
Buck reef Fault Shear	1002	0.001	81.90	2.47	76.9230	3.5547	17.00	98.0%	2	1.76	-29%	2.0808	-41%
Buck Reef Fault Upper	1003	0.000	98.34	2.21	17.1117	1.8699	35.00	99.8%	9	2.17	-2%	1.6490	-12%
Duke Buffer	2000	0.000	30.40	0.20	0.9144	4.7338	3.00	98.9%	61	0.16	-22%	2.8453	-40%
Duke Lode 1	2001	0.001	55.54	1.14	11.4825	2.9645	12.00	98.9%	9	0.98	-14%	2.1047	-29%
Duke Lode 2	2002	0.001	16.85	1.16	4.6754	1.8708	8.00	96.9%	6	1.09	-6%	1.6739	-11%
Duke lode 3	2003	0.000	44.10	1.69	22.4620	2.8008	13.00	97.4%	9	1.35	-20%	2.0916	-25%
Grant Buffer	3000	0.000	277.00	0.24	15.9027	16.8365	7.00	99.6%	29	0.15	-38%	4.0464	-76%
Grant lode 1	3001	0.000	155.00	2.42	71.7883	3.5024	25.00	98.2%	50	1.92	-20%	2.3087	-34%
Grant Lode 2	3002	0.001	66.50	1.22	15.0476	3.1691	12.00	98.5%	10	1.07	-13%	2.1059	-34%
Sunset Buffer	4000	0.000	67.40	0.24	2.4001	6.4951	3.00	98.7%	63	0.16	-33%	2.7842	-57%
Sunset lode 1	4001	0.000	113.00	1.32	19.0773	3.3183	18.00	99.1%	20	1.17	-11%	2.2677	-32%
Sunset Lode 2	4002	0.001	18.75	1.26	6.8934	2.0885	7.00	96.0%	12	1.04	-17%	1.6088	-23%
Sunset lode 3	4003	0.001	364.00	3.17	386.6354	6.2052	29.00	98.6%	6	1.88	-41%	2.2178	-64%
Background	9999	0.000	164.36	0.16	2.6000	9.8432	17.00	99.9%	79	0.14	-12%	5.8119	-41%

Table 14. Grade caps and capping impact by domain.

The impact of these grade caps on the BRW estimate was examined by running a series of sensitivity analysis, increasing and decreasing the cap grades in 5% increments from -10% to + 10% and comparing the outcome against the base case (Table 15). This analysis indicates that relatively small changes to the capping grade have a low impact; however the application of the cap itself changes the estimated metal across the entire estimate by 31%. This is the expected outcome given the highly skewed grade distribution. A small number of very high composite grades materially impact on the mean grade.

Case	Tonnage Change	Ounce Change
-10%	99%	98%
-5%	100%	99%
+5%	100%	101%
+10%	101%	102%
No grade cap	103%	131%

Table 15. Grade cap sensitivity analysis.

Additional sensitivity testing was completed to further examine the impact of grade capping. One alternative method for managing apparent grade outliers is to restrict the spatial influence of these grades. 'Outlier' grades are allowed to influence blocks within a predetermined radius. Beyond that radius the grade is capped as normal. The range of influence of the outlier grades can be approximated using the indicator variogram at the proposed capping value. At BRW this varied between 10m and 20m along strike and down plunge and 2m to 5m across dip.

SD2 analysed two different spatial restriction scenarios. The first used a restriction of 10m along strike and down plunge and 5m across dip. The second increased the spatial restriction to 40m along strike and down plunge and 10m across dip. All other parameters remained the same and the restriction applied within estimation domains. In practice, applying the spatial restrict involved creating ellipses around each composite above the grade cap (Figure 24). Blocks within these ellipses were estimated using uncapped grades and blocks outside these ellipses were estimated with capped grades. This is effectively a test of the maximum impact of the grade caps for blocks within a reasonable distance as defined by the indicator variogram.

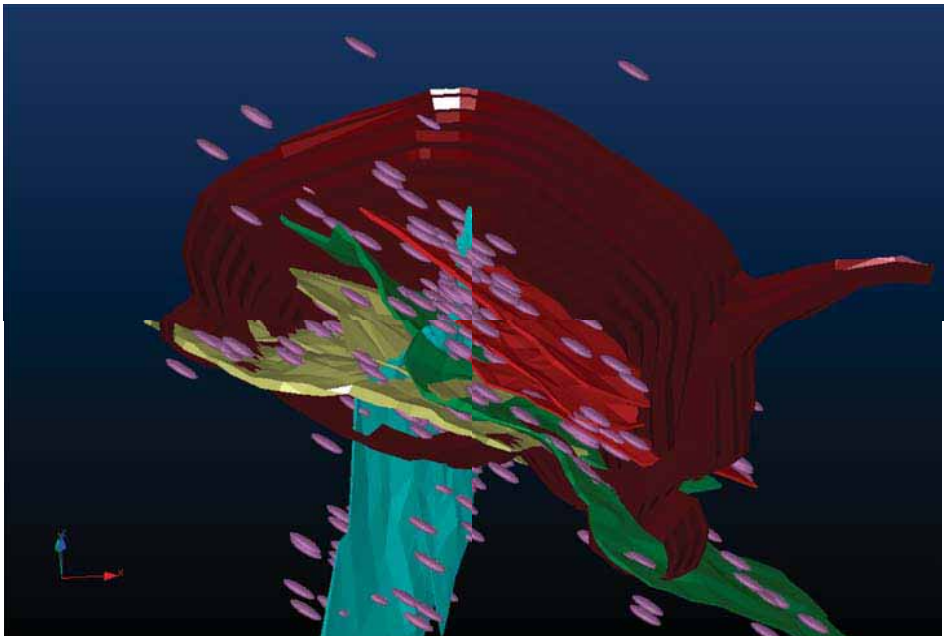


Figure 24. Location of capped samples and superimposed spatial restriction ellipses (40m x 10m).

The results of this grade sensitivity analysis are shown in Table 16. Controlling the spatial influence of the selected grade caps reduces the BRW estimate by between 1.6% and 4.4% globally and a similar amount within the AMDAD pit shell generated during the due diligence study.

		Globally reported resource		Within AMDAD 2019 pit shell	
		Additional Oz	Percentage	Additional Oz	Percentage
10 x 10 x 5 influence	Above 0.3 g/t	19,437	1.65%	12,288	2.08%
	Above 0.4 g/t	19,713	1.79%	12,451	2.26%
40 x 40 x 10 influence	Above 0.3 g/t	47,613	4.03%	25,691	4.35%
	Above 0.4 g/t	48,465	4.40%	26,171	4.74%

Table 16. Grade cap spatial restriction analysis.

SD2 note that the location of these capped grade adds further evidence to the 'proto-lode' concept discussed in the domaining and recommendations sections of this report.

5.4 Statistical and Geostatistical Analysis

In conjunction with the grade cap analysis, basic statistics were calculated for the domained and composited data (Table 14). This was followed by spatial statistics analysis and modelling.

Experimental variograms were calculated for raw and Gaussian transformed composites. This included both downhole and directional variograms. Given the narrow, 2-dimensional nature of the lode and BRF domains the variograms were calculated and modelled in the average plane of the lode. Two rotations were used to align the plane to the strike and dip of the domains. Directional variograms were then calculated in 10° increments to determine the plunge of the maximum continuity in the plane.

Variograms were modelled in Gaussian space and then back-transformed. The back-transformed models were compared to the experimental variogram in true space and minor adjustments were made to the nugget based on downhole variography.

The variograms ranged from excellent to poorly structured. A full set of the Gaussian (Normal Scores) variogram models is given in Appendix C. Each variogram is presented with a corresponding set of 3-dimensional images showing the domain and the variogram model overlaid as an ellipse. This approach ensures the axial rotations defined in the model are logical with respect to the orientation of the domain.

All variograms were modelled using spherical models. Models have been normalised with the total modelled variance equal to 1.0. The variogram models are presented in Table 17. Nugget effects range from moderate to high and the majority of the models exhibit a steep slope near the origin, commonly reaching >65% of the total variance within 10m. This is in line with expectations based on the geology of the mineralisation and the sporadic distribution of gold-bearing veins.

		Rotations						Variogram Structures			Ranges - Structure 1			Ranges - Structure 2		
DOMAIN	Description	Angle 1	Angle 2	Angle 3	Axis 1	Axis 2	Axis 3	C0 (Nugget)	C1 (sph)	C2 (sph)	X	Y	Z	X	Y	Z
99	Proto-Lodes	69	67	29	3	1	3	0.250	0.111	0.639	17.0	8.0	2.7	47.0	30.0	7.0
1000	BRF Buffer	120	85	30	3	1	3	0.330	0.430	0.239	4.0	6.0	4.0	13.0	32.0	11.0
1001	BRF Lower	130	85	5	3	1	3	0.631	0.139	0.231	7.6	5.0	3.4	31.1	21.4	10.1
1002	BRF Shear	30	30	-	3	1	3	0.380	0.109	0.511	1.0	15.0	5.0	5.0	40.0	30.0
1003	BRF Uper	22	31	10	3	1	3	0.434	0.274	0.293	2.0	19.0	21.0	13.0	46.0	90.0
2000	Duke Buffer	50	40	30	3	1	3	0.350	0.201	0.448	4.0	7.0	1.5	10.0	17.0	4.0
2001	Duke Lode 1	50	40	(80)	3	1	3	0.350	0.200	0.450	8.5	7.0	2.0	25.0	19.0	3.0
2002	Duke lode 2	50	40	20	3	1	3	0.556	0.169	0.275	11.0	20.0	2.0	35.0	70.0	5.0
2003	Duke Lode 3	45	45	20	3	1	3	0.304	0.573	0.123	14.0	19.0	2.5	37.0	48.0	5.0
3000	Grant Buffer	62	42	(36)	3	1	3	0.310	0.493	0.197	4.0	3.5	4.0	12.0	10.0	11.0
3001	Grant Lode 1	55	45	50	3	1	3	0.388	0.049	-	26.9	13.2	1.8	-	-	-
3002	Grant lode 2	62	33	29	3	1	3	0.282	0.538	0.180	6.0	5.0	7.0	68.0	58.0	20.0
4000	Sunset Buffer	(152)	131	(170)	3	1	3	0.498	0.260	0.241	2.0	5.0	2.0	4.0	13.0	4.0
4001	Sunset Lode 1	35	45	25	3	1	3	0.524	0.339	0.137	6.5	6.0	1.5	18.0	16.0	4.0
4002	Sunset lode 2	45	33	(33)	3	1	3	0.522	0.180	0.298	14.5	11.0	4.0	43.0	55.0	9.0
4003	Sunset Lode 3	49	39	(20)	3	1	3	0.200	0.532	0.268	20.0	21.0	6.0	53.0	59.0	6.0
9999	Background	50	50	50	3	1	3	0.433	0.321	0.246	7.0	5.0	3.0	49.0	23.5	33.0

Axis Convention: 1= X, 2 = Y, 3 = Z

Table 17. BRW variogram models.

5.5 Block Model Framework

The block model covers a volume 920m x 920m x 740m (XYZ) enclosing the full interpreted extent of the deposit with an additional margin. The model is based on 5m x 10m x 5m (XYZ) parent blocks with two sub-blocking divisions allowed in each dimension. This results in a minimum sub-block size of 1.25m x 2.5m x 1.25m (XYZ).

Selection of a block size for estimate represents a compromise between estimation quality and volumetric representivity. While sub-blocking can improve the volumetric precision of blocks compared to wireframed solids, choosing large parent blocks where only a small proportion of the parent lies within the interpreted solid is problematic for block discretisation and the eventual kriging matrix inversion. The BRW parent block size was selected following testing of a number of block size scenarios. Six estimates were completed using identical variograms and searches and differing block sizes. Blocks sizes tested included 5m x 10m x 5m, 10m x 20m x 10m, 10m x 10m x5m, 10m x 10m x 10m, 5m x 5m x 5m and 2.5m x 2.5m x 2.5m. Notwithstanding the recognised challenges of estimating small blocks (Armstrong and Champigny), the BRW block size tests showed that the estimate was relatively insensitive to block size. The range of tonnes and ounces varied by less than 4% across all scenarios for all cut-off grades below 1.0 g/t Au (Table 18). The greatest variance compared to the base case was for the largest block size (10 x 20 x 10).

	5 x 10 x 5 (Base Case)		10 x 20 x 10		10 x 10 x 5		10 x 10 x 10		5 x 5 x.5		2.5 x 2.5 x 2.5	
Cut Off	Tonnes	Oz	Tonnes	Oz	Tonnes	Oz	Tonnes	Oz	Tonnes	Oz	Tonnes	Oz
Percent Total	100%	100%	100%	101%	100%	101%	100%	101%	100%	00%	100%	100%
Percent Above 0.1	100%	100%	100%	101%	100%	101%	101%	101%	100%	00%	100%	100%
Percent Above 0.2	100%	100%	100%	102%	100%	101%	100%	101%	100%	00%	100%	100%
Percent Above 0.3	100%	100%	100%	102%	100%	101%	100%	101%	100%	00%	100%	99%
Percent Above 0.4	100%	100%	100%	102%	100%	101%	101%	101%	100%	00%	100%	99%
Percent Above 0.5	100%	100%	101%	102%	101%	101%	101%	101%	100%	00%	100%	99%
Percent Above 0.6	100%	100%	101%	102%	100%	101%	101%	101%	100%	00%	99%	99%
Percent Above 0.7	100%	100%	101%	103%	100%	101%	101%	101%	100%	00%	99%	99%
Percent Above 0.8	100%	100%	102%	103%	100%	101%	101%	101%	100%	00%	99%	99%
Percent Above 0.9	100%	100%	102%	104%	101%	102%	102%	102%	99%	9%	99%	99%
Percent Above 1.0	100%	100%	103%	104%	101%	101%	102%	102%	100%	00%	99%	99%

Table 18. Block size sensitivity testing results.

The block model framework was used to create a volume model flagged with the interpreted domain codes. Given the angular difference between the A45 grid used at BRW and the strike/dip of the mineralisation, a high proportion of sub-blocks were required. Using a rotated model was considered and then discarded in favour of ease of use and model transferability between mining software packages.

The wireframe vs. block model volume was compared for all domains. No material differences were identified.

As well as the domain codes, the volume model was flagged with binary variables for:

- Oxide (1 = oxide, 0 = fresh);
- Rock (1 = in situ, 0 = air);
- Void (1 = mined void, 0 = unmined rock);
- PIT (a reporting column designating if the block lies within the REP200 pit shell); and

- AMDAD (a reporting column designating if the block lies within the AMDAD due diligence pit shell).

A complete list of block model fields is provided in Appendix F.

5.6 Estimation

Estimation was by ordinary kriging (OK) into parent blocks. Blocks were discretised on a 5 x 5 x 5 matrix.

5.6.1 Kriging Neighbourhood and Search Strategy

The search strategy determines what composites are used to estimate each block in the model and, after domaining, selecting of a well-designed search is one of the most critical factors in developing a robust resource estimate. The kriging weights assigned by the kriging equations are a function of the block size, the variogram and the sample-to-block vectors for all samples in the search neighbourhood. The weights themselves are independent of the grades of the samples. An overly restrictive kriging neighbourhood restricts the number of composites that can inform a block estimate. This can result in conditional bias and poor estimation quality depending on the sample spacing and distribution. Similarly a loose kriging neighbourhood potentially allows too many samples to be included in the weighting assignment. This can lead to broad grade smoothing or averaging and, in some instances the generation of negative weights and potentially negative grades.

There are several levers that can be used when designing a kriging neighbourhood. The search is typically defined using a combination of distances in three orthogonal axes (rotated to align with the variogram) forming an ellipse, plus a requirement for a certain minimum and/or maximum number of composites within the ellipse.

This can be further modified by applying a variety of declustering constraints such as octant/sector limits and specifying the maximum number of samples allowable from an individual drill hole. These declustering approaches have the effect of increasing the average sample-to-block distance compared to undeclustered searches. Thus, declustering is a trade-off between sample-block distance (a direct driver of estimation quality through the kriging matrix) and the potential for spatial bias generated by clustered data. While the kriging equations do, to some extent, result in declustering of the kriging weights, some block-to-sample arrangements can adversely impact on estimation performance.

Further complicating the selection of a kriging neighbourhood, it is rare for composites to be regularly arranged (on a grid pattern) for a resource estimate. This regular arrangement is much more commonly associated with grade control drill patterns. The inconsistency of block-to-sample geometry across any given domain means that any single neighbourhood definition will be sub-optimal in some regions.

In SD2's experience the most practical approach to optimising the kriging neighbourhood is to focus on the minimum and maximum numbers of composites used to inform a block estimate. The search distances are secondary as long as they are sufficiently large to capture the specified number of composites. Effectively, a wide search range is applied and when the maximum number of allowed composites is reached within that search range, no more composites are added. The practical range is therefore a function of sample spacing. In areas of widely spaced drilling the average sample-to-block distance will be greater when compared to areas of more closely spaced drilling. Likewise the estimation performance (as measured by metrics such as kriging efficiency and slope of regression) will vary as a function of sample spacing.

The search neighbourhoods at BRW were developed using this technique. The primary control was based on defining the minimum/maximum numbers of composites required to inform a block estimate. The search ranges were then superimposed on the primary control, maintaining the orientation and anisotropy defined by the variogram model (i.e. the search is aligned with the variogram model). The minimum and maximum number of composites were defined following a series of sensitivity estimates. The values were altered step-wise and the local and global estimation performance was compared. This defined a target of either 32 or 24 composites for all of the lode, BRF and buffer domains. This value was increased to 64 for the background mineralisation (domain 9999). In each case the search was modified by allowing a maximum of 3 composites per drill hole within the neighbourhood. The full search neighbourhood definition is outlined in Table 19. Appendix D contains 3-dimensional images of the search range and orientation superimposed on the geological interpretation. Because of the narrow lode geometry the search ranges were kept to a discoidal shape for all selected ranges (i.e., the minor axis was always much shorter than the major and semi-major axes). Anisotropy was generally defined on the basis of the ratio of the maximum modelled variogram ranges.

		Rotations						Search Ranges (Pass 1)			Minimum	Maximum	Expansion	Minimum	Maximum	Search	Minimum	Maximum
DOMAIN	Description	Angle 1	Angle 2	Angle 3	Axis 1	Axis 2	Axis 3	X	Y	Z	Composites	Composites	Factor	Composites	Composites	Expansion	Composites	Composites
99	Proto-Lodes	69	67	29	3	1	3	130	80	10	6	32	1.5	4	32	2	4	32
1000	BRF Buffer	120	85	30	3	1	3	25	60	10	6	24	1.5	4	24	2	4	24
1001	BRF Lower	130	85	5	3	1	3	55	40	10	6	24	1.5	4	24	2	4	24
1002	BRF Shear	30	30	0	3	1	3	10	60	25	6	32	1.5	4	32	2	4	32
1003	BRF Uper	22	31	10	3	1	3	25	95	90	6	24	1.5	4	24	2	4	24
2000	Duke Buffer	50	40	30	3	1	3	25	40	5	6	24	1.5	4	24	2	4	24
2001	Duke Lode 1	50	40	(80)	3	1	3	50	40	5	6	32	1.5	4	32	2	4	32
2002	Duke lode 2	50	40	20	3	1	3	60	125	5	6	32	1.5	4	32	2	4	32
2003	Duke Lode 3	45	45	20	3	1	3	90	120	5	6	32	1.5	4	32	2	4	32
3000	Grant Buffer	62	42	(36)	3	1	3	50	45	25	6	24	1.5	4	24	2	4	24
3001	Grant Lode 1	55	45	50	3	1	3	60	30	5	6	24	1.5	4	24	2	4	24
3002	Grant lode 2	62	33	29	3	1	3	145	120	20	6	24	1.5	4	24	2	4	24
4000	Sunset Buffer	(152)	131	(170)	3	1	3	10	30	5	6	24	1.5	4	24	2	4	24
4001	Sunset Lode 1	35	45	25	3	1	3	30	25	5	6	24	1.5	4	24	2	4	24
4002	Sunset lode 2	45	33	(33)	3	1	3	125	160	15	6	32	1.5	4	32	2	4	32
4003	Sunset Lode 3	49	39	(20)	3	1	3	130	145	10	6	24	1.5	4	24	2	4	24
9999	Background	50	50	50	3	1	3	50	20	10	20	32	1.5	20	32	2	32	64

Proportion of Variogram Structure 1			Proportion of Variogram Structure 2		
X	Y	Z	X	Y	Z
765%	1000%	370%	277%	267%	143%
625%	1000%	250%	192%	188%	91%
724%	800%	294%	177%	187%	99%
1000%	400%	500%	200%	150%	83%
1250%	500%	429%	192%	207%	100%
625%	571%	333%	250%	235%	125%
588%	571%	250%	200%	211%	167%
545%	625%	250%	171%	179%	100%
643%	632%	200%	243%	250%	100%
1250%	1286%	625%	417%	450%	227%
223%	227%	278%			
2417%	2400%	286%	213%	207%	100%
500%	600%	250%	250%	231%	125%
462%	417%	333%	167%	156%	125%
862%	1455%	375%	291%	291%	167%
650%	690%	167%	245%	246%	167%
714%	400%	333%	102%	85%	30%

Table 19. Search neighbourhood definitions.

5.6.2 Boundary Treatment

Domain boundaries were treated as hard contacts or one-way soft contacts as outlined in Table 20. The decision to soften some domain boundaries by including adjacent (lower-grade) composites was made on the basis of domain boundary analysis and to reduce the grade contrast across the buffer-to-background transition zones.

Domain	Composites used during estimation	Comment
1000	1000, 99, 9999	Buffer zone contact treated as one-way soft to background domains.
1001	1001, 1000	BRF lower contact treated as one-way soft to buffer zone
1002	1002, 1000	BRF Shear contact treated as one-way soft to buffer zone
2000	2000, 99, 999	Buffer zone contact treated as one-way soft to background domains.
2001	2001, 2000	Duke lode 1 contact treated as one-way soft to buffer zone
3000	3000, 99, 9999	Buffer zone contact treated as one-way soft to background domains.
4000	4000, 99, 9999	Buffer zone contact treated as one-way soft to background domains.
99	99, 9999	Proto-lodes treated as one-way soft to background.

Table 20. Domain boundary treatments.

5.6.3 Dynamic Anisotropy

During estimation, the search and variogram orientations defined in Table 17 and Table 19 were modified using the Datamine Studio RM 'dynamic anisotropy' feature. This allow block-by-block definition for the orientation of either or both the search and variogram model. A local dip, dip azimuth and plunge are assigned to each block in the model and, at the time of estimation, these values are read from the block model and used in preference to the defined global rotations. The advantage of this approach is that it aligns the search and variogram to the local geology orientation. When estimating narrow and tabular deposits (like BRW) this can be critically important. Small angular deviations between a globally aligned search and the local lode orientation can adversely impact the samples selected when searching.

For BRW, SD2 determined the local dip and dip azimuth from the orientation of individual triangles in the wireframed interpretation. The plunge (angle 3) was set to the third rotation in the variogram model. These values were supplemented by a set of trend surface lines generated by OreFind (Cowan and Davies, 2017). These trend lines were based on the underlying structural framework and the intersection lineations predicted by the conjugate orthogonal model. Examples of the local, dynamic anisotropy orientations are shown with the superimposed global search/variogram orientation in Appendix D.

As a check on the assigned local orientations, SD2 compared the global values to the values contained in each block in the model. For the majority of blocks, the average deviation between the global and local orientations were less than 5°.

5.7 Post-processing

After estimation the model was checked for common estimation artefacts including negative grades and blocks that were un-estimated after applying all search options.

Only one block (in Domain 4003) had a negative grade estimate. This was caused by composites from a single high-grade drill hole (BRD055) which is in proximity to two low-grade holes (BRP119, BRD057). The negative grade estimate was set to a value of 0.001 g/t Au.

Excluding the background, three percent (3%) of blocks remained unestimated after all search passes. These blocks were assigned a default value (Table 21) based on the average estimated grade of the domain. The domain with the highest proportion of unestimated blocks was Domain 2001 (7%). Figure 25 shows the location of the blocks with default grade assignments. Most of these blocks lie at the extremities of the domains. The default grades account for less than 1% of blocks classified as Measured or Indicated[8] (section 7.3).

Domain	Default Grade
1000	0.17
1001	0.33
1003	2.17
2000	0.12
2001	1.00
2002	1.12
2003	1.58
3001	1.70
4000	0.18
4001	1.10
9999	0.02

Table 21. Default domain grades.

[8] Excluding the background domain (9999).

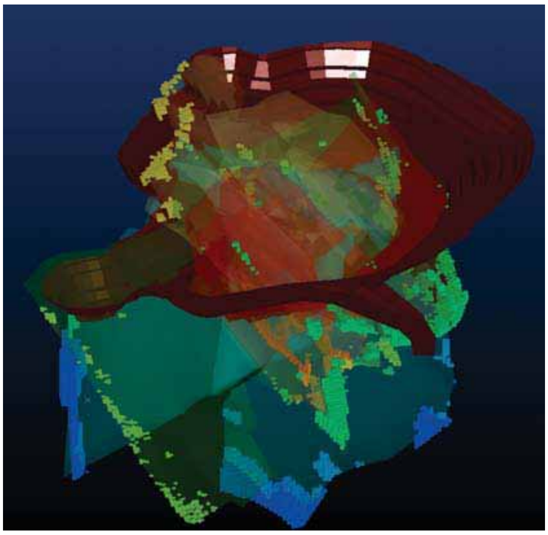


Figure 25. Location of blocks assigned default grades.

The final post-processing step was to account for previous underground mining. Historical stoping exists in the Duke, Grant (A2), Sunset and Buck Reef Fault mineralisation (Figure 26). The nature and extent of back fill in these stoped volumes is unknown and therefore the mined volumes have been treated as voids. All grades in voids were set to zero. All density in voids was set to zero. The same treatment was applied to mine development and vertical openings. All voids (stopes and development) were identified by setting the VOID field in the model to one.

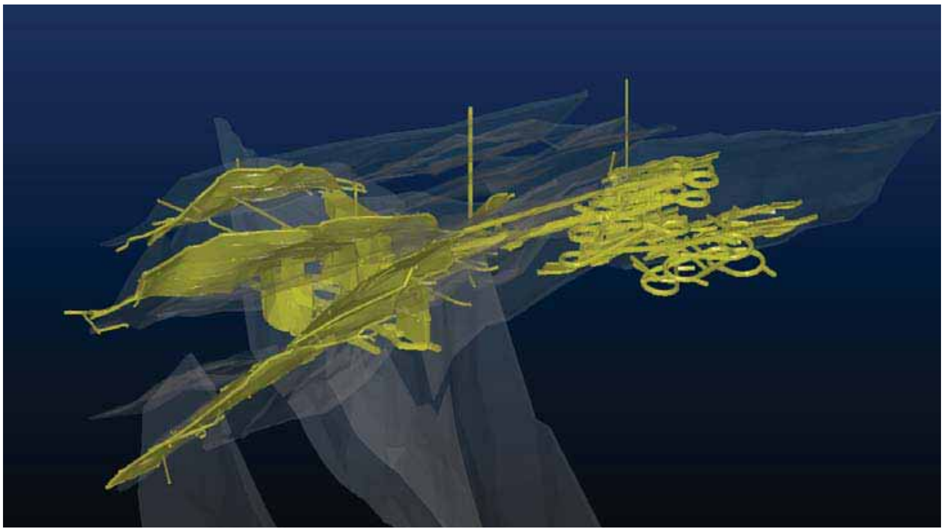


Figure 26. Stoping and development at BRW.

6. Validation

A range of validation and comparisons were used to assess the quality of the resource estimate. The global composite grades were compared to the global domains grades (Figure 27), 2-dimensional longitudinal projections of the drill holes vs. block model estimates were examined and the estimate was compared to the previous models outline in Section 1.3 across a range of cut-off grades. Swath plots were created for all domains. The narrow lodes, combined with the plunging grade trends in the plane of the vein, mean standard swath plots are not always indicative of estimation performance. A longitudinal projection comparison was preferred.

Comparing the block estimates to the declustered composite grades shows that while the grade trend by domain is reasonable, six (6) domains show a relatively high bias. Domains 1001, 1002 are biased low and domains 1003, 2001, 4001 and 4003 are biased high (Figure 27).

For Domain 1001 (BRF Lower) the apparent low bias is due to the sample arrangement within the interpreted domain. There is a large volume of low-grade with relatively sparse sample that encloses a higher grade core. The low-grade volume is under-sampled compared to the high-grade resulting in an apparent bias (Figure 28). The apparent bias in Domain 1002 has a similar cause (Figure 29). In both cases this may indicate that the domain interpretation has been pushed too far into areas where there is low sampling. In these cases the low bias is not considered material,

The apparent high bias in Domain 1003 is due to relatively sparse sampling at depth in what appears to be a high-grade zone (Figure 30). The majority of this area is classified as inferred resource and when excluded from the comparison the bias reduces less than 5%. Apparent biases observed in the other three domains (2001, 4001, 4003) show similar issues with uneven data distribution across the domains. In some cases this is due to past mining rendering it impossible to drill in stoped areas.

After analysis of the differences between composite and block grades, SD2 was satisfied that the estimate was performing as expected. This opinion was supported by examination of the full set of longitudinal projections in Appendix J.

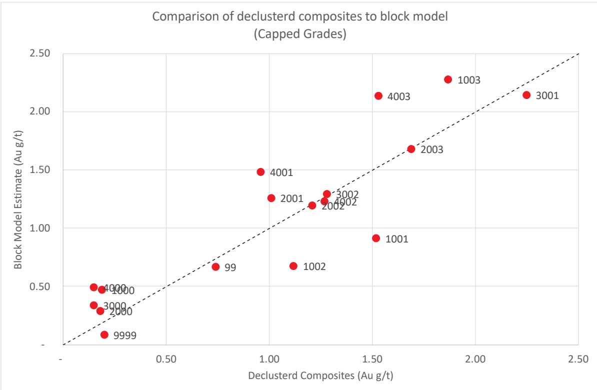


Figure 27. Scatter plot - composites vs. model estimate.

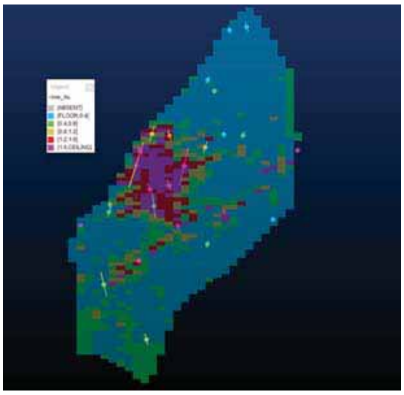


Figure 28. Domain 1001 longitudinal projection.

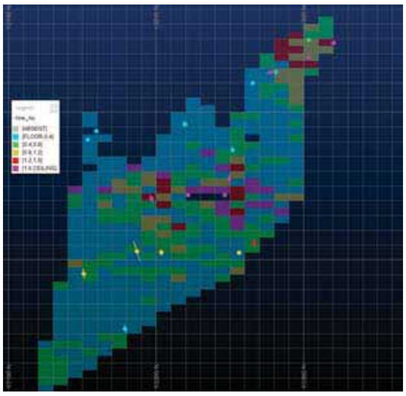


Figure 29. Domain 1002 longitudinal projection.

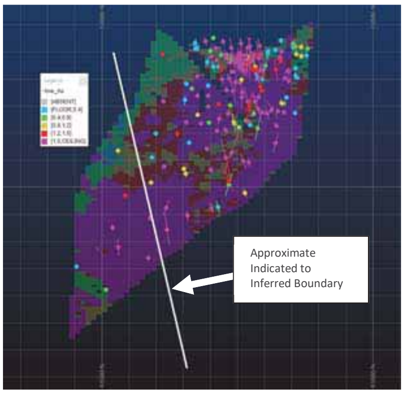


Figure 30. Domain 1003 longitudinal projection with indicated-inferred limit.

7. Mineral Resource Classification

7.1 Jurisdiction and Competent Person

This mineral resource estimate is classified and reported under the guidelines of the JORC Code[9] (2012). The estimate has been prepared by Mr Scott Dunham, a Fellow of the AusIMM (membership number 112857). Mr Dunham has more than 30 years of experience in the resource industry including more than the requisite five (5) years relevant experience in the estimation of mineral resources for the commodity and style of mineralisation at Buck Reef West. A brief summary of Mr Dunham's experience is provided in Appendix K. His expertise covers the complete range of resource estimation practices including geological sampling, interpretation and domaining, geostatistical analysis, estimation and reporting.

7.2 Reasonable Prospects Assessment

The JORC Code requires reported mineral resources to have 'reasonable prospects of eventual economic extraction'. In Mr Dunham's opinion this expectation has been demonstrated for Buck Reef West as follows:

- A positive NPV generated by Resolute Mining Limited in 2018;
- A positive NPV generated by EMR Capital during the due diligence study for the acquisition of the Ravenswood Gold Mine;
- The recently completed acquisition transaction.

Mr Dunham is aware that RAV are currently negotiating social, heritage and environmental licensing conditions. The negotiations are well advanced and no material impediments are likely.

The reported resource lies above an AUD3800 optimised pit shell or within continuous zones of mineralisation suitable for underground mining.

7.3 Classification Definitions

The BRW resource is classified as Indicated and Inferred. There is no Measured Resource. The classification is based on a combination of multiple factors including:

- Geological confidence for the continuity and consistency of the major mineralised zones;
- Drill hole spacing and orientations;

[9] The Australasian Code for reporting of exploration results, mineral resources and ore reserves. 2012 Edition.

- Estimation performance metrics including the slope of regression, kriging efficiency, sum of positive weights and weight of the mean; and
- The search pass and number of composites used during block estimation.

The classification limits were developed in section and plan and manually wireframed. This approach was adopted to minimise the so-called 'spotted dog' patterns associated with automated classification processes where isolated blocks of one class can be fully surrounded by another class due to the application some arbitrary limit or threshold. In all cases the Indicted Resource lies inside the extent of the Inferred Resource. Figure 31 and Figure 32 illustrate the classification limits with respect to the major domains at BRW. The majority lode and BRF domains are classified as Indicated. Only the edges of these domains are classified as Inferred.

Material in the background mineralisation lying outside of the Indicated and Inferred wireframes is unclassified and should not be reported.

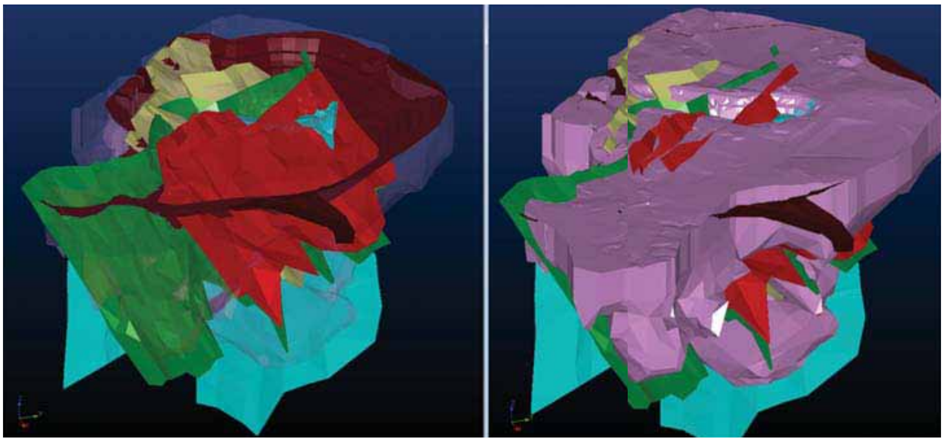


Figure 31. limit of Indicated Classification.

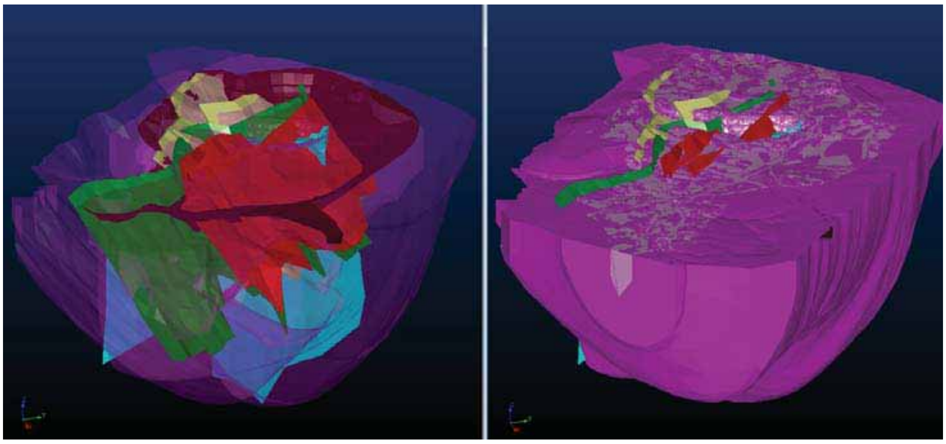


Figure 32. Limit of Inferred Classification.

7.4 Risk and Range Assessment

During the course of preparing the BRW mineral resource estimate SD2 investigated:

- Alternate domaining options based on semi-implicit indicator approaches;
- The impact of hard and soft domain boundaries;
- The impact of changes in block sizes and the minimum and maximum numbers of composites used to inform the estimate; and
- The impact of changes to the grade capping strategy.

Additionally SD2 developed a sensitivity model for BRW as part of the acquisition due diligence process.

Based on these sensitivities analyses, the risks associated with the BRW estimate are (from high to low):

- The domain interpretation, particularly for mineralisation adjacent to or between the dominant lode structures. There are clear zones of preferred mineralisation that exhibit some degree of lateral continuity; however at the current drill hole spacing it is difficult to have confidence that these zones continue from section to section. In the current estimate these zones are controlled by a combination of a probability iso-surface of the 0.5g/t Au indicator and by managing the search neighbourhood applied in the estimate. Future estimates should investigate the potential to improve the interpretation of these more isolated grades (particularly as more data becomes available);

- The grade cap strategy. While changes of +/-10% in the grade cap value have little impact, the difference in contained ounces between the capped and uncapped estimates is on the order of 30%. The deposit has a highly skewed grade distribution and it is likely that some of these extreme grades will manifest during mining; and
- Drill hole density, particularly around the edges of the BRF and lode structures. The current drilling geometry and spacing leaves some edges relatively under-sampled.

Comparison of past estimates using alternative techniques is indicative of the range of possible outcomes for BRW. Table 22 presents the differences between four estimates, reported in the same volume and cut-off. Based on these estimates the likely range of the resource is +/-7% on an ounce basis.

	Tonnes				Ounces			
Cut Off	Uncapped	MPR (MIK)	Due Diligence	Resolute 2018	Uncapped	MPR (MIK)	Due Diligence	Resolute 2018
-	100%	97%	95%	100%	123%	107%	93%	117%
0.10	100%	140%	116%	143%	124%	110%	94%	119%
0.20	101%	156%	120%	131%	127%	110%	93%	115%
0.30	101%	150%	115%	121%	129%	105%	90%	111%
0.40	**103%**	**140%**	**111%**	**114%**	**131%**	**99%**	**87%**	**108%**
0.50	104%	131%	107%	110%	134%	93%	84%	107%
0.60	105%	119%	102%	107%	136%	86%	80%	105%
0.70	107%	106%	93%	106%	138%	79%	75%	105%
0.80	109%	97%	88%	106%	141%	73%	72%	105%
0.90	110%	87%	82%	106%	144%	67%	68%	105%
1.00	112%	80%	77%	106%	147%	62%	65%	105%

Table 22. Estimate sensitivity (within due diligence pit volume).

8. Recommendations for Future Work

As discussed in section 7.4, SD2 recommend future estimates focus on improving the geological and domain interpretation for high grade intercepts outside of the known lodes. Many of these grades align on a lode-parallel orientation and they appear to be preferred mineralisation corridors (or 'proto-lodes'). With additional drilling and re-examination of drill core it may be possible to define these zones with sufficient continuity to improve modelling.

Other recommended improvements include:

- Additional drilling into areas of low drill density. Drilling should initially focus on zones of 'proto-lode' mineralisation within the likely pit shell (Figure 33). There is also potential to increase the size of the resource at depth in the BRF[10] and to the northeast (local grid) (Figure 34);

[10] This includes the area previously interpreted as Buck Reef Fault 'Flats'.

- Drill twinned holes to test and confirm the quality of the open hole samples included in this estimate; and
- Review drill samples for intervals that were not sampled prior to this estimate. Some 39% of the database were unsampled or below detection limit. While these samples have been assigned a grade of 0.005 g/t during estimation, where possible it would be better to have verified analytical results for the model.

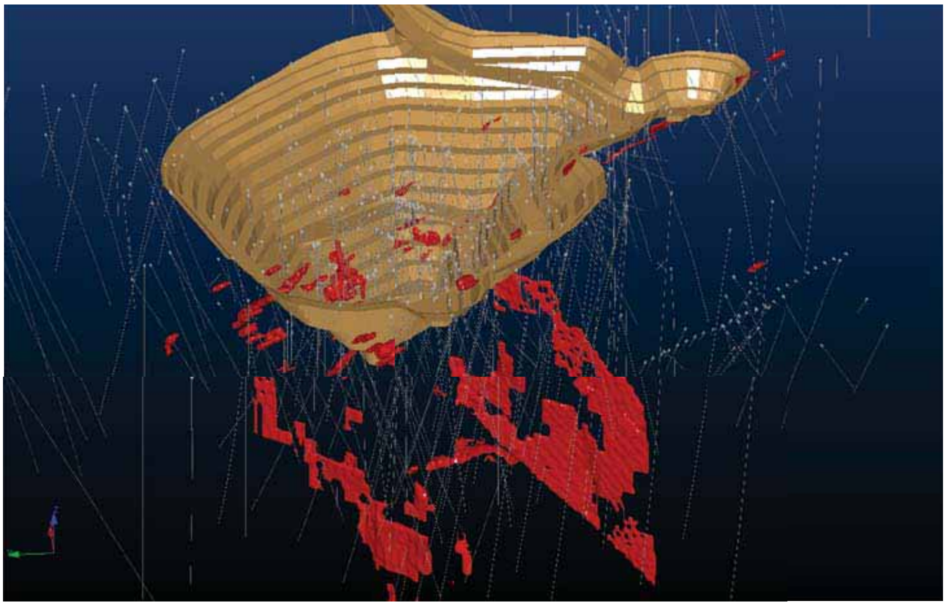


Figure 33. Low drill density zones with grades above 1g/t in the resource estimate.

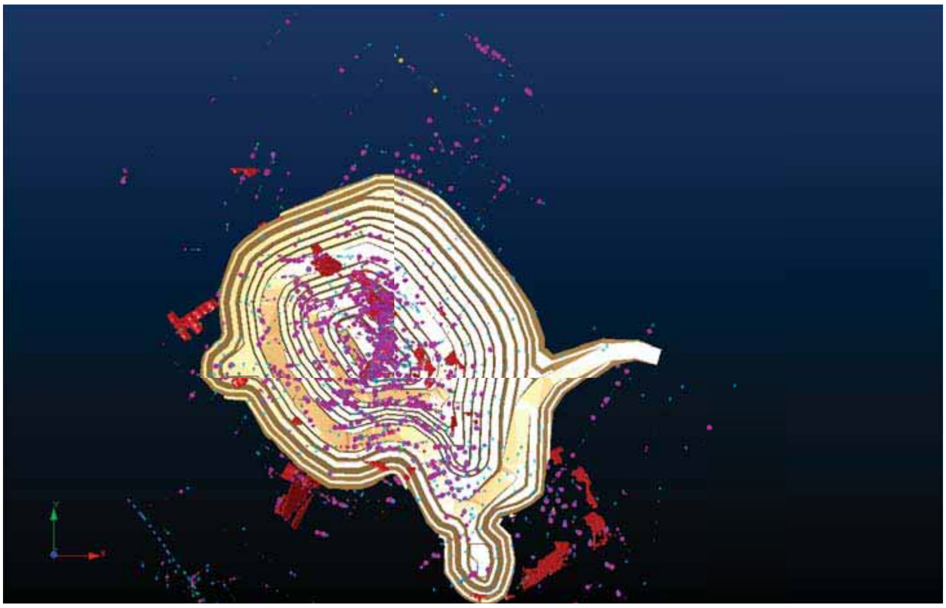


Figure 34. BRW drilling highlighting potential mineralisation to NE of current pit.

9. Resource Statement

The April 2020 Buck Reef West Mineral Resource estimate is tabulated below (Table 23). Grade-tonnage curves for the April 2020 estimate and previous models are presented in Appendix G. The Buck Reef West mineral resource estimate includes both open pit and underground potential. Open pit resources are reported at a 0.3 g/t Au cut-off above an AUD4000 optimised pit shell. Underground resources are reported within continuous zones greater than 2m wide and more than 1,000m^3 at a cut-off of 3.5 g/t in close proximity to the pit shell.

Buck Reef West April 2020 Mineral Resource Statement

Open Pit Above 0.3 g/t	Tonnes	Grade (Au g/t)	Ounces
Measured	-	-	-
Indicated	25,050,000	1.03	833,000
Inferred	1,170,000	1.11	42,000
Total Open Pit Resource	**26,220,000**	**1.04**	**875,000**

Underground Above 3.5 g/t	Tonnes	Grade (Au g/t)	Ounces
Measured	-	-	-
Indicated	91,000	4.97	14,600
Inferred	65,000	4.71	9,800
Total Underground Resource	**156,000**	**4.86**	**24,400**

Total Measured and Indicated	**25,141,000**	**1.11**	**899,400**

Open put resources above AUD3800 shell.
Underground resources within continuous zones >2.0m wide and > 1,000m3
Model: BRW200410.bm
Rounding errors may occur

Table 23. Buck Reef West April 2020 Resource Estimate.

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Appendix A Competent Persons Consent Form

Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and
Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

Buck Reef West Mineral Resource Estimate April 2020

(*Insert name or heading of Report to be publicly released*) ('Report')

Ravenswood Gold Pty Ltd

(*Insert name of company releasing the Report)*

Buck Reef West

(Insert name of the deposit to which the Report refers)

If there is insufficient space, complete the following sheet and sign it in the same manner as this original sheet.

27 November 2020

(Date of Report)

Statement

I/We,

Scott Dunham
(*Insert full name(s)*)

confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code, 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of *The Australasian Institute of Mining and Metallurgy* or the *Australian Institute of Geoscientists* or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.

I am a full time employee of

(*Insert company name*)

Or

I/We am a consultant working for

SD2 Pty Ltd
(*Insert company name*)

and have been engaged by

Ravenswood Gold Pty Ltd
(*Insert company name*)

to prepare the documentation for

Buck Reef West
(*Insert deposit name*)

on which the Report is based, for the period ended

30 September 2020
(*Insert date of Resource/Reserve statement*)

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Exploration Targets, Exploration Results, Mineral Resources and/or Ore Reserves *(select as appropriate)*.

Consent

I consent to the release of the Report and this Consent Statement by the directors of:

Ravenswood Gold Pty Ltd

(Insert reporting company name)

	27 November 2020
Signature of Competent Person:	Date:
Australasian Institute of Mining and Metallurgy	112857
Professional Membership: *(insert organisation name)*	Membership Number:
	Sherrill Leigh Dunham – Nanango Queensland
Signature of Witness:	Print Witness Name and Residence: (eg town/suburb)

Additional deposits covered by the Report for which the Competent Person signing this form is accepting responsibility:

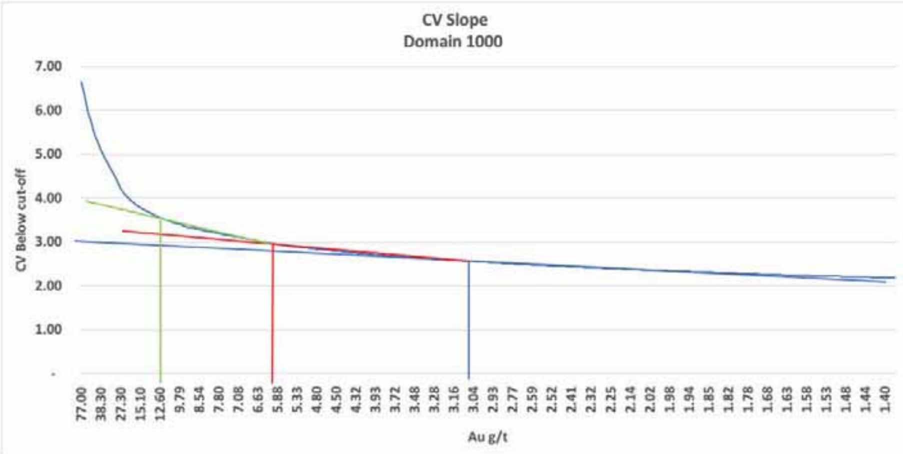
None

Additional Reports related to the deposit for which the Competent Person signing this form is accepting responsibility:

None

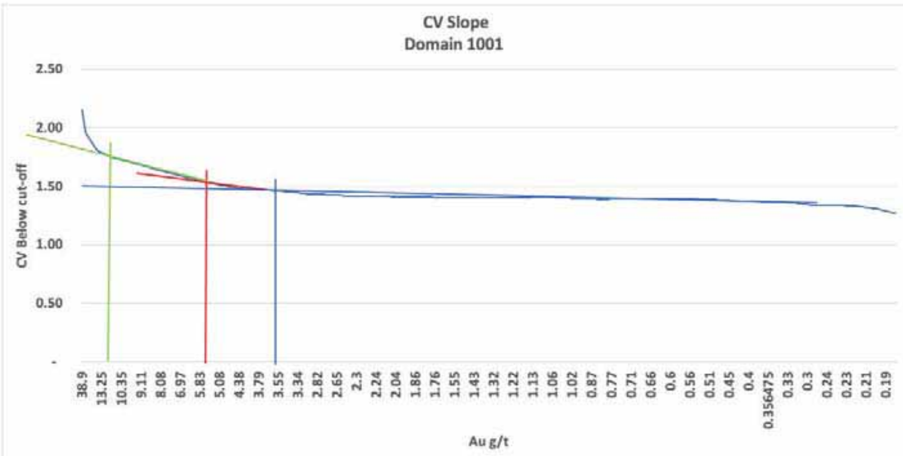
Signature of Competent Person:	Date:
Professional Membership: *(insert organisation name)*	Membership Number:
Signature of Witness:	Print Witness Name and Residence: (eg town/suburb)

Appendix B Grade Cap Analysis



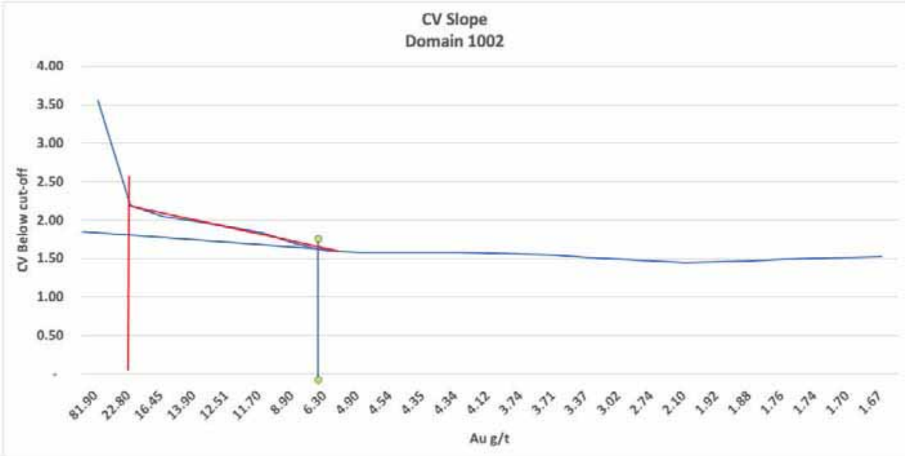
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
3	124	97.6%	0.41	0.33	83%	6.65	2.5427
6	60	98.8%	0.41	0.28	69%	6.65	2.9607
12.6	24	99.5%	0.41	0.21	52%	6.65	3.5652



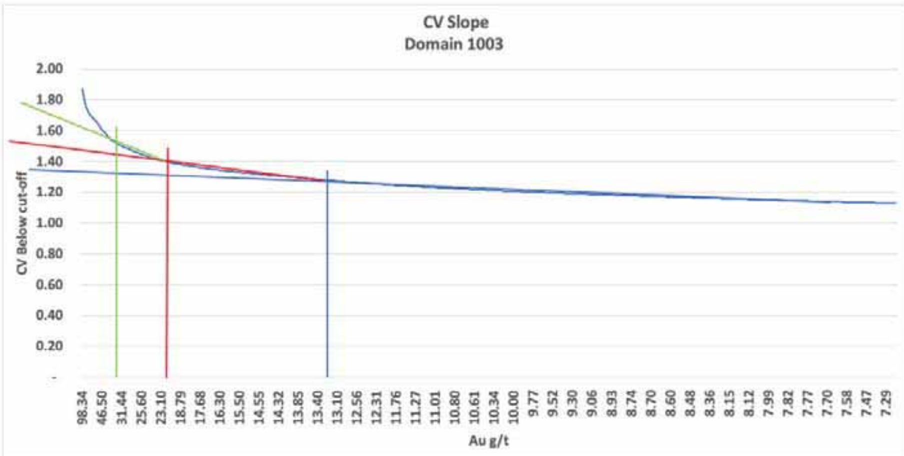
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
3.6	59	87.0%	1.62	1.58	97%	2.15	1.4624
5.6	39	91.4%	1.62	1.39	86%	2.15	1.5388
13	8	98.2%	1.62	0.58	36%	2.15	1.7757



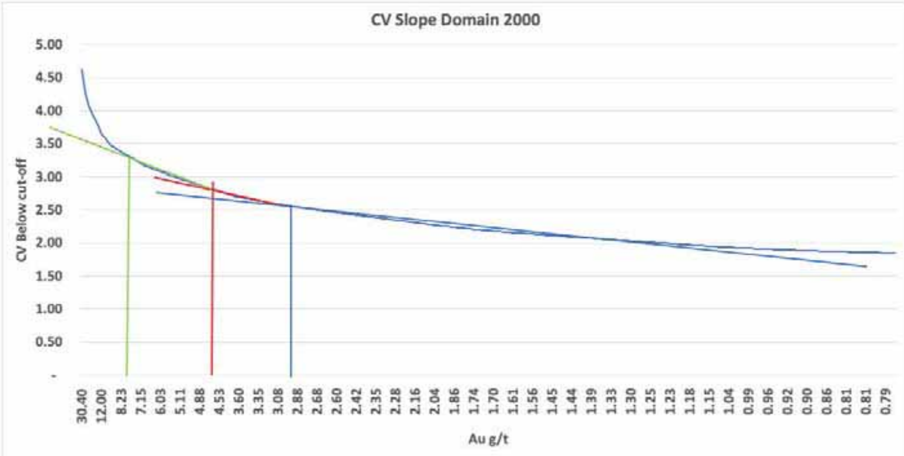
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
22	2	98.0%	2.47	1.49	60%	3.55	2.1923
17	2	98.0%	2.47	1.39	56%	3.55	2.1923
6.3	7	93.0%	2.47	2.12	86%	3.55	1.6042



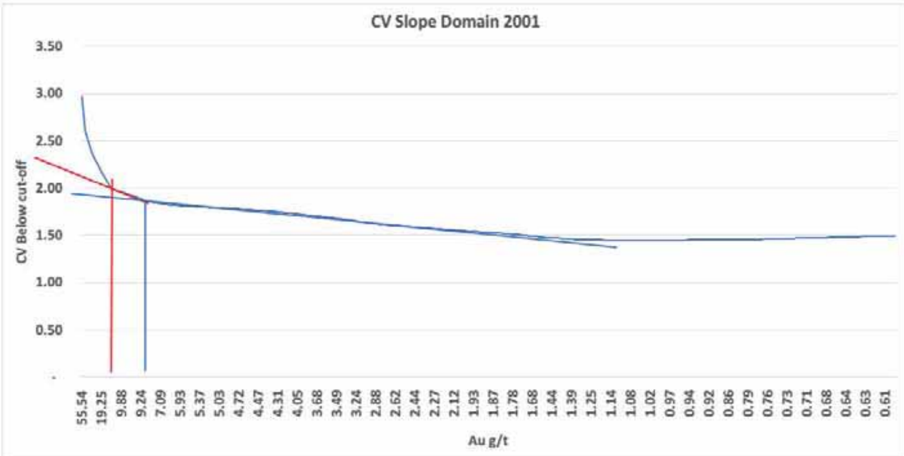
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
13.25	75	98.1%	2.21	0.67	30%	1.87	1.2788
20.8	26	99.4%	2.21	0.37	17%	1.87	1.3969
35	9	99.8%	2.21	0.20	9%	1.87	1.5602



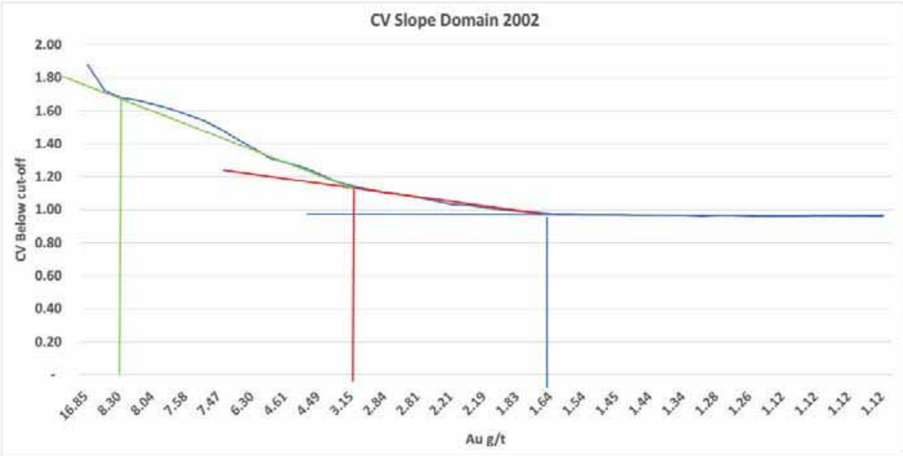
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
7.7	16	99.7%	0.20	0.06	31%	4.62	3.2955
4.5	43	99.2%	0.20	0.10	51%	4.62	2.7827
3	61	98.9%	0.20	0.11	56%	4.62	2.5897



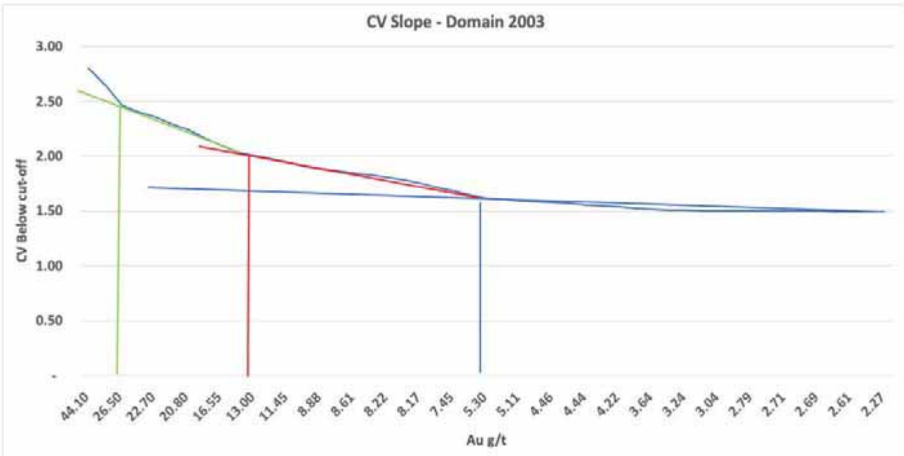
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
12	9	98.9%	1.14	0.42	37%	2.96	2.0618
7.7	21	97.4%	1.14	0.63	55%	2.96	1.8551
3	88	89.3%	1.14	1.13	99%	2.96	1.6341



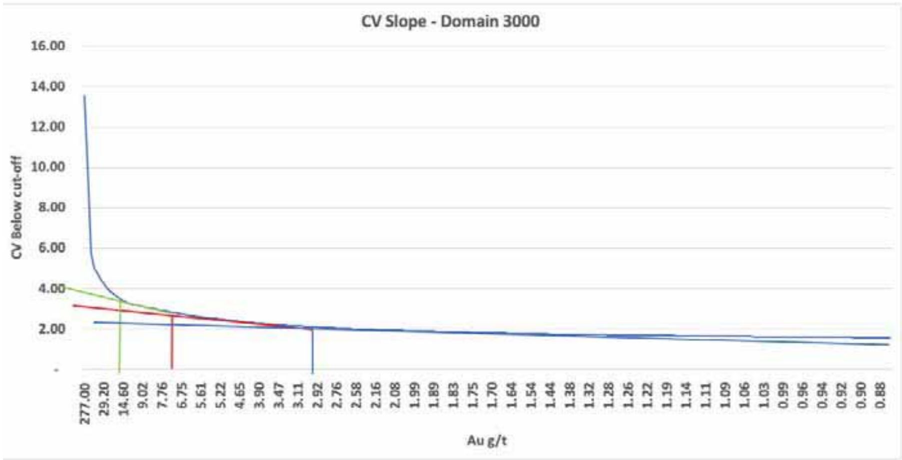
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
8	6	96.9%	1.15	0.56	48%	1.88	1.6126
3.15	16	91.8%	1.15	0.86	75%	1.88	1.1415
1.65	28	85.6%	1.15	0.99	87%	1.88	0.9837



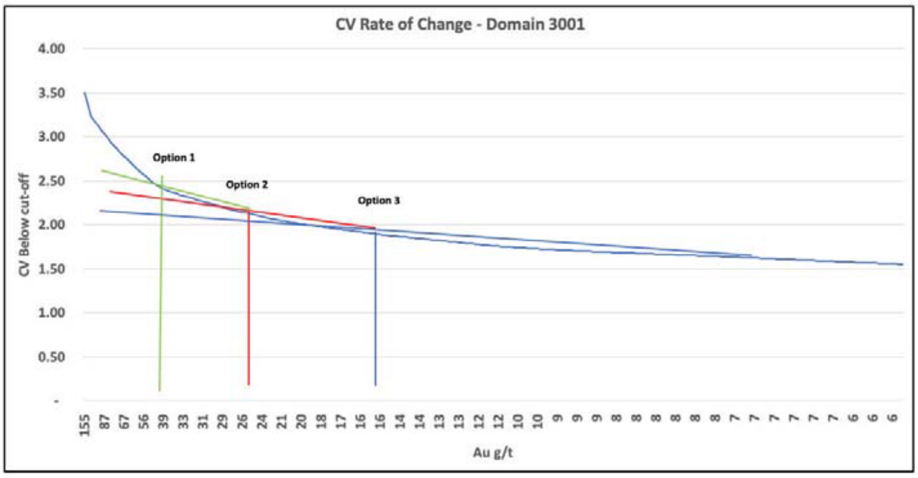
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
26.5	2	99.4%	1.69	0.40	24%	2.80	2.4627
13	9	97.4%	1.69	1.01	60%	2.80	2.0364
5.3	24	93.1%	1.69	1.45	86%	2.80	1.6190



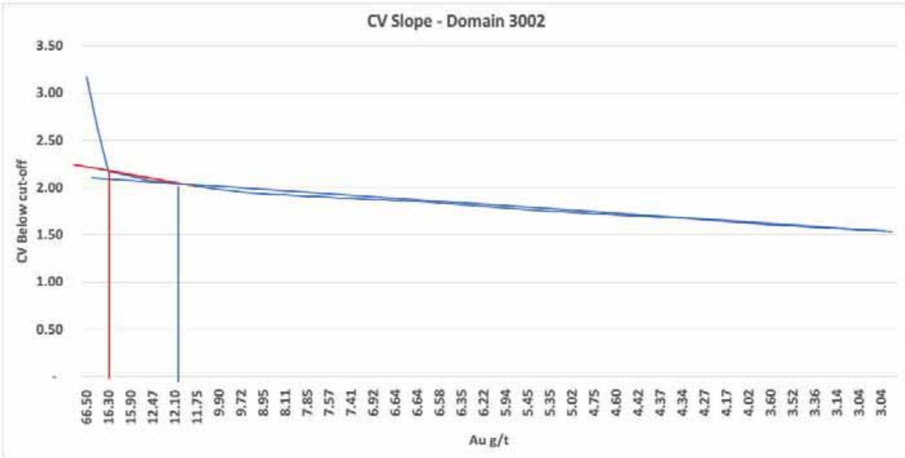
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
15.7	12	99.8%	0.24	0.12	50%	13.55	3.4813
7	29	99.6%	0.24	0.14	60%	13.55	2.7930
3	71	99.1%	0.24	0.17	70%	13.55	2.0985



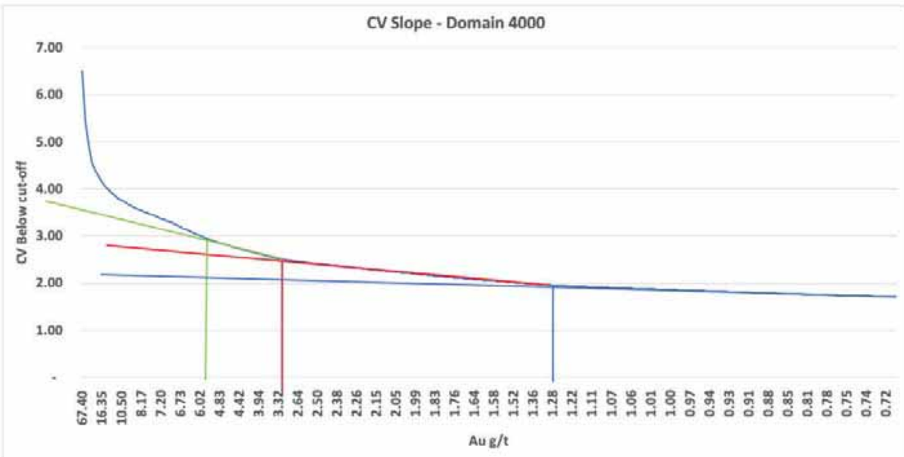
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
50	22	99.2%	2.42	1.01	42%	3.50	2.4752
25	50	98.2%	2.42	1.38	57%	3.50	2.1374
16	89	96.8%	2.42	1.71	71%	3.50	1.9032



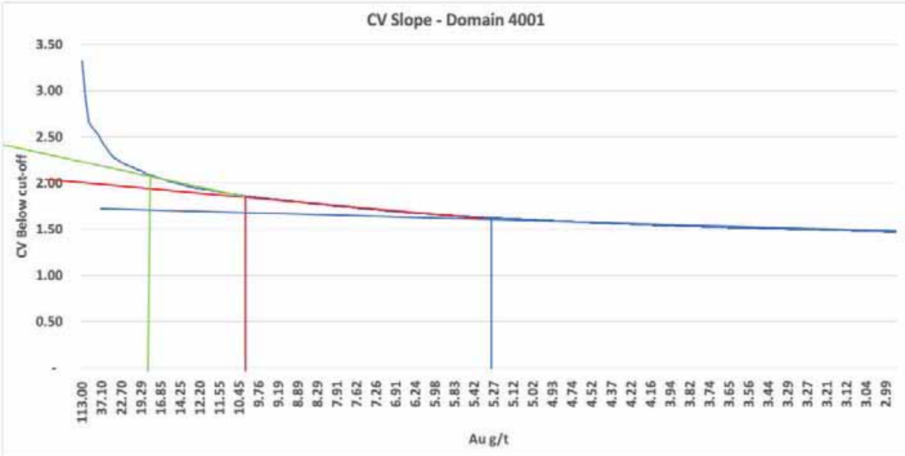
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
16.3	2	99.7%	1.22	0.22	18%	3.17	2.1724
12	10	98.5%	1.22	0.51	42%	3.17	2.0294
3	73	89.2%	1.22	1.20	98%	3.17	1.5441



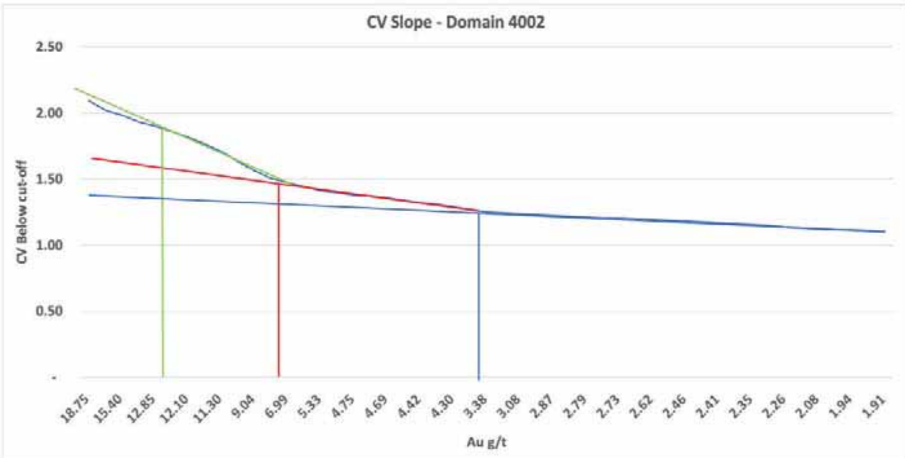
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
1.3	144	97.1%	0.24	0.19	79%	6.51	1.9620
3	63	98.7%	0.24	0.16	66%	6.51	2.4977
4.98	39	99.2%	0.24	0.14	58%	6.51	2.9511



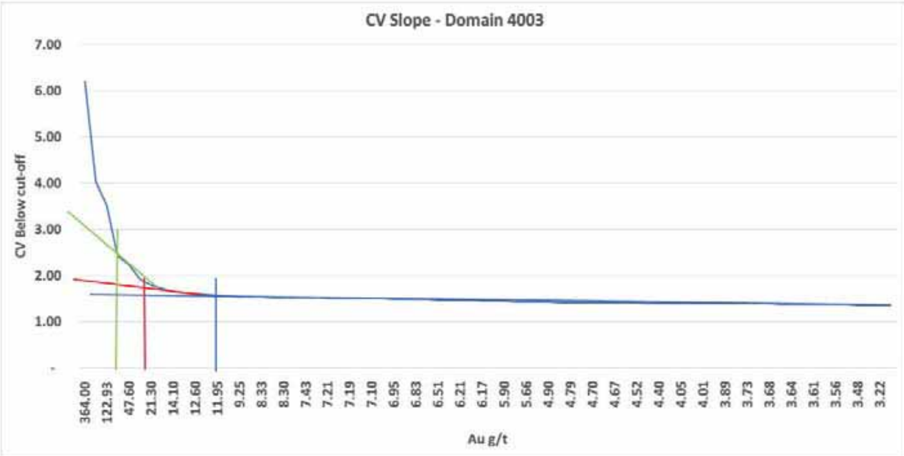
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
18	20	99.1%	1.32	0.45	35%	3.32	2.1157
10	53	97.7%	1.32	0.71	54%	3.32	1.8551
5.2	130	94.5%	1.32	1.01	77%	3.32	1.6197



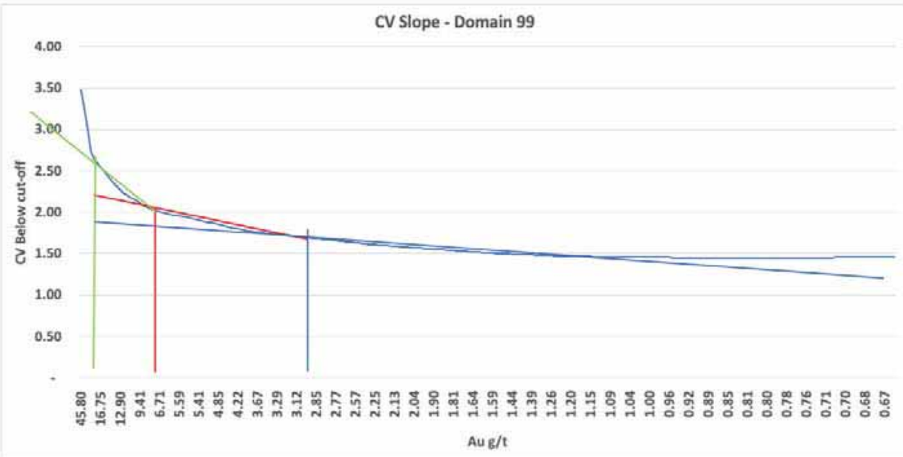
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
16	1	99.7%	1.26	0.12	9%	2.09	2.0885
7	12	96.0%	1.26	0.78	62%	2.09	1.5048
3.4	24	91.9%	1.26	0.98	78%	2.09	1.2702



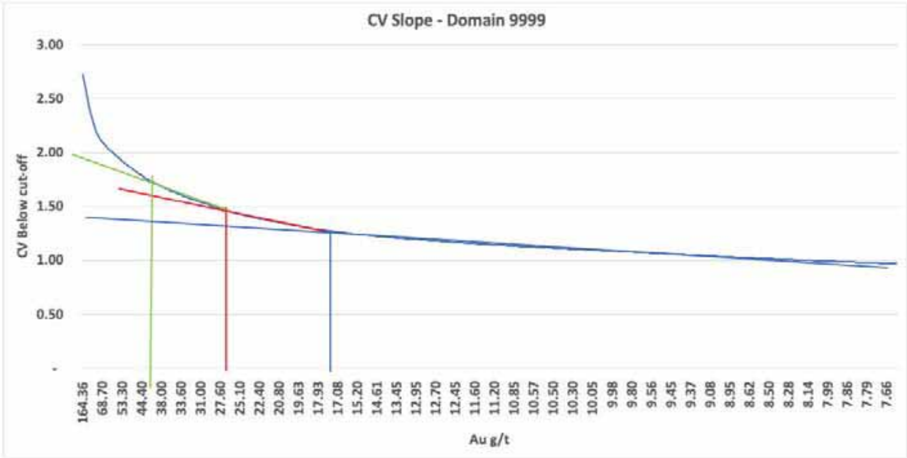
Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
47	5	98.9%	3.17	2.16	68%	6.21	2.2240
29	6	98.6%	3.17	2.09	66%	6.21	1.9123
11	13	97.0%	3.17	2.26	71%	6.21	1.5680



Grade Cap Analysis

Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
16	9	99.2%	0.86	0.35	41%	3.48	2.4564
6.9	24	97.8%	0.86	0.51	60%	3.48	2.0220
2.9	68	93.7%	0.86	0.73	84%	3.48	1.7021

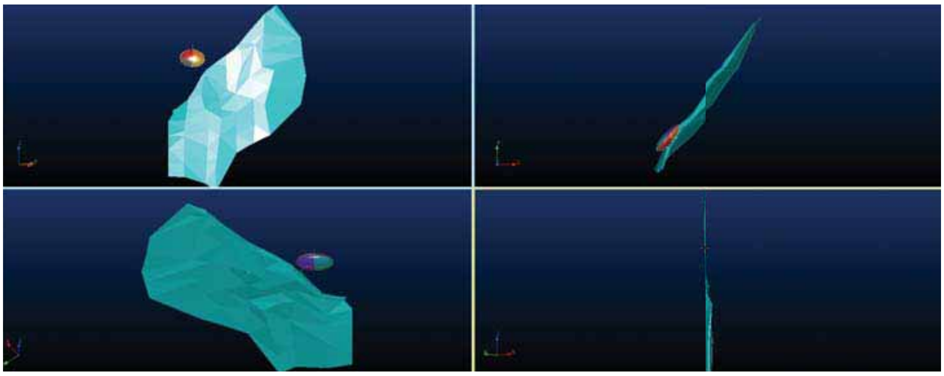


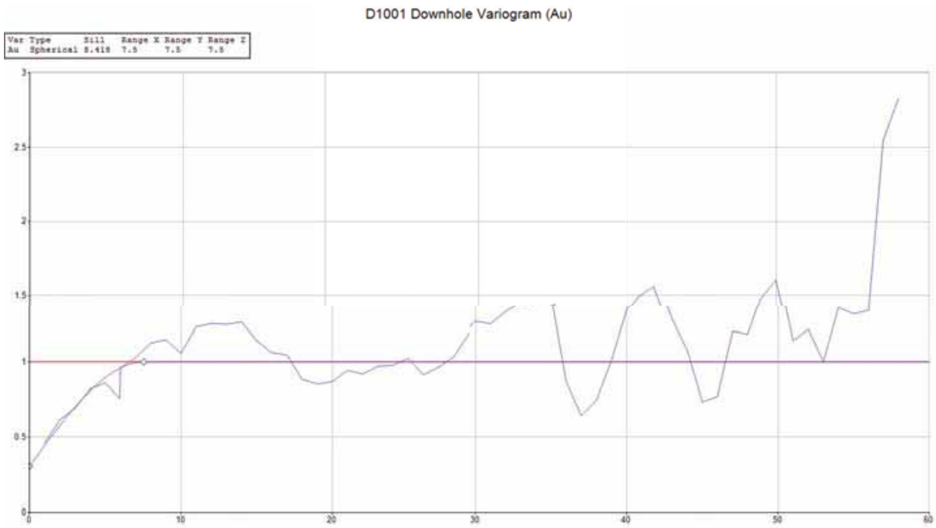
Grade Cap Analysis

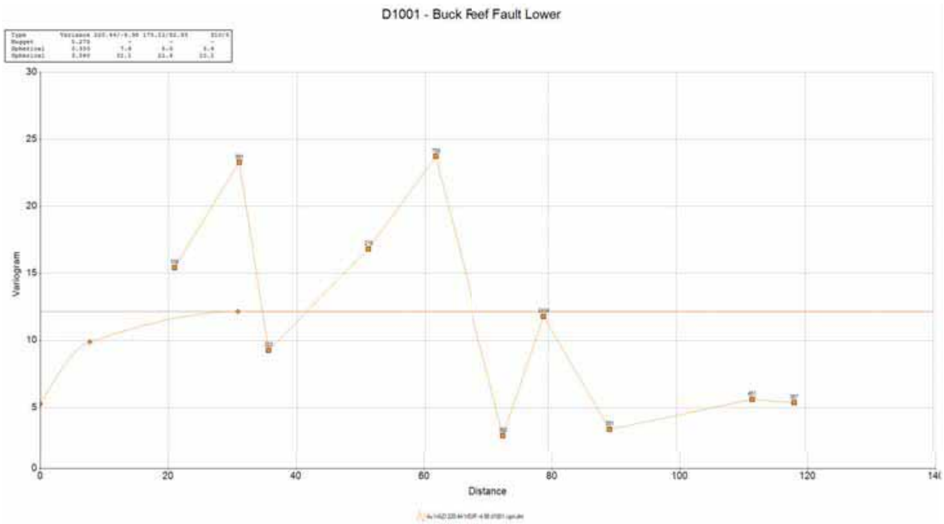
Cap Value	Num Affected	Percentile	Average Before	Average with Cap	Impact	CV Before	CV with Cap
40	23	100.0%	0.16	0.03	19%	2.73	1.7178
26	46	99.9%	0.16	0.04	26%	2.73	1.4558
17	79	99.9%	0.16	0.05	32%	2.73	1.2641

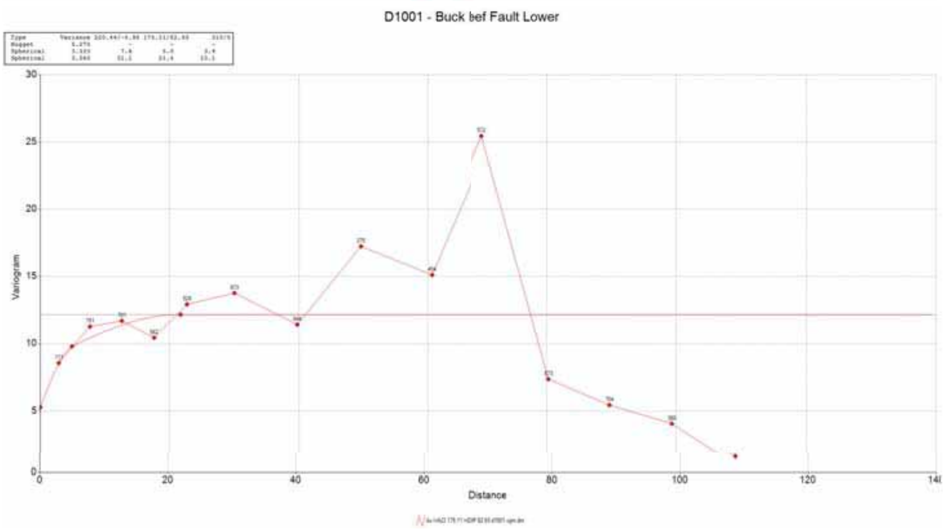
Appendix C Variogram Models

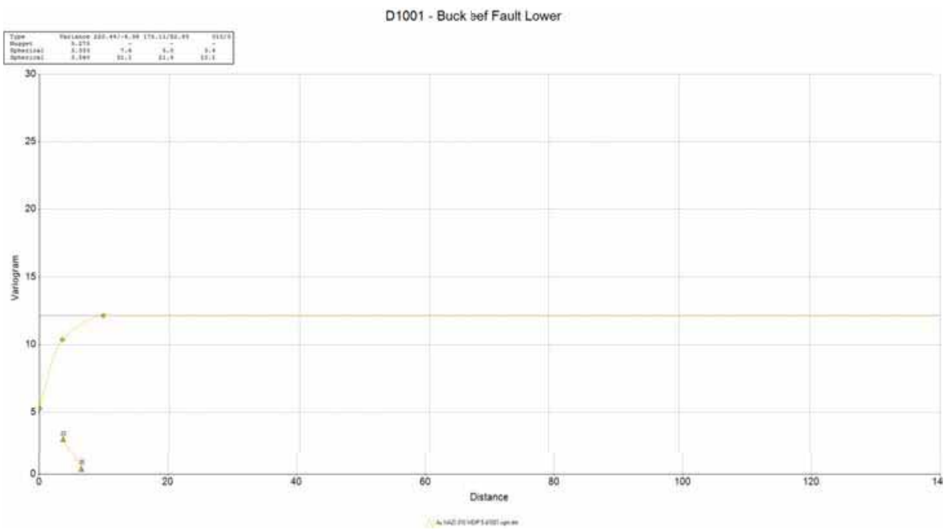
D1001 – Buck Reef Fault Lower (Main)



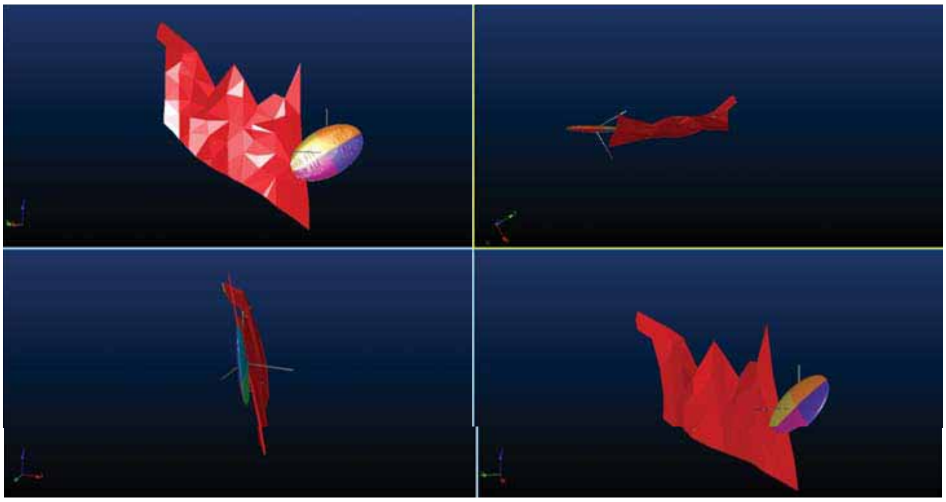



D1001 - Buck Reef Fault Lower
Variogram
Distance

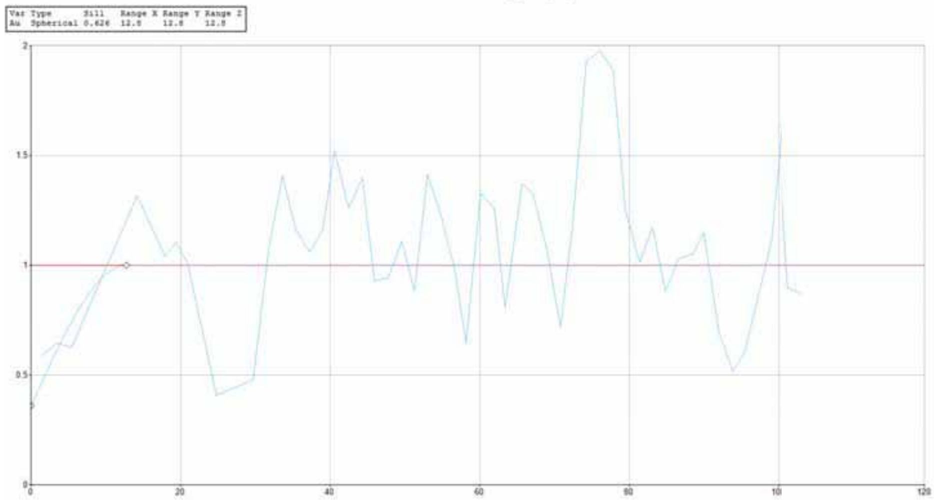

D1001 - Buck Reef Fault Lower
Variogram
Distance

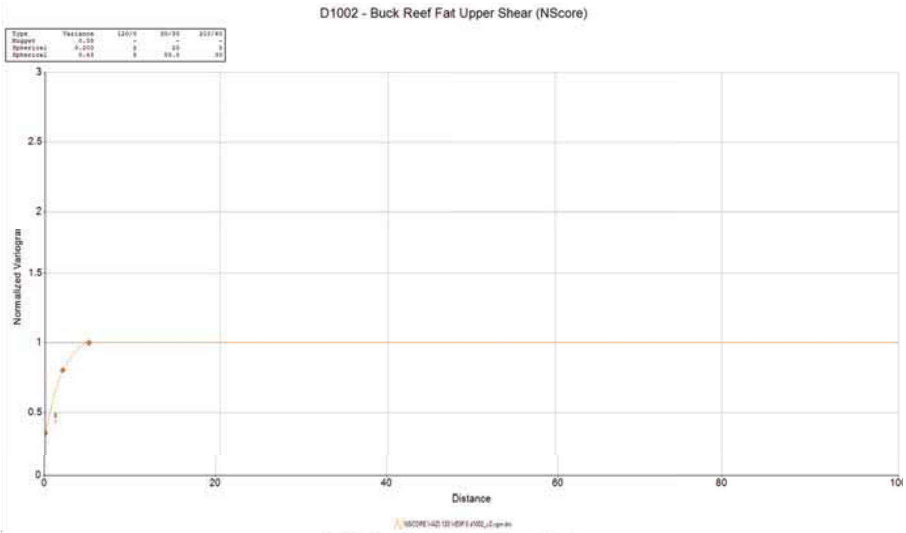

D1001 - Buck ef Fault Lower
Variogram
Distance
0
5
10
15
20
25
30
0
20
40
60
80
100
120
14

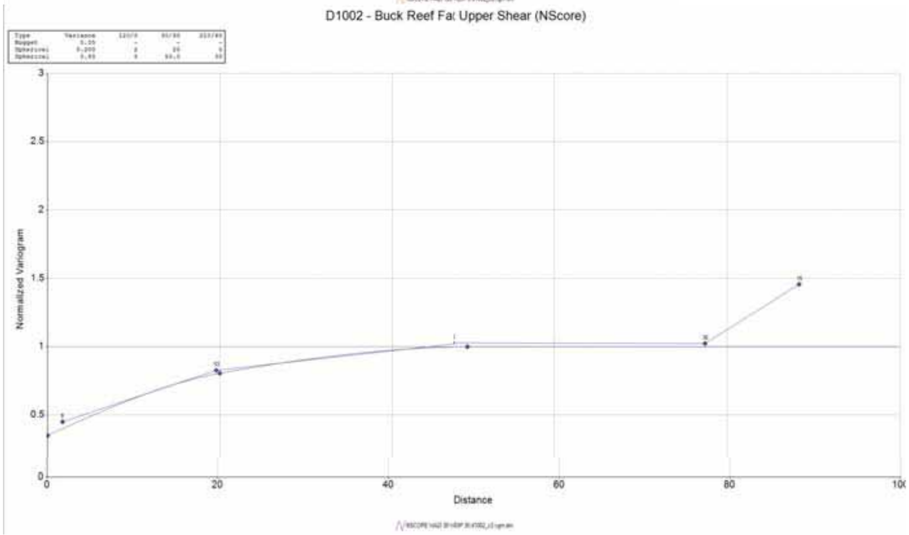
Domain 1002 – Buck Reef Fault Shear

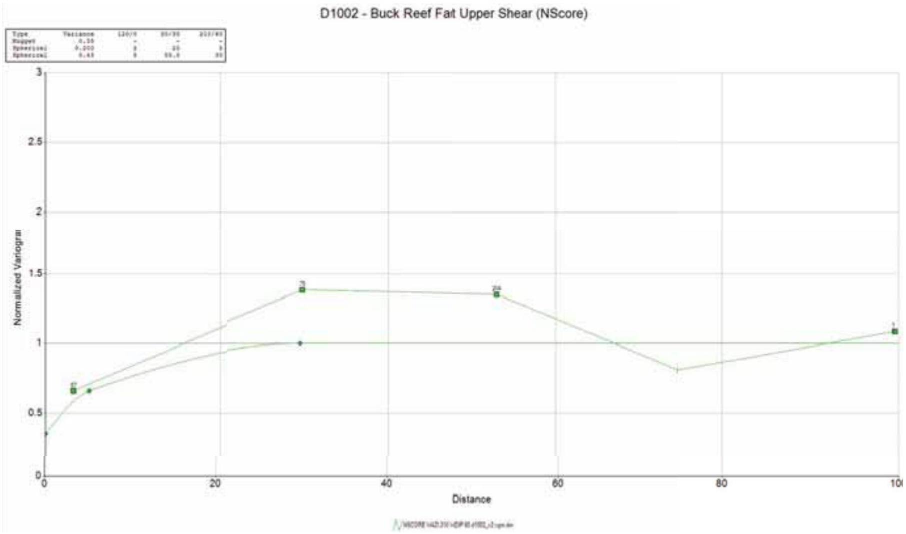


D1002 Downhole Variogram (Au)

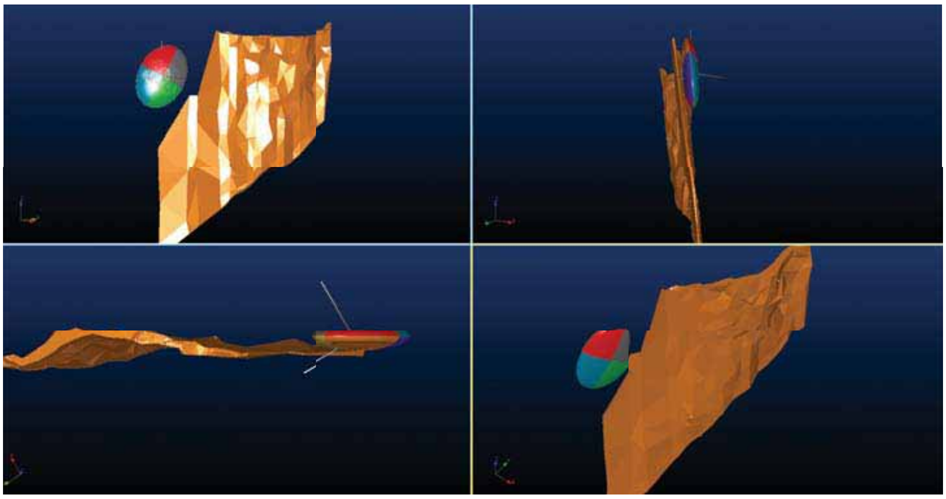


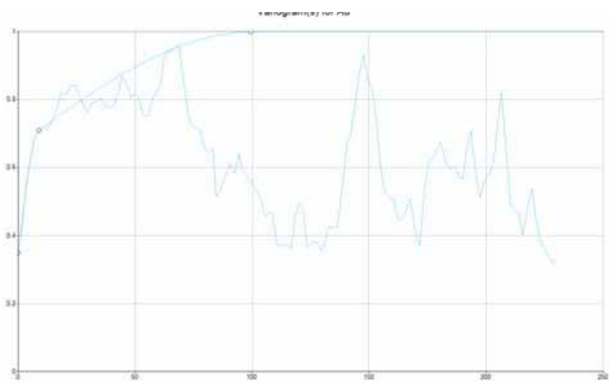

D1002 - Buck Reef Fat Upper Shear (NScore)
Normalized Variogram
Distance
0
0.5
1
1.5
2
2.5
3
20
40
60
80

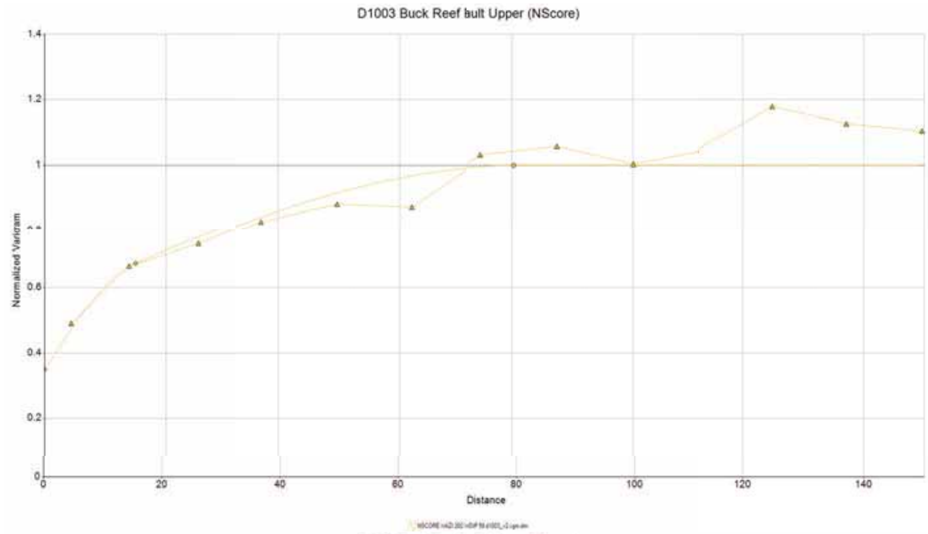

D1002 - Buck Reef Fat Upper Shear (NScore)
Normalized Variogram
Distance
0
0.5
1
1.5
2
2.5
3
20
40
60
80

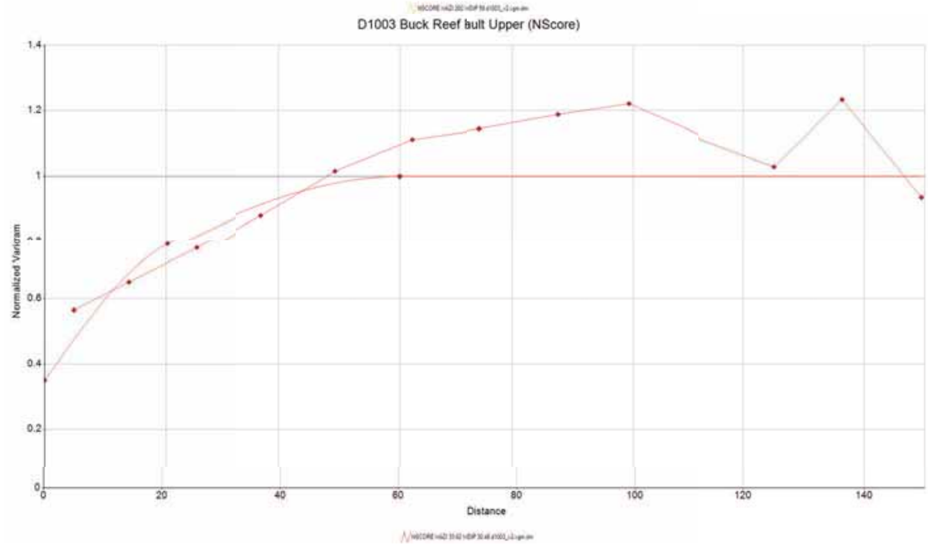

D1002 - Buck Reef Fat Upper Shear (NScore)
Normalized Variogram
Distance
0
0.5
1
1.5
2
2.5
3
20
40
60
80

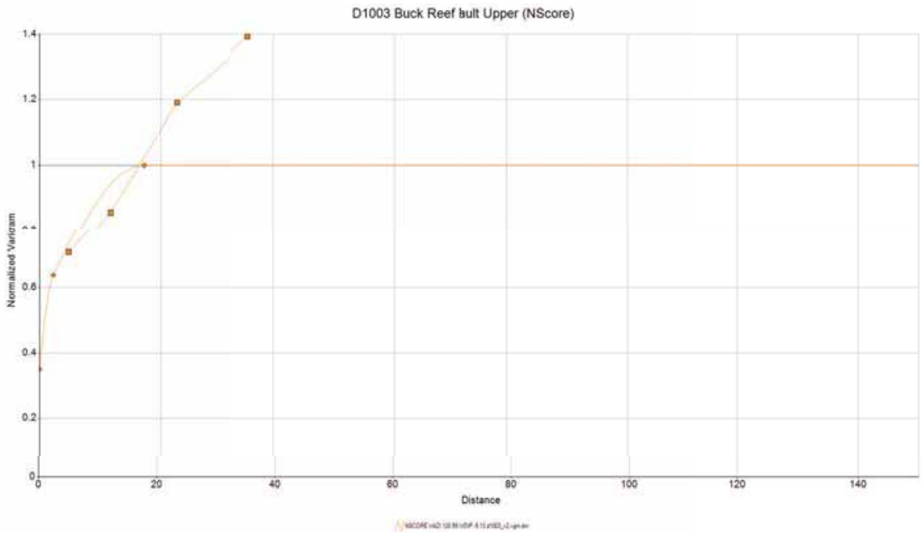
Domain 1003 – Buck Reef Fault Upper



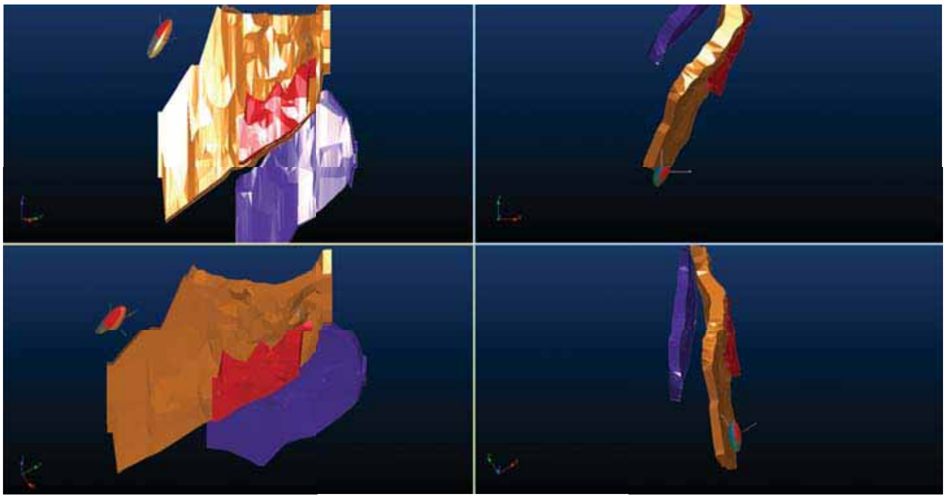


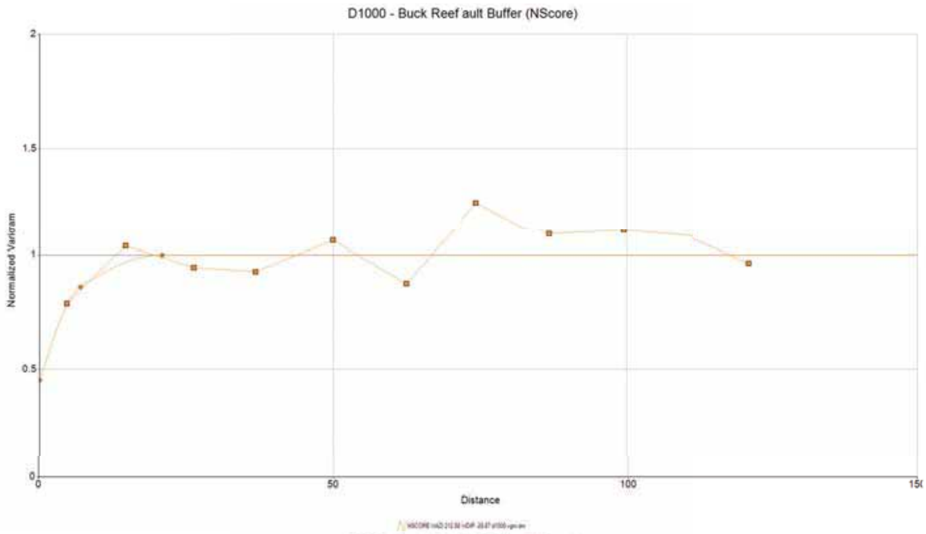

D1003 Buck Reef ault Upper (NScore)
Normalized Variogram
Distance

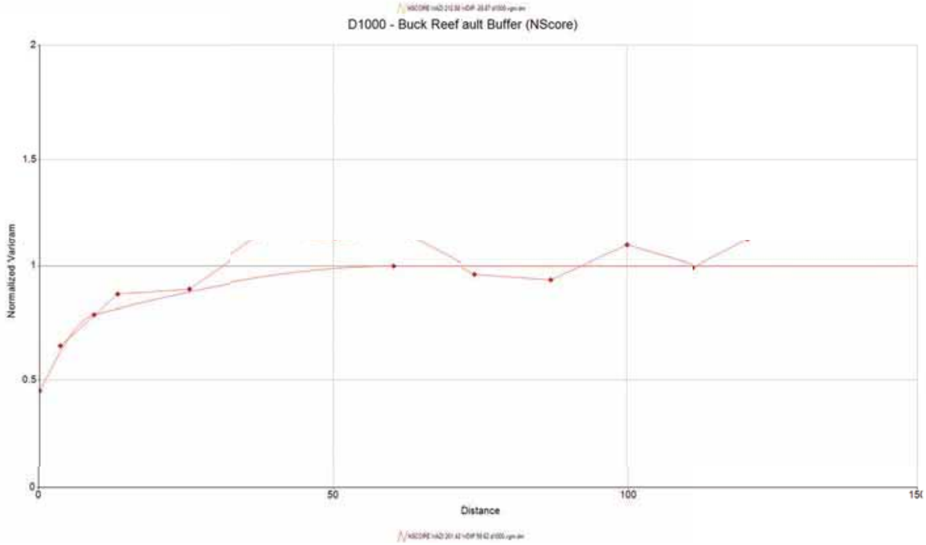

D1003 Buck Reef ault Upper (NScore)
Normalized Variogram
Distance

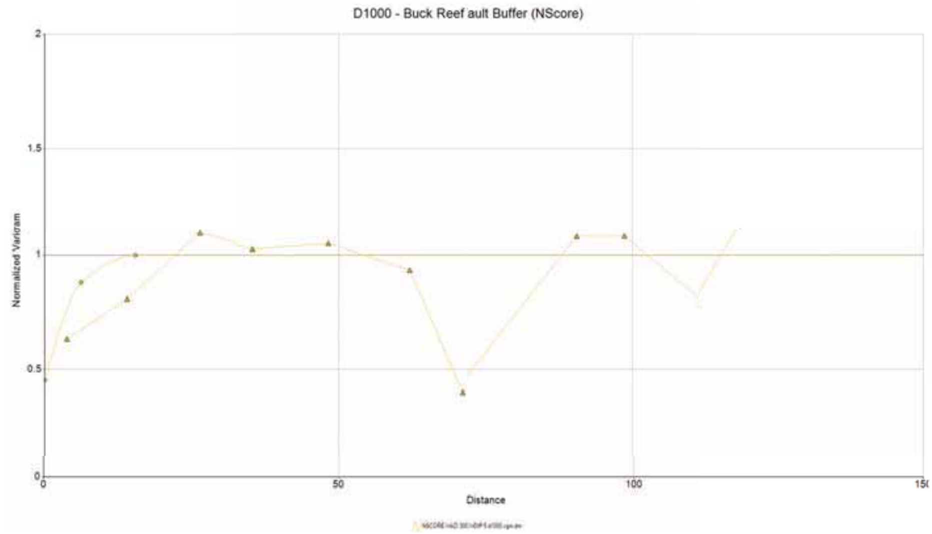

D1003 Buck Reef ault Upper (NScore)
Normalized Variogram
1.4
1.2
1
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
Distance

Domain 1000 – Buck Reef Fault Buffer

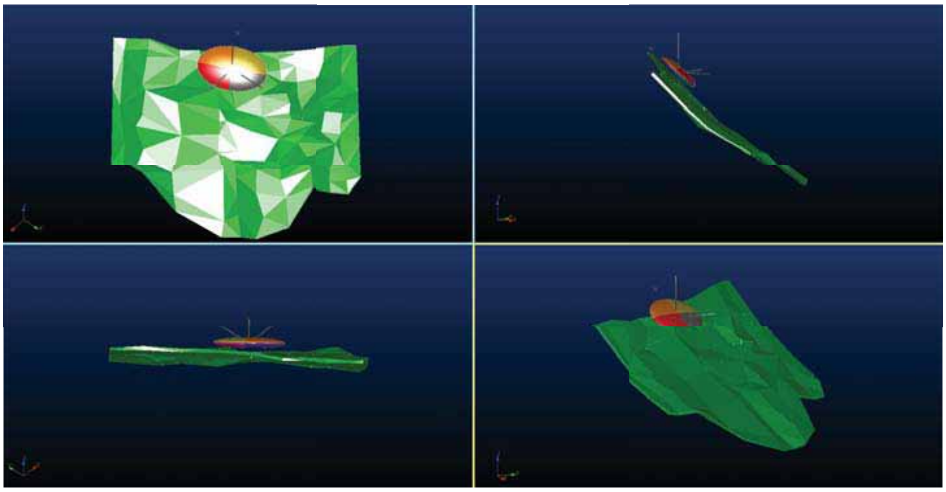


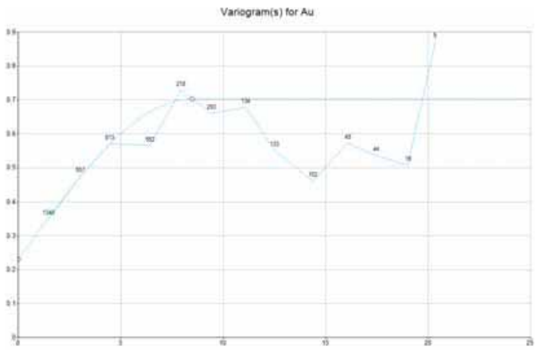

D1000 - Buck Reef ault Buffer (NScore)
Normalized Varioram
Distance
0
0.5
1
1.5
2
50
100
150

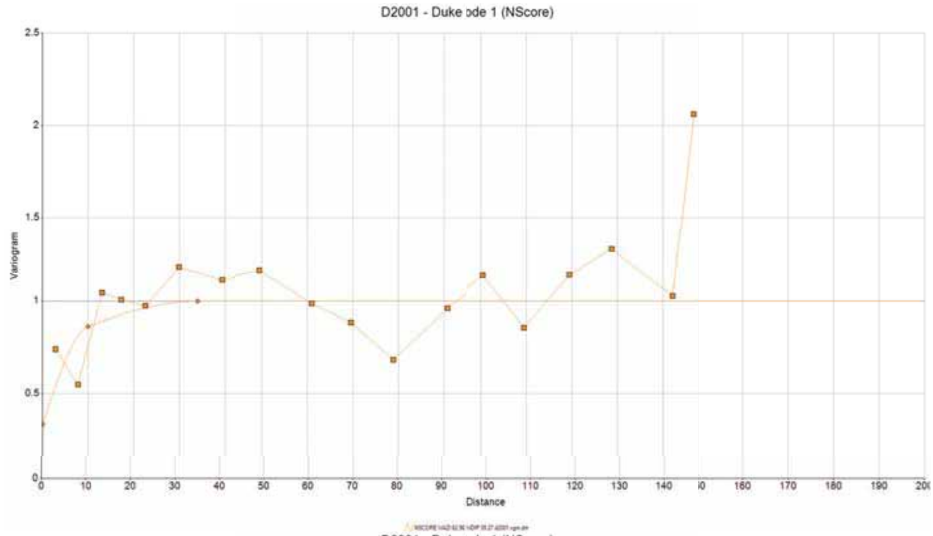

D1000 - Buck Reef ault Buffer (NScore)
Normalized Varioram
Distance
0
0.5
1
1.5
2
50
100
150

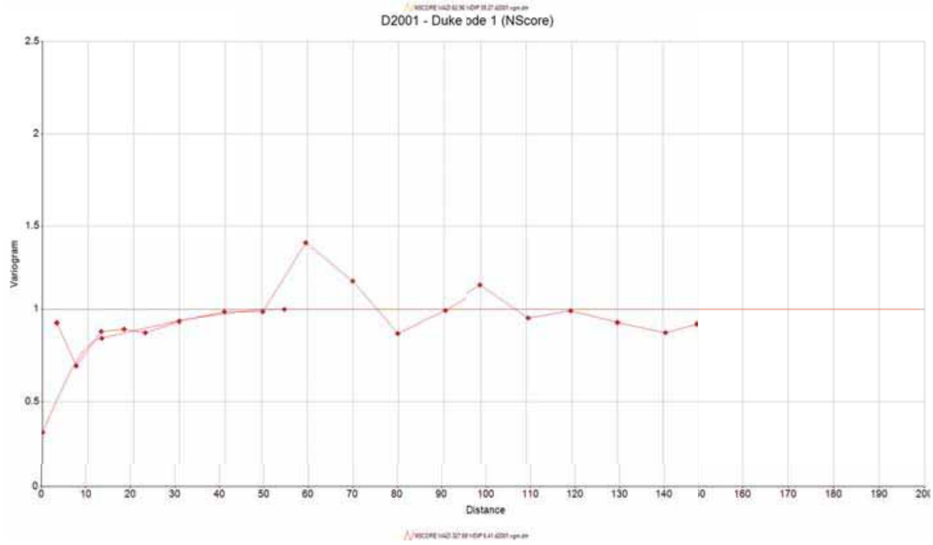

D1000 - Buck Reef ault Buffer (NScore)
Normalized Variram
Distance
0
0.5
1
1.5
2
50
100

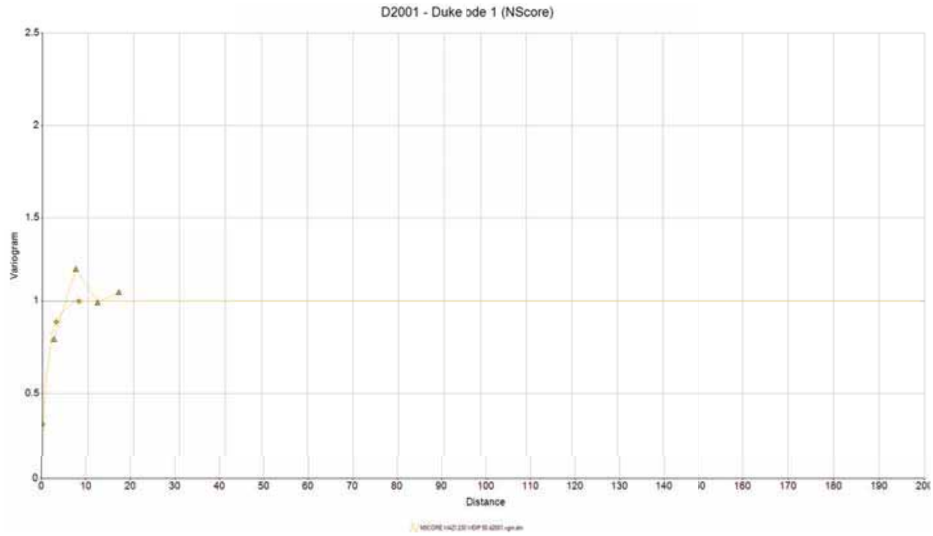
Domain 2001 – Duke Lode 1



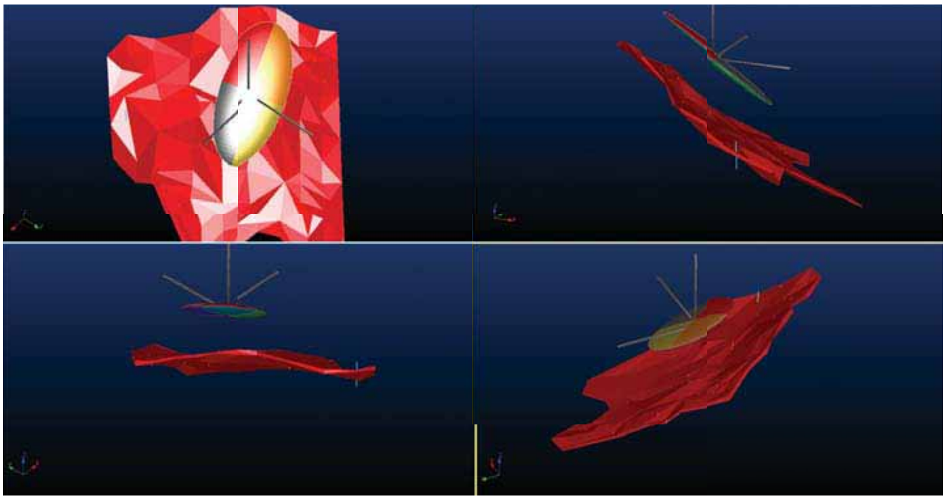


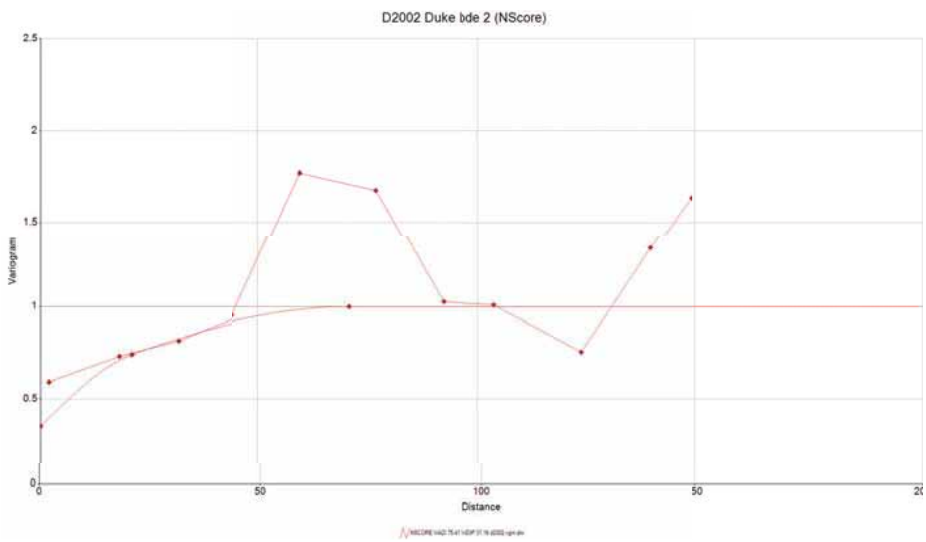

D2001 - Duke ode 1 (NScore)
Variogram
Distance

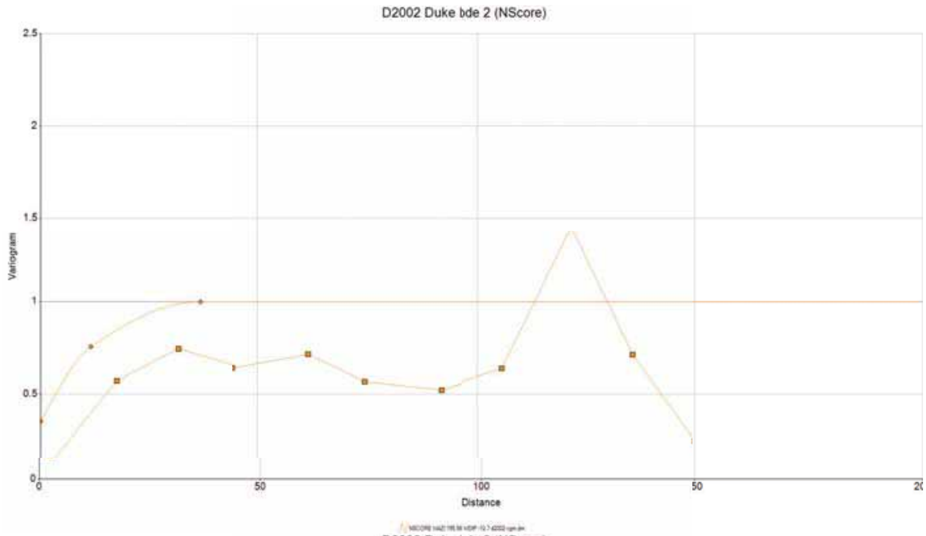

D2001 - Duke ode 1 (NScore)
Variogram
Distance

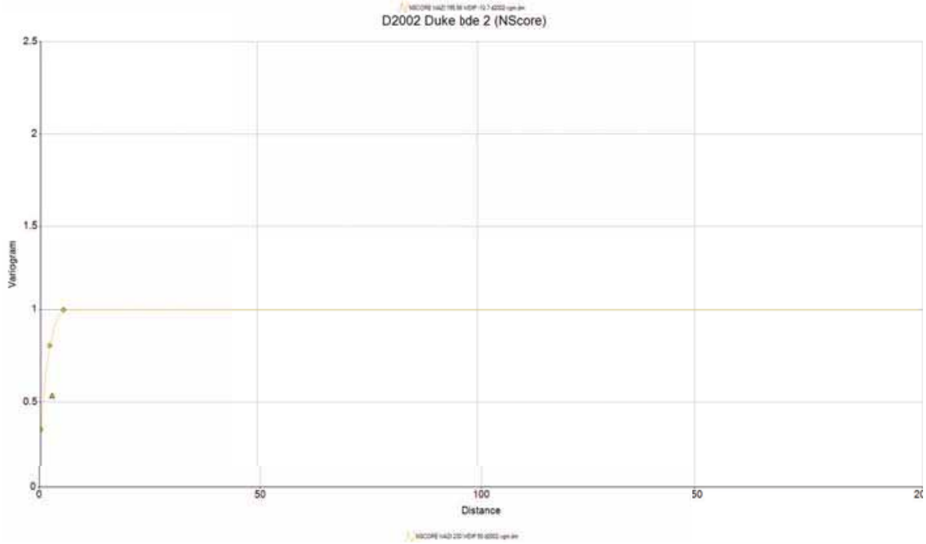

D2001 - Duke ode 1 (NScore)
Variogram
Distance
0
0.5
1
1.5
2
2.5
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
160
170
180
190

Domain 2002 – Duke Lode 2

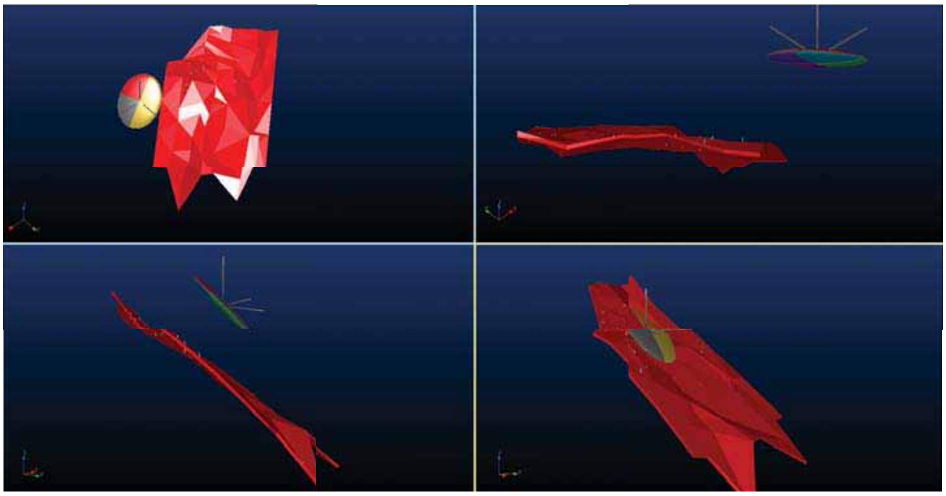


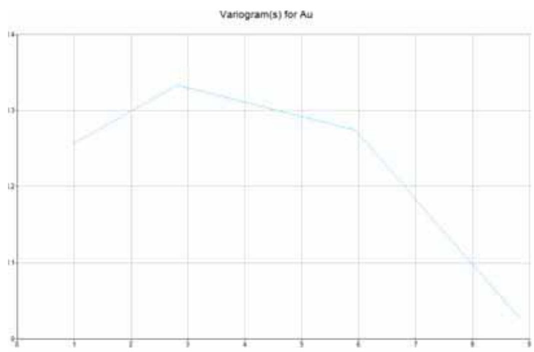


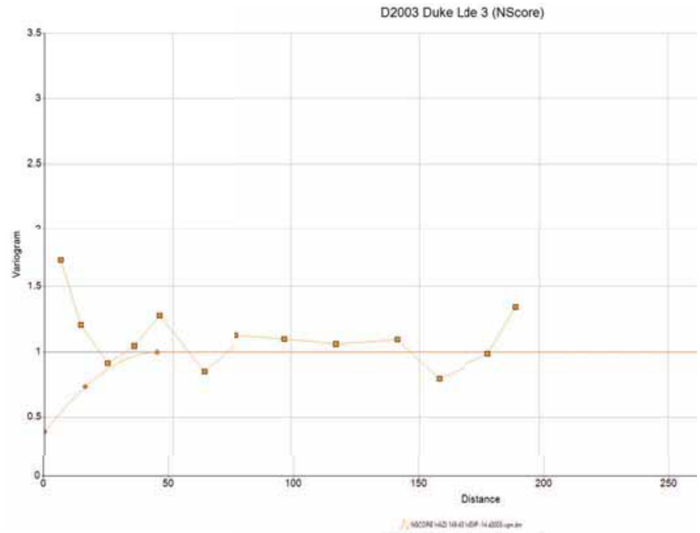

D2002 Duke bde 2 (NScore)
Variogram
2.5
2
1.5
1
0.5
0
0
50
100
50
20
Distance

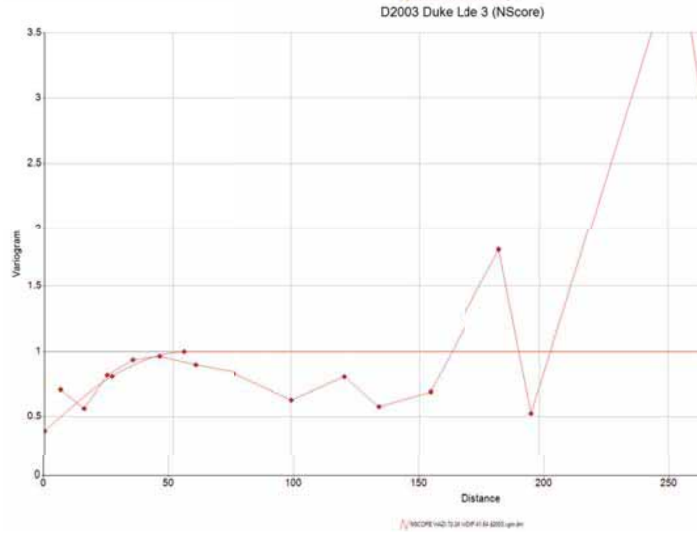

D2002 Duke bde 2 (NScore)
Variogram
2.5
2
1.5
1
0.5
0
0
50
100
50
20
Distance

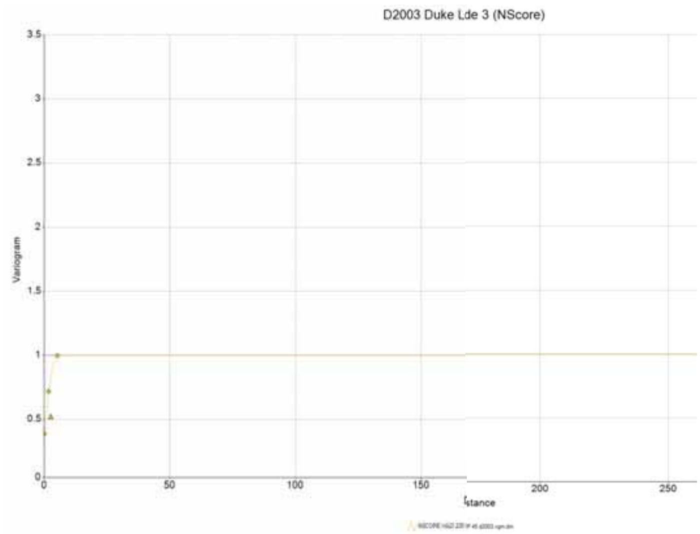
Domain 2003 – Duke Lode 3



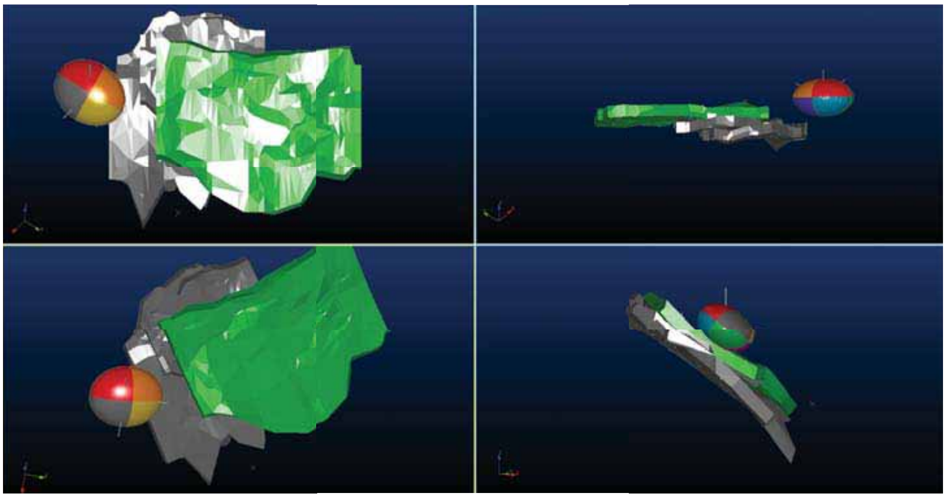


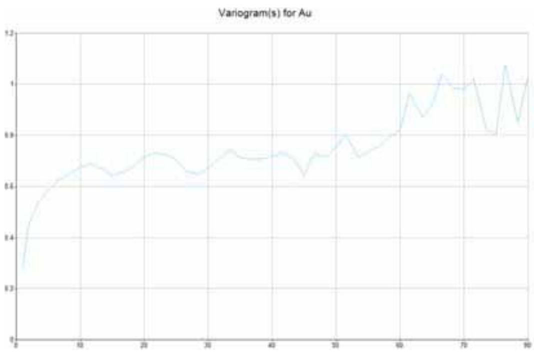

D2003 Duke Lde 3 (NScore)
Variogram
Distance
0
0.5
1
1.5
2.5
3
3.5
50
100
150
200
250

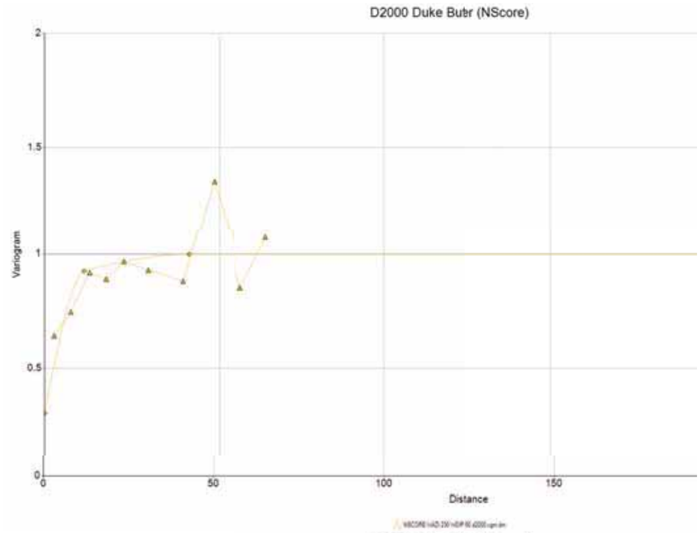

D2003 Duke Lde 3 (NScore)
Variogram
Distance
0
0.5
1
1.5
2.5
3
3.5
50
100
150
200
250

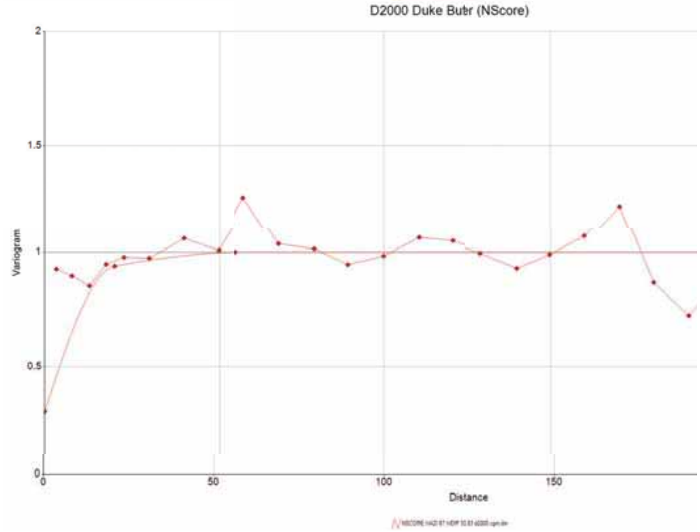

D2003 Duke Lde 3 (NScore)
Variogram
3.5
3
2.5
2
1.5
1
0.5
0
0
50
100
150
200
250
stance

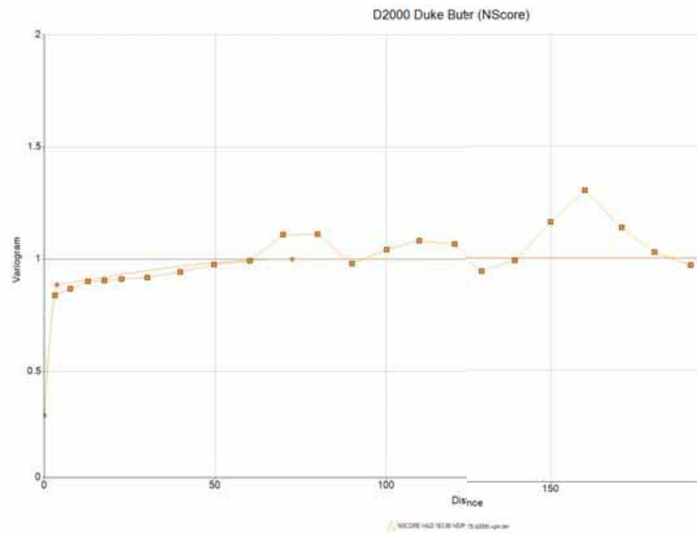
Domain 2000 – Duke Buffer



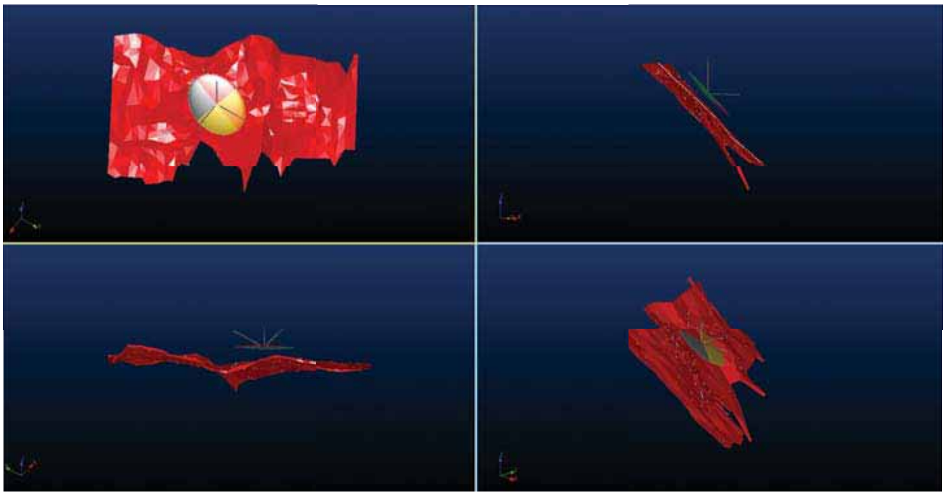


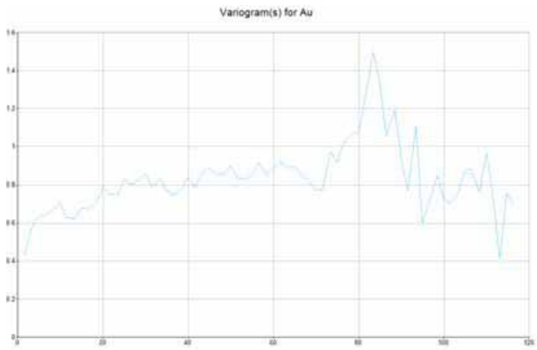

D2000 Duke Butr (NScore)
Variogram
0
0.5
1
1.5
2
0
50
100
150
Distance

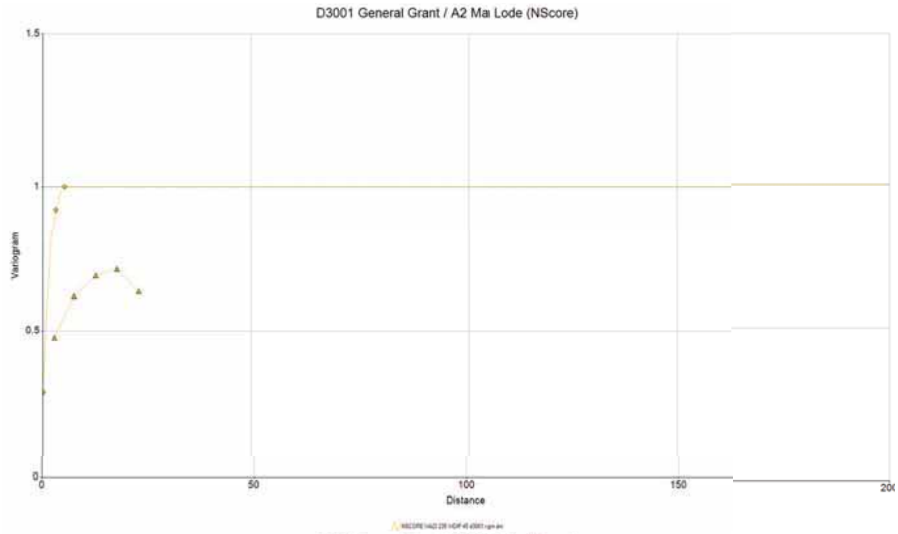

D2000 Duke Butr (NScore)
Variogram
0
0.5
1
1.5
2
0
50
100
150
Distance

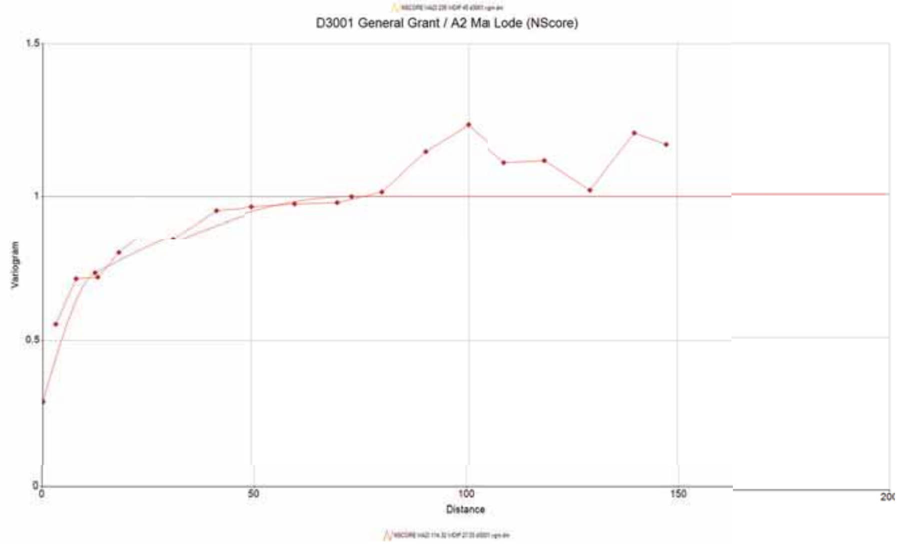

D2000 Duke Butr (NScore)
Variogram
Dis nce
0
0.5
1
1.5
2
0
50
100
150

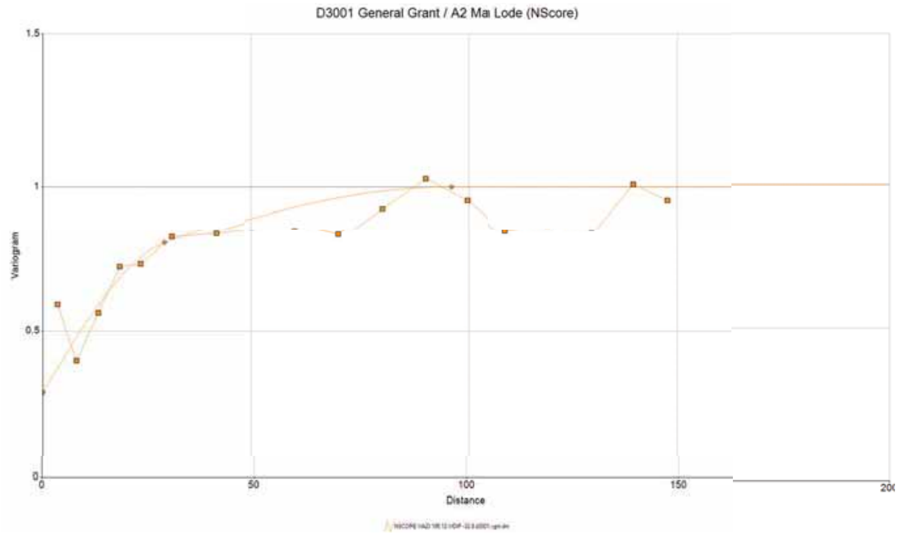
Domain 3001 – Grant Lode 1



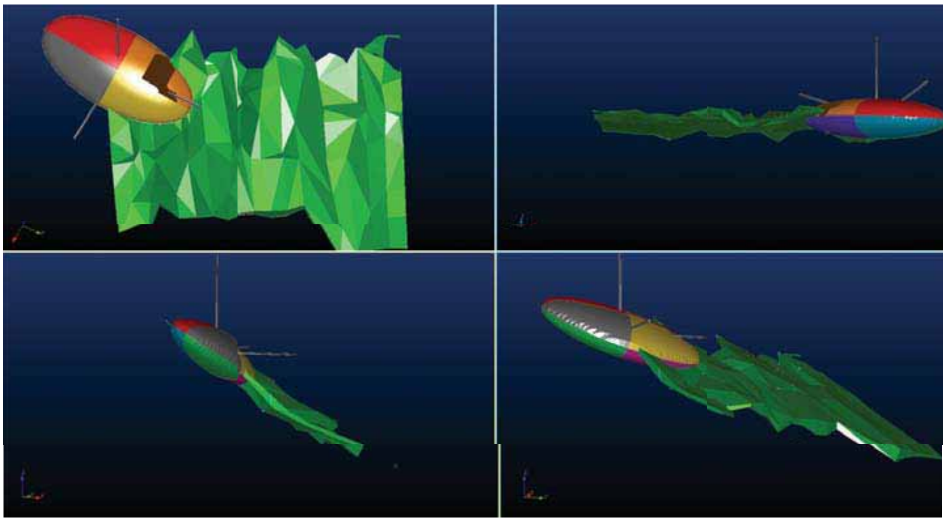


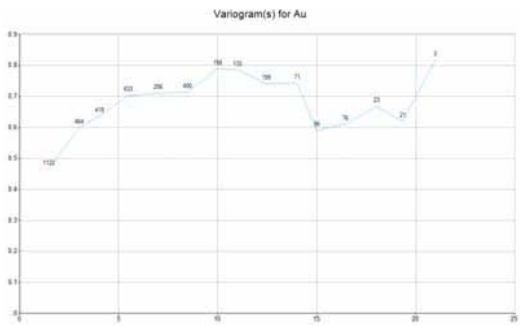

D3001 General Grant / A2 Mai Lode (NScore)
Variogram
Distance
1.5
1
0.5
0
0
50
100
150
200

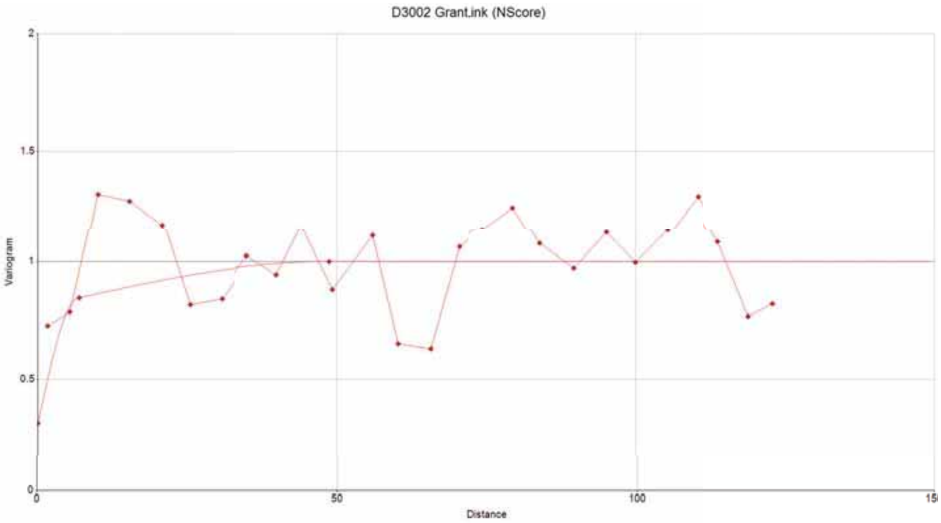

D3001 General Grant / A2 Mai Lode (NScore)
Variogram
Distance
1.5
1
0.5
0
0
50
100
150
200

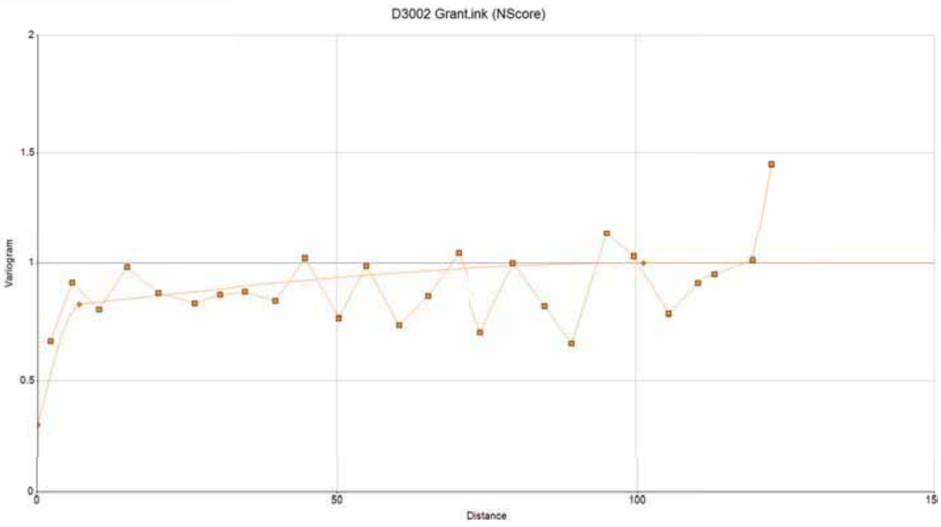

D3001 General Grant / A2 Mai Lode (NScore)
1.5
1
0.5
0
Variogram
0
50
100
150
200
Distance

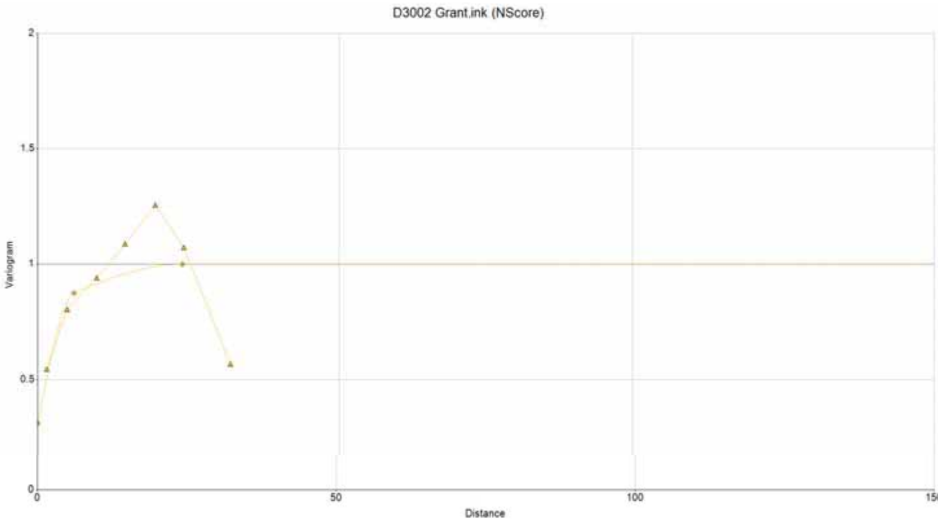
Domain 3002 – Grant Lode 2



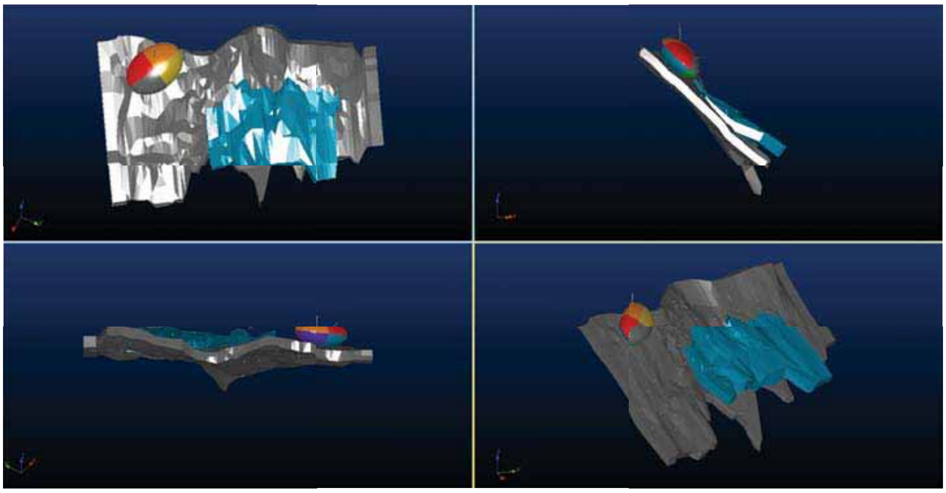


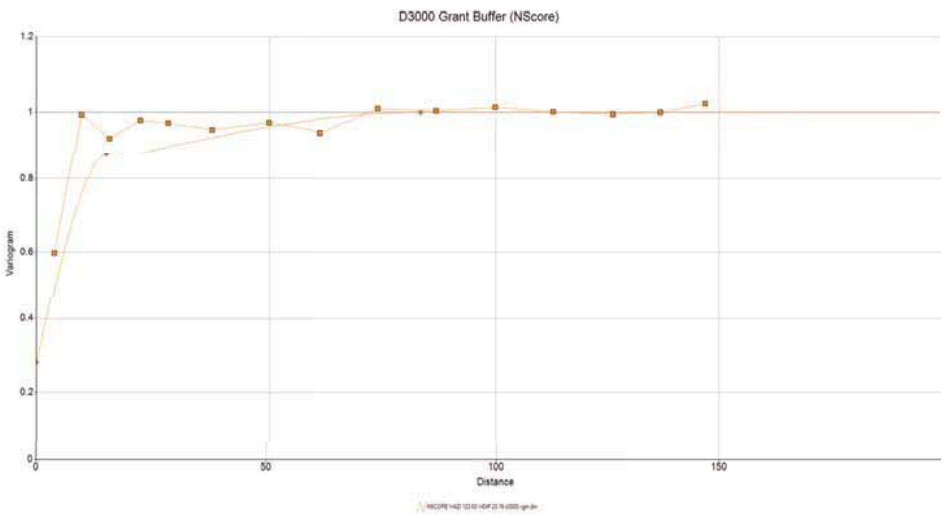

D3002 Grant.ink (NScore)
Variogram
Distance
0
0.5
1
1.5
2
50
100
15

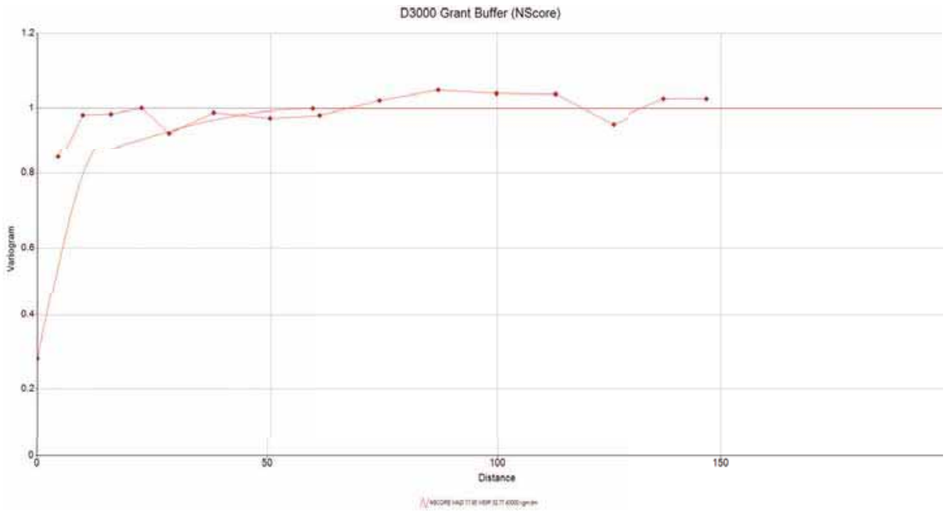

D3002 Grant.ink (NScore)
Variogram
Distance
0
0.5
1
1.5
2
50
100
15

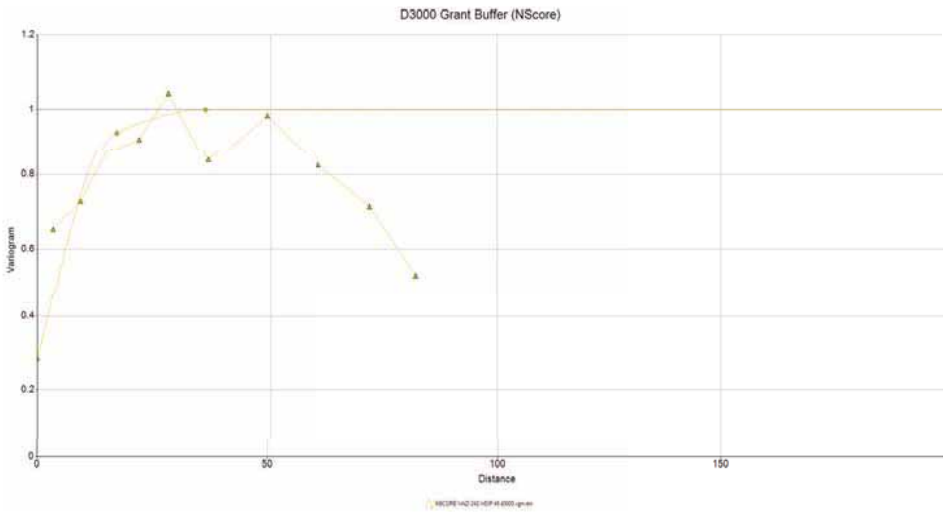

D3002 Grant.ink (NScore)
Variogram
Distance
0
0.5
1
1.5
2
50
100

Domain 3000 Grant Buffer

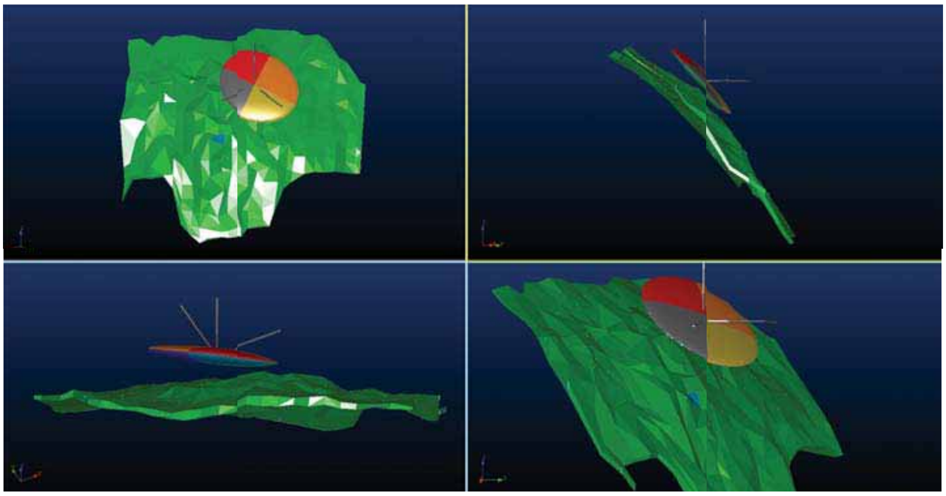


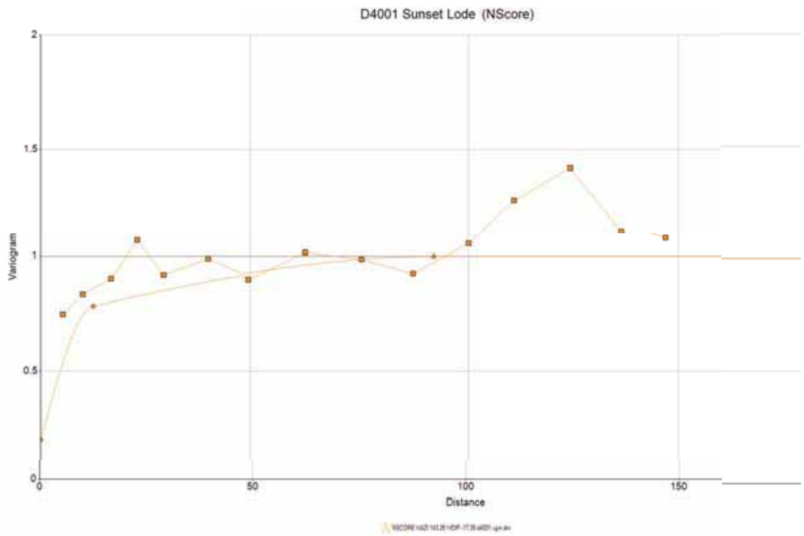


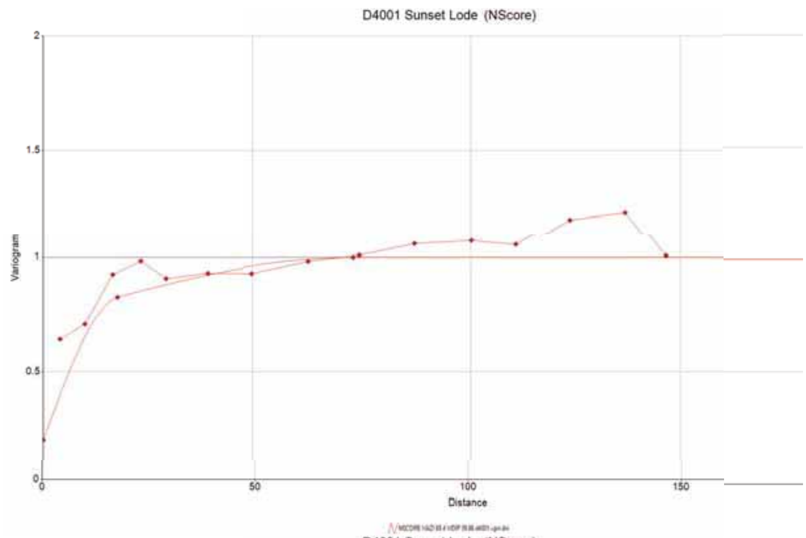

D3000 Grant Buffer (NScore)
Variogram
Distance
0
0.2
0.4
0.6
0.8
1
1.2
0
50
100
150

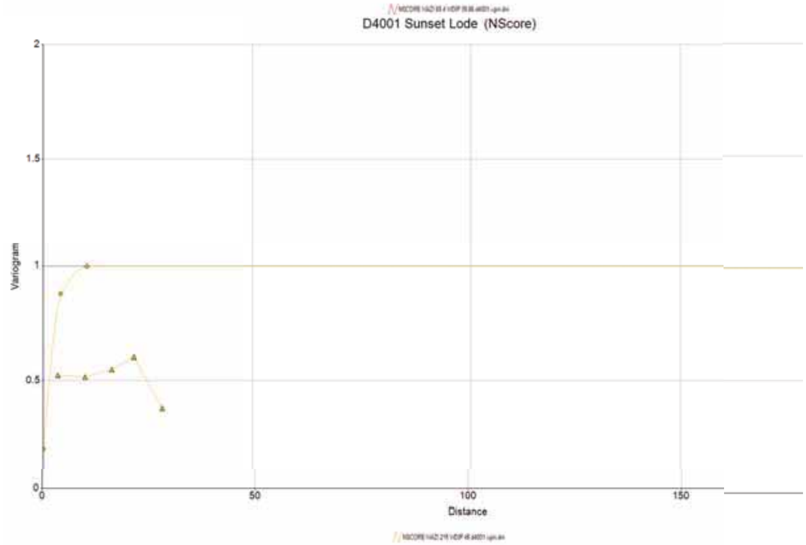

D3000 Grant Buffer (NScore)
Variogram
Distance
0
0.2
0.4
0.6
0.8
1
1.2
0
50
100
150

Domain 4001 Sunset Lode 1

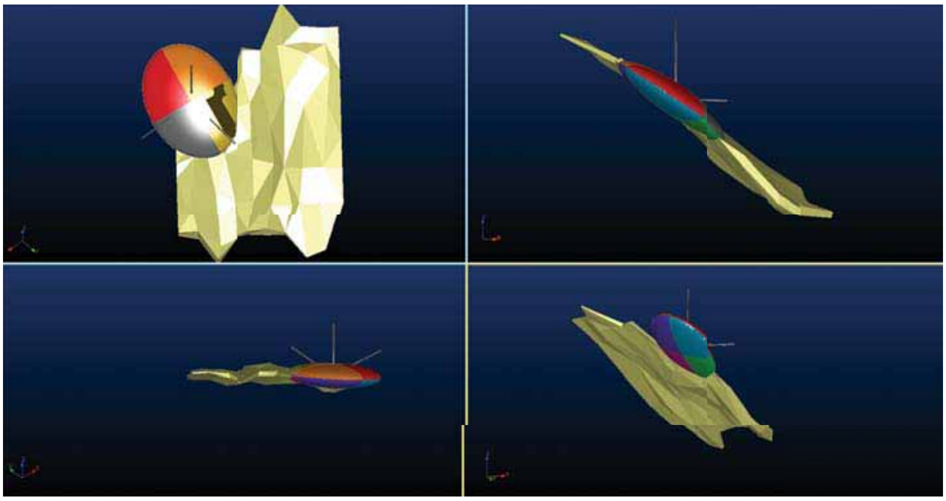


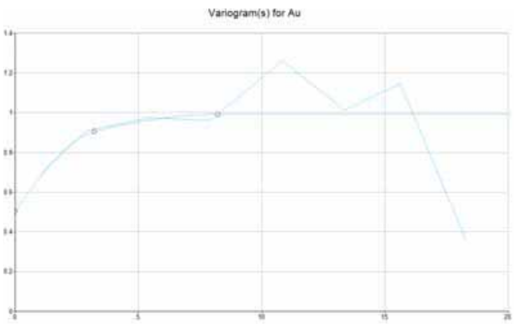


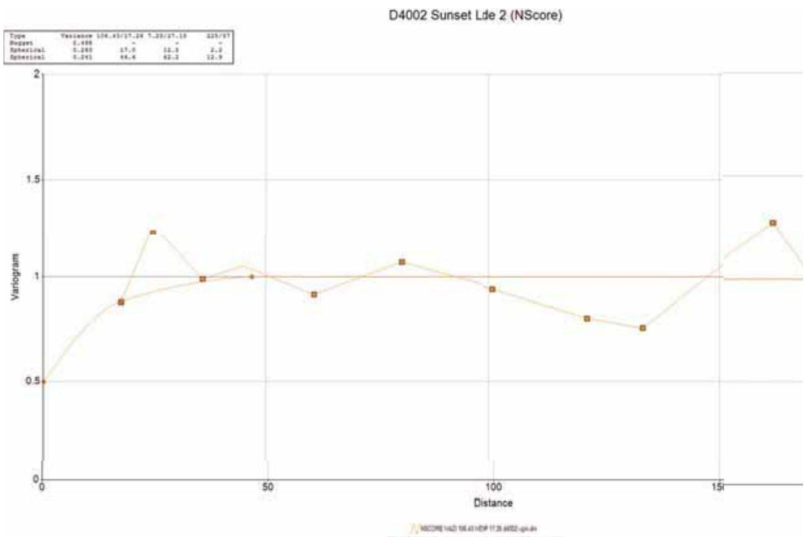

D4001 Sunset Lode (NScore)
Variogram
Distance
0
0.5
1
1.5
2
50
100
150

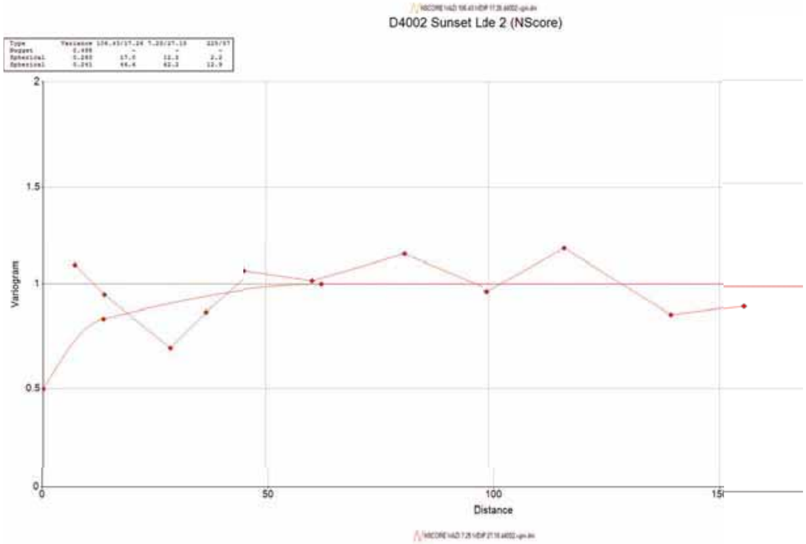

D4001 Sunset Lode (NScore)
Variogram
Distance
0
0.5
1
1.5
2
50
100
150

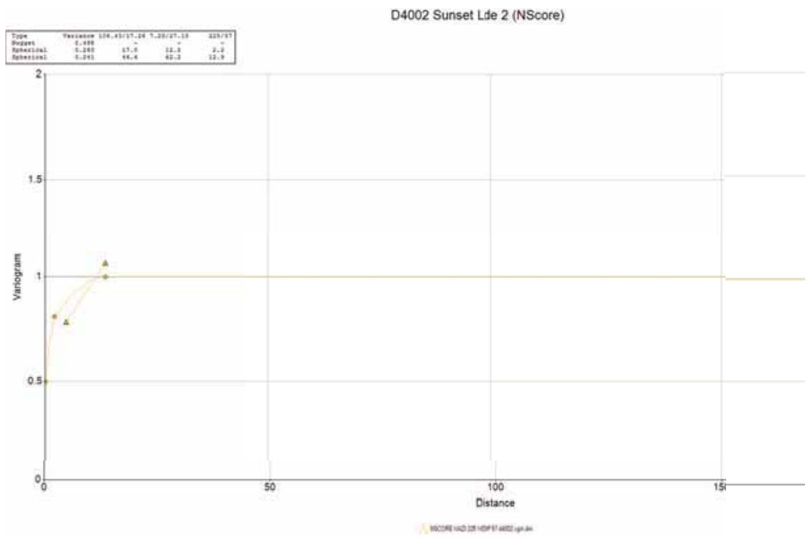
Domain 4002 Sunset Lode 2



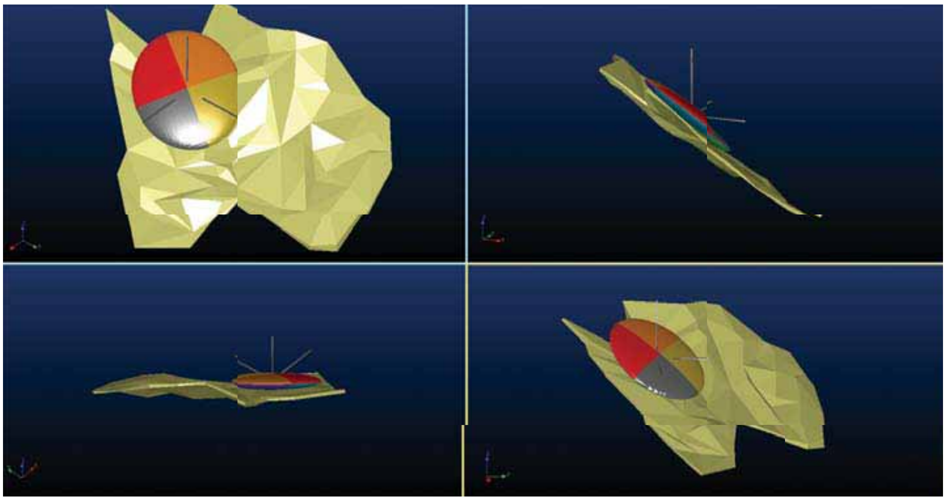


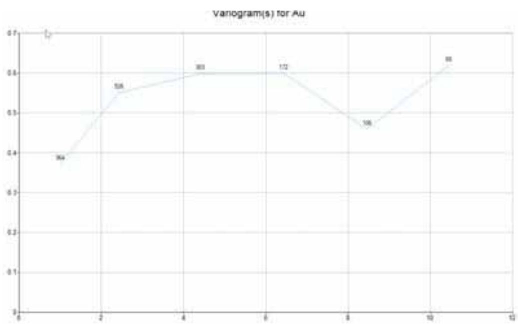

D4002 Sunset Lde 2 (NScore)
Variogram
Distance
0
0.5
1
1.5
2
50
100

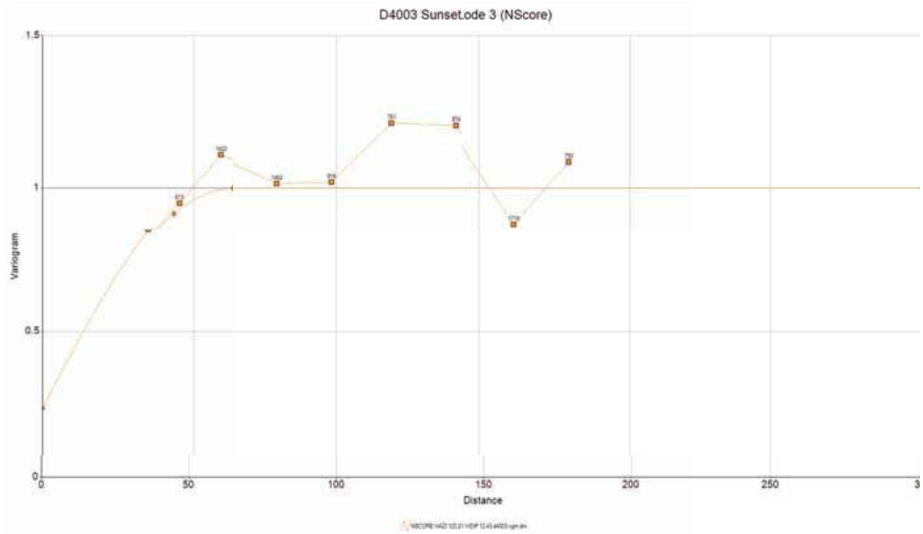

D4002 Sunset Lde 2 (NScore)
Variogram
Distance
0
0.5
1
1.5
2
50
100

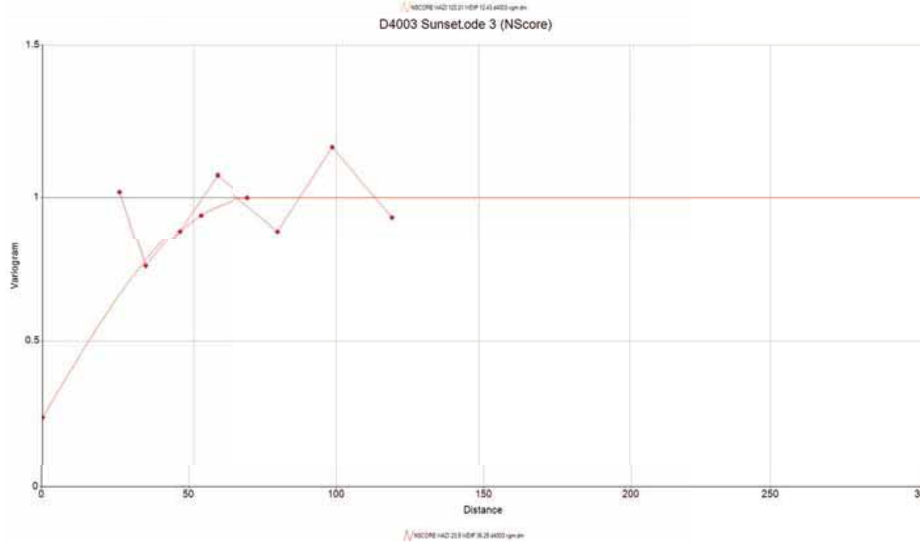

D4002 Sunset Lde 2 (NScore)
Variogram
Distance
0
0.5
1
1.5
2
0
50
100
150

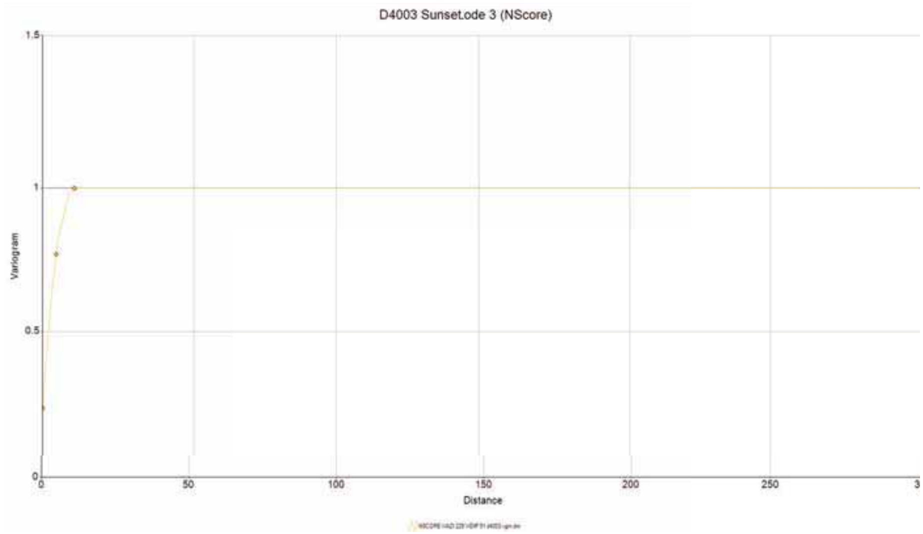
Domain 4003 – Sunset Lode 3



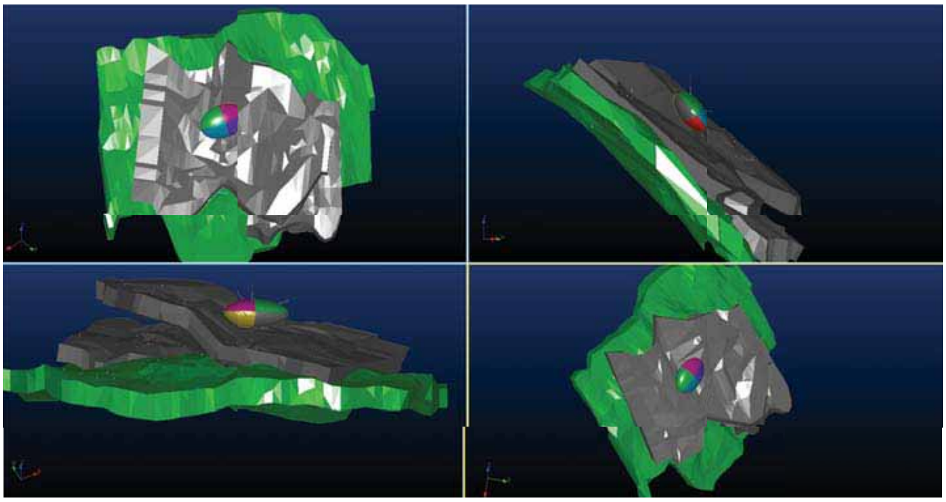


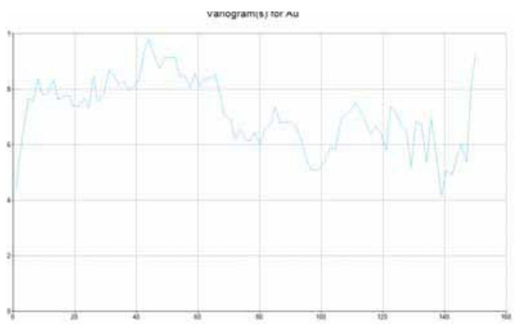

D4003 SunsetLode 3 (NScore)
Variogram
Distance
1.5
1
0.5
0
50
100
150
200
250

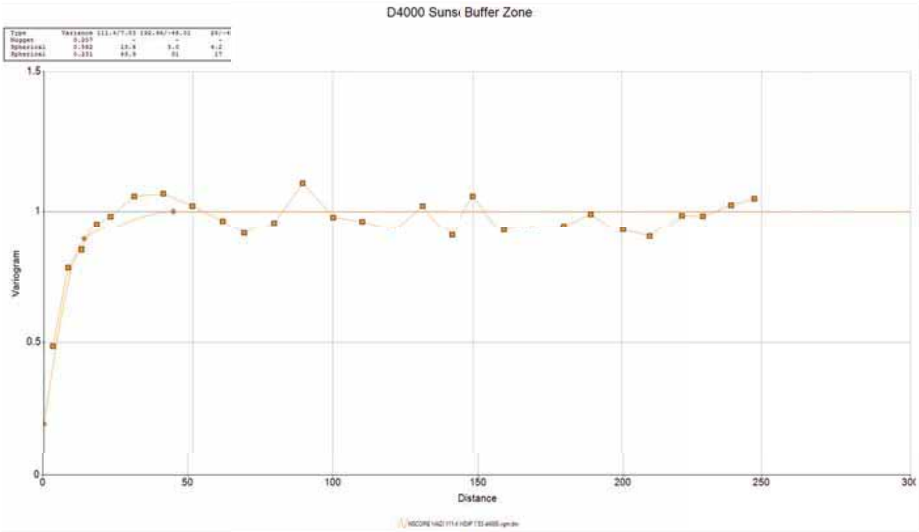

D4003 SunsetLode 3 (NScore)
Variogram
Distance
1.5
1
0.5
0
50
100
150
200
250

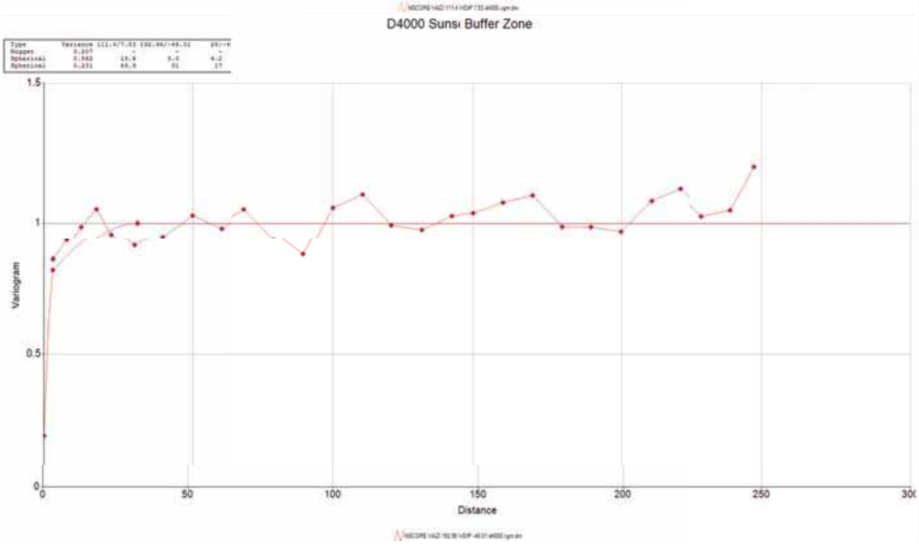

D4003 SunsetLode 3 (NScore)
1.5
1
0.5
0
Variogram
0
50
100
150
200
250
3
Distance

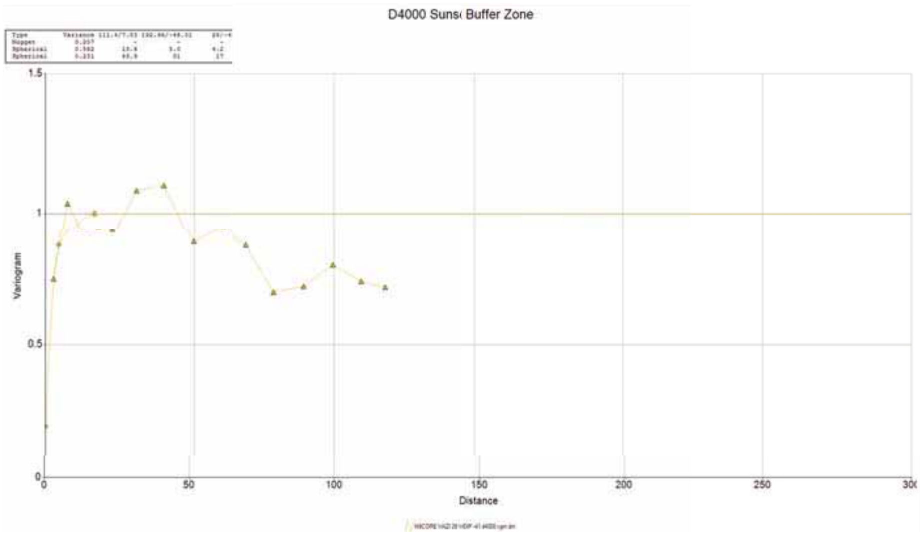
Domain 4000 Sunset Buffer



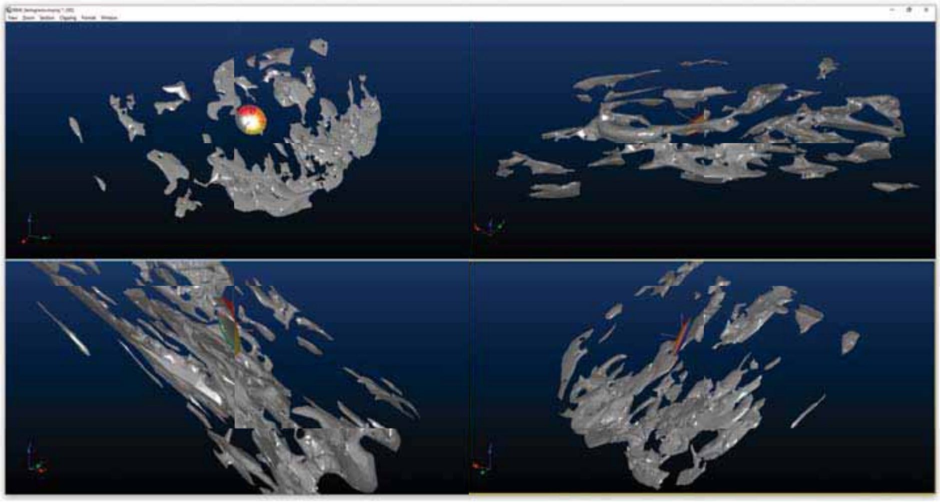


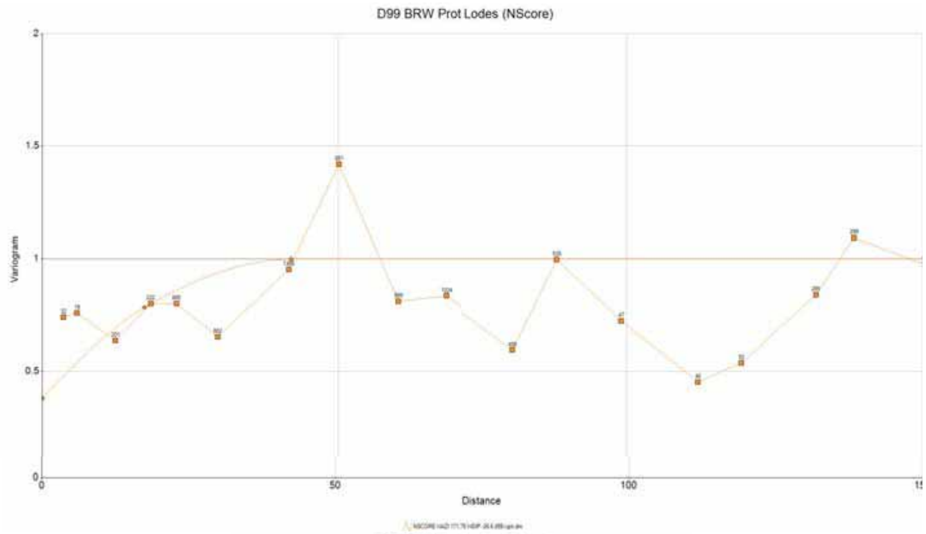

D4000 Suns Buffer Zone
Variogram
Distance
1.5
1
0.5
0
0
50
100
150
200
250
300

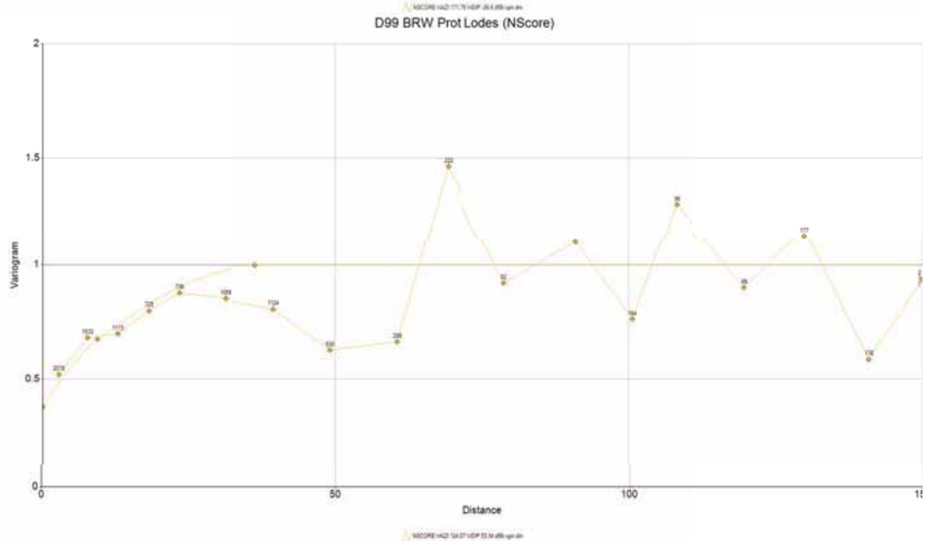

D4000 Suns Buffer Zone
Variogram
Distance
1.5
1
0.5
0
0
50
100
150
200
250
300

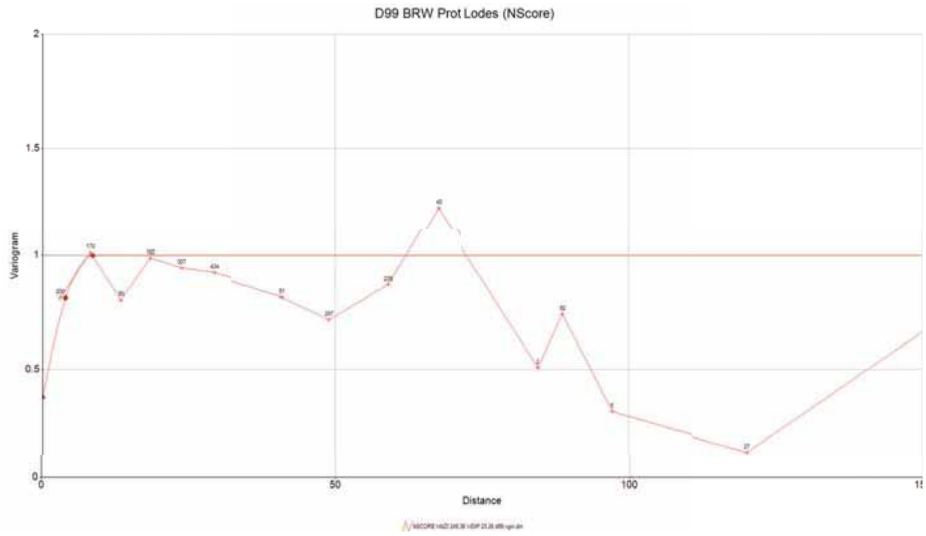

D4000 Suns Buffer Zone
Variogram
Distance
1.5
1
0.5
0
0
50
100
150
200
250
300

Domain 99 – Proro Lodes




D99 BRW Prot Lodes (NScore)
Variogram
Distance
0
0.5
1
1.5
2
0
50
100

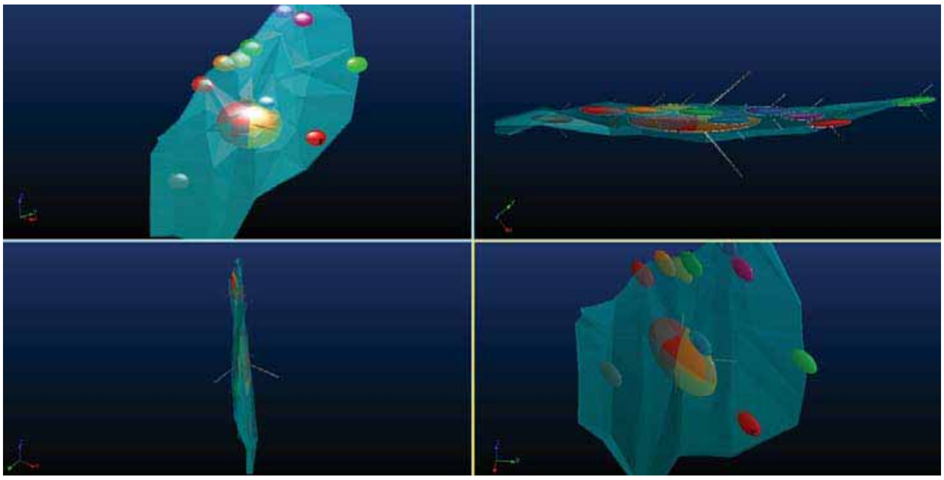

D99 BRW Prot Lodes (NScore)
Variogram
Distance
0
0.5
1
1.5
2
0
50
100


D99 BRW Prot Lodes (NScore)
Variogram
Distance
2
1.5
1
0.5
0
0
50
100

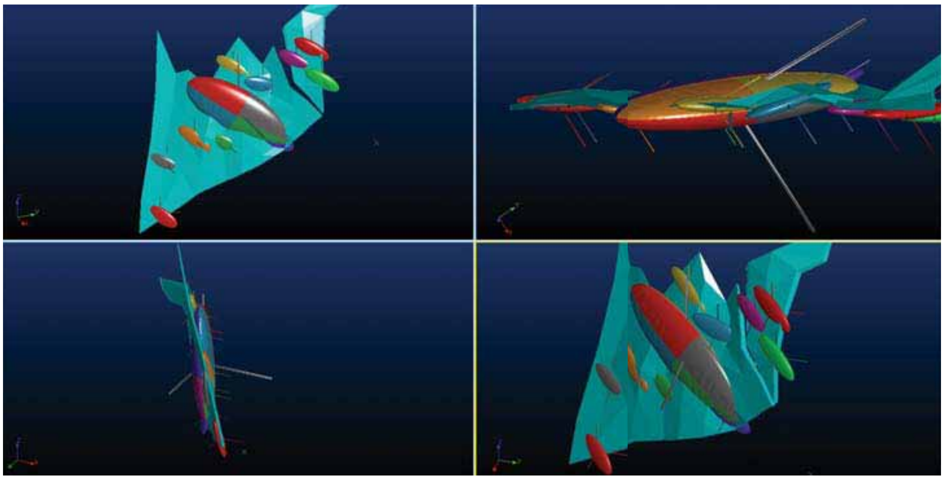
Appendix D Search Ellipses

Global search ellipse is presented as the largest shape, centred on the domain extent. Dynamic anisotropy orientations are presented as smaller ellipses.

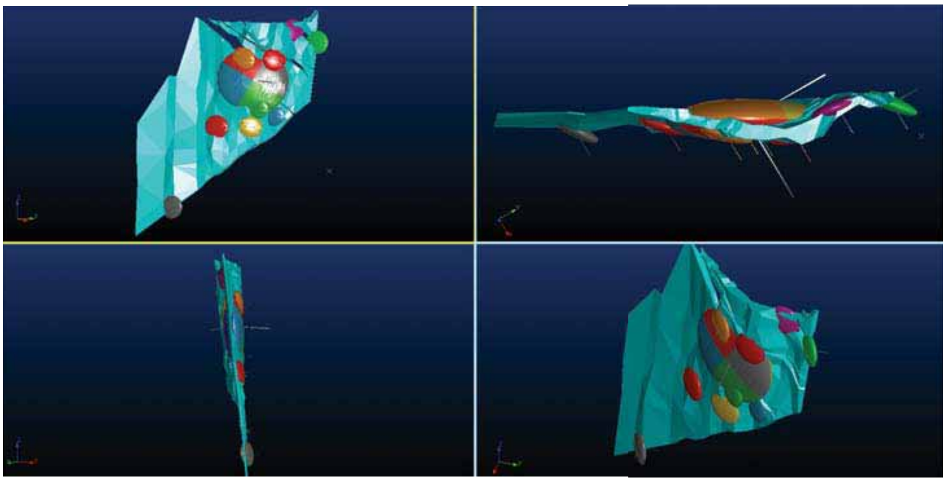
Domain 1001



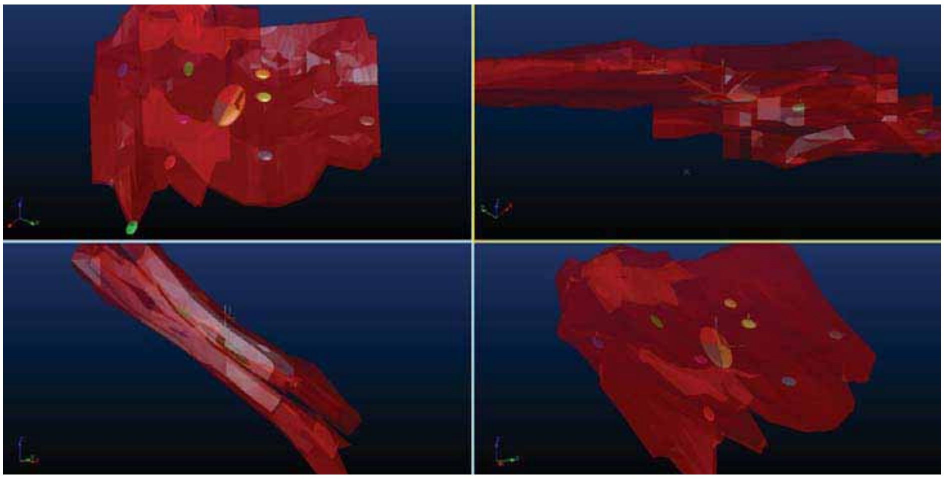
Domain 1002



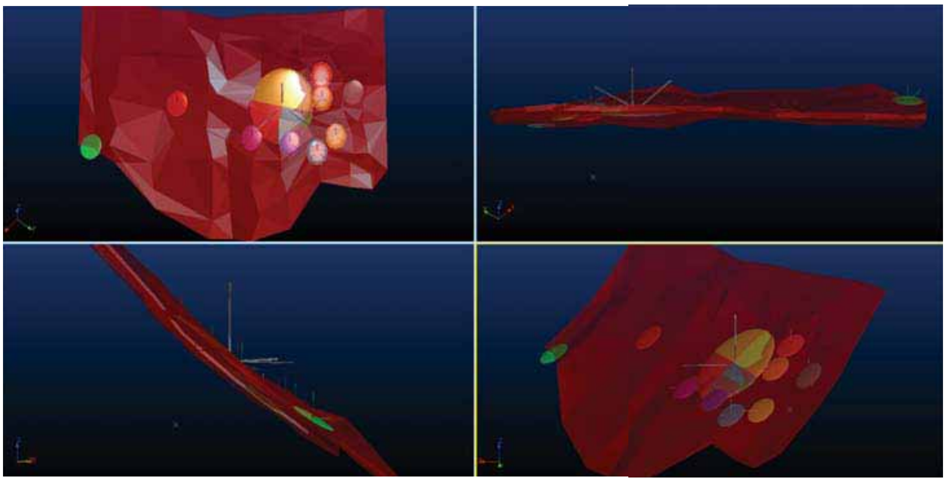
Domain 1003



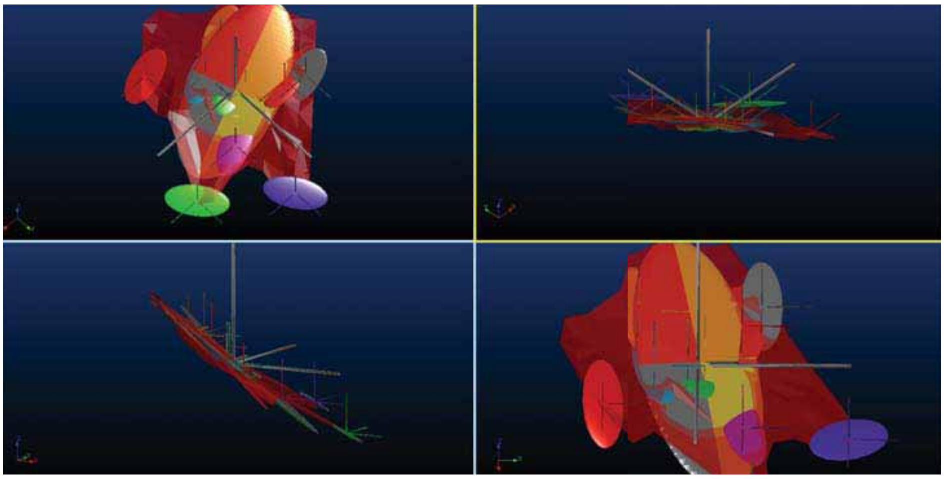
Domain 2000



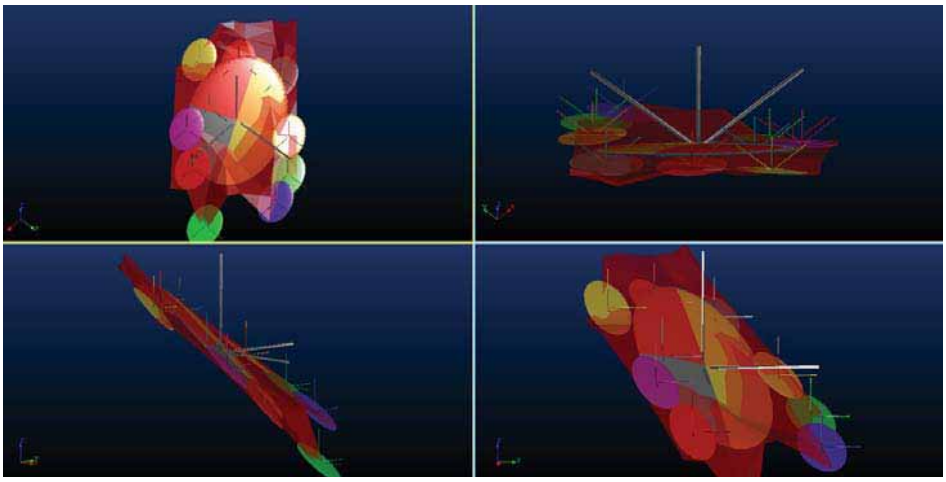
Domain 2001



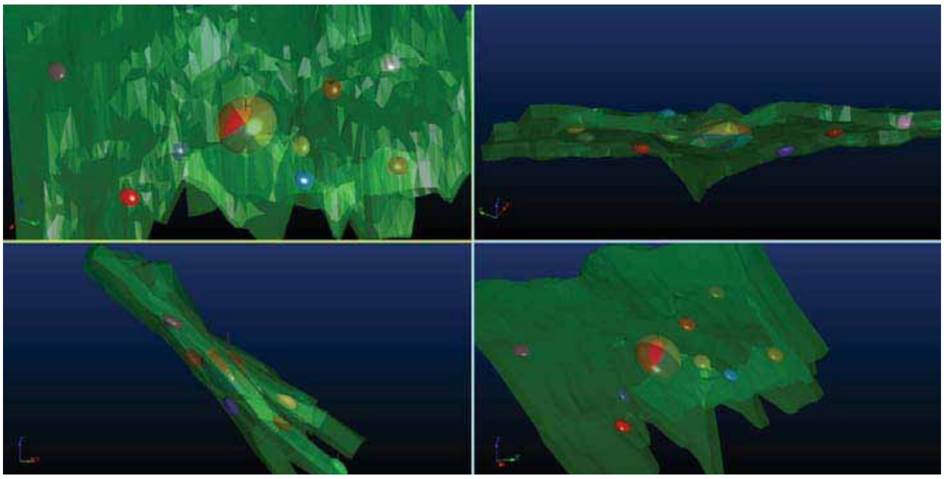
Domain 2002



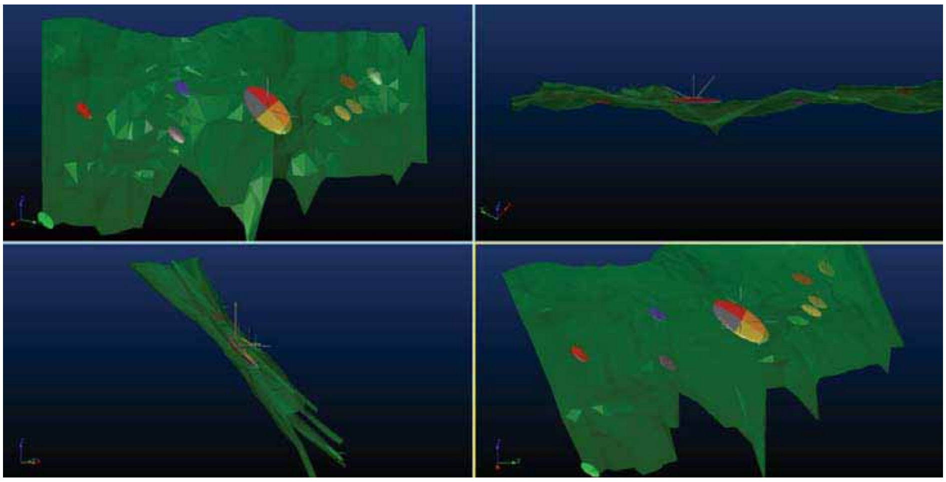
Domain 2003



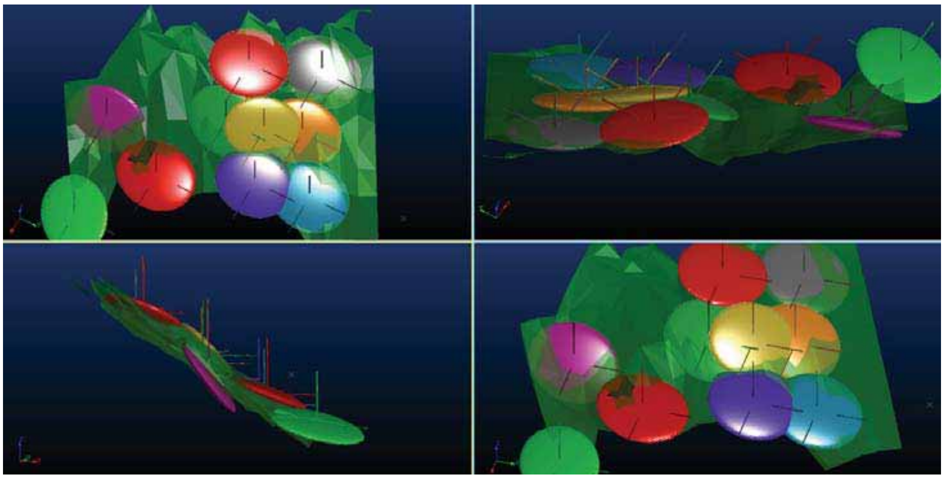
Domain 3000



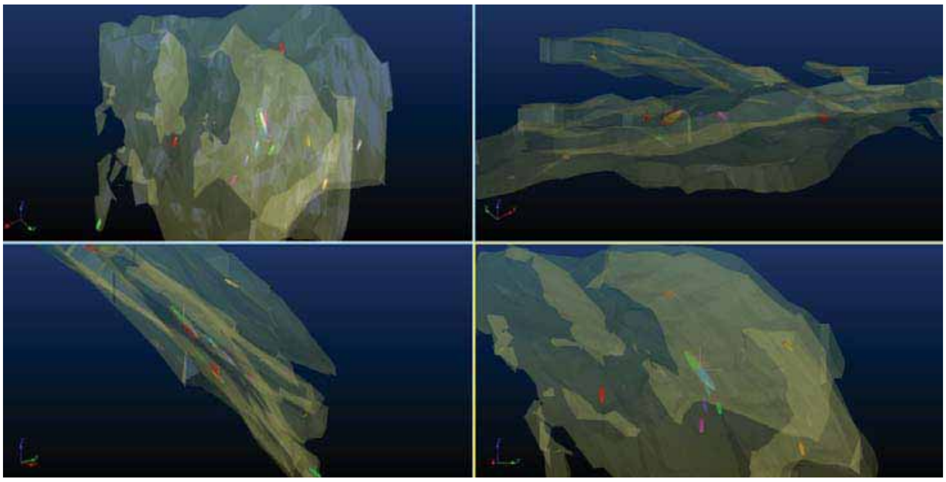
Domain 3001



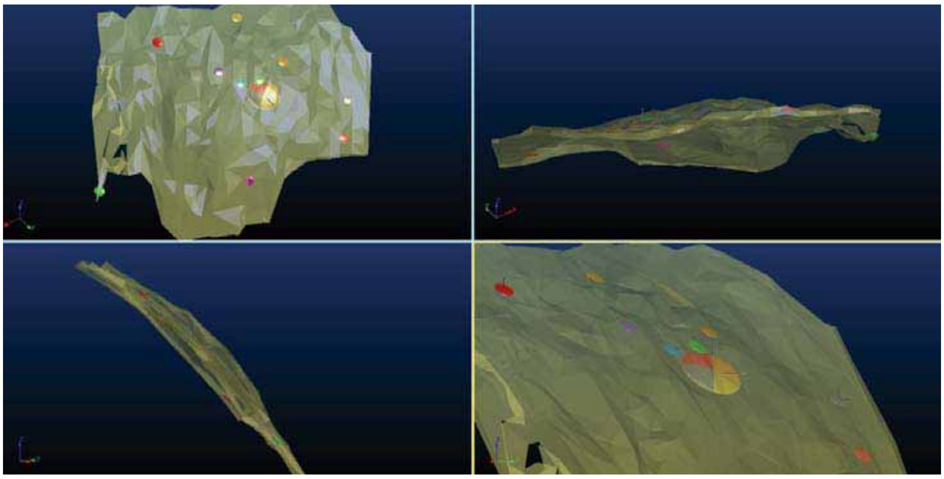
Domain 3002



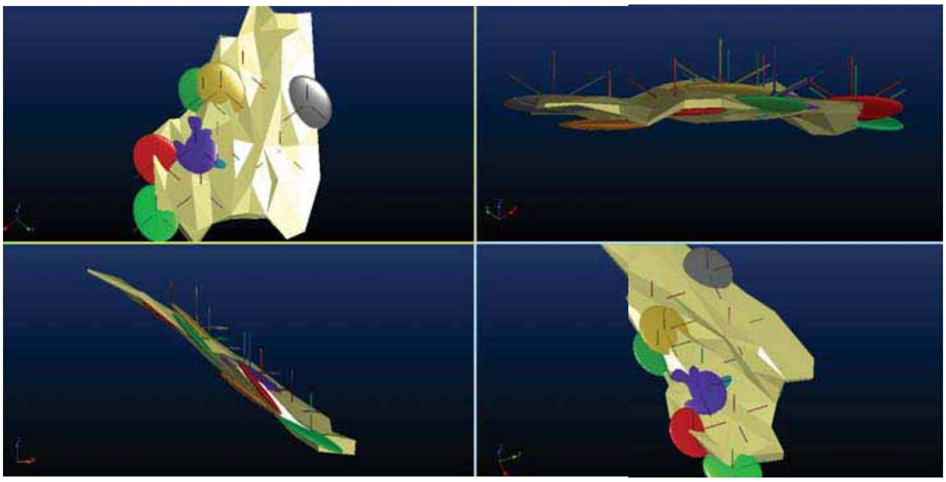
Domain 4000



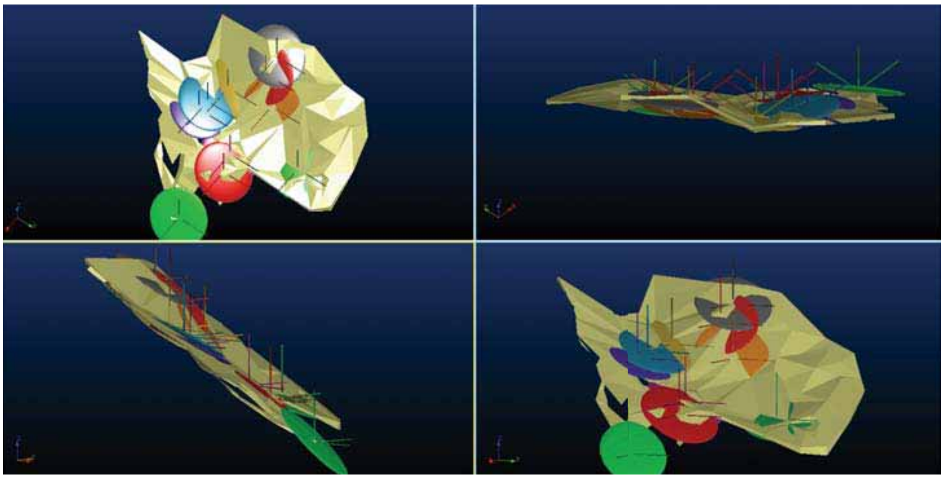
Domain 4001



Domain 4002



Domain 4003



Appendix E Data Listing

Refer provided data folder

Appendix F Model Field Names and Definitions

Field Name	Type	Description
LodeCode	Numeric	Unique lode identifier. 1000 - BRF 2000 - Duke 3000 - Grant 4000 -Sunset 99 - Proto-Lodes 9999 - Outside Domains
DOMAIN	Numeric	1001 - BRF Lower 1002 - BRF Shear 1003 - BRF Upper 1000 - BRF Buffer Zone 2001 - Duke 1 2002 - Duke 2 2003 - Duke 3 2000 - Duke Buffer Zone 3001 - Grant 1 3002 - Grant 2 3000 - Grant Buffer Zone 4001 - Sunset 1 4002 - Sunset 2 4003 - Sunset 3 4004 - Sunset Buffer Zone 99 - Proto-lodes 9999 - Outside Domains
VOID	Binary	1 – void (ug stope or development) 0 – solid rock
ROCK	Binary	1 – solid rock 0 – air or void
OXIDE	Binary	1 – above top of fresh rock (i.e., oxide and partially oxidised) 0 – fresh rock
REPORT	Binary	Used to limit size of reporting only. No meaning for JORC Class
PIT	Binary	1 – within BRW REP200 project pit 0 – not in BRW REP200 project pit
Density	Numeric	In situ bulk density. Set to zero for air and voids.
Au_Cap	Numeric	Estimated gold grade – reportable grade for JORC Code reporting
Au_UnCap	Numeric	Sensitivity only – estimate without capped grades. Not for public reporting
CLASS	Numeric	JORC Code reporting classification 0 - Unclassified 1 – Measured (note no Measured at BRW) 2 – Indicated 3 – Inferred
AMDAD	Binary	1 – Inside AMDAD due diligence Stage 2 pit 0 – not in AMDAD due diligence Stage 2 pit

Field Name	Type	Description
XMORIG	Numeric	Model origin Easting (bottom left)
YMORIG	Numeric	Model origin Northing (bottom left)
ZMORIG	Numeric	Model origin RL (bottom left)
NX	Numeric	Number of parent blocks in Easting (X)
NY	Numeric	Number of parent blocks in Northing (Y)
NZ	Numeric	Number of parent blocks in RL (Z)
XINC	Numeric	Sub-block Easting dimension
YINC	Numeric	Sub-block Northing dimension
ZINC	Numeric	Sub-block RL dimension
XC	Numeric	Block centre Easting
YC	Numeric	Block centre Northing
ZC	Numeric	Block centre RL
IJK	Numeric	Datamine Studio RM unique parent block index

Block model details

Origin: 12,700mE, 12,700mN, -400m RL

Max Limit: 13,620mE, 13,620mN, 340mRL

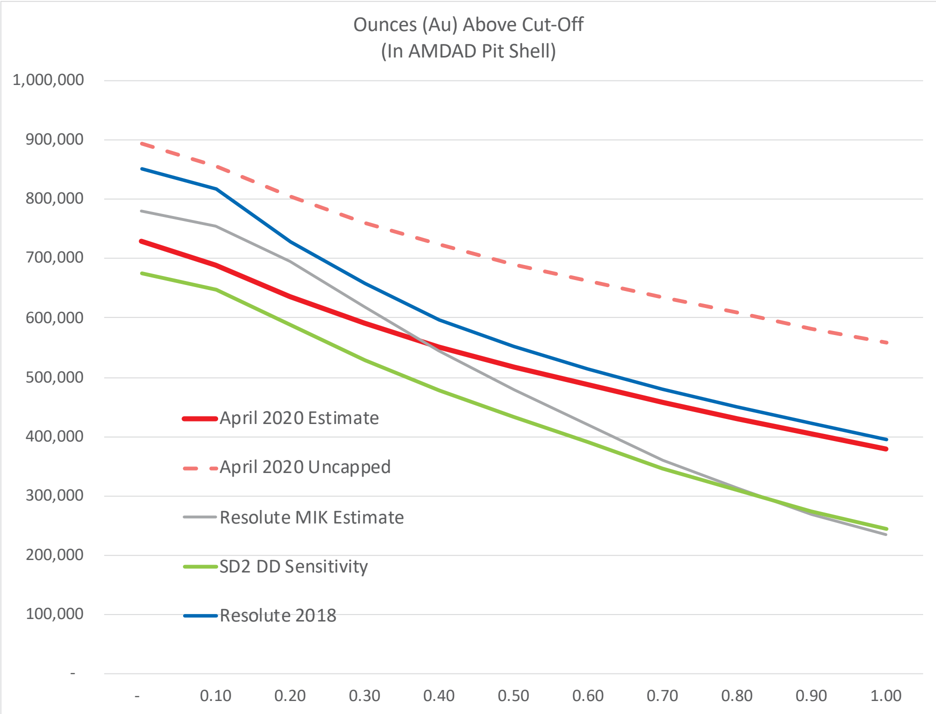
Parent Blocks: 5mE, 10mN, 5mRL

Minimum Sub-Blocks: 1.25mE, 2.5mN, 1.25mRL

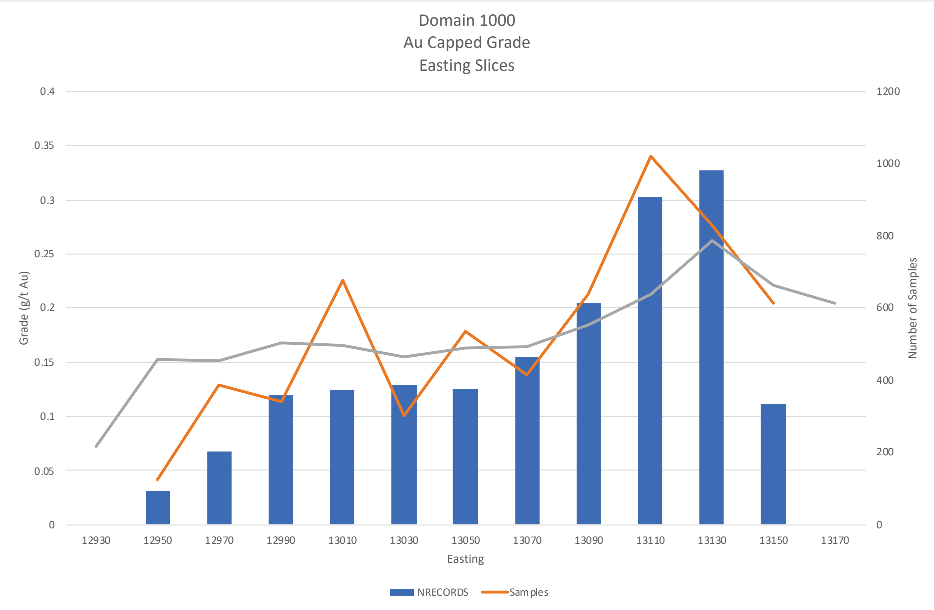
Appendix G Grade-Tonnage Curves

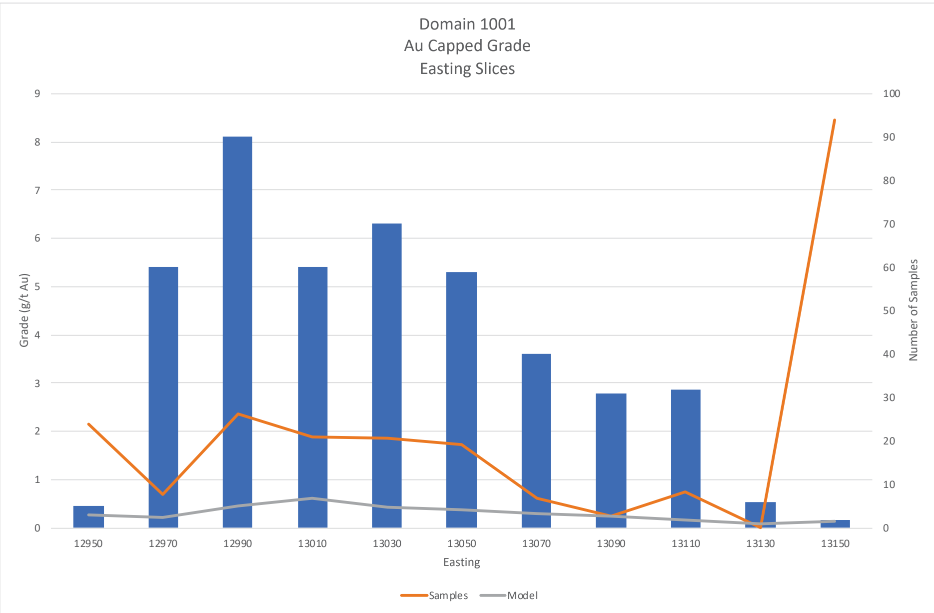
	April 2020 Estimate			April 2020 Uncapped			Resolute MIK Estimate			SD2 DD Sensitivity			Resolute 2018		
Cut Off	Tonnes	Au g/t	Oz (Au)	Tonnes	Au g/t	Oz (Au)	Tonnes	Au g/t	Oz (Au)	Tonnes	Au g/t	Oz (Au)	Tonnes	Au g/t	Oz (Au)
-	69,047,840	0.33	730,240	69,047,840	0.40	894,644	66,985,152	0.36	781,070	65,837,891	0.32	675,637	69,042,736	0.38	851,674
0.10	35,122,721	0.61	688,251	35,122,113	0.76	856,674	49,244,116	0.48	754,803	40,801,709	0.49	648,622	50,394,079	0.51	818,305
0.20	23,657,241	0.83	635,049	23,874,951	1.05	804,710	36,868,452	0.59	696,380	28,317,533	0.65	589,034	31,010,933	0.73	728,458
0.30	18,084,911	1.02	591,055	18,289,380	1.29	760,755	27,202,006	0.71	619,610	20,791,286	0.79	529,716	21,958,550	0.93	657,358
0.40	**14,542,684**	**1.18**	**551,605**	**14,910,766**	**1.51**	**723,164**	**20,401,951**	**0.83**	**543,705**	**16,091,182**	**0.92**	**477,508**	**16,512,113**	**1.12**	**596,920**
0.50	12,165,853	1.32	517,397	12,664,013	1.70	690,803	15,884,068	0.94	479,046	13,007,875	1.04	433,054	13,425,604	1.28	552,535
0.60	10,442,358	1.45	487,033	11,004,191	1.87	661,568	12,453,683	1.05	418,914	10,599,838	1.15	390,515	11,192,028	1.43	513,134
0.70	9,062,392	1.57	458,253	9,690,314	2.04	634,182	9,642,829	1.16	360,248	8,448,674	1.27	345,762	9,565,265	1.56	479,235
0.80	7,926,907	1.69	430,877	8,644,840	2.19	608,980	7,653,036	1.27	312,524	6,950,965	1.39	309,665	8,382,936	1.67	450,723
0.90	6,938,064	1.81	403,910	7,664,432	2.36	582,223	6,044,550	1.38	268,804	5,665,346	1.51	274,751	7,382,716	1.78	423,411
1.00	6,095,404	1.93	378,191	6,851,946	2.53	557,422	4,898,473	1.48	233,762	4,677,220	1.63	244,461	6,472,065	1.90	395,653

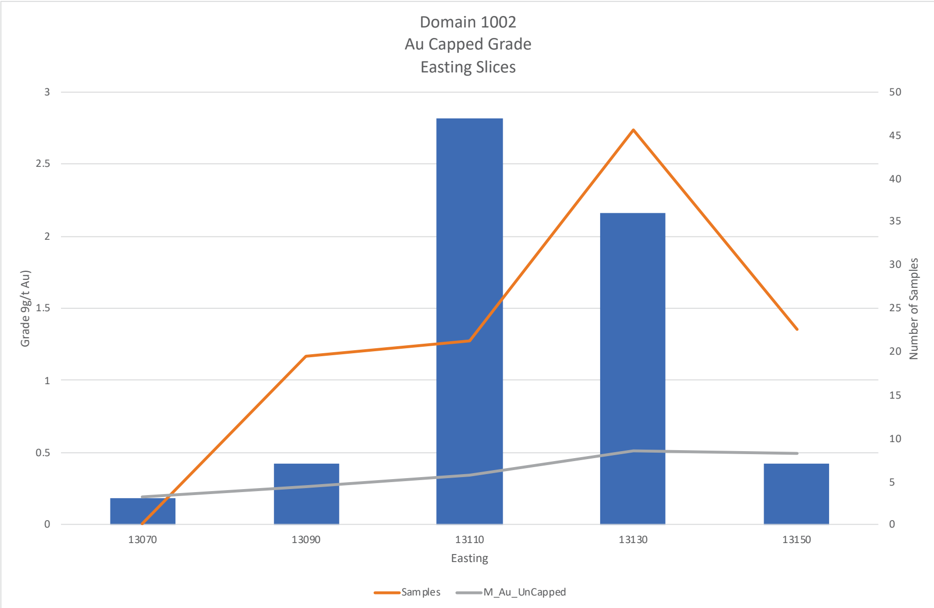

Grade (Au) Above Cut-Off
(In AMDAD Pit Shell)
3.00
2.50
2.00
1.50
1.00
0.50
-
April 2020 Estimate
April 2020 Uncapped
Resolute MIK Estimate
SD2 DD Sensitivity
Resolute 2018
-
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00

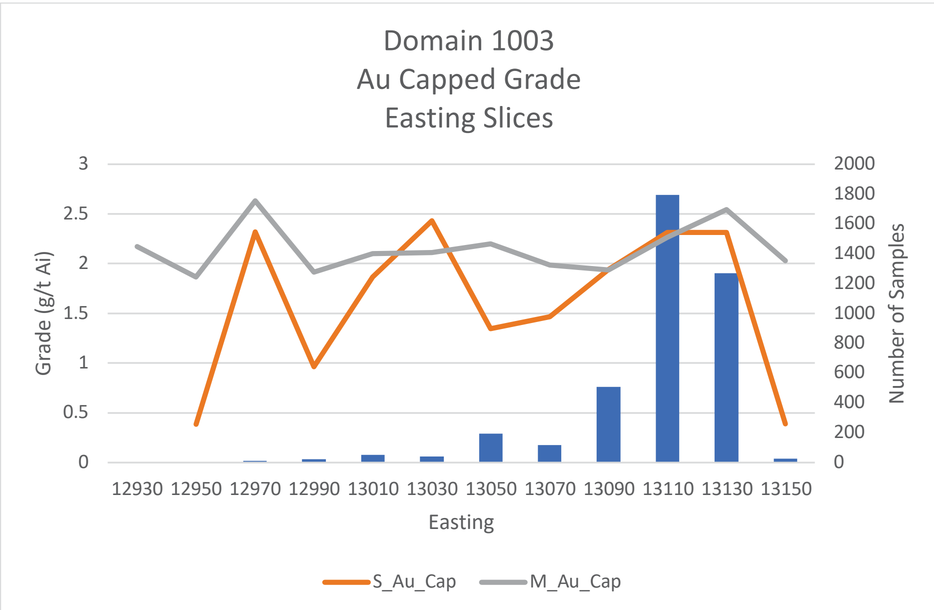

Ounces (Au) Above Cut-Off
(In AMDAD Pit Shell)
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
-
-
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00
April 2020 Estimate
April 2020 Uncapped
Resolute MIK Estimate
SD2 DD Sensitivity
Resolute 2018

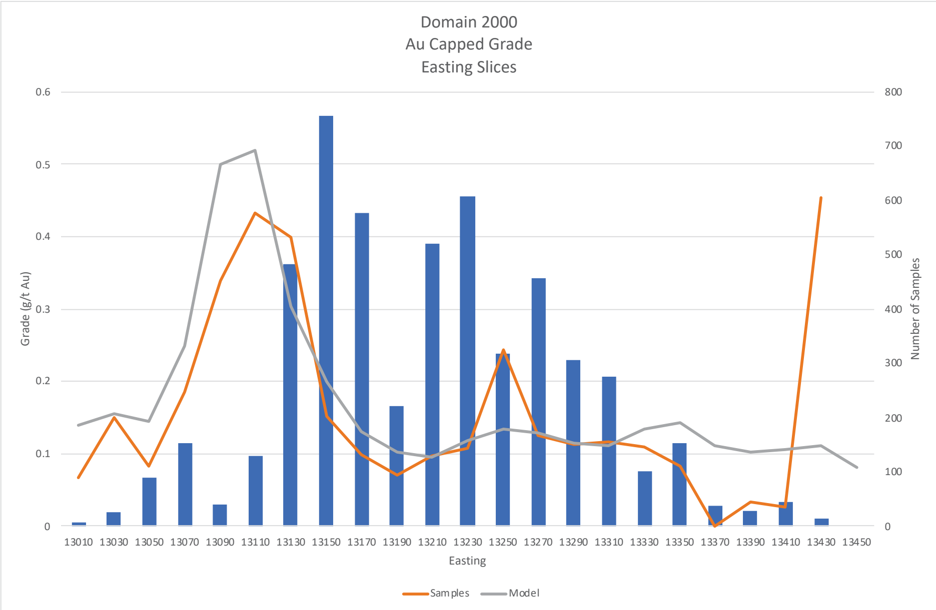
Appendix H Swath Plots (Eastings)

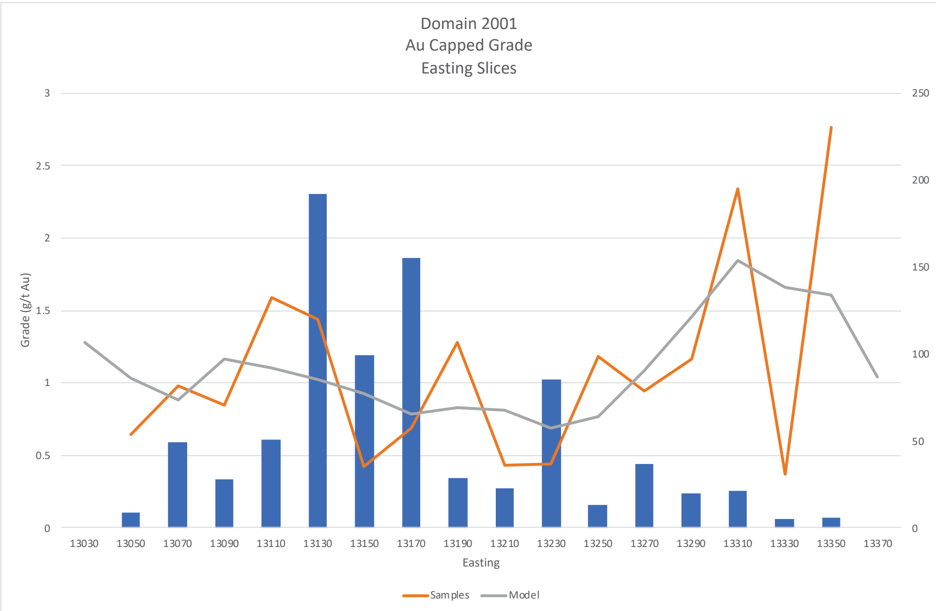


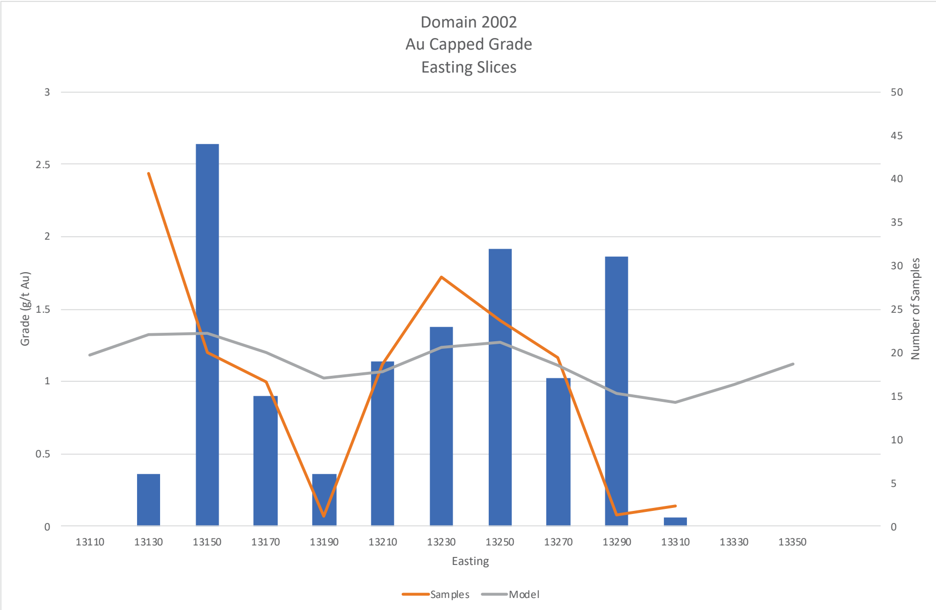


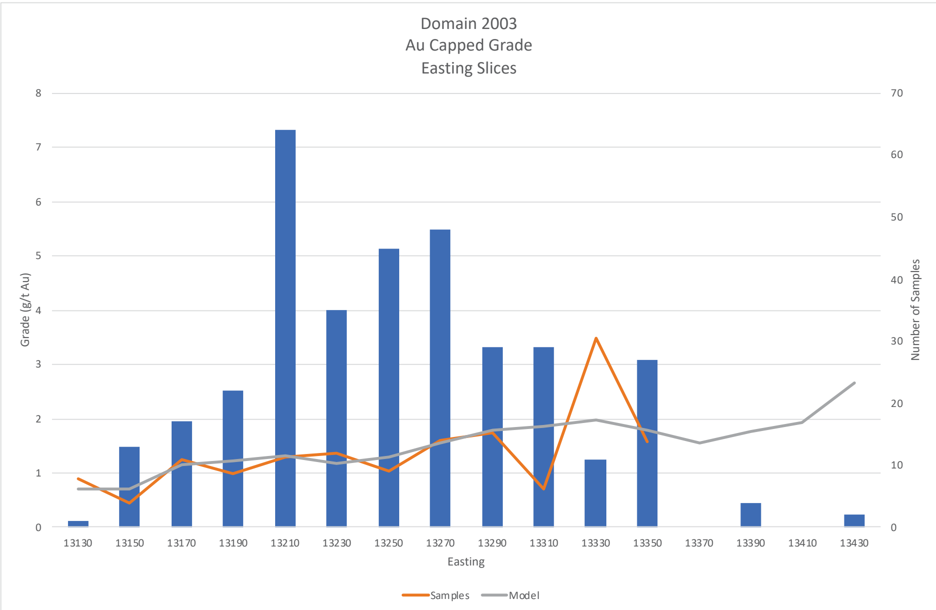

Domain 1002
Au Capped Grade
Easting Slices
Grade 9g/t Au)
Number of Samples
Easting
13070
13090
13110
13130
13150
Samples
M_Au_UnCapped

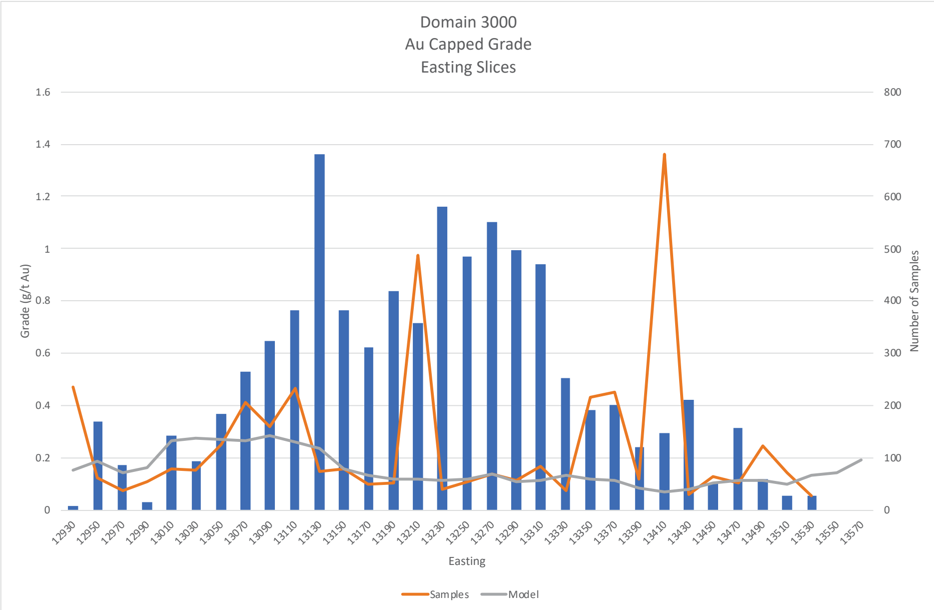

Domain 1003
Au Capped Grade
Easting Slices
Grade (g/t Ai)
Number of Samples
12930 12950 12970 12990 13010 13030 13050 13070 13090 13110 13130 13150
Easting
S_Au_Cap
M_Au_Cap

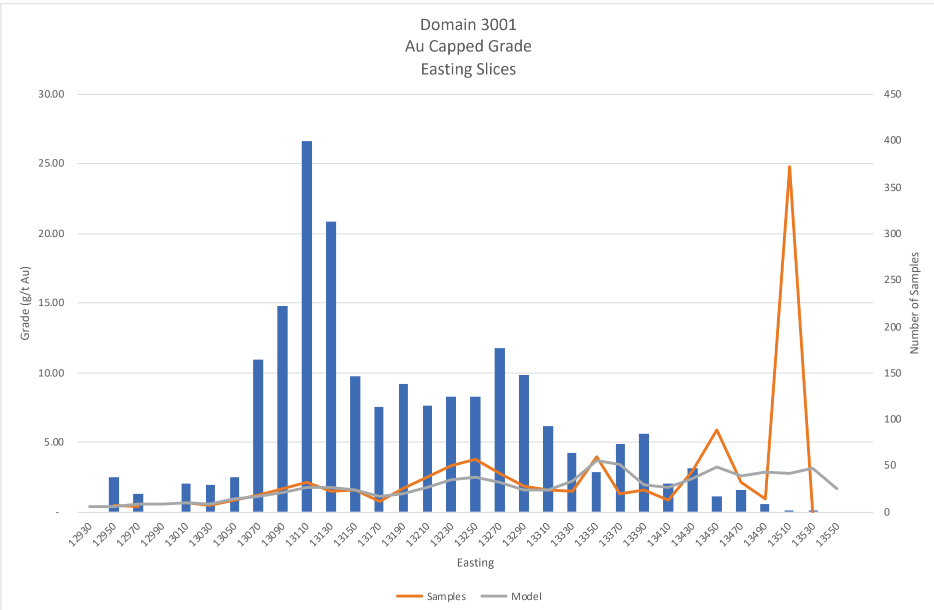

Domain 2000
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model

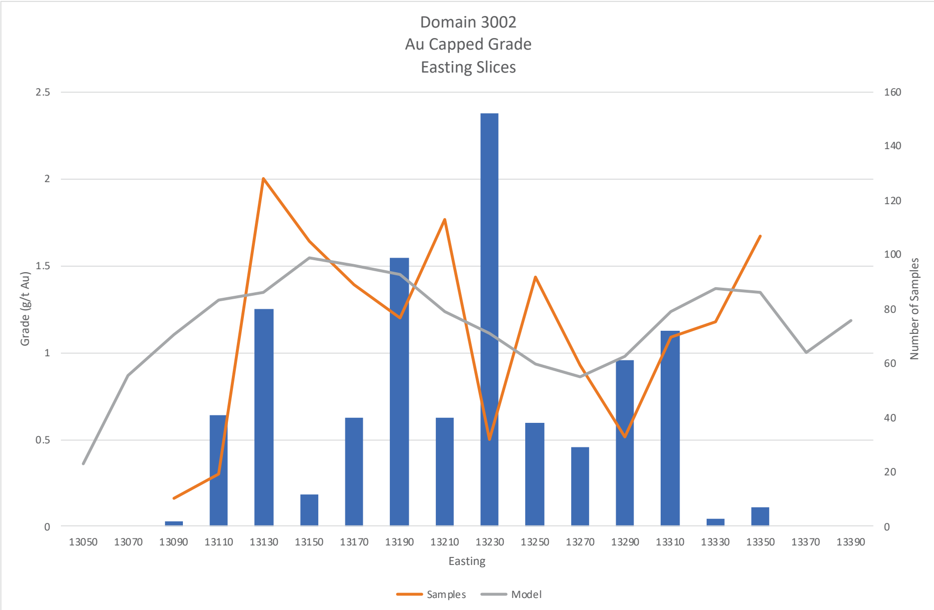

Domain 2001
Au Capped Grade
Easting Slices
Grade (g/t Au)
Easting
Samples
Model

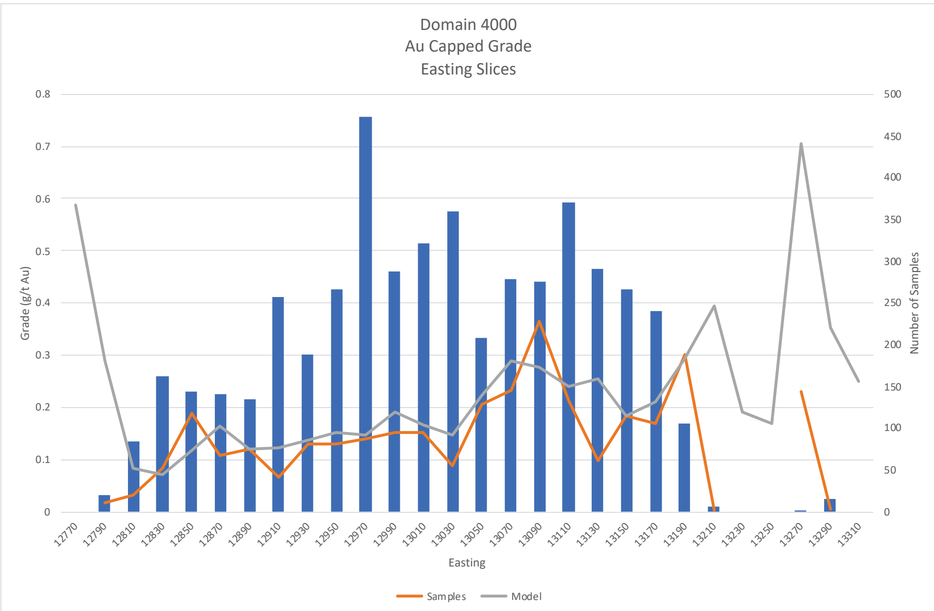

Domain 2002
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model

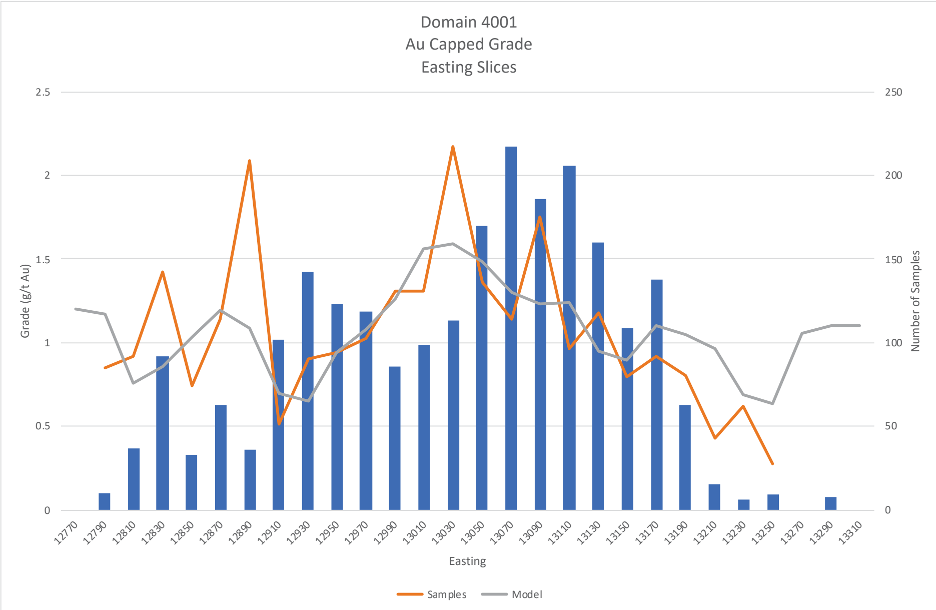

Domain 2003
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model

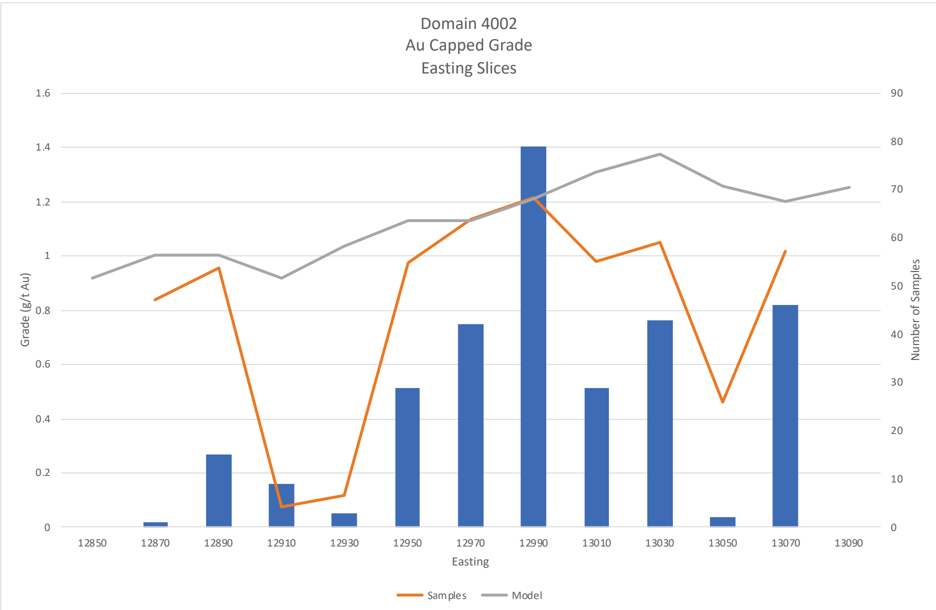

Domain 3000
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model

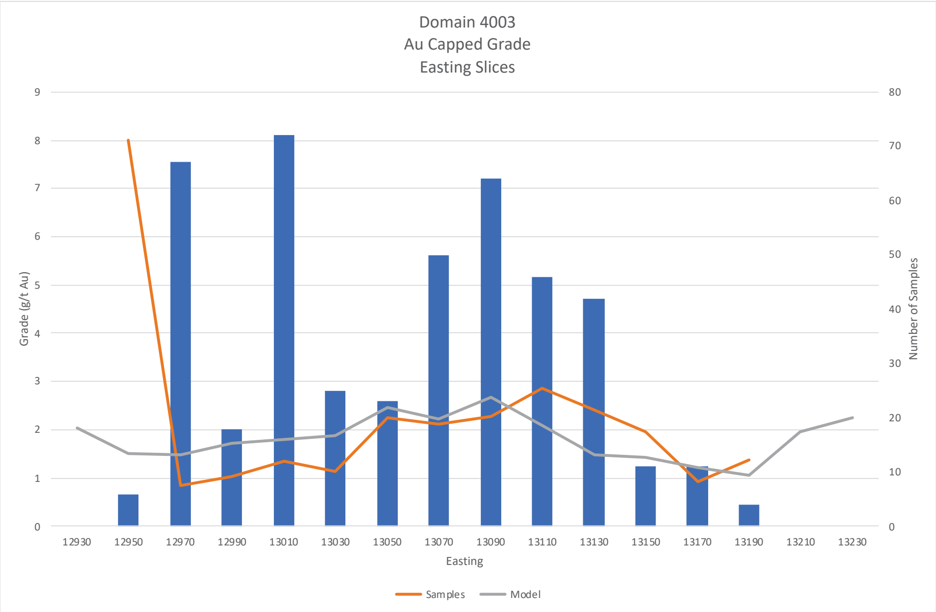

Domain 3001
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model

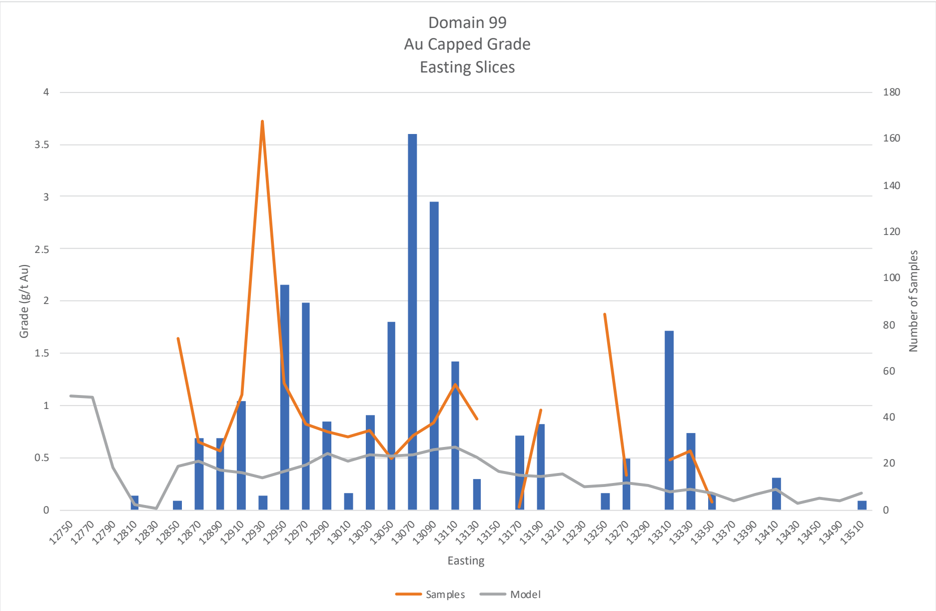

Domain 3002
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
13050 13070 13090 13110 13130 13150 13170 13190 13210 13230 13250 13270 13290 13310 13330 13350 13370 13390
0 0.5 1 1.5 2 2.5
0 20 40 60 80 100 120 140 160
Samples
Model

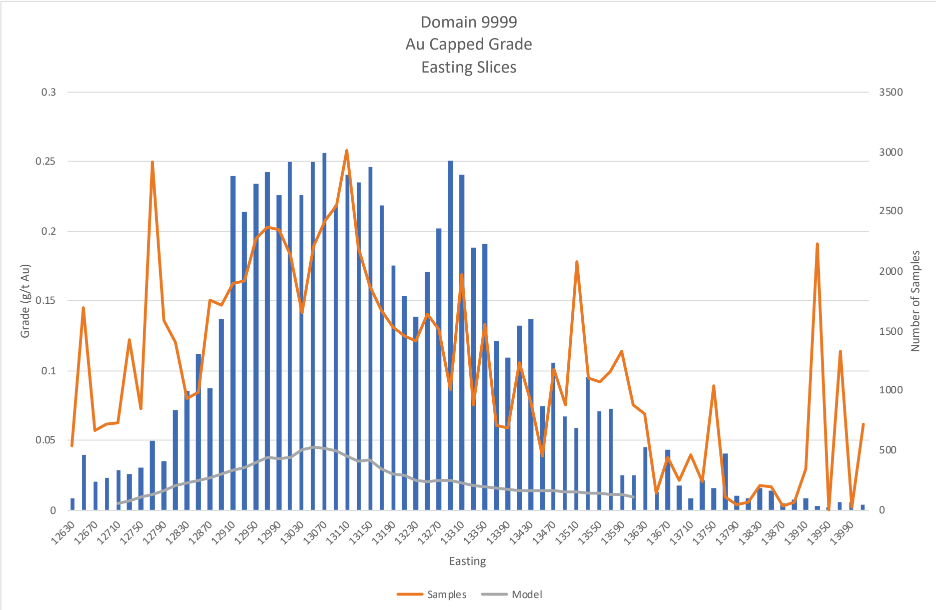

Domain 4000
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
12770 12790 12810 12830 12850 12870 12890 12910 12930 12950 12970 12990 13010 13030 13050 13070 13090 13110 13130 13150 13170 13190 13210 13230 13250 13270 13290 13310
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8
0 50 100 150 200 250 300 350 400 450 500
Samples
Model


Domain 4001
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model

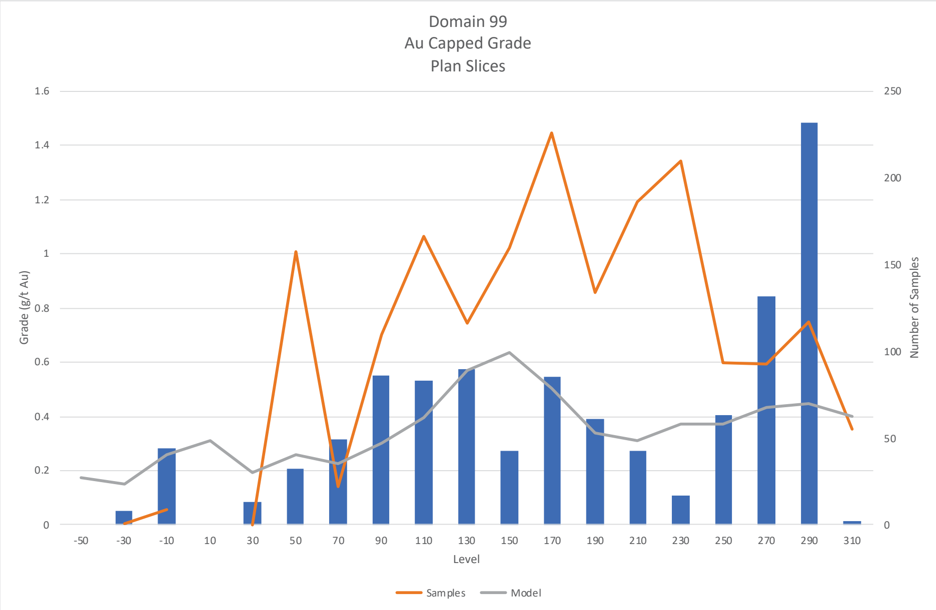

Domain 4002
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model

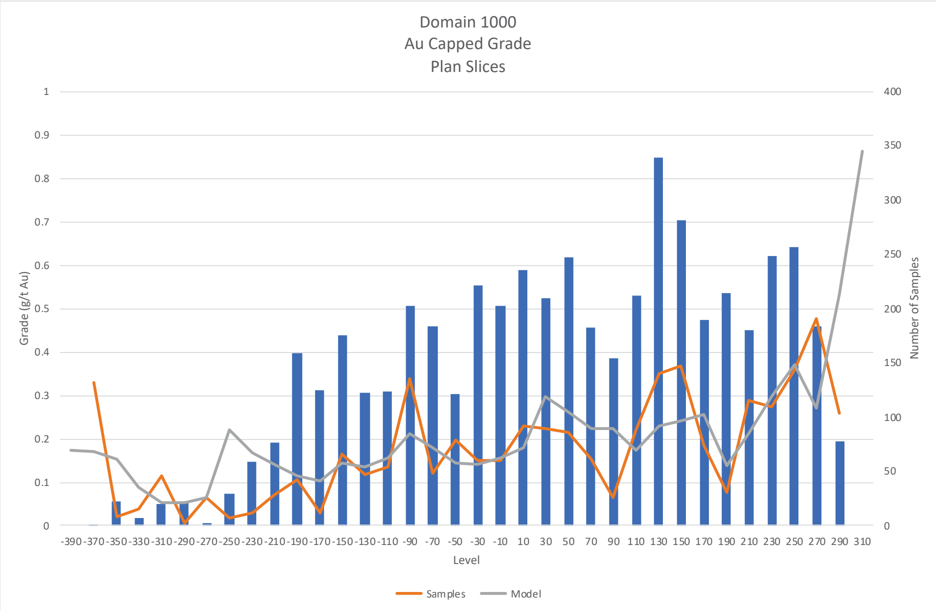

Domain 4003
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model

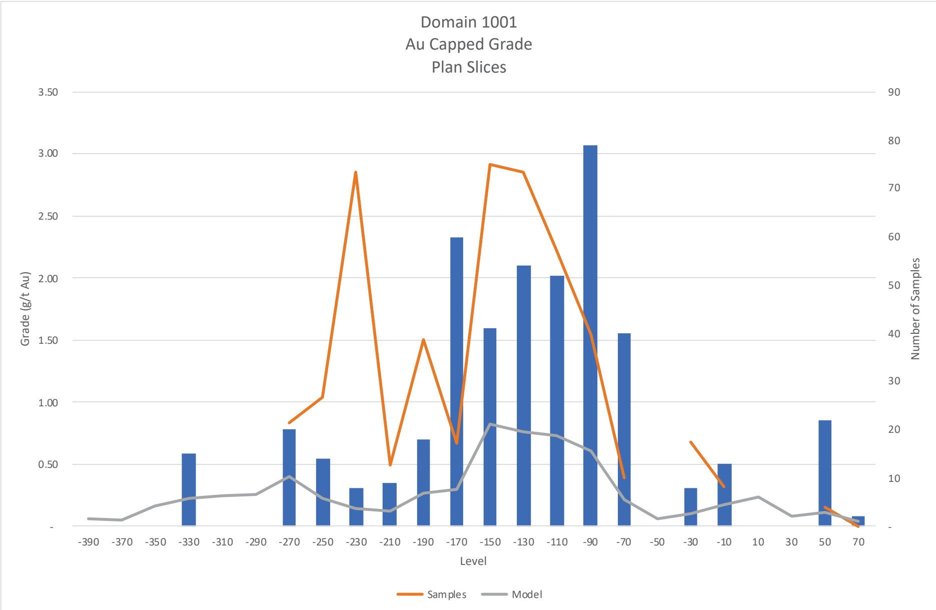

Domain 99
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model

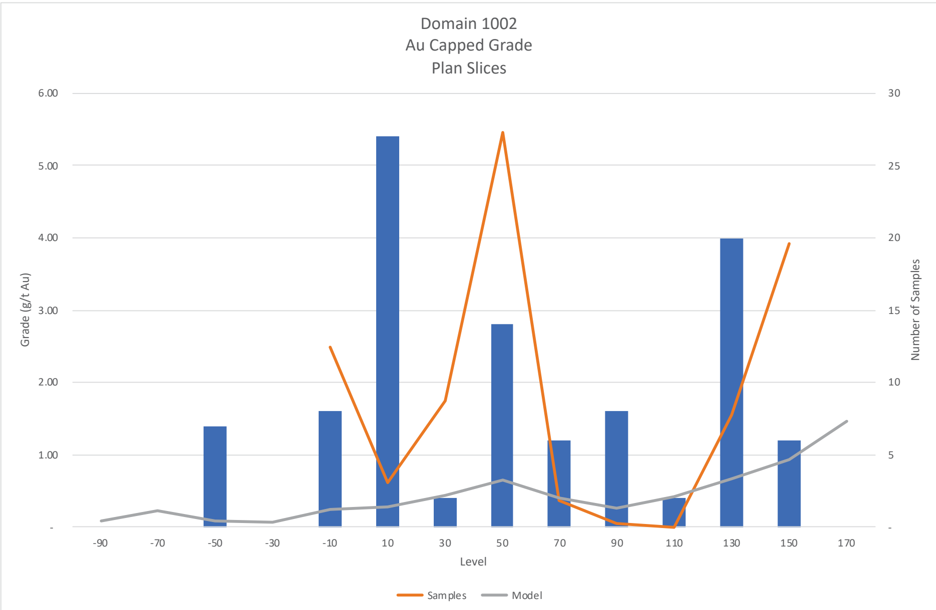

Domain 9999
Au Capped Grade
Easting Slices
Grade (g/t Au)
Number of Samples
Easting
Samples
Model
0.3
0.25
0.2
0.15
0.1
0.05
0
3500
3000
2500
2000
1500
1000
500

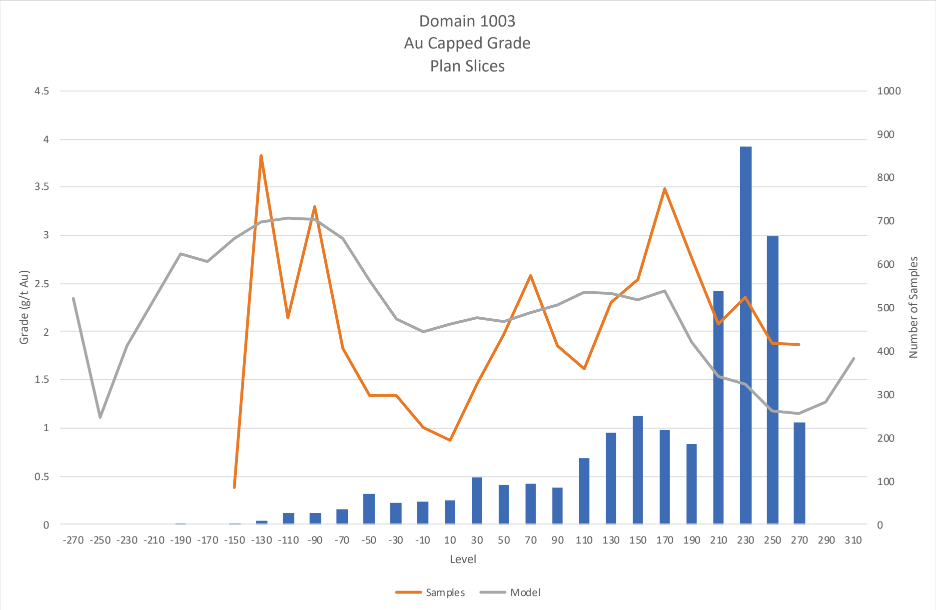
Appendix I Swath Plots (Plans)

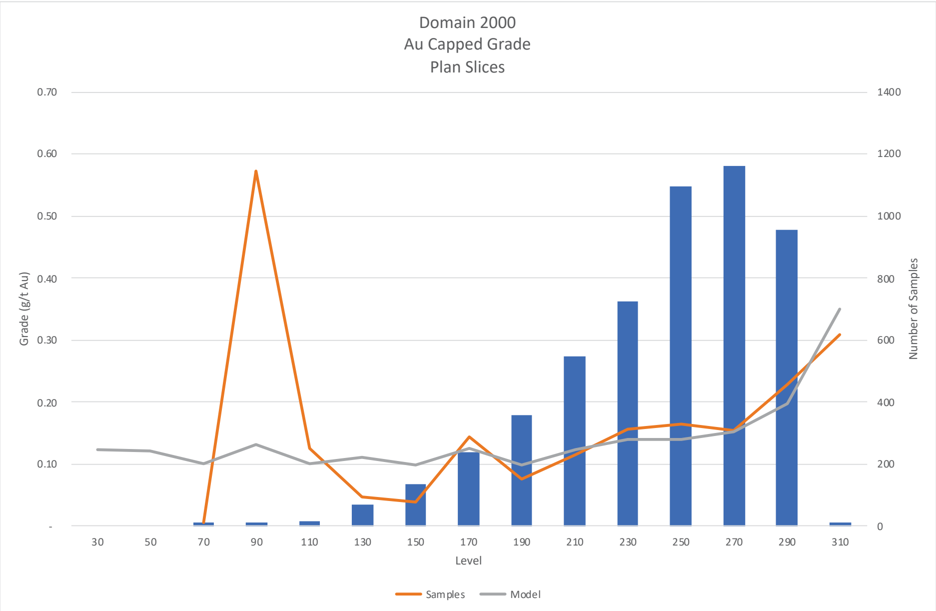


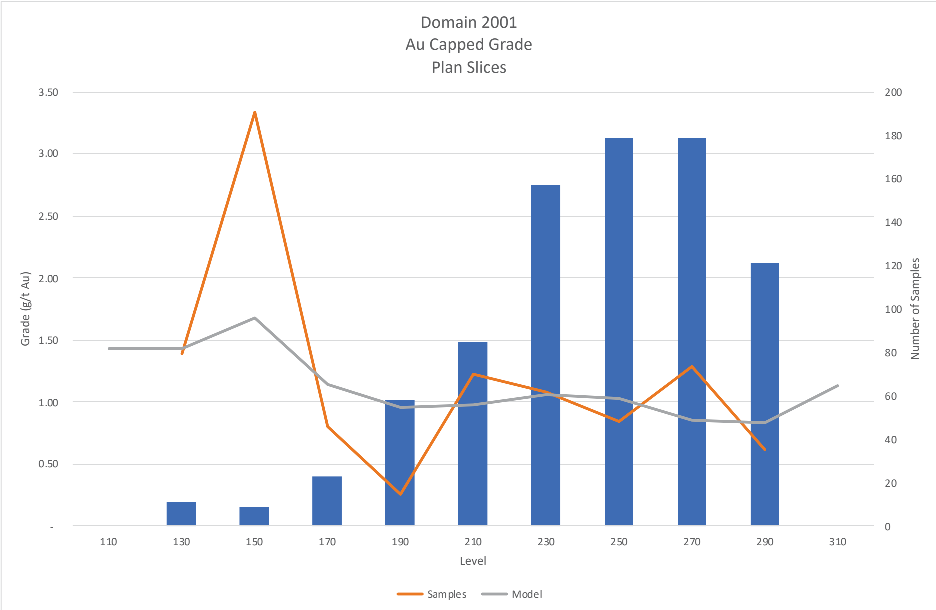


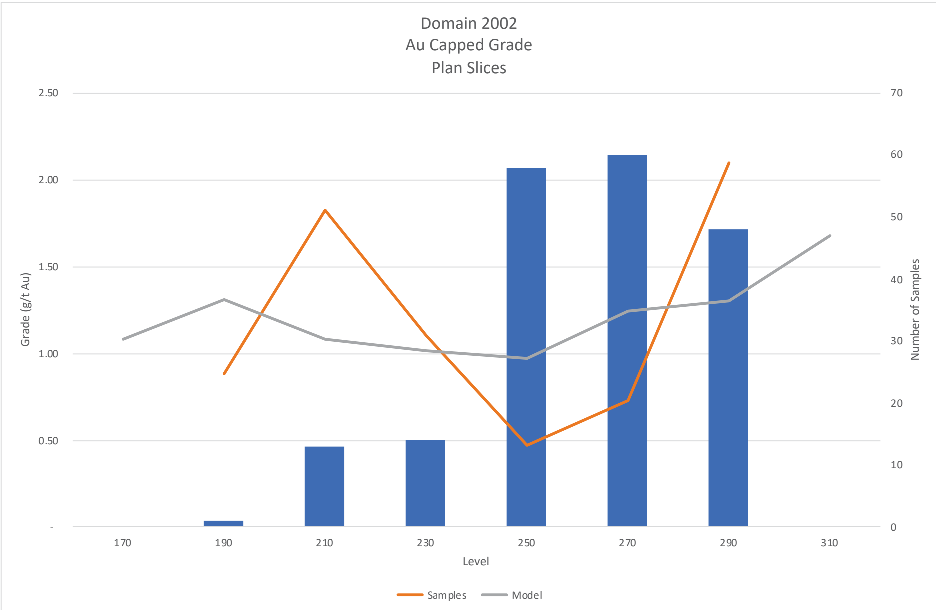

Domain 1001
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
Level
Samples
Model

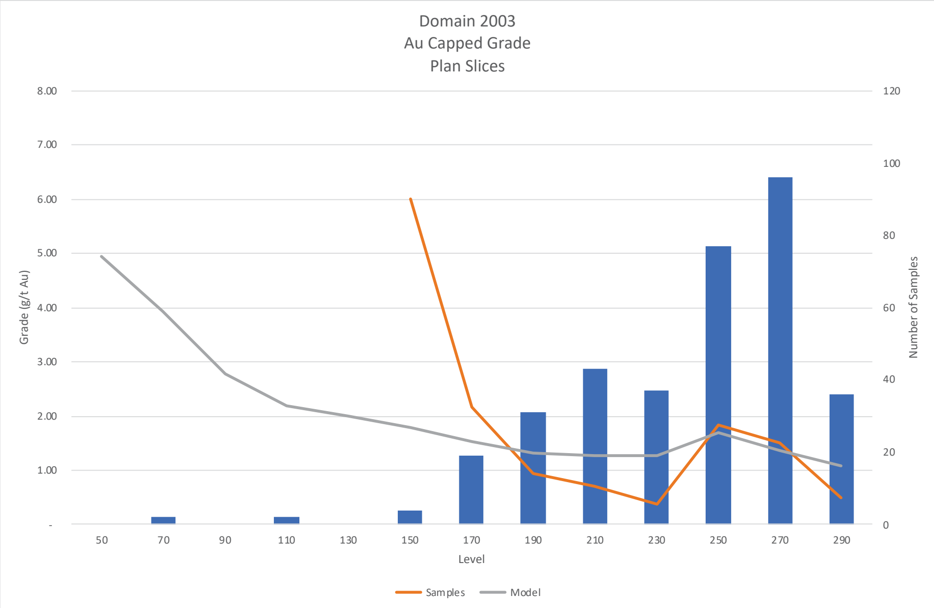

Domain 1002
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
Level
Samples
Model

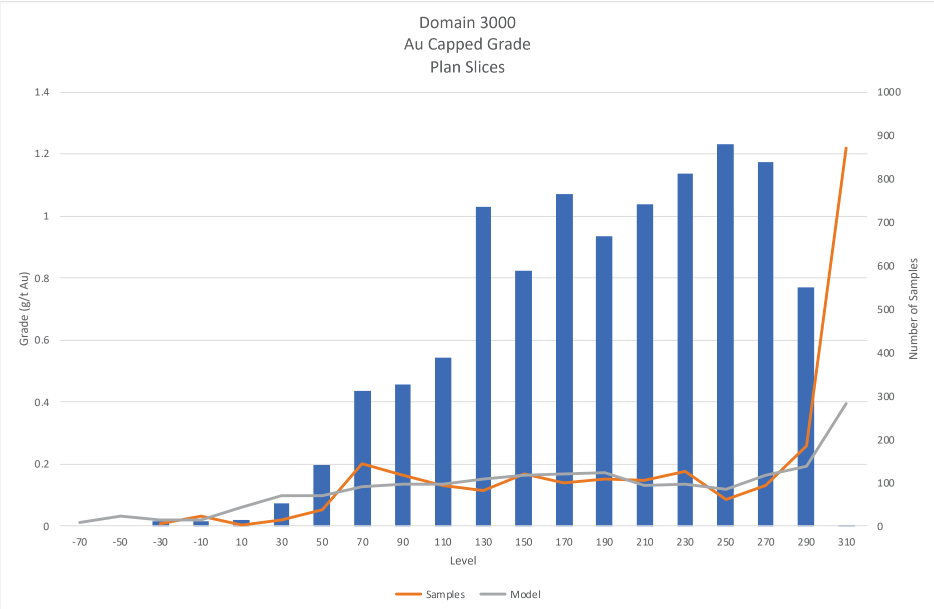

Domain 1003
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
Level
Samples
Model

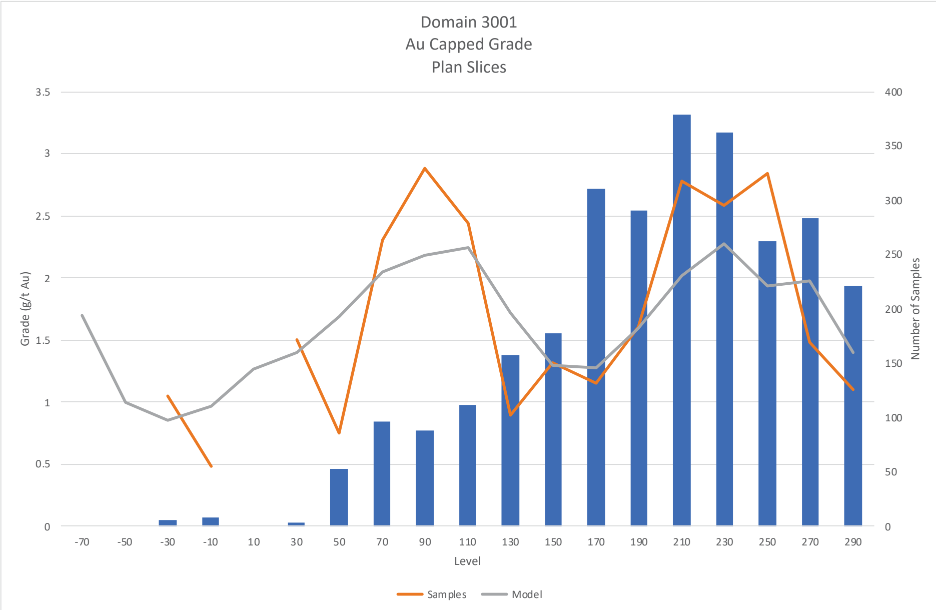

Domain 2000
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
Level
Samples
Model

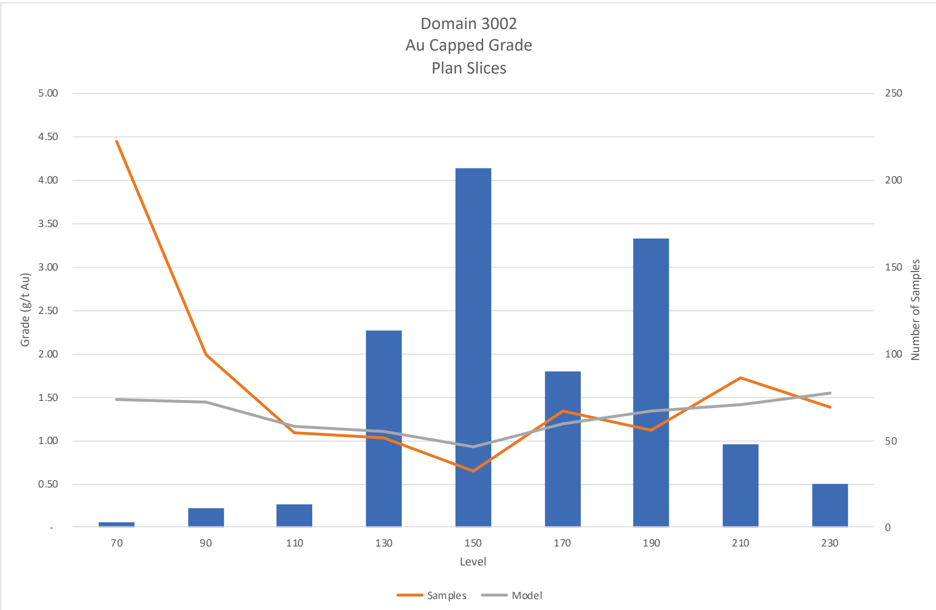

Domain 2001
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
3.50
3.00
2.50
2.00
1.50
1.00
0.50
-
200
180
160
140
120
100
80
60
40
20
0
110
130
150
170
190
210
230
250
270
290
310
Level
Samples
Model

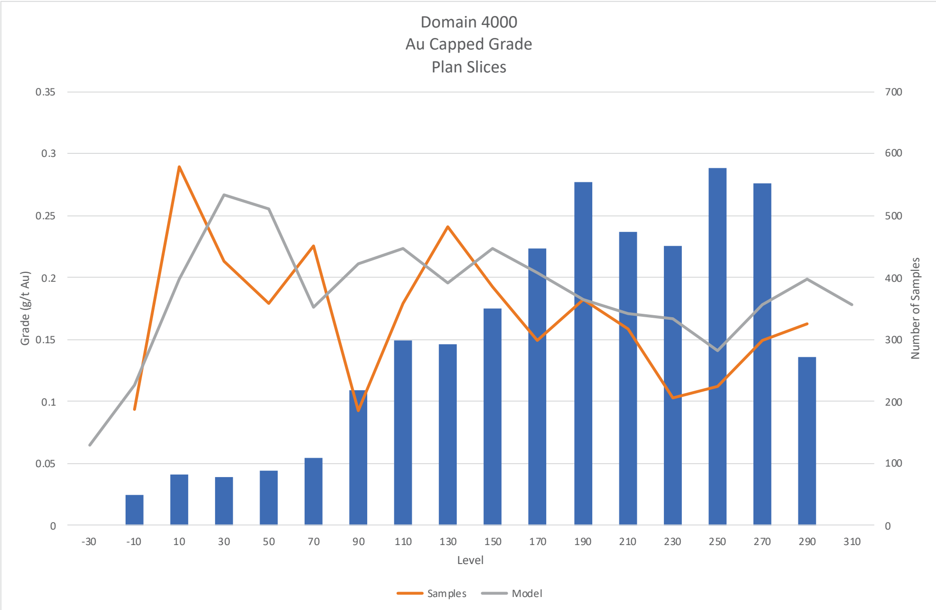

Domain 2002
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
2.50
2.00
1.50
1.00
0.50
-
70
60
50
40
30
20
10
0
170
190
210
230
250
270
290
310
Level
Samples
Model

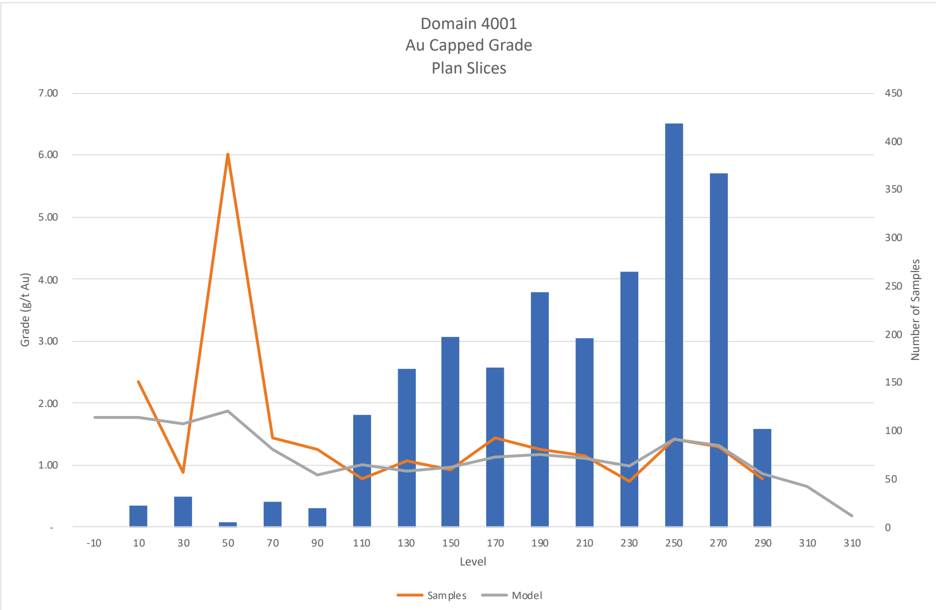

Domain 2003
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
-
120
100
80
60
40
20
0
50
70
90
110
130
150
170
190
210
230
250
270
290
Level
Samples
Model

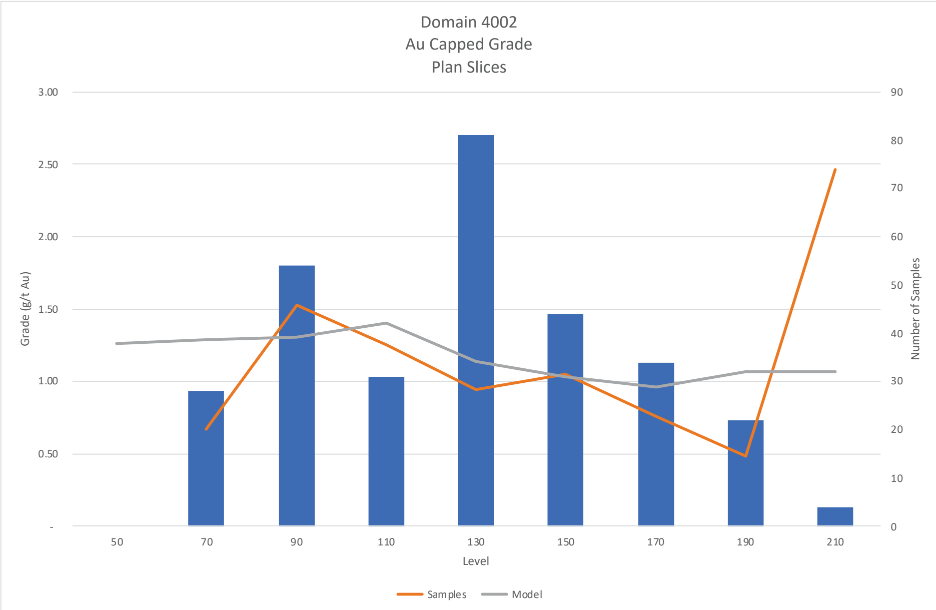

Domain 3000
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1000
900
800
700
600
500
400
300
200
100
0
-70
-50
-30
-10
10
30
50
70
90
110
130
150
170
190
210
230
250
270
290
310
Level
Samples
Model

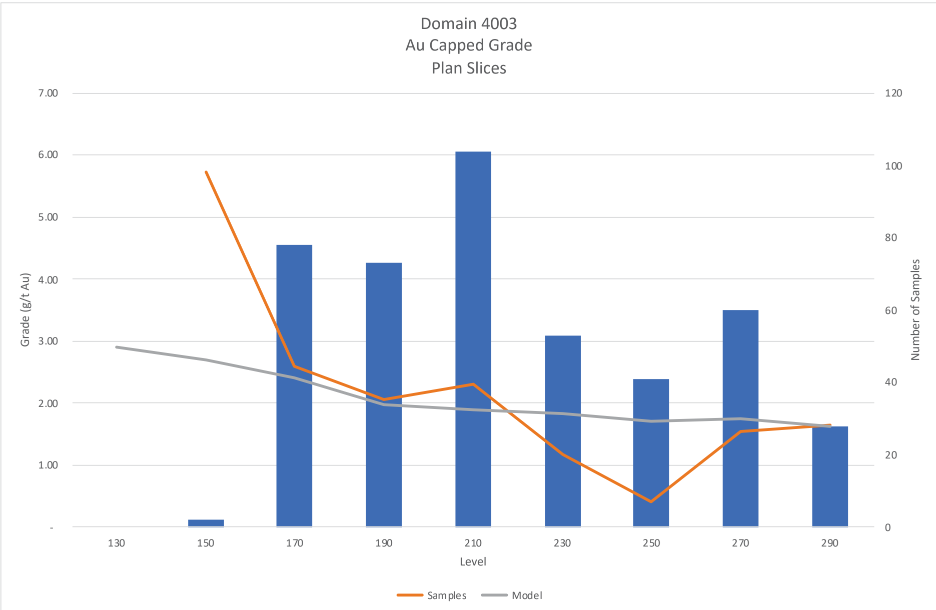

Domain 3001
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
Level
Samples
Model

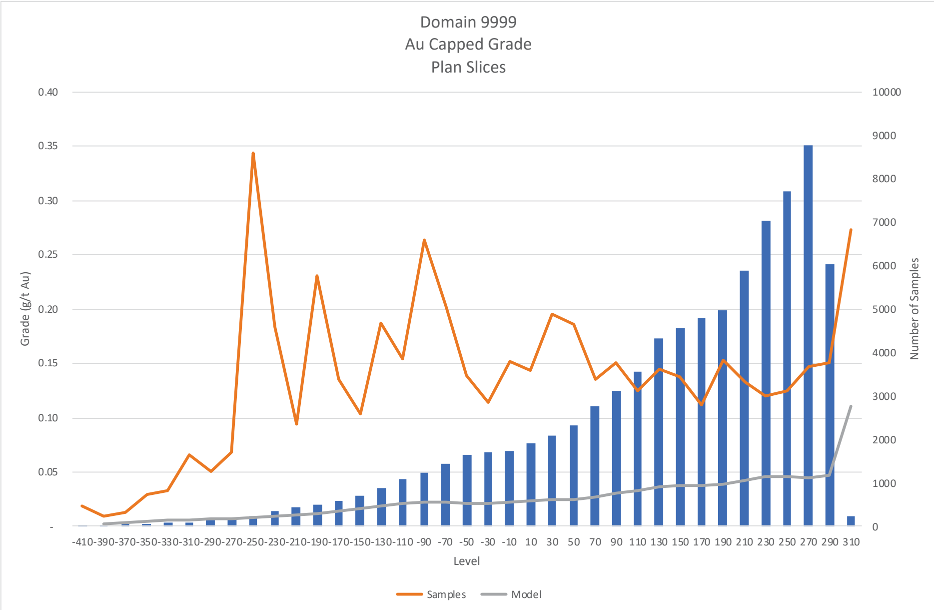

Domain 3002
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
Level
Samples
Model


Domain 4000
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
Level
Samples
Model


Domain 4001
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
Level
Samples
Model

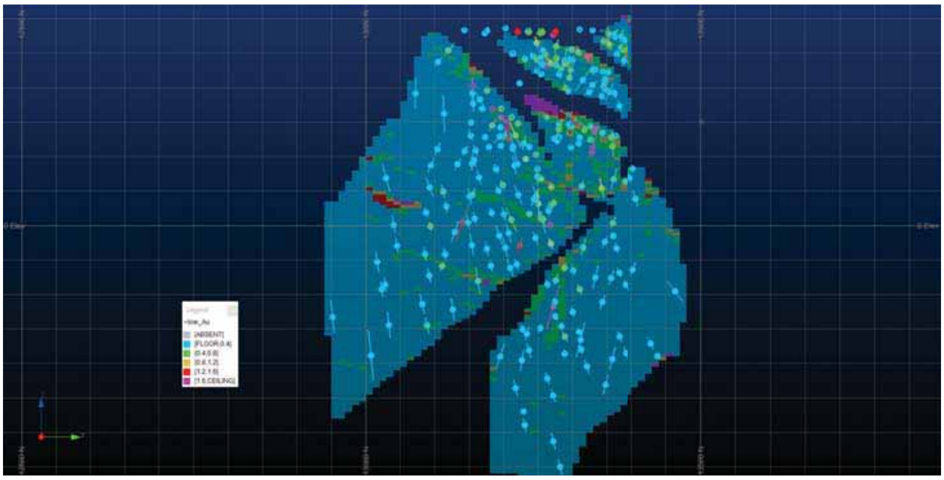

Domain 4002
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
3.00
2.50
2.00
1.50
1.00
0.50
-
90
80
70
60
50
40
30
20
10
0
50
70
90
110
130
150
170
190
210
Level
Samples
Model


Domain 4003
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
7.00
6.00
5.00
4.00
3.00
2.00
1.00
-
120
100
80
60
40
20
0
130
150
170
190
210
230
250
270
290
Level
Samples
Model

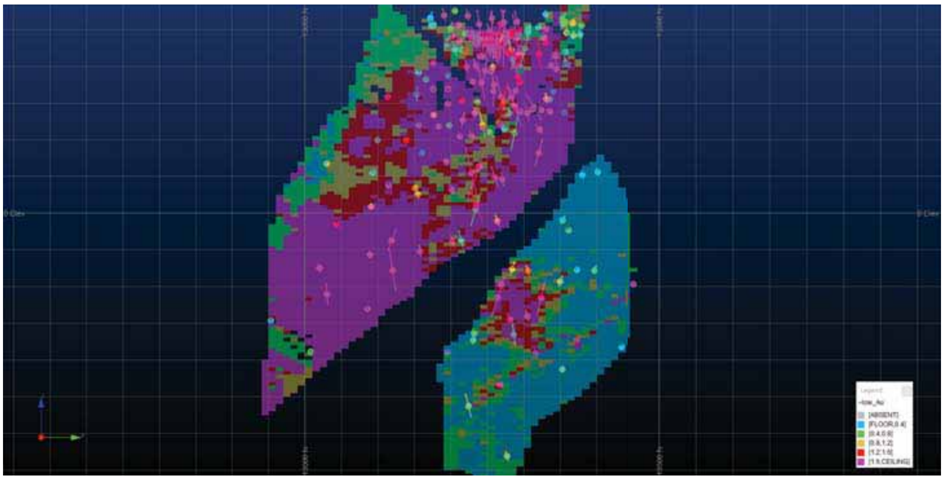

Domain 9999
Au Capped Grade
Plan Slices
Grade (g/t Au)
Number of Samples
Level
Samples
Model

Appendix J Longitudinal Projections

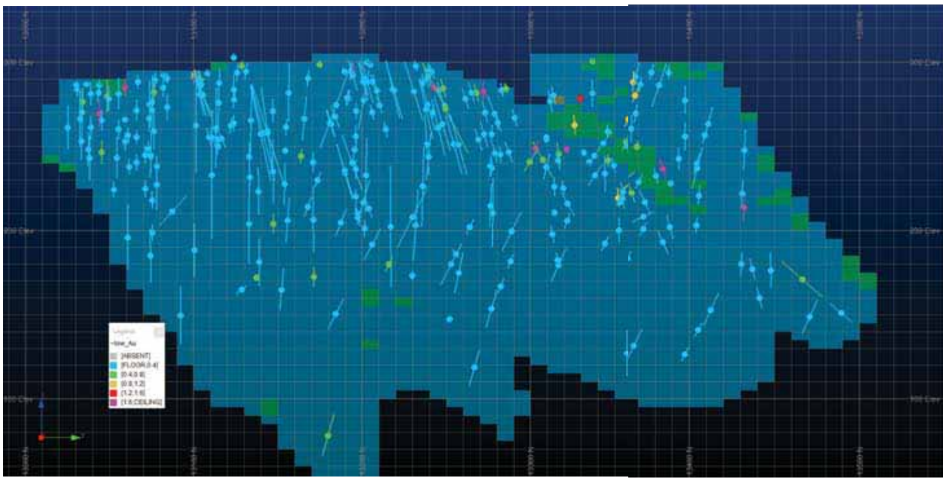
Domain 1000



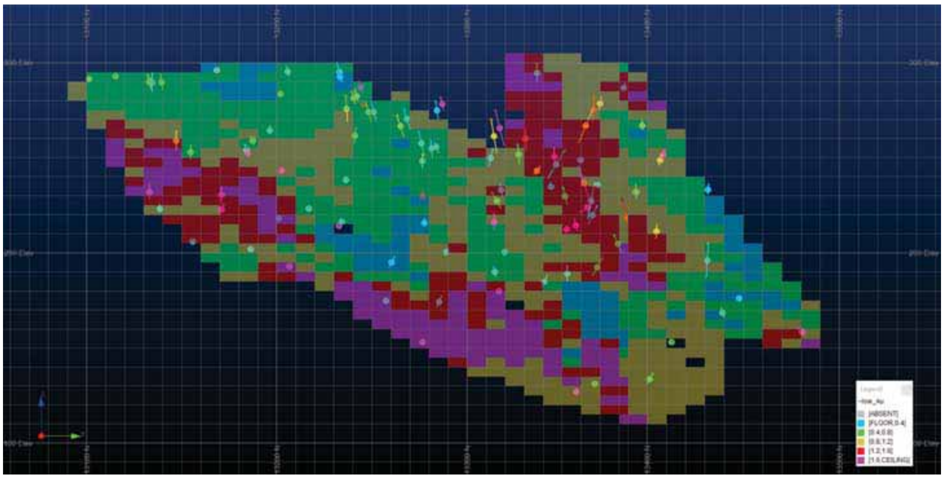
Domain 1001 and 1003



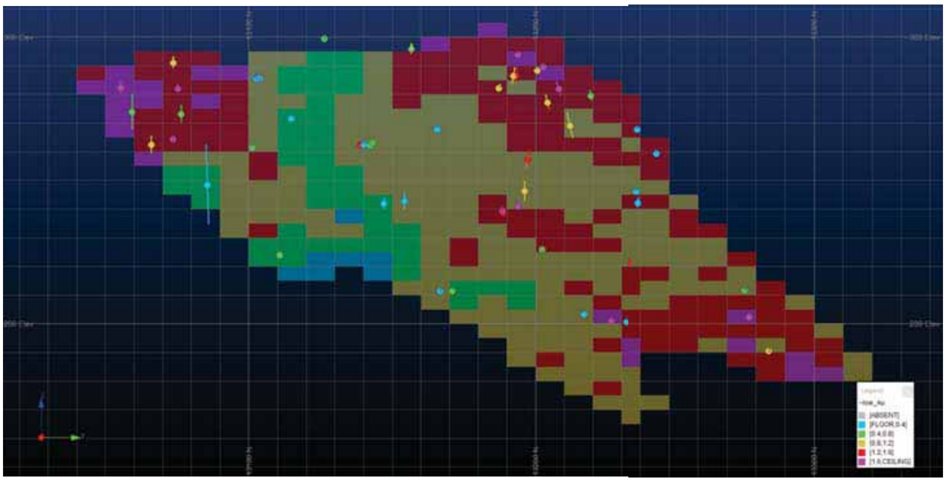
Domain 2000



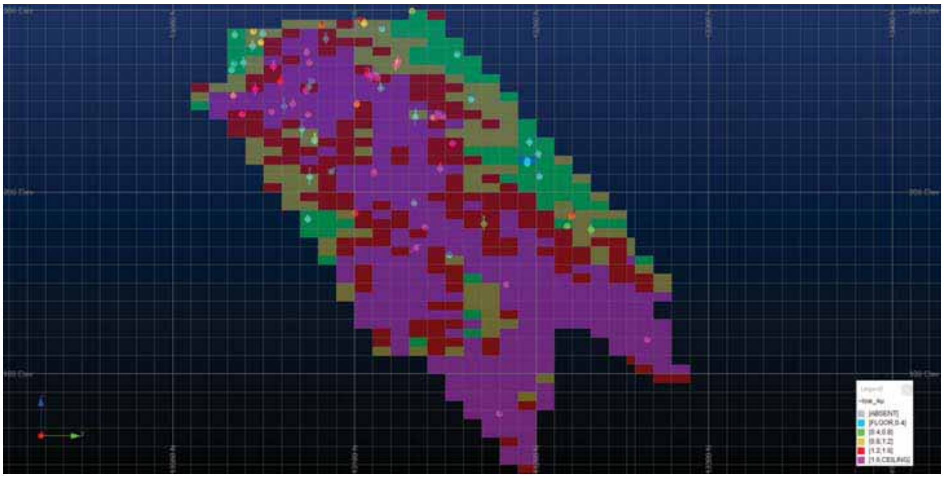
Domain 2001



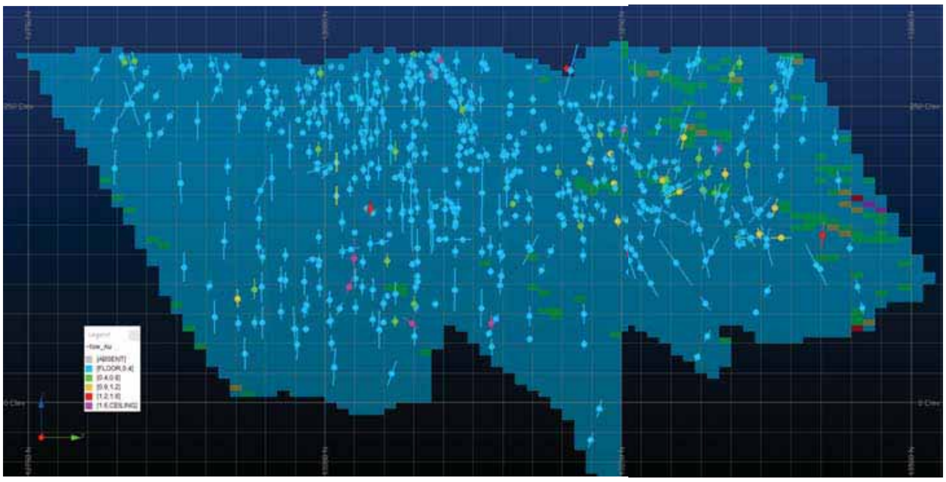
Domain 2002



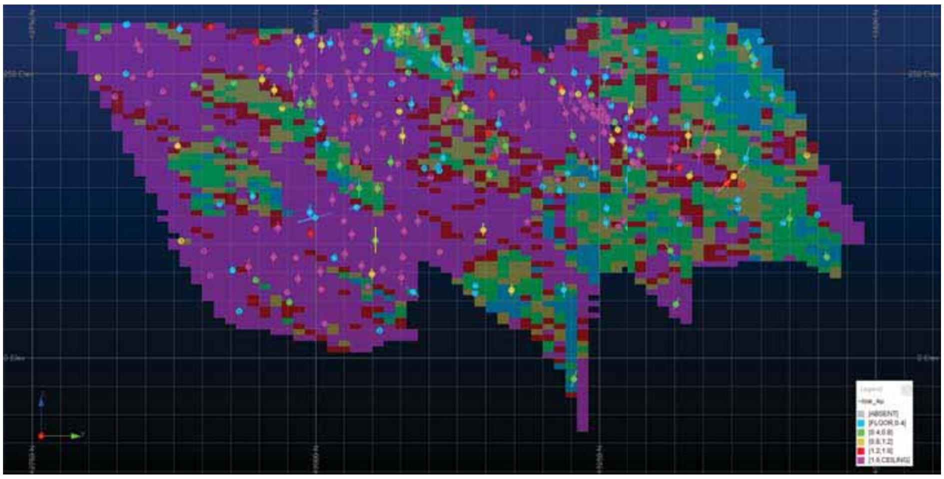
Domain 2003



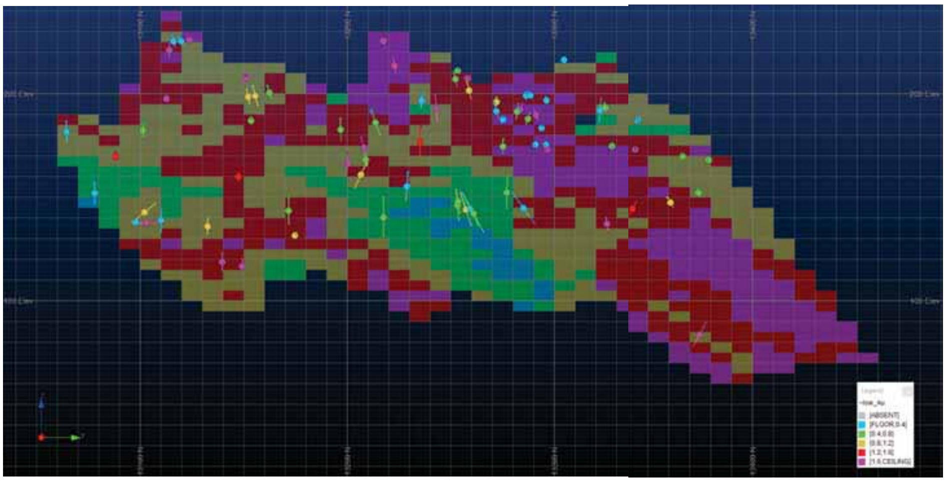
Domain 3000



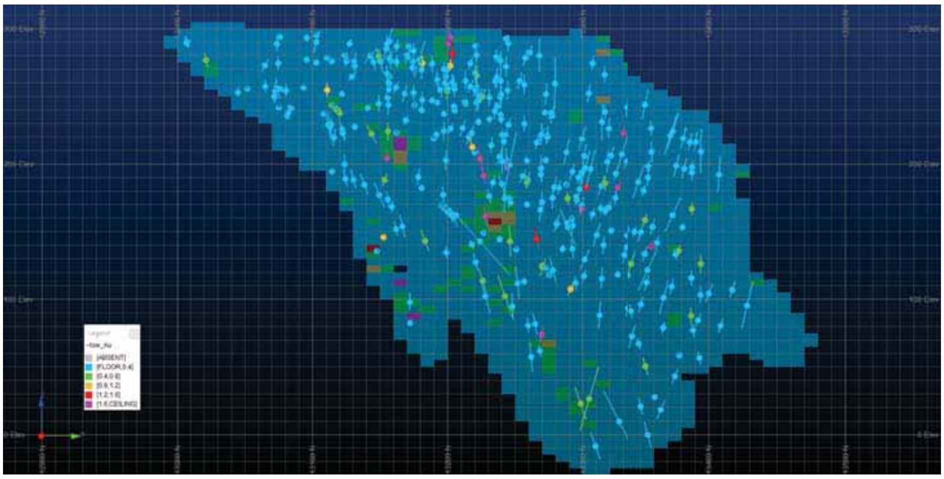
Domain 3001



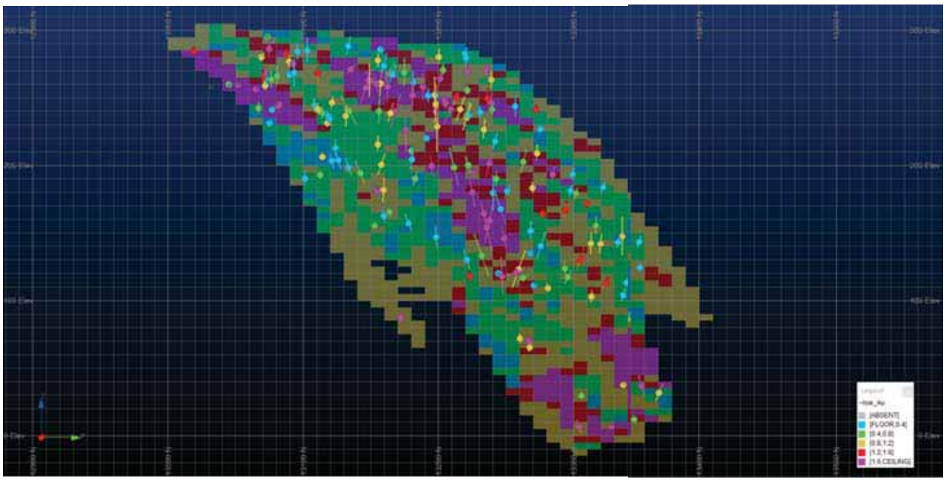
Domain 3002



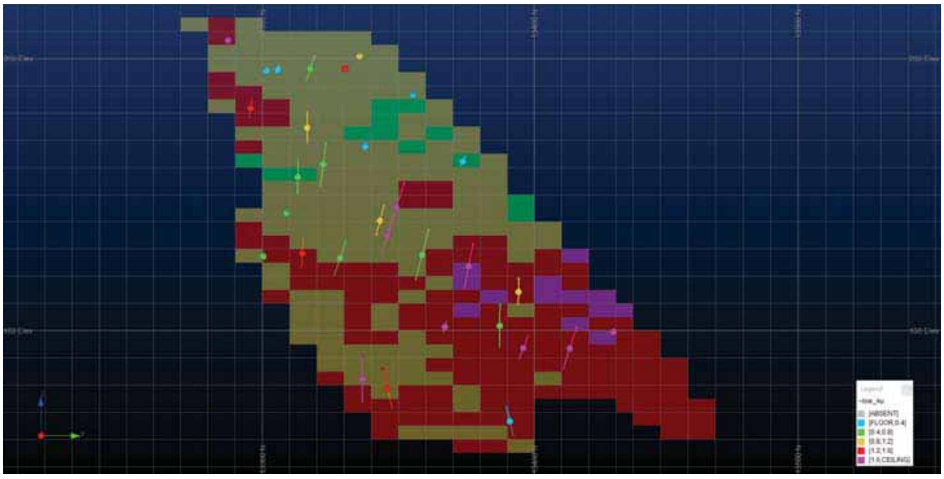
Domain 4000



Domain 4001



Domain 4002



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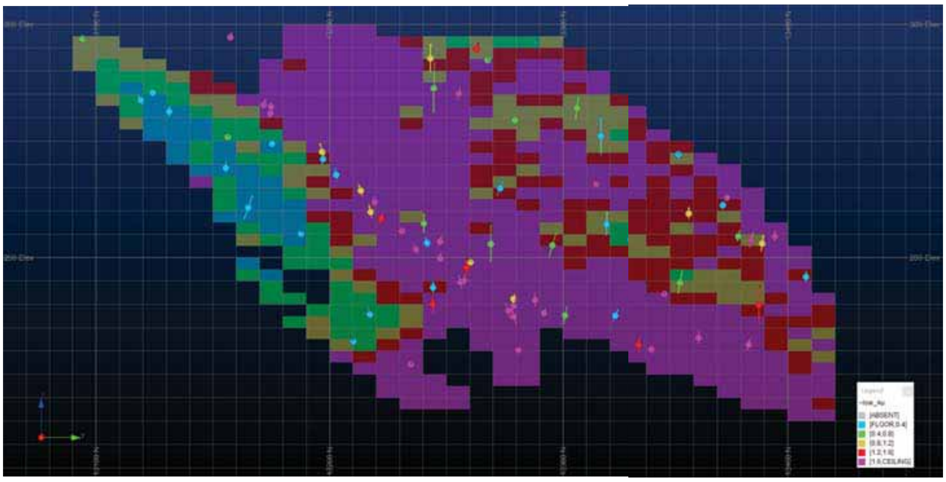

Appendix K Scott Dunham – Brief CV

May 2017 – Present

SD2 Pty Ltd Principal Consultant and Director

- Resource estimation
- Resource audits and reviews
- Due Diligence investigations
- Reconciliation and grade control
- Variability and uncertainty studies
- Operational performance assessments
- Geometallurgical studies
- Training and professional development

March 2016 – October 2016

CRC ORE Ltd - Program Coordinator

- Research program coordination
- Foster collaboration between miners, METS and researchers
- Heterogeneity modelling and research
- Sensor, sampling and material evaluation adoption methodologies

August 2006 – February 2016

QG Australia Pty Ltd - Managing Director and Senior Principal Consultant

- Resource consulting including estimation, review/audit, advisory services
- Reconciliation and grade control
- Geometallurgical consulting
- Training and professional development

2004 – 2006

Newcrest Mining Limited – Technical Services Manager

2001 – 2004

WMC Resources Limited – Planning and Development Manager, Geology Manager

1998 – 2001

AMC Consultants – Senior Geologist

1994 – 1998

RGC Tasmania – Geology Manager Henty Gold Mine

1989 – 1994

Renison Goldfields Consolidated - Senior Geologist Renison Tin Mine

1987 – 1989

Mt Isa Mines Limited – Mine Geologist.

Ravenswood Gold

Sarsfield-Nolans Mineral Resource Estimate
July 2020

FINAL

Project Code: RAV002007

Report Date: 27 November 2020

Effective Date 30 September 2020

Authors: Scott Dunham

Release Date Addendum

Sarsfield-Nolans Mineral Resource Report -27 November 2020

SD2 Pty Ltd (SD2) completed a Mineral Resource Estimate for the Sarsfield-Noland gold deposit in July 2020. This addendum is an addition to the then published Mineral Resource technical report outlining SD2's analysis of changes at Sarsfield-Nolans between 10 July 2020 and 30 September 2020 (the 'effective date') and SD2's opinion on the materiality of any changes identified during that period.

Changes Potentially Effecting the Mineral Resource

The Sarsfield-Nolans deposit is part of the greater Ravenswood Gold Pty Ltd (Ravenswood) Mineral Resource base. Ravenswood are currently in the process of developing an open pit mining operation to extract the near-by Buck Reef West Mineral Resource. Mining of the Sarsfield-Nolans mineralisation has not yet commenced.

In the period between 10 July 2020 and 30 September 2020 the following resource estimation related activities occurred:

1. Development activities focused on establishing and refurbishing the pre-existing mine camp, ore treatment plant and on procurement and delivery of the new mining fleet for the nearby Buck Reef West open pit;
2. Production was restricted to processing of historical sub-grade stockpiles (not included in this report);
3. No surface mining took place. The topographic surface for 10 July 2020 and 30 September 2020 is identical;
4. Sixteen (16) new drill holes were completed into the mineralisation for a total of 3,414m. This represents a 1% increase in the number of holes and a 2% increase in the drilled metres compared to the data available at 10 July 2020.

Of these four activities, only the additional drilling has the potential for material impact on the quality and quantity of the estimated Mineral Resource.

Materiality Checks

SD2 reviewed the 16 drill holes completed between 10 July 2020 and 30 September 2020 (Figure 1).

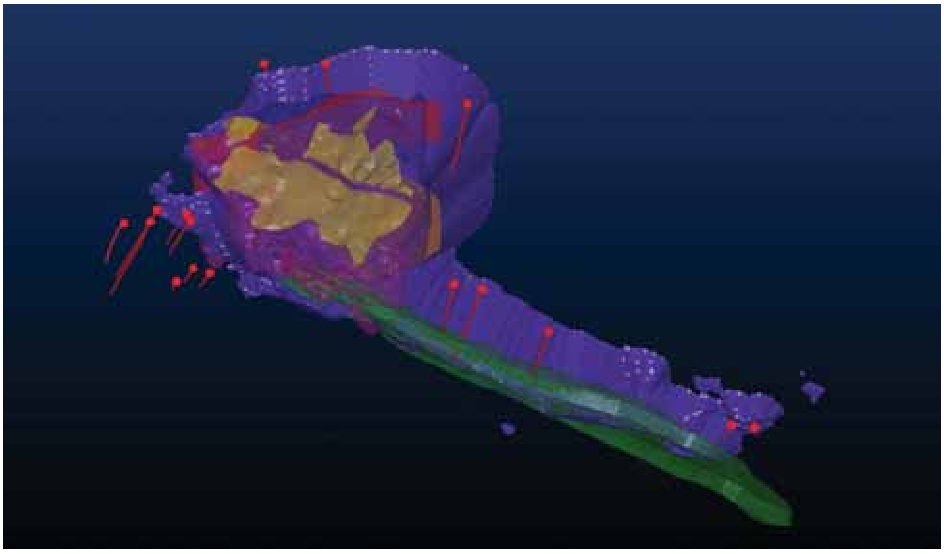

Figure 1. Location of holes drilled between 10 July 2020 and 30 September 2020.

Eight (8) of the new holes were targeted at the zone between the Sarsfield-Nolans resource and the Buck Reef West resource, south of the reported Sarsfield-Nolans resource estimate. These eight holes all lie beyond the reporting limit of the Sarsfield mineralisation. The holes indicate sporadic, narrow medium-to-high mineralisation in the region; however, the level of understanding of this region was incomplete as at 30 September 2020. Therefore, these holes, while promising, are not considere3d material to the global resource estimate.

Two (2) new holes were drilled at the far eastern end of the Sarsfield-Nolans resource, testing the continuity of the mineralisation around a number of existing drill holes to check the potential of an extended eastern zone. These two holes (NLRC001 and NLRC002) did not intersect any mineralisation, a result that is aligned with the 10 July 2020 estimate. Neither hole has the potential to change the mineral resource.

Three (3) new holes were drilled into the Nolans region of the mineral resource. Hole NLRC004 intersected 27m @ 0.8 g/t Au and was stopped before reaching the end of the mineralised zone due to drilling constraints. This intersection compares favourably with the grade and location of the estimated mineralisation. Hole NLRD005 intersected weak mineralisation (<0.2 g/t Au) in the interpreted mineralised zone. This is lower than the predicted grade which is supported by a cluster of higher grade holes approximately 50m up-dip. Hole NLRC003 did not reach the mineralised zone due to drilling constraints. SD2's analysis of these three holes indicates they will not materially impact on the global estimated tonnes and grade. While NLRD005 intersected lower than predicted grades, the maximum zone of influence of this single hole is constrained by adjacent pre-existing holes. In SD2's opinion the maximum impact expect by including NLRD005 in an updated estimate would be a change of less than 1% in both the reported tonnes and reported ounces. This is not considered material.

The remaining three new holes were drilled along the northern edge of the Sarsfield portion of the mineral resource, testing the continuity of the mineralisation at the limits of the reporting boundary beyond the interpreted domains. Hole SFRD007 intersected several (7) narrow veins across a 300m down hole length including a zone of 12m @ 0.9 g/t Au. Hole SFRD008 intersected the Bucks Reef Fault at the interpreted location. The 10 July 2020 estimate predicted the intersected zone to be less than 0.3 g/t Au. The actual intersection was 17m @ 0.6g/t Au indicating the potential for a slight increase in the estimated grade adjacent to the new hole; however the intersection is outside the limits of the 'reasonable prospects' test (AUD3800 shell). Hole SFRC005 intersected 7m @ 1.3 g/t Au west of the limit of the estimated mineral resource. While this hole is promising, the level of geological understanding is insufficient for the intersection to be included in the estimate. Based on SD2's analysis, none of these three holes are considered material.

The impact of the holes drilled between July 2020 and September 2020 is summarised in Table 1. The 8 new holes with potential to impact on the Mineral Resource estimate are consistent with the July 2020 estimate. These 8 holes represent a less than 1% increase in the number of drill holes in the mineralisation.

Table 1. Materiality of new drilling.

Hole category	Number of Holes	Material to Estimate	Comment
Greater than 200m from resource	8	No	Drilled to test exploration targets.
Far eastern Nolans region	2	No	Drill results match resource prediction.
Mid-Nolans region	3	No	Mineralisation not tested in two holes due to drilling constraints. Remaining hole intersected lower than anticipated grades; however influence is limited by adjacent holes and is likely to be less than 1% of the reported tonnes and ounces
Northern Sarsfield region	3	No	Holes are all beyond the reported limits of the mineralisation. Results look promising however additional geological knowledge is required before they can be successfully incorporated into the resource estimate.
Total Number of new holes	**16**		

Conclusions

In SD2's opinion the Sarsfield-Nolans 10 july 2020 Mineral Resource estimate is suitable for reporting as at 30 September 2020. No mining activities have occurred at Sarsfield-Nolans and therefore the resource estimate does not need to be depleted to allow for extraction. Similarly, in the absence of mining there are no reconciliation data available or geological observations to justify altering the interpretation of the resource.

While Ravenswood drilled an additional 16 holes between July 2020 and September 2020, only 8 of these holes targeted areas within or adjacent to the reported resource. Seven (7) of these 8 additional holes confirmed or improved the grade tenor, width and location of the interpreted mineralisation. One (1) hole was of lower than predicted grade. In SD2's opinion, the new drilling has had minimal impact on the global resource estimate (<1%) and they do not materially alter the quality or quantity of the estimate.

Tabulated Mineral Resource as at 30 September 2020

Sarsfield-Nolans Mineral Resource estimate as at 30 September 2020

Classification	Tonnes (kt)	Au (g/t)	Ounces (koz)
Measured	32,213.0	0.71	739.9
Indicated	71,354.2	0.65	1,498.2
Inferred	29,394.2	0.63	597.8
Grand Total	**132,961.4**	**0.66**	**2,835.9**

Reported above a 0.3 g/t Au cut-off above AUD3800 shell assuming material above 0.63g/t Au is direct feed to the Ravenswood ore treatment plant and material between 0.30g/t and 0.63g/t is beneficiated at the Ravenswood beneficiation plant.

This resource statement is based on an estimate of the Sarfield-Nolans mineralisation completed 10 July 2020 and an assessment of materiality of changes between July 2020 and September 2020. The complete technical report for the estimate is included in the following documentation.

Executive Summary

The Sarsfield-Nolans gold deposit is part of the Ravenswood gold mine in north Queensland. An updated mineral resource estimate has been developed incorporating the most recent drilling and geological information. This estimate supersedes previous estimates for the Sarsfield-Nolans mineralisation.

The July 2020 resource model is based on a combination of ordinary kriging and multiple indicator kriging in domains developed from manually controlled implicit modelling.

The resource is classified under the JORC Code (2012) as Measured, Indicated and Inferred. Classification was on the basis of sample spacing, geological confidence and a range of estimation quality metrics including the block-to-sample distance and configuration.

The Sarsfield-Nolans mineral resource estimate is reported above a cut-off of 0.3 g/t Au within an AUD3,800[1] optimised pit shell as at 10 July 2020.

Classification	Tonnes (kt)	Au (g/t)	Ounces (koz)
Measured	32,213.0	0.71	739.9
Indicated	71,354.2	0.65	1,498.2
Inferred	29,394.2	0.63	597.8
Grand Total	**132,961.4**	**0.66**	**2,835.9**

[1] AUD3,800 selected as 1½ the gold price as at the time of reporting.
AUD3,800 pit shell assuming material above 0.63g/t Au is direct feed to the Ravenswood ore treatment plant and material between 0.30g/t and 0.63g/t is beneficiated at the Ravenswood beneficiation plant.

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1. Introduction and Scope

Ravenswood Gold Pty Ltd (Ravenswood, or RAV) recently acquired the Ravenswood gold mine located 130km by road from Townsville and 90km from Charters Towers. Ravenswood mine is not currently operating; however, a feasibility study outlining the mining opportunity and steps required to start production formed a central part of the sale and acquisition process. As part of the acquisition process SD2 Pty Ltd (SD2) was engaged to review the resource model and estimate for Ravenswood and consider the suitability of the model for future mine planning. This investigation identified risks with the resource estimate, mainly around the grade-tonnage distribution. Consequently, RAV engaged SD2 to re-estimate the mineral resources at Ravenswood.

This report outlines the resource estimation approach adopted for the Sarsfield-Nolans (Sars) deposit, the second of two major resources in the area.

1.1 Location and History

The Ravenswood gold mine is one of a number of gold deposits in the Ravenswood-Lolworth Province of northeast Queensland. Alluvial gold was discovered at Ravenswood in 1868 followed by the discovery of oxidised gold-bearing quartz reefs. By 1872 most of the near-surface oxide mineralisation had been depleted (McIntosh et al. 1995) and only the refractory sulphide-associated mineralisation remained. A second phase of production started with the formation of the New Ravenswood Company in 1896 and focused on extracting this sulphide-associated gold from lodes and veins including the Duke of Edinburgh, General Grant, Sunset, London, Mellaneur, Shelmallier (MSA) and Black Jack systems. The majority of gold was from the Sunset lode which produced 208,949 oz from a 45° dipping vein to a depth of 200m below surface (Collett et al., 1998). Production decreased rapidly after 1912 due to exhaustion of the Sunset Lode, an extended miner's strike and the impact of World War 1.

There was limited activity at Ravenswood from 1917 to 1980. Silver was produced from the nearby (1.6km north) Totley mine in the 1950s; otherwise production was limited to minor underground extensions and few drill holes. In the early 1980's The North Queensland company reprocessed several old mullock dumps and tails dams. In 1985, MIM Exploration Pty Ltd (MIM) began exploring the Ravenswood district and, following early success MIM's subsidiary Carpentaria Gold (CG) began open pit production at Bucks Reef West (BRW) , Slaughter Yard Creek (SYC) and OCA in 1987. The operation commenced as a heap leach (250 Ktpa) and small (100 Ktpa) CIL operation before the construction of a 2.4 Mtpa CIL plant in 1993. This plant was expanded to 5.5 Mtpa in 2000 to enable treatment of production from the Sarsfield and Nolan's open pits (Lisoweic, 2009).

Production at the Sarsfield open pit was completed in 2009 and the ore treatment plant was de-rated to 1.5 Mtpa in 2011 while focus switched to the nearby Mt Wright underground operation. There was a hiatus at Ravenswood until 2016 when the Nolan's East open pit commenced. As of 2020 production is limited to treating old stockpiles and dumps until the plant is refurbished and approval given to recommence operations at Buck Reef West.

Historically the Ravenswood area has produced approximately 2.4Moz at an overall average grade of 1.7g/t. (Table 2). Excluding production prior to 1987 the area produced 1.5Mz at a grade of 1.1g/t.

Year	Operation	Recorded Production	Ounces	Source
Pre 1987	Lode mineralisation across entire field.	No tonnes and grade reported. Estimated grades reported as 30 g/t (Lisowiec, 2009).	900-950,000	Collett et al. 1998. Lisowiec, 2009.
1987 – 1990	SYC (pit)	526,000 @ 2.7 g/t	45,700	Collett et al. 1998
1987 – 1989	OCA (pit)	290,000 @ 3.4 g/t	31,700	Collett et al. 1998
1988 – 1991	BRW (pit)	160,000 @ 2.8 g/t	14,400	Collett et al. 1998
1991	OCA (ug)	149,000 @ 4.1 g/t	19,600	Collett et al. 1998
1990	Area 4 (pit)	50,000 @ 2.4 g/t	3,900	Collett et al. 1998
1988 -1991	Area 5 (pit)	260,000 @ 2.4 g/t	20,000	Collett et al. 1998
1990 – 1991	MSA (pit)	48,000 @ 3.5 g/t	5,400	Collett et al. 1998
1992 – 1993	Area 2 (ug)	174,000 @ 10.1 g/t	56,500	Collett et al. 1998
1993 – 1996	Nolans (pit)	4,100,000 @ 1.25 g/t	164,800	Collett et al. 1998
2003 – 2005	BRW (ug)	376,000 @ 4.0 g/t	48,400	Lim et al., 2018
2000 – 2003	Sarsfield (pit)	3,900,000 @ 1.24 g/t	155,500	Haoma Mining Annual Report 2003
2004 – 2009	Sarsfield (pit) Note, introduction of MIK for resource estimation	33,490,000 @ 0.91 g/t	980,000	Lim et al., 2018
Total Recorded Production		**44.3Mt @ 1.7 g/t**	**2,400– 2,450,000**	
Open Pit Only		**40.0Mt @ 1.7 g/t**	**2,150-2,200,000**	
Pits After 2000		**37.4 Mt @ 0.9 g/t**	**1,100,000**	

Table 2. Historic Production (Ravenswood).

SD2 note the differences in average mined grade between production at Sarsfield/Nolans in 1993-1996 (1.25 g/t), 200-2003 (1.24 g/t) and 2004-2009 (0.91 g/t). While it is not possible to directly relate the decrease in grade to a single cause, it is notable that the 2004-2009 production was carried out by the new operator (Resolute). At the time of Resolute's acquisition of Ravenswood from Xstrata, there was a stated plan to improve operational performance by reducing strip ratio and changing grade control practices (Resolute 2004 Annual Report; Figure 2).

> Since assuming operational control Resolute has reviewed and re-interpreted the resource model which has led to a re-optimisation and re-design of the open pit. The new mine design has significantly reduced the waste removal required for the life of mine and is predicted to improve the economics of future operations. In addition, improved grade control techniques have been

Figure 2. Extract form Resolute 2004 Annual Report.

It is possible this change in strategy was linked to the adoption of unconstrained multiple indicator kriging (MIK) as the resource estimation and grade control estimation methodology and the decrease in grade may reflect a corresponding decrease in selectivity. Much of the detail of estimation and operational practices in and around the 2003-2004 period have been lost following a legal dispute between Haoma Mining and MIM Holding Limited and the subsequent sale of Haoma's interest in the Nolans open pit to MIM which was shortly followed by Xstrata's acquisition of MIM itself.

1.2 Work Completed

The July 2020 Sarsfield mineral resource estimate was a complete revision of the previous modelling reported by Resolute Mining Limited. Consequently, SD2 completed a comprehensive review of past practices, the data quality and previous estimates as part of developing the new estimation strategy. In addition to the activities completed in the Due Diligence study, SD2's work included the following:

- Review of the geology database and request for an extract covering the Sarsfield mineralisation;
- Review of surfaces required for the estimate including topography and voids;
- Review of the operational grid system and the history of grid transformations;
- Review of drill hole collars against topography (where appropriate);
- Review of geological logging systems and results. Consideration of ways to best incorporate logging into the resource estimate;
- Review of bulk density data and consideration of its suitability for resource estimation;
- Review of sampling and assay data with a particular focus on high-grade samples occurring adjacent to unsampled intervals;

- Review of quality control performance data collected at the time of drilling and sampling;
- Collation of all files and metadata used for previous estimates where possible;
- Review of the structural geology of the Ravenswood district and Sarsfield-Nolans specifically. Consideration of how the geological structure influences the resource model and estimate;
- Review and update of the geological interpretation. Development of domains suitable for resource estimation;
- Estimate the mineral resource and document the estimation process and results (this document);
- Prepare the July 2020 estimate for use in mine planning; and
- Prepare a geology/resource risk assessment and report.

All of the work completed for the mineral resource estimate was carried out under the guidelines of the JORC Code[2] (2012 edition) reporting framework.

1.3 Previous Estimates

There are two recent estimates for the Sarsfield-Nolans deposit, one completed by MPR Geological Consultants Pty Ltd (MPR) in August 2019 as part of Resolute Mining Limited's REP200 project and a second 'sensitivity estimate' completed by SD2 in September 2019 as part of the Due Diligence review completed during Ravenswood Gold's purchase of the operation. These two estimates were similar, differing only in the approach adopted for the main stockwork mineralisation zone.

Both models were multiple indicator kriging estimates. The SD2 sensitivity estimate applied a volume constraint to the stockwork zone whereas the MPR estimate was unconstrained. By constraining the stockwork, the SD2 sensitivity model limited the estimation distance away from the available data, restricting the estimate to a volume with a higher likelihood of containing mineralisation. This also altered the grade-tonnage curve, removing a portion of low-grade estimates found in the MPR model.

The results of this new (July 2020) estimate are compared to both the MPR and sensitivity models using identical reporting parameters. The results of these comparisons are shown in Appendix H. In broad terms the estimates are similar; however, the spatial distribution of the remaining mineralisation is slightly different reflecting the impact of SD2's incorporation of new structural orientations as part of the controls on the mineralisation.

[2] JORC Code – The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

1.4 Changes in Methodology

The July 2020 uses a combination of ordinary kriging (OK) and multiple indicator kriging (MIK). Domains with a strong geological basis were estimated using OK whereas the stockwork zone was estimated using MIK. The estimation strategy uses the following steps:

1. Implicit modelling geology interpretation for:
    a. Buck Reef Fault (BRF);
    b. A4 Fault (A4);
    c. Keel Zone; and
    d. Nolan.
2. Grade shell based implicit modelling for:
    a. West of BRF;
    b. BRF to A4;
    c. South of A4; and
    d. Nolans background.
3. Estimation of BRF, A4, Keel Zone, Nolans, Nolans background and West of BRF by ordinary kriging;
4. Estimation of BRF to A4 and South of A4 by multiple indicator kriging;
5. Estimation of global background grades by ordinary kriging;
6. Assignment of a low-grade default (0.005 g/t Au) to all unestimated blocks; and
7. Post-processing to assign bulk density, fill and void values.

1.5 Critical Risks

The Sarsfield-Nolans mineralisation comprises a zone of weak stockwork development with relatively low fluid flow. The mineralisation, while associated with the pervasive stockwork veins, is discontinuous over short distances. This impact on the quality of the estimate. The MIK approach is suited to the mineralisation style; however, it potentially overstates the underlying grade continuity. In particular the estimate is sensitive to the composite search strategy. This is typical of some MIK estimates. In this case SD2 has ameliorated the risk by requiring a relatively high number of composites. This provides a better estimate of the cumulative distribution function (cdf) resulting in a more realistic picture of the grade distribution.

SD2 reviewed multiple alternate geological interpretations while completing the Sarsfield estimate. While some structures (BRF and A4 Fault) are easily defined, recognising other spatial controls on the extent of mineralisation proved difficult. A preliminary manual interpretation was provided by Ravenswood; however, both statistical analysis and a review of the spatial extent of the interpreted zones failed to support any meaningful differentiation.

Furthermore, the provided interpreted volumes were not well aligned with the main structural trends (or variography). SD2 also attempted to develop robust domains using an implicit modelling approach. Models were developed directly from the grade data and by using various proxies for mineralisation including a 'grade-density' indicator derived by calculating the number of composites above a series of grade thresholds within a 10mx10m block. While the 'grade-density' approach showed some initial promise, the modelled volumes and shapes were discontinuous and centred around individual drill holes rather than reflecting the extent of the mineralisation.

The difficult in developing geologically based domains for the stockwork mineralisation is a risk. There is a low degree of differentiation in the host tonalite and the apparent correlation between structural location and absolute grade is poor. The quality of the estimate is therefore dominated by the drill hole density. The final grade control drilling method and sample spacing will be a fundamental driver of estimation quality and ultimately ore recovery.

As well as the risks associated with the style of mineralisation, it is worth noting that the reporting pit shells are also data constrained. This is also the case for the likely ore reserve pit shell.

Additional drilling at depth and to the peripheries of the mineralised zone is recommended.

2. Project Description

2.1 Site and Existing Infrastructure

The Ravenswood gold mine is accessed by sealed road from a turn-off on the Burdekin Falls Dam Road. The site sits adjacent to the historic Ravenswood township (population 200) and there are several heritage-listed structures in and around the district. Mining operations at Ravenswood ceased in 2009; however, the ore treatment plant was used to treat production from the nearby Mt Wright underground mine and therefore is still operational. At present (July 2020) low grade stockpiles produced during earlier mining of the Sarsfield-Nolans pit are being treated through the plant.

The site is well equipped with the requisite infrastructure for mining and ore treatment operations (Resolute, 2018). Power is supplied through existing connections to the state-wide grid (PowerLink) via the Ergon Energy distribution network. Water is supplied via a 20km pipeline from the Burdekin River and the site operates two surge dams to manage seasonal flow variations. Telecommunications are provided by Telstra and the site operates a dedicated frame-relay data link provided by Optus.

Other existing site infrastructure includes workshops and warehouses to service the ore treatment plant and mining fleet, offices, sewage treatment plant, on-site accommodation and messing. While much of this infrastructure will require upgrading over the life of the combined BRW and Sarsfield production, there are no known impediments preventing the provision.

The existing tailing storage facilities (TSF) are insufficient for full the currently planned production from BRW and the Sarsfield/Nolan pits. RAV are developing a tailings management strategy and have had several options developed for evaluation. Tails from processing of Sarsfield/Nolans low grade stockpiles are being dewatered and dry-stacked back in the Sarsfield open pit. Discussions with the Queensland Department of Environment and Science (DES) are on-going and SD2 is unaware of any impediment likely to prevent resolution of the tails storage requirements for Sarsfield-Nolans.

In SD2's opinion there are no infrastructure-related issues that would prevent production from the Sarsfield-Nolans deposit. Further information on the existing and planned infrastructure requirements is contained in the REP 200 feasibility study (Lim et al., 2018).

2.2 Tenements and Tenure

Ravenswood Gold took possession of a number of Mining Leases (ML), Mining Lease Applications (MLA) and Exploration Permits (EPM) as part of the acquisition of the Ravenswood operation in 2020. During the acquisition process (December 2019) Ravenswood engaged Hetherington Exploration and Mining Title Services Pty Ltd (Hetherington) to review the status of the acquired leases. Hetherington prepared a report (Martin, 2019) on the status of the leases based on information obtained from the Department of Natural Resources, Mines and Energy ("DNRME") My-Mines-Online ("MMOL") database and other information as supplied by DNRME, the tenement holder/s (obtained via the digital data room) and the Department of Environment & Science ("DES").

The status of these MLs and MLAs is summarised in Table 3 (after Martin, 2019).

Tenement	Native Title	Holder/s	Status	Granted	Expiry	Minerals	Area (Ha)	Security Deposit	Financial Assurance
ML 1380	Section 31	CG	Granted	28-11-74	30-11-34	Gold, copper, lead, molybdenum, silver, zinc	60.79 (total) 58.59 (surface)	Nil	(note 2)
ML 1412	Pre NTA	CG	Granted	15-01-81	31-01-23	Gold, bismuth, cobalt, copper, silver, tungsten, zinc	2.024 (whole)	Nil	(note 2)
ML 1532	Pre NTA	CG	Granted	24-10-85	31-10-27	Antimony, arsenic, bismuth, copper, gold, lead, silver, zinc	0.2023 (whole)	Nil	(note 2)
ML 1722	N/A	CG	Terminated (note 1)	05-09-91	14-05-19	N/A	N/A	Nil	N/A
MLA 100145	Section 31	CG	Granted	13-05-19	31-05-39	Gold, copper, lead, molybdenum, silver, zinc	1.03 (total) 0.34 (surface)	Nil	(note 2)
MLA 100147	Exclusive	CG	Granted	13-05-19	31-05-39	Gold, copper, lead, molybdenum, silver, zinc	0.2023 (whole)	Nil	(note 2)
MLA 100149	Exclusive	CG	Granted	13-05-19	31-05-39	Gold, copper, lead, molybdenum, silver, zinc	1.3 (whole)	Nil	(note 2)
MLA 100172	Section 31	CG	Granted	13-05-19	31-05-39	Gold, copper, lead, molybdenum, silver, zinc	58.46 (whole)	Nil	(note 2)

Note 1 - ML 1722 is not current. This ML was conditionally surrendered in favour of ML 10172 which was granted on 13-5-2019

Note 2 - All of these ML's are currently included in EPML00979013. Carpentaria have advised that they have recently paid an amount of $280,000 into the financial provisioning scheme. This is assumed to be an annual payment.

Table 3. Status of BRW tenements (After Martin, 2019).

At the time of Martin's report, the tenement holder was Carpentaria Gold Pty Ltd (CG). The transfer of the tenements to RAV is in progress and is expected to be finalised in due course. The MLs and MLAs include gold in the list of exploitable minerals and metals. The rent for all leases has been paid to 31-8-2020. The leases are all covered by a site-specific Environmental Agreement (EPML00979013).

Martin (2019) concluded that the MLs and MLAs appear to be in good standing with two caveats:

1. Local government authority (council) rates for some recently granted leases had not been paid.
2. Hetherington has relied on information provided by CA as the lease holder and therefore recommended a direct search application to DNRME to verify lease status and conditions.

In SD2's opinion there are no material issues related to tenement status and ownership. Ravenswood Gold own 100% of the listed titles.

2.3 Grid System

Multiple grid systems have been used at Ravenswood, reflecting the long production history and variable lode orientations. The mine grid (known as the A45 grid) has local north oriented to bearing 030° magnetic. Coordinates are truncated and lie between 12,000 and 14,000 in both northing and easting. Complicating matters further there is a 32.813 translation in elevation between the mine grid and other grids in the field. A list of the different grids and their translations was compiled by Kelly & Partners Consulting Surveyors in 1993. This list further validated in 2004. Figure 3 illustrates the differences in orientation between a selection of the known grids and Table 4 shows the 2-point rotation and translation data for conversions between local, AGD84_Z55 and MGA94 mapping grids.

GRID	GRID NAME	GRID NORTH MAGNETIC BEARING	COMMENTS
RAV	Ravenswood	325	BRW
OCA	Open Cut Area	5	
SYC	Slaughter Yard Creek	335	
BRW	Buck Reef West	325	RAV
A45	Area 4 and 5	30	
A2	Area 2	10	
A2E	Area 2 extended	354	A2MX
A3	Area 3	355	
JOB	John Bull	319	
JBX	John Bull extended	335	SYC
MSA	Mellanuer Shelmalier Area	350 30' 00"	
MTW	Mount Wright	352	True North

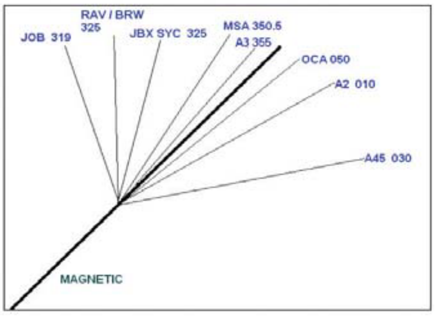


Figure 3. Ravenswood Local Grids.

			Point1						Point2					
LOCAL GRID	Usage	Description	Local Easting	Local Northing	AMG Easting	AMG Northing	MGA94 Easting	MGA94 Northing	Local Easting	Local Northing	AMG Easting	AMG Northing	MGA94 Easting	MGA94 Northing
A45/Nolans/Sarsfield	Current	LocalMine	14000	14000	489344.28	7776709.61	489459.7045	7776888.894	15000	15000	490747.88	7776882.5	490863.2946	7777061.781
RAV/BRW	Current	Underground - Buck Reef West	6250	4450	489344.28	7776709.61	489459.7045	7776888.894	7576.93	3966.31	490747.88	7776882.5	490863.2946	7777061.781
SYC	Historical	Slaughter Yard Creek	1000	2000	488259.19	7776573.19	488374.6221	7776752.477	2000	2000	489150.01	7777027.52	489265.4363	7777206.802
OCA	Historical	Open Cut Area	1000	1000	489138.3	7777113.43	489253.7266	7777292.712	2000	2000	490336.96	7777863.89	490452.3798	7778043.169
A2	Historical	Area 2	1000	1000	489070.24	7776207.38	489185.673	7776386.669	2000	2000	489330.06	7776849.9	489445.4847	7777029.183
A2E	Historical	Area 2 extended	1000	1000	488149.8	7775160.24	488265.2311	7775339.537	2000	2000	489183.71	7776125.13	489299.1349	7776304.419
A3	Historical	Area 3	1000	1000	488492.49	7776297.67	488607.92	7776476.968	2000	2000	489543.09	7777244.36	489658.5137	7777423.64
JOB	Historical	John Bull	1000	1000	491858.81	7774163.66	491974.2133	7774342.959	2000	2000	492154.23	7775546.66	492269.6329	7775725.949
JBX	Historical	John Bull extended	1000	1000	491817.23	7776062.64	491932.636	7776241.926	2000	2000	492480.68	7777311.56	492596.0628	7777490.836
MSA	Historical	Mellanuer Shelmalier Area	1000	1000	488225.66	7777640.15	488341.0936	7777819.429	2000	2000	489200.85	7778664.35	489316.278	7778843.62
AGD84_Z55	Current	Parent Grid												

Table 4. Ravenswood grid twin points.

The mine grid is reasonable well aligned with the axes of the mineralised zones in Sarsfield-Nolans. The Nolans domain runs east-west on the mine grid and the Sarsfield domain shows reasonable alignment north-south.

2.4 Site Visit

Scott Dunham completed three site visits to Ravenswood. The first during the due diligence study as part of the acquisition assessment team (August 2019) a second in January 2020 and a third visit in June 2020 specifically to discuss the Sarsfield-Nolans mineralisation.

3. Geology and Mineralisation

3.1 Regional Geology

The geology of the Ravenswood district has been described by several authors including Lim et al. (2018), Derham (2014), Berry et al. (1992), and Switzer (2000). The Ravenswood gold deposits lie within the Lolworth-Ravenswood block of the Charters Towers Province, a poorly exposed part of the regional Thomson Fold Belt (Figure 4). The Lolworth-Ravenswood Block comprises remnant amphibolite-grade metamorphic rocks intruded by an elongate east-west Ordovician-Silurian batholith (the Ravenswood Batholith) with an outcrop of 150km by 220km. The batholith is bound to the south by the Cambrian-Ordovician Seventy Mile Range Group of the Thalanga Province and the Devonian-Carboniferous Drummond Basin. The Devonian Burdekin Basin forms a northern boundary and to the east by the Carboniferous-Permian Coastal Range Igneous Complex, Permian-Triassic Bowen Basin and Quaternary sediments, and to the west by Permian-Jurassic basins such as the Galilee, and Tertiary and younger cover sequences.

The Ravenswood Batholith intruded the basement Cape River Province and Seventy Mile Range Group in three phases:

1. Hornblende and/or biotite bearing I-type granitoids ranging from granite to lesser extent gabbro intruded during the early-to-mid Ordovician contemporaneously with the formation of elements of both the Cape River Province and Seventy Mile Range Group. Minor S-type, peraluminous granites of a similar age have also been identified in the Ravenswood Batholith;
2. The bulk of the batholith (>60%) formed during the development of the Mid-Silurian to mid-Devonian Pama Igneous Complex consisting of undeformed I-type hornblende-biotite bearing granites and granodiorite with lesser s type granitoids. These intrusions were coeval with a regional northeast-southwest compression (D4) and gold mineralisation at both Charters Towers and Hadleigh's Castle, west of Ravenswood; and
3. The late Carboniferous to early Permian Kennedy Igneous Association, a group of high K calc-alkaline intrusions with a diverse range of I, S and lesser A type magmas. Rocks of the Kennedy Igneous Association increase in abundance to the south of the Ravenswood Batholith and typically form localised, ring-fracture controlled stocks and/or trachytic plugs with little preserved deformation. *This intrusive phase is likely associated with gold mineralisation at Ravenswood.*

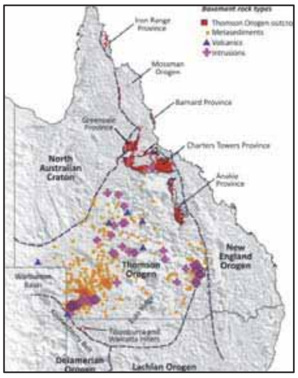


Figure 4. Location of Charters Towers Province

The region is characterised by east-west structures such as the Alex Hill Shear Zone, a 2-5km wide east-west shear zone extending over 100km across the northern edge of the Ravenswood Batholith (Figure 5) and the Mosgardies Shear Zone, a less continuous east-west mylonite zone extending from Ravenswood some 30km west to the Rochford area. The regional structural geology is considered to have formed in seven recognisable events defined as D1 to D7 (Kruezer 2005). Across the district, gold mineralisation is associated with D5 (Charters Towers) and D7 (Ravenswood). The seven deformation events include:

D1: Development of poorly preserved SE striking foliations in the Cape River and Charters Towers Metamorphics as a result of NE-SW compression.

D2: NW striking platy foliations formed during crustal extension and deposition of the Seventy Mile Range Group, synchronous with intrusion of some Ordovician Granitoids.

D3: E-W trending transcurrent shear zones developed as transfer faults or lateral ramps related to eastward progressing accretion (e.g. Alex Hill Shear Zone). Localised N-S compression related to the intrusion of Ordovician – Silurian granitoids into E-W shear zones.

D4: Development of NW-striking structures with both steep-pitching lineations and transcurrent fabrics (e.g. Burdekin River Lineament) as a result of NE-SW compression. Synchronous intrusion of Silurian-Devonian plutons into active transcurrent faults.

D5: Middle Devonian NE-SW compression concurrent with hydrothermal alteration and gold mineralisation at Charters Towers and Hadleigh's Castle.

D6: NW-SE compression producing sinistral movement on the Jessop Ck Fault and dextral movement on the Plumwood-Connolly Fault.

D7: Carboniferous E-W to NW-SE compression concurrent with rhyolitic magmatism, and alteration-gold mineralisation at Ravenswood and Mt Wright.

Figure 5. Lithostratigraphy of the Ravenswood District. (AUSGIN Geoscience Portal).

In summary, the regional geology suggests that the Ravenswood gold mineralisation formed during D7 deformation associated with the late Carboniferous to early Permian Kennedy Igneous Association. The regional structural setting at the time of mineralisation included east-west to northwest-southeast compression with a likely corresponding north-south to northeast-southwest dilation.

3.2 Deposit Geology and Structure

The Sarsfield-Nolans mineralisation is hosted by the Jessop Creek Tonalite[3], a variable light grey phaneritic to weakly hornblende-phyric medium to coarse grained tonalite. In the Sarsfield area the Jessop Creek Tonalite comprises diorite, quartz diorite, microdiorite and minor gabbro. Boundaries between these units vary from sharp to indistinct and often show complex relationships, including stoping, xenoltihs and irregular dykes. The Jessop Creek Tonalite displays variable degrees of alteration with primary biotite weakly to moderately altered to chlorite and epidote while hornblende is only weakly altered to chlorite in most cases. Alteration is concentrated along grain margins and particularly cleavage plans of biotite. No association between the host lithology and gold mineralisation has been established other than it is a competent host that was amenable to the development of several styles of quartz-sulphide-veins.

[3] Tonalite – A granitoid (a coarse grained igneous rock with <90% mafics; felsic minerals are composed mostly of quartz (20-60%), Kspar (alkali-feldspar) and plagioclase), where plagioclase is >90% of the total feldspar on the QAPF diagram (quartz - alkali feldspar – plagioclase feldspar – feldspathoids or foids)

The local structural geology is complex. The dominant structure is the Buck Reef Fault (BRF), a northeast trending, vertical zone within the Jessops Creek Tonalite with a strike extent of greater than 3km. The BRF has strong sub-horizontal lineations suggesting a dominantly strike-slip movement. Several authors (e.g., Switzer 2000, Laing 2005, Cowan and Davis 2017) note that the BRF pre-dates gold mineralisation at Ravenswood and has acted as a partial locus for mineralisation; in particular where it is intersected by cross-cutting low angle structures. Two other structures, the A4 Fault and the Keel, and a dominant mineralised trend are recognised in the Sarsfield region (Figure 6).

Figure 6. BRF (red) A4 (orange) and Keel (yellow) Structures.

Historical records, interpretations from ~1998 and descriptions in several reports (e.g., Collett et al., 1998, Lisowiec and Morrison, 2017 and Switzer, 2000) describe the Sarsfield-Nolans mineralisation as a complex vein network loosely controlled by reactivation of earlier structures (e.g., BRF, A4 Fault). Switzer provides a good summary of the styles of mineralisation and vein orientations, noting that the Sarsfield mineralisation is 'identical' to the Nolans region but more dispersed and lower grade. The major mineralised components in the Sarsfield area in Switzer's report include:

1. The Keel structure, a southwest dipping shear zone up to 36m thick;

2. Northeast dipping veins orthogonal to the Keel; and

3. An along-strike continuation of the Nolans mineralisation.

The Nolans mineralisation is confined to a narrow northwest trending zone hosting a conjugate vein set. Intersections of the two vein directions plunge to the northwest in a northly dipping package.

The historical descriptions and diagrams from Collett et al., (1998), Lisowiec and Morrison, (2017) and some hand-drawn sections dated 1998 were used to guide the geological interpretation at Sarsfield. Orientations of the major/minor variogram and search axes were aligned with the described mineralisation trends where practical. Figure 7 illustrates an overlay of the 2020 estimate interpretation with a diagrammatic section from Collett et al (1998). The orientations of the search ellipses used for the stockwork mineralisation are shown to demonstrate their alignment with the conjugate vein set. A second section (13450m E) comparing the hand-draw section to the current interpretation and modelled grade trends is presented in Figure 8.

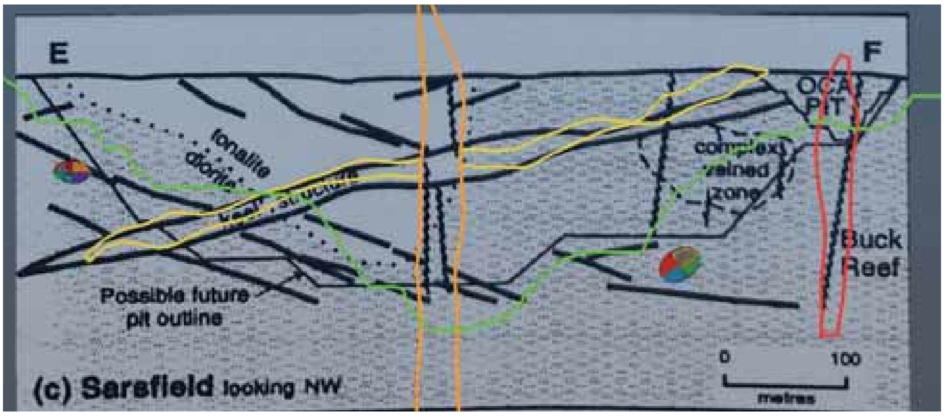


Figure 7. 2020 Interpretation superimposed on 1998 diagrammatic section (Collett et al).

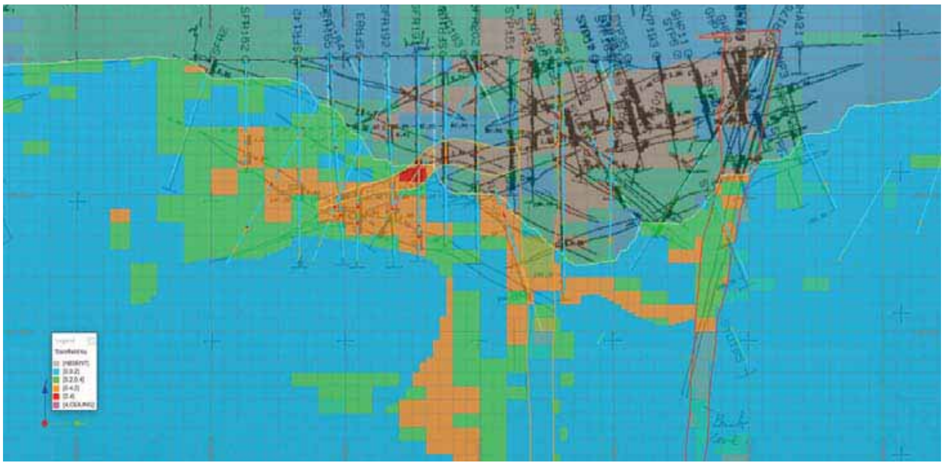


Figure 8. 2020 interpretation and estimated grades superimposed on hand-draw section circa 1998.

3.3 Resource Estimation Implications

The geology of the Sarsfield-Nolans mineralisation has direct implications for resource estimation. The host tonalite is relatively featureless and, while there are some recognised zones with higher density veining, much of the mineralisation is sporadic and discontinuous. Adding to the complexity, gold occurs in both vein directions of a conjugate set in an overlapping pattern. In some cases, it appears the intersections are preferentially mineralised whereas in other cases elevated gold grades occur in isolated portions of vein. This is described in Davis and Cowan (2017;Figure 9).

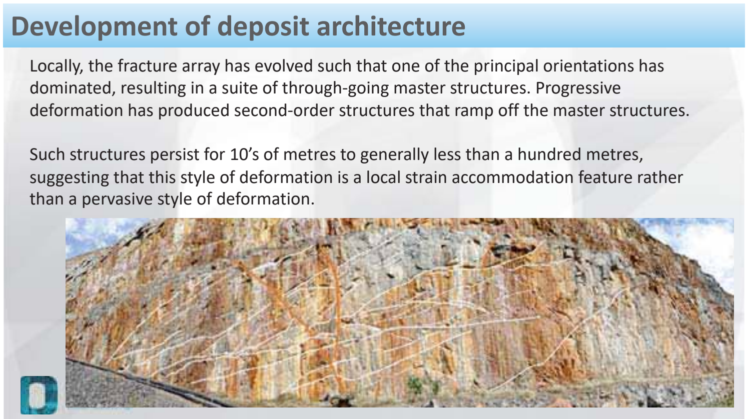


Figure 9. Fracture array architecture I (After Davis and Cowan 2017).

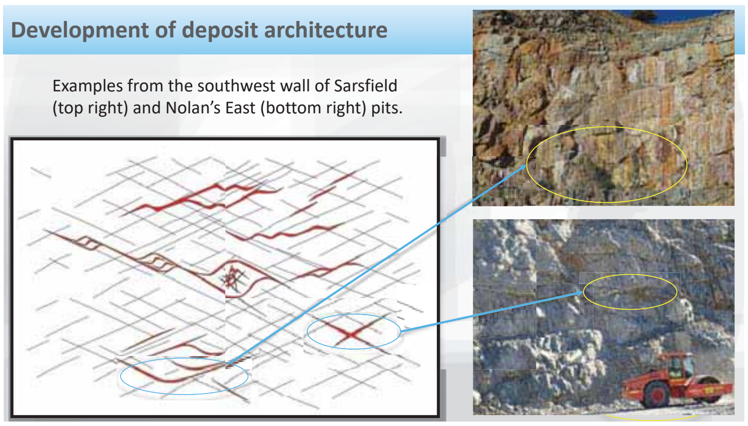


Figure 10. Fracture array architecture II (After Davis and Cowan 2017).

The complex vein geometry is attributed to a 3D orthorhombic system (Davis and Cowan, 2017, Switzer, 2000). In an orthorhombic system, there are four discontinuity directions to accommodate the 3D strain. Polymodal shearing results in fractures oblique to the principal stress axes with multiple fluid pathways (Figure 11). This pattern precludes a simple intersection lineation as the dominant control on mineralisation orientation.

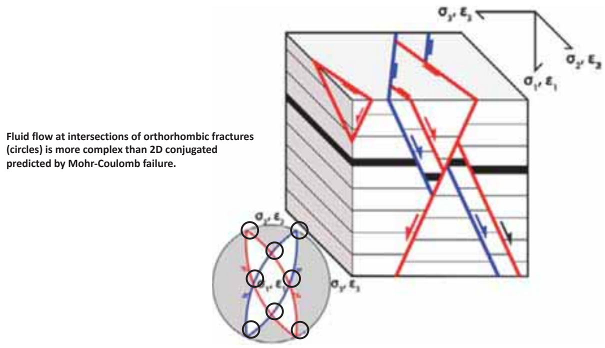


Figure 11. Orthorhombic faulting (After McCormack and McClay, 2018).

Observations by Davis and Cowan illustrate the fluid flow complexity in the Sarsfield-Nolans system. Mineralisation is not developed consistently on similarly oriented structures (Figure 12) and adjacent fractures can equally mineralised or unmineralised. The fracture system is permeable but the highly variable interconnections and orientations are a poor focus for deposition. Consequently, mineralisation is sporadic and the observed continuity of mineralised veins is low.

Figure 12. Rhomboidal patterns at Sarsfield pit. (After Davis and Cowan (2017)).

During past phases of mining at Sarsfield, workers have made loose correlations between vein density and average gold grade (e.g. Collett, 1998 as reported in Switzer, 2000). Based on the described sporadic local grade distribution, this relationship is logical if not necessarily useful. Where there is a high vein density there is a highly probability that one or more of the fluid paths could be mineralised. Raw vein density may, however, also display false negatives and false positives. This was apparent in the 'grade density' modelling attempted by SD2 (Section

1.5). While the average number of composites greater than 0.2g/t Au increased and showed a population break when plotted against increasing grade (Figure 13) the range of composite numbers varied widely and did not show a similar pattern.

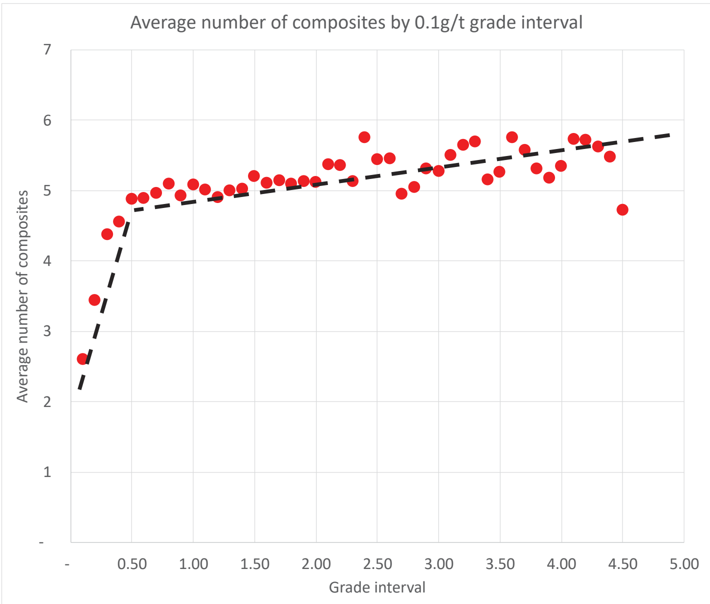


Figure 13. Grade-Density analysis (12.5 x 12.5 x 6.25 panels).

The anecdotal correlation between grade and vein intensity (or count) is promising and may be useful in future models. In the absence of quality vein intensity logging data however it was not possible to prove a meaningful relationship.

SD2's analysis and consideration of the geology and mineralisation was used to develop the Sarsfield-Nolans estimation strategy. For the major identifiable zones of mineralisation, estimation domains were developed using strongly controlled implicit modelling. These domains (Table 5) were estimated using ordinary kriging. The remaining mineralisation (domains 1006, 1007) were estimated using multiple indicator kriging (MIK) with a e-type grade evaluation. The variogram and search anisotropies were determined through comprehensive 3D analysis in 10° increments for a complete 3D fan. The resulting orientations are well aligned with the reported mineralisation trends.

The relationships and locations of the estimation domains are shown in Figure 14. All domains are separate volumes with lower domain numbers taking precedent over higher numbers.

Object	Domain Number	Estimation Method
Buck Reef Fault	1001	Ordinary Kriging

A4 Fault	1002	Ordinary Kriging
Keel Structure	1003	Ordinary Kriging
Nolans Main Zone	1004	Ordinary Kriging
Nolans Background	1005	Ordinary Kriging
A4 – to – Buck Reef Fault	1006	Multiple Indicator Kriging
Southeast of A4 Fault	1007	Multiple Indicator Kriging
West of Buck Reef Fault	1008	Ordinary Kriging
Background / Waste	9999	Ordinary Kriging

Table 5. Domains and estimation method.

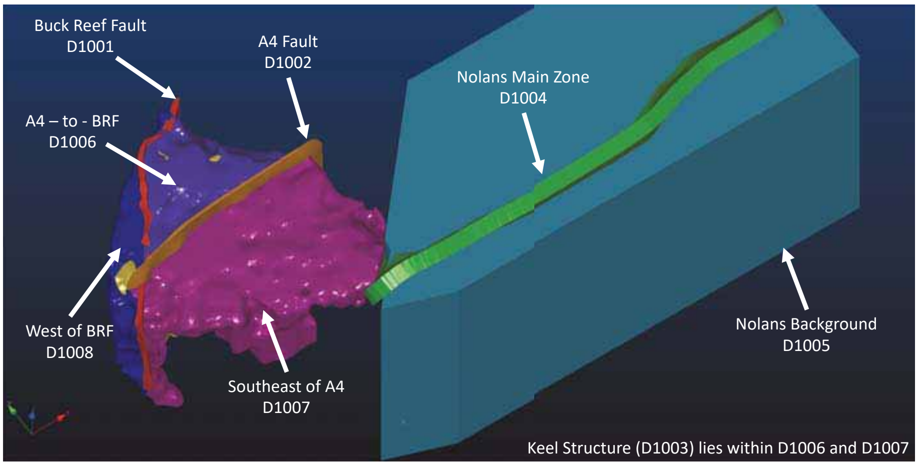


Figure 14. Sarsfield-Nolans estimation domains.

4. Resource Estimation Data

4.1 Data Provided

SD2 was provided with a comprehensive data set including:

- The geology drill hole database in MS Access format dated 02 June 2020. This database includes tables for:
  - Hole collars;
  - Down hole surveys;
  - Gold assays;
  - Multielement assays;
  - Quality control sample results;
  - Structural logs;
  - Lithological logs; and
  - Geotechnical logs.

- The 'as-mined' topographic for the Ravenswood area including a lidar survey combined with historical end-of-pit mining surfaces;
- The back-filled open pit surface for Sarsfield (as at 16 June 2020);
- Wireframe solids for historical underground mining for all lodes at Nolans (stopes and development);
- A variety of reports including general geology descriptions, structural geology analyses and past mineral resource estimation reports;
- Miscellaneous data stored on archived CDs including partial grade control records; and
- Miscellaneous plans and sections from 1998 developed as part of the then active mining operations.

4.2 Database Assessment

The mineralisation is relatively well drilled in the first 100m below the as-mined topography and in the centre of the Sarsfield region corresponding to the A4 Fault. At depth, drill hole spacing decreases. The database includes 1,423 holes, of which 951 have some proportion remaining below the as-mined topography (Figure 15 and Figure 16). Approximately 53% of the 2m composites are below the surface.

The database includes a combination of blast holes (BH), reverse circulation (RC), diamond drill holes (DD) and diamond drill holes with a RC pre-collar (RCD) (Table 6). All data types were used in the 2020 estimate including the 43 blast holes (Figure 15) which have limited influence and affect the upper regions of the Keel structure and the background estimates only.

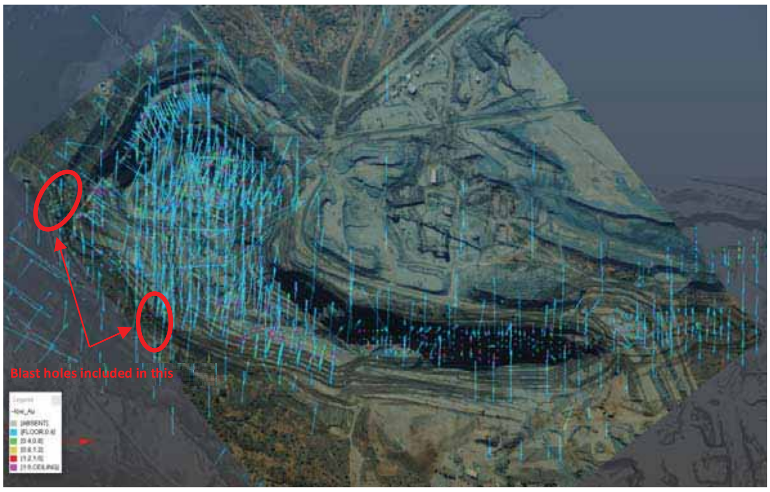


Figure 15. Sarsfield drill hole coverage (all assayed intervals).

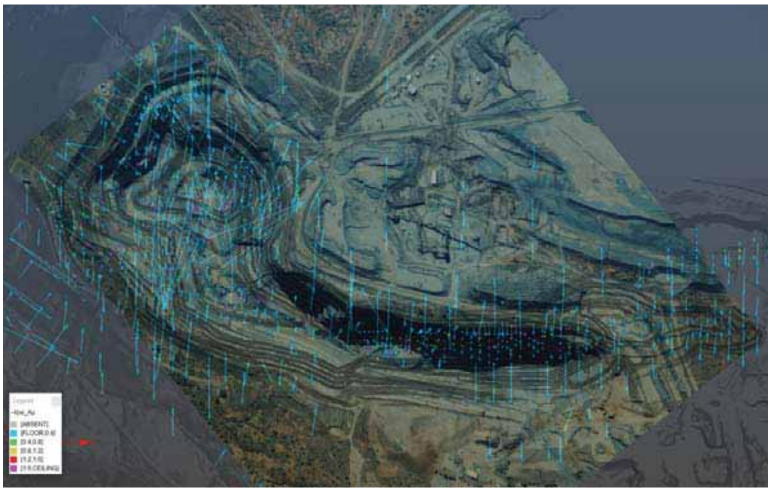


Figure 16. Sarsfield drill hole coverage (hole remaining below topographic surface).

Hole Type	Number of Holes
BH	43
DD	159
RC	1120
RCD	101

Table 6. Drill hole types.

The database is dominated by holes drilled prior to 2001 (Figure 17), reflecting the date of the last major mining campaign. After 2001, drilling focused on deeper zones, below the existing open pit and these more recent holes inform the majority of the remaining estimated volume.

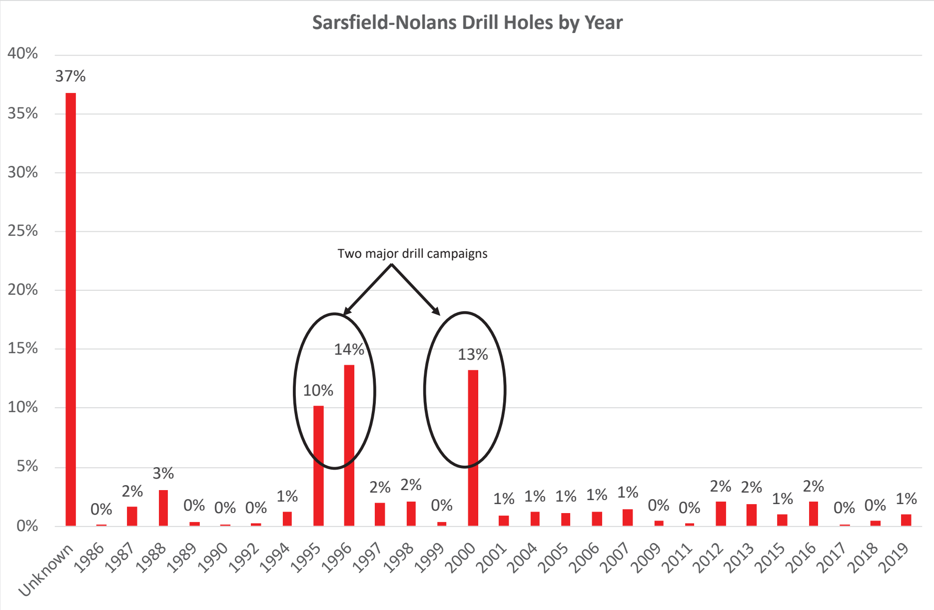


Figure 17. Percentage of drill holes by year.

SD2 reviewed the provided MS Access database and discussed data management practices with the on-site team. Both the digital and hard-copy records were examined, and it was clear that significant time and effort had been spent on data quality.

A suite of routine checks was completed to identify data errors. Checks included:

- Missing data (collar, survey, assay, lithology);
- Duplicate holes, collars, surveys and samples;
- Sample from/to values beyond the recorded length of the hole;
- Invalid data including out-of-range coordinates, negative grades; and
- Spurious survey deviations based on angular rate of change tolerances.

No errors were found by these checks and visual examination of the desurveyed drill hole data supported SD2's opinion of the high quality of the geology database.

4.2.1 Treatment of absent data

Approximately 20% of the drill hole data in the provided Access database have negative gold grade values. These values represent intersections that were not sent for analysis (<1%) and samples that were below detection limit. For the purpose of this estimate SD2 assigned a very low grade (0.005 g/t) to these intervals.

4.3 Quality Management

4.3.1 Pre-2004 Drilling

Information regarding sample quality for holes drilled before 2004 is limited. SD2 discovered some archived data from 1996, 1997 and 1998 (Appendix E); however, the information is incomplete and there is no formal performance reporting from the results. The data appears to be a combination of 'standards' submitted to the ALS laboratory in Townsville and to the on-site lab. While the data is incomplete and there is some uncertainty, it appears to indicate:

- A negative grade bias of between 5% and 10% from the on-site lab. This may be due to the analytical process (Leachwell);
- A wide dispersion (low precision) of results from the on-site lab;
- Good performance from ALS with no apparent bias;
- Duplicate performance is reasonable (Figure 18) for all size fractions presented (pulp, coarse, chips). The original-to-repeat correlation for all duplicates is 0.93. For samples less than 2g/t this reduces to 0.91. Eighteen percent of all duplicates have a precision outside of a +/-10% relative difference from the original assay;
- The original-repeat misallocation at a 0.4g/t threshold is 6% for pulp duplicates (Figure 19). All other duplicate types exhibit a lower misallocation percentage.

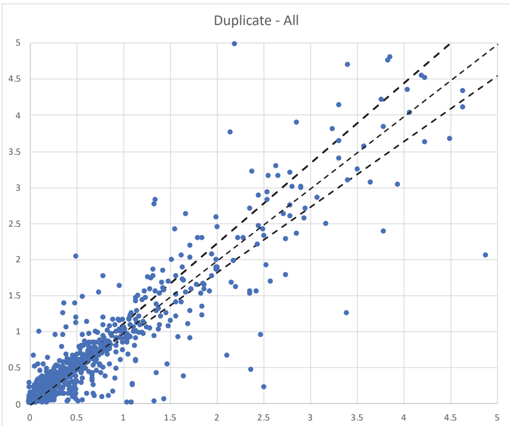


Figure 18. All duplicates (~1997-98 Data).

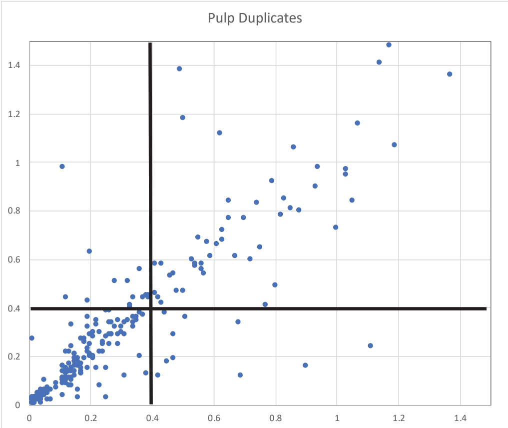


Figure 19. Misallocations for original-repeat samples (pulp duplicates).

SD2 reviewed and compared the pre-2004 and post-2004 drill hole data as part of the assessment of the quality of the early drilling programs (Figure 20). The domain-by-domain statistics (Table 7), and QQ-plots (Figure 21) are inconclusive; however for the main MIK domains (1006 and 1007) the two data sets are reasonable comparable. Differences across all domains may reflect the spatial positioning of the drilling (pre-2004 is shallower).

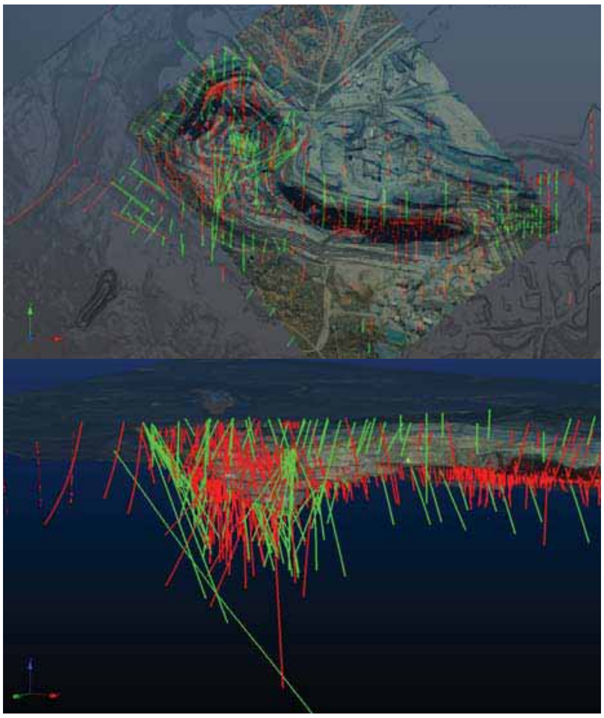


Figure 20. Location of pre-2004 (red) and post-2004 (green) drill holes.

Domain	Average		CV		25th Percentile		50th Percentile		75th Percentile		95th Percentile	
	Post-2004	Pre-2004	Post-2004	Pre-2004	Post-2004	Pre-2004	Post-2004	Pre-2004	Post-2004	Pre-2004	Post-2004	Pre-2004
1001	0.78	1.54	2.27	3.16	0.06	0.09	0.24	0.29	0.65	1.03	2.87	6.58
1002	0.99	0.91	2.54	2.81	0.05	0.06	0.18	0.23	0.76	0.71	4.69	3.72
1003	1.30	1.43	3.21	2.73	0.02	0.16	0.20	0.48	0.96	1.18	4.56	5.61
1004	0.40	0.86	3.20	2.58	0.01	0.05	0.05	0.18	0.28	0.74	1.85	3.82
1005	0.07	0.10	5.39	5.91	0.01	0.01	0.01	0.01	0.03	0.03	0.26	0.34
1006	0.59	0.57	4.07	3.65	0.04	0.04	0.11	0.13	0.37	0.43	2.34	2.27
1007	0.44	0.54	4.38	10.01	0.01	0.02	0.05	0.08	0.21	0.33	1.81	2.15
1008	0.25	0.53	3.08	3.08	0.01	0.03	0.04	0.09	0.17	0.34	1.06	2.22

Table 7. Domain-by-domain sample statistics pre and post 2004 (remaining samples only).

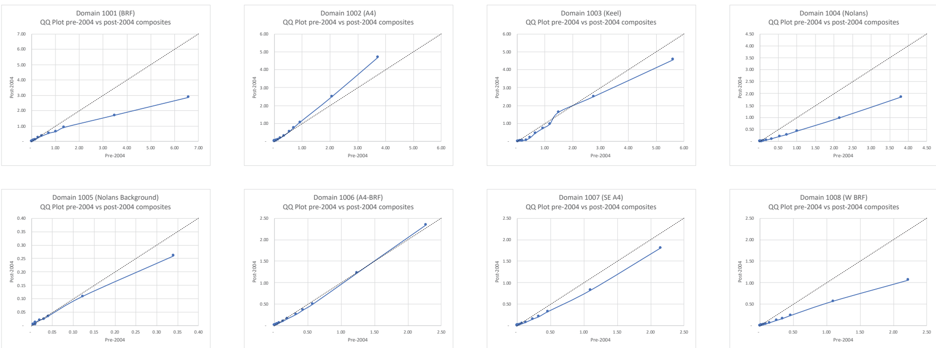


Figure 21. Domain QQ Plots. Pre and Post 2004 drill programs.

SD2 attempted to compare pre- and post-2004 drilling where samples lie within close proximity (5m). The drill patterns severely restrict the numbers of closely spaced samples (280 pre- and 302 post-2004; Figure 22). The data is limited to two locations; one in the centre of the Sarsfield pit and one on the southern edge of the Sarsfield pit. The relatively low number of samples and data clustering reduces the value of this spatial analysis; however, a QQ-Plot of the two data sets shows good correlation up to the 90th percentile (Figure 23).

Figure 22. Location of pre- and post-2004 samples within a 5m radius (red and green).

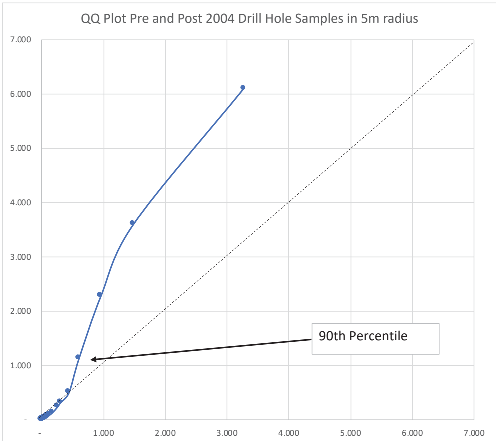


Figure 23. QQ-Plot pre- and post-2004 data within 5m radius.

In SD2's opinion the pre-2004 data is reasonable for resource estimation. The available quality data and comparisons of the pre- and post-2004 drilling do not indicate a bias, and the vast majority of the pre-2004 drilling lies above the as-mined topography, limiting its influence on the remaining resource. As a check on this assumption, a sensitivity estimate was completed using only post-2004 drill hole date. In volumes estimated in the first search pass in both the complete data set and the post-2004 data only, there was a 5% increase in metal above a zero cut-off and also above a 0.4 g/t Au cut-off (the post-2004 estimate higher).

The biggest difference between estimating with and without the drill holes from before 2004 is in the volume estimated. This is in line with the differing spatial coverage of the two data sets. Removing the early data reduces the volume estimated as fewer blocks meet the minimum number of sample criteria. Globally, the sensitivity estimate contains 13% fewer ounces than the final estimate using the complete data set.

Based on the impact of including the pre-2004 data and on the historical evidence indicating the potential for this data to be biased low (if any bias exists), the data has been included in the final estimate. The quality of the drill hole data was considered in the resource classification (Section 7) and the risk associated with the relatively low amount of quality control data for the pre-2004 data is captured in the classification.

4.3.2 Post-2004 Drilling

The quality control results for the post-2004 data are well documented in a report prepared by Resolute Mining Limited in 2013 (Resolute, 2013; Appendix E). This report presents the results from submissions of 11 certified reference materials (CRM), blanks, quartz flushes, pulverisation checks, duplicates collected from field, coarse crush and lab and umpire assaying comparing ALS Townsville to SGS Townsville.

The quality control samples consist of results from 647 batches testing the on-site lab (43) and ALS Townsville (604). The data was analysed using conventional time-series control chart techniques, box-and-whisker plots., scatterplots and HARD[4] precision plots.

The results indicate a well-managed sampling and assaying system. Resolute noted that most CRMs were within expected limits despite a high number of failures that were attributed to data entry errors. The total 'fail' rate for all CRMs in the Sarsfield-Nolans volume was 3.7% with the majority relating to pre-2004 data with unknown provenance. The more recent sampling showed much better performance with a 'fail' rate of 2.2%.

All nine of the CRMs submitted to ALS Townsville demonstrate a slight low bias (Table 8). The grade ranges from 0.05g/t Au to 4.36g/t Au was tested and the bias seems consistent across the spectrum. This minor bias is not considered material.

CRM	Number Submitted	Expected Value	Average Assay Grade	Variance
G300-9	120	1.53	1.51	99%
G302-6	39	0.99	0.98	99%
G310-7	70	1.01	0.99	98%
G910-8	79	0.63	0.61	97%
G998-4	120	4.36	4.36	100%
G999-2	40	0.63	0.60	95%
ST06/3317	43	1.10	1.06	96%

Table 8. CRM Summary.

Duplicate samples from field, coarse duplicate, pulp and lab tests indicate good sampling precision with the expected pattern of reducing precision at very low grades (<0.1 g/t Au). Precision improves as the sample top-size decreases. QQ Plots generally lie close to the X=Y

[4] HARD – half absolute pair difference

line. Analysis of the pair-by-pair relative difference shows that 69% of the data has a precision better than 25%. The greatest pair-by-pair differences occur above 1.2 g/t Au.

Umpire lab checks between ALDS Townsville and SGS Townsville show good repeatability with 87% of paired data having a relative difference less than 25%.

In SD'2 opinion the analysis completed by Resolute demonstrates that the drill hole samples are good quality and acceptable for use in resource estimation.

4.4 Collar and Down Hole Surveying

All data used for the Sarsfield-Nolans estimate was reported in the local A45 grid, a rotation of 30° clockwise from magnetic north. This grid also includes a datum height adjustment of -32.813m to the Australian Hight Datum.

There is limited information on the collar survey methods used for holes drilled prior to 2004. More recent hole collars were surveyed by the Ravenswood gold mine in-house survey team using Leica TPS1100 total station and optical techniques. SD2 reviewed hole collars against the survey topography and while most holes were situated on the topographic surface, 24 holes (Appendix L) were found to be approximately 32m above the surface. This corresponds to the vertical offset applied to the local mine grid and it appears the correct translation was not applied to this data. These holes are not within the boundaries of potentially economic mineralisation and have no impact on the 2020 estimate. Ravenswood were advised of this data error so it can be rectified for future work.

Where available, the down hole survey method is captured in the site's geology database. A large proportion of survey methods (for pre-2004 holes) were not recorded. The number of holes using each survey method are shown in Table 9. The survey technology shows incremental improvement over time from mechanical single-shot cameras to more modern gyro-based approaches.

Method	Number of Holes[5]
DeviFlex	3
Compass	3
NSGyro	4
PFMS	6
MEMSGyro	14
RTKGPS	35
ElectronicSS	87
MechanicalSS	170
ElectronicMS	243

[5] Note, some holes have more than one recorded survey method. RTKGPS refers to collar only.

NR	1280

Table 9. Down hole survey methods.

The down hole survey data as reviewed by Ravenswood and flagged as valid or invalid. SD2 completed further reviews based on rates of hole deviation and no errors were identified in the validated data.

Sample locations within drill holes were based on the Datamine Studio RM standard desurvey method. This approach calculates the XYZ centre point, bearing and dip for each interval based on spherical arcs. Survey measurements are treated as 3D unit vectors (i.e., they are *not* independent) and therefore sample intervals lie tangential to the unique arc defined by the survey data. After desurveying, SD2 examined the hole traces for data artefacts. Only one hole (SFD506) showed any measurable deviation in 3D. This is the deepest hole (1,371m) at Sarsfield. The hole commences at -53 -> 174 and deviates to -40 -> 183 over its length. Surveys were by north-seeking gyro at 5m intervals.

All drill hole traces were deemed valid.

4.5 Data Distribution and Spacing

Drilling at Sarsfield-Nolans is dominated by north-south holes dipping at 50-60° (Figure 24). There is a much smaller west-northwest population, primarily testing the BRF at depth. While these hole orientations are well placed to intersect the major stockwork and structural orientation, the dominance of north-south holes represents a strong orientation bias. If there are additional vein sets aligned semi-parallel to the drill direction, they will be under-represented in the estimate. SD2 note that there is no indication of north-south veins or structures in the pit walls and no record in the historical descriptions of Sarsfield.

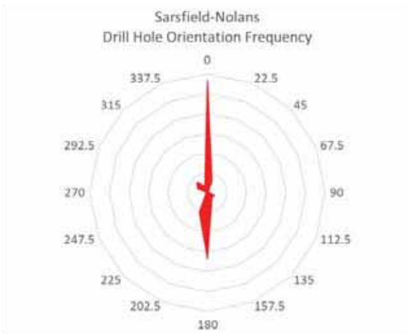


Figure 24. Drill hole orientation frequency.

The drill hole coverage is moderate to good. Approximately 47% of the data lies above the previously mined open pit. In the first 100m below the as-mined surface, the hole spacing is approximately 25m x 25m. As the depth below surface increases the drill hole spacing decreases. This decrease is particularly noticeable in the Nolans region (Figure 25 and Figure 26).

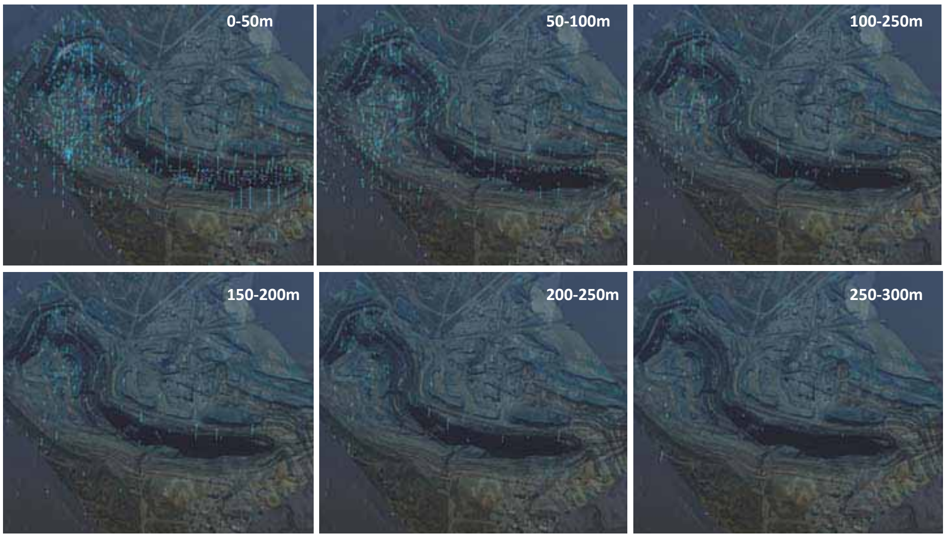


Figure 25. 50m slices below pit as mined surface.

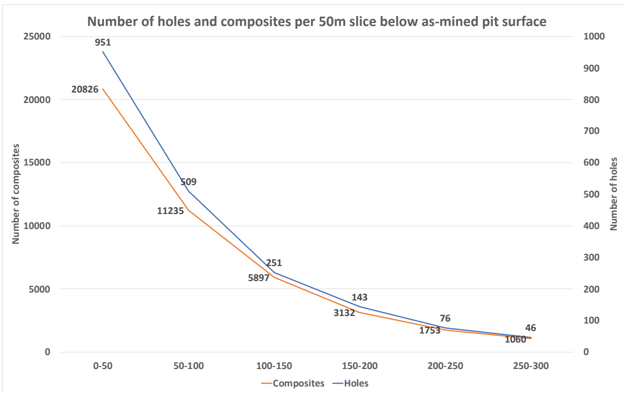


Figure 26. Number of holes and composites in 50m steps below as mined surface.

4.6 Bulk Density

The bulk density used for Sarsfield is based on 1,957 Archimedes measurements collected from drilling supervised by Resolute Mining Limited between 2014 and 2018. While this drill program focused on the nearby Buck Reef West deposit, the host lithology and alteration at Sarsfield-Nolans is the same. SD2 examined both fresh and oxide densities (Table 10). The measured bulk density values are supported by tonnage reconciliations from production at BRW and Sarsfield.

	Number	Average	Median	Minimum	Maximum	CV
Oxide	20	2.75	2.73	2.63	2.84	0.020
Fresh	1937	2.80	2.78	1.79	4.13	0.038

Table 10. Basic statistics for bulk density measurements.

Based on the sample data and reconciliation, SD2 assigned a bulk density of 2.78 g/cm^3 to fresh material. There are only a limited number of oxide samples in the data set; therefore, SD2 assigned the historical bulk density to the remaining oxide material (2.4 g/cm^3.).

5. Resource Estimation

5.1 Interpretation and Domaining

As described in Section 3.2, the Sarsfield-Nolans mineralisation a structurally controlled zone of variable developed stockwork veins. There are three major fault zones/corridors in the Sarsfield region and a distinct vein corridor at Nolans. The remaining mineralisation (Sarsfield) is separated into three regions, each bound by the Sarsfield structures.

The stockwork mineralisation is controlled by an orthorhombic fracture system and fluid pathways during mineralisation were permeable but ineffective traps. This resulted in discontinuous and patchy mineralisation. Anecdotally, gold grades are correlated with vein density; however, the historical logging does not adequately capture vein density suitable for resource estimation.

Multiple interpretations approaches were trialled for Sarsfield-Nolans. The Nolans mineralisation is relatively simple and well constrained in an east-west corridor, therefore the alternative interpretations showed little variability. At Sarsfield, however, the mineralisation is less focused. While the interpretation of the three major structures is well constrained, the mineralisation between these structures shows less geometric coherence. There were three different interpretation scenarios developed:

1. A manual interpretation completed by M. Lindsay from Ravenswood. This was a traditional cross-sectional interpretation that defined the fault structures (BRF and A4) but not the Keel zone. Between the major faults, Lindsay interpreted multiple flat-lying zones as the focus of mineralisation. Statistical investigations of these zones failed to identify any material difference in the populations within and outside the wireframes and the interpretation was discarded;

2. SD2 attempted to develop a sensible domain interpretation using a proxy for vein density. As described in Section 3.3, the number of composites above 0.2 g/t Au within a specified volume (12.5x12.5x6.25 and 25x25x12.5 were tested) was determined. This 'grade-density' variable was then modelled using implicit modelling tools (Figure 27). The results initially looked reasonable and statistical and variogram analysis was attempted using these volumes. This highlighted that the developed volumes and geometries were strongly controlled by the drill hole locations – effectively the model 'hugged' the hole traces where those traces had a high number of grades above 0.2 g/t.

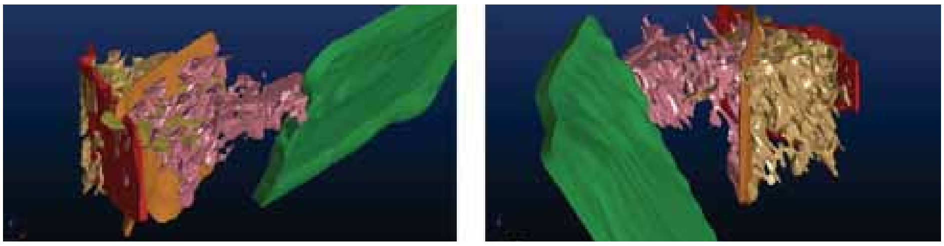


Figure 27. Example of 'grade-density' domain development.

   This grade-density (or preferably vein-density) approach still holds some merit and it is worthwhile continuing investigations into developing domains based on some geological feature. This will likely require re-logging (or checking photos), additional pit mapping and additional drilling; and

3. The final (and accepted) domain interpretation adopted a hybrid approach. Domains for Nolans, BRF, A4 and Keel were developed using structurally controlled implicit modelling. These domains closely match those of Lindsay (where applicable) and are similar to domains found in historical reports (e.g. Keel). Domains for the remainder of Sarsfield stockwork mineralisation were developed as follows:
   a. All drill holes were flagged with an indicator based on the grade-density variable. The zone of mineralisation was flagged between the first occurrence and the last occurrence of a grade-density above 4. This created a broadly continuous zone where veining occurs and excluded zones with little or no veining;
   b. The indicator was estimated; and
   c. The estimate was iso-surfaced at a 0.2 probability threshold. This corresponded to a distinct boundary in the indictor estimate, partitioning the volume with some stockwork mineralisation from volumes where veining is totally absent.
   d. The iso-surface was post-processed to remove small isolated volumes.

The final domain model includes eight wireframe solids (Table 11 and Figure 28, Figure 29) and a background/waste zone.

Object	Domain Number	Estimation Method
Buck Reef Fault	1001	Ordinary Kriging
A4 Fault	1002	Ordinary Kriging
Keel Structure	1003	Ordinary Kriging
Nolans Main Zone	1004	Ordinary Kriging
Nolans Background	1005	Ordinary Kriging
A4 – to – Buck Reef Fault	1006	Multiple Indicator Kriging
Southeast of A4 Fault	1007	Multiple Indicator Kriging
West of Buck Reef Fault	1008	Ordinary Kriging
Background / Waste	9999	Ordinary Kriging

Table 11. List of domains and estimation method.

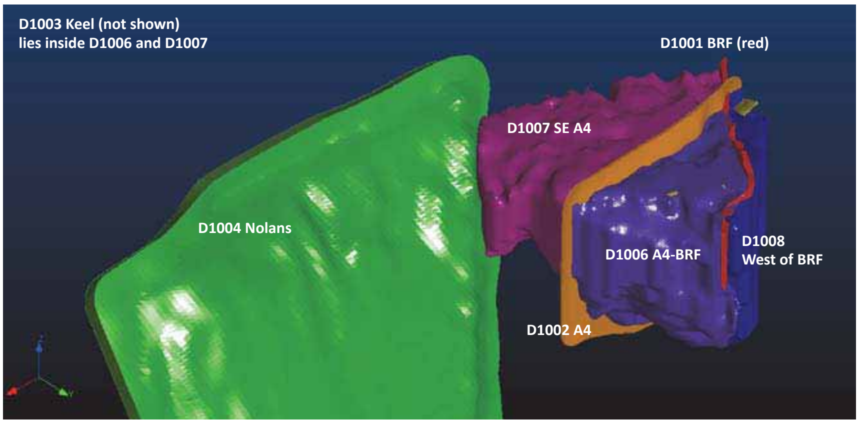


Figure 28. Sarsfield-Nolans domains.

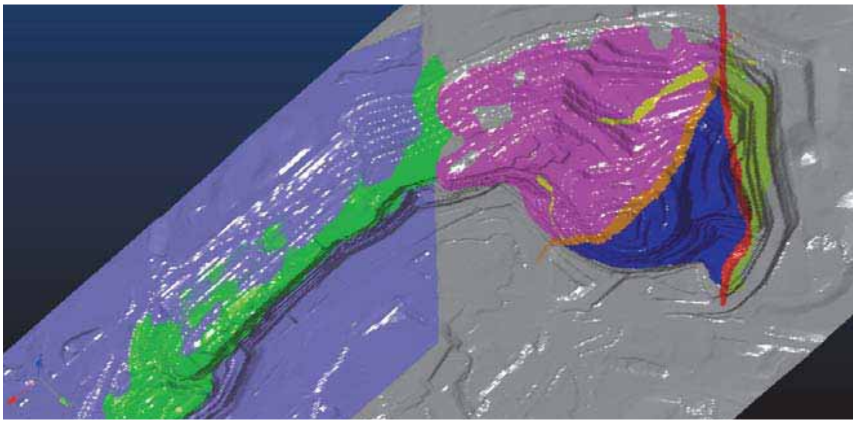


Figure 29. Sarsfield-Nolans domains (exposed on as-mined surface).

5.2 Compositing

There are two distinct sample length populations at Sarsfield-Nolans (Figure 30). Drilling completed prior to 2004 was largely sampled on 2m intervals, whereas drilling after 2004 was sampled on 1m intervals. There is no relationship between sample length and grade (Figure 31). Based on this analysis and consideration of the style of mineralisation, a composite length of 2.0m was selected.

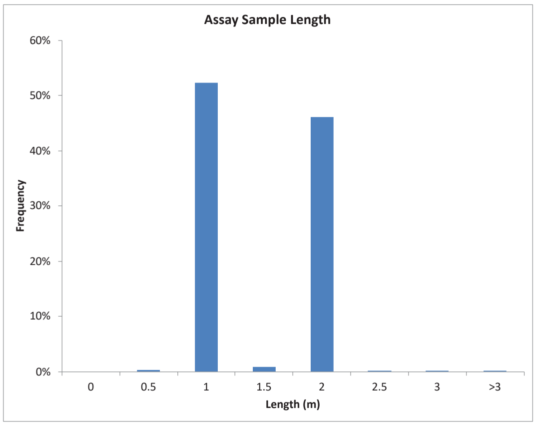


Figure 30. Assay sample length frequency distribution.

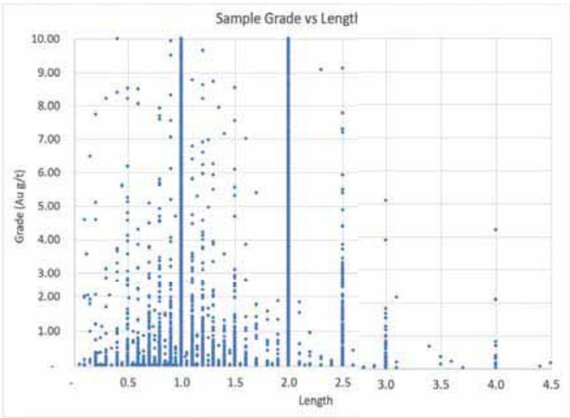


Figure 31. Sample length vs. gold grade.

Samples were flagged by domain prior to compositing. The minimum composite length allowed was 0.1m. Compositing used Datamine's @mode=1 option which retains all sample data by adjusting the composite length to values approaching the designated metreage. In practice this approach resulted in 70% of the composites equalling exactly 2.0m and 95% of the composites having a length of 2.0m _/- 0.05m.

5.3 Grade Caps

Examination of the univariate statistics of the composited data shows that the grade distribution in every domain has a strong positive skew. The distributions include some samples that appeared to be outliers or inconsistent with the distribution of the majority of composites. SD2 examined the rate of change of the CV as the highest-grade samples were removed from the domain data sets. Where the rate of change accelerates rapidly it is likely that it is affected by outlier samples.

Based on the rate-of-change analyses, grade caps[6] were selected for each domain. The grade cap applied, equivalent percentile and impact of the cap on the mean grade and CV for each domain is presented in Table 12. A total of 899 composite grades were capped, equating to 1.21% of the data. On a domain-by-domain basis the grade cap ranged from the 97.7th percentile (Domain 1002; 8.0 g/t Au) to the 99.41th percentile (Domain 1007; 9.5 g/t Au). The average cap percentile across all domains was the 98.7th percentile. The grade caps reduced the CVs of all domains estimated using ordinary kriging to less than 3.0 except for the Nolans background and global background. Grade caps presented for Domains 1006 and 1007 are presented for information only. These domains were estimated using MIK and grade capping is not relevant.

[6] Grade cap refers to capping the grade for composites within a domain to a maximum value. The composites are kept as members of the domain during estimation.

Domain	Number of Composites	Minimum	Maximum	Average	Std Dev	CV	Cap Value	Number Capped	Cap Percentile	Average After Cap	CV After Cap	Avg Grade Change	CV Change
1001	1629	-	93.00	1.43	4.647	3.249	15.00	27	98.34%	1.20	2.18	83.60%	67.20%
1002	3275	-	41.40	0.95	2.672	2.814	8.00	75	97.71%	0.79	2.47	83.30%	87.90%
1003	1219	-	57.00	1.42	3.939	2.778	17.00	11	99.12%	1.25	1.77	88.30%	63.80%
1004	10085	-	58.40	0.79	2.137	2.696	6.50	194	98.07%	0.69	2.57	86.40%	95.30%
1005	5841	-	21.31	0.08	0.462	5.975	1.10	72	98.78%	0.06	4.79	71.50%	80.10%
1006	17850	-	107.00	0.55	2.130	3.838	8.00	147	99.17%	0.48	4.36	87.00%	113.50%
1007	19248	-	681.00	0.52	5.267	10.194	9.50	113	99.41%	0.42	5.75	82.10%	56.40%
1008	2130	-	23.61	0.40	1.315	3.257	4.00	42	98.05%	0.33	2.48	80.80%	76.30%
9999	13130	-	23.00	0.10	0.590	6.018	1.00	218	99.65%	0.06	4.68	66.10%	77.70%

Table 12. Grade cap values and statistics.

The impact of the grade caps applied was examined by running an uncapped grade estimate in parallel (Table 13). The difference between capped and uncapped grade estimates is 16% which is in line with the change in average capped composite grade. As the cut-off grade increases the grade cap affects both tonnes above cut-off and grade above cut-off. The cumulative effect is approximately 20% decrease in ounces for cut-offs around the economic range.

Cut-Off	Tonnes	Ounces
0.00	0%	-16%
0.10	-7%	-17%
0.20	-14%	-20%
0.30	-17%	-21%
0.40	-14%	-20%
0.50	-13%	-20%

Table 13. Change in tonnes and ounces with grade caps (OK domains only).

No spatial restriction was applied. All capped composites were allowed to inform all blocks during estimation.

5.4 Indicator Thresholds and Grades

Multiple indicator kriging involves setting a series of binary indicators above increasing grade thresholds. These grade thresholds characterise the frequency distribution of the sample population. Selection of the grade thresholds can impact on the quality of the estimate, particularly in strongly skewed distributions. Traditionally MIK grade thresholds are set at each decile with increase discretisation in the higher-grade ranges. This approach often results in over representation of the structural influence of very low grades in the presence of skewed distributions. For example, at Sarsfield, the 70th percentile for the two MIK domains is less than 0.3 g/t Au. Under a decile-based threshold approach the variograms for the first seven indicators would be identical and estimating these grade ranges would be of little value when defining the grade-tonnage curve.

As an alternative SD2 adopted indicator grade thresholds based on evenly distributing the metal (as defined by domain composites) in the high-grade ranges and then evenly distributing the number of composites in the lower grade ranges. This approach places equal importance across the domain grade range. Twelve indicator grade thresholds were defined for each MIK domain (Table 14). The highest-grade thresholds each contain 15% of the metal. The lower-grade thresholds each contain 15% of the remaining composites. The grade for each indicator bin was set to the average of the composites within the bin. The grade for the top bin was set as the average above the last threshold for Domain 1006 and the median above that last threshold for Domain 1007[7].

The indicator thresholds, equivalent population percentile and the grade for the indicator bins are shown in Table 14.

Domain 1006 (A4-to-BRF)			Domain 1007 (SE of A4)		
Indicator Threshold	Percentile	Bin Grade	Indicator Threshold	Percentile	Bin Grade
0.00		0.03	0.00		0.02
0.08	43.4%	0.08	0.05	47.3%	0.06
0.09	46.2%	0.10	0.07	52.9%	0.08
0.11	50.9%	0.13	0.09	57.0%	0.10
0.14	55.7%	0.16	0.12	61.9%	0.14
0.18	60.2%	0.20	0.16	66.8%	0.19
0.22	65.2%	0.25	0.23	72.4%	0.27
0.28	69.9%	0.49	0.33	77.4%	0.58
0.84	86.6%	1.20	1.03	90.5%	1.50
1.74	93.4%	2.40	2.25	95.5%	3.00
3.34	96.9%	4.50	4.38	98.1%	6.20
6.5	98.8%	8.80	8.80	99.3%	14.00
13.27	99.7%	27.00	24.20	99.9%	30.00

Table 14. Indicator thresholds and bin grades.

5.5 Statistical and Geostatistical Analysis

In conjunction with the grade cap analysis, basic statistics were calculated for the domained and composited data (Table 12). This was followed by spatial statistical analysis and modelling.

[7] The median was selected to reduce the impact of seven extremely high-grade composites that are considered true outliers.

5.5.1 Ordinary Kriged Domains

Experimental variograms were calculated for raw and Gaussian transformed composites. This included both downhole and directional variograms. For Domains 1001, 1002, 1003 and 1004 the variogram was first aligned to the plan of the structure. For Domains 1005 and 1008 the maximum direction of continuity was determined from a full 3D analysis.

Variograms were modelled in Gaussian space and then back-transformed. The back-transformed models were compared to the experimental variogram in true space and minor adjustments were made to the nugget based on downhole variography.

The variograms ranged from excellent to poorly structured. A full set of the Gaussian (Normal Scores) variogram models is given in Appendix B. Each variogram is presented with a corresponding set of 3-dimensional images showing the domain and the variogram model overlaid as an ellipse. This approach ensures the axial rotations defined in the model are logical with respect to the orientation of the domain.

All variograms were modelled using spherical models. Models have been normalised with the total modelled variance equal to 1.0. The variogram models are presented in Table 15. Nugget effects are generally moderate; however, the majority of the models exhibit a steep slope near the origin, commonly reaching >65% of the total variance within 10m. This is in line with expectations based on the geology of the mineralisation and the sporadic gold distribution.

		Rotations						Variogram Structures			Ranges - Structure 1			Ranges - Structure 2		
Domain	Description	Axis 1	Axis 2	Axis 3	Angle 1	Angle 2	Angle 3	C0(Nugget)	C1 (sph)	C2 (sph)	X	Y	Z	X	Y	Z
1001	Buck Reef Fault	3	1	3	-45.0	-70.0	25.0	0.389	0.313	0.298	9.6	3.5	3.0	23.5	17.9	9.7
1002	A4 Fault	3	1	3	-60.0	-170.0	40.0	0.210	0.428	0.362	6.1	6.4	8.6	21.5	36.4	24.9
1003	Keel Structure	3	1	3	10.0	-20.0	-25.0	0.499	0.276	0.225	2.3	2.5	2.8	10.8	12.2	6.7
1004	Nolans	3	1	3	0.0	-50.0	90.0	0.347	0.414	0.239	2.4	13.4	8.7	24.7	40.2	66.0
1005	Nolans Background	3	1	3	80.0	-80.0	-5.0	0.313	0.502	0.184	2.3	6.6	8.5	12.0	45.3	27.0
1008	West of BRF	3	1	3	70.0	-35.0	-40.0	0.354	0.170	0.476	6.0	26.0	16.4	16.0	9.0	44.1
9999	Background	3	1	3	-80.0	-100.0	5.0	0.621	0.151	0.228	10.6	4.2	24.2	26.9	13.5	58.9

Axis Convention: 1 = X, 2 = Y, 3=Z

Table 15. Sarsfield-Nolans variogram models for OK domains.

5.5.2 Indicator Kriged Domains

Directional and down hole experimental variograms were calculated from the indicator transformed composites for each indicator threshold. The maximum direction of continuity was determined from a full 3D analysis of the ~0.2 g/t indicator on 10° intervals in both strike and dip.

Variograms for lower-grade indicators show better structure and lower nugget effects compared to higher-grade indicators. Variogram models were developed in-line with this observation ensuring that the nugget effect increased and range decreased as the indicator grade increased. This practice reduces the number of order-relation problems during estimation.

The indicator variograms for both D1006 and D1007 show a decreasing anisotropy as the threshold increases. The indicator nugget effects increase from moderate (~30-35%) to high (~65%) at higher grades. The slope near the origin is steep with 70-80% of the total variance occurring in the first 15m or less. The total range for low grade indicators shows a 0.7:1.0 aspect ratio with a maximum continuity of 115-120m. As the indicator threshold increases the total range decreases dramatically and above grades of 1.0 g/t Au the maximum range is less than 30m.

These variogram features are consistent with the geology observations in the mined open pit. Several authors (e.g. Davis and Cowan) have noted that the mineralisation is discontinuous and higher-grade zones lack a measurable spatial orientation. Naïve implicit modelling of the drill hole data (Figure 32) also reflects these variogram structures.

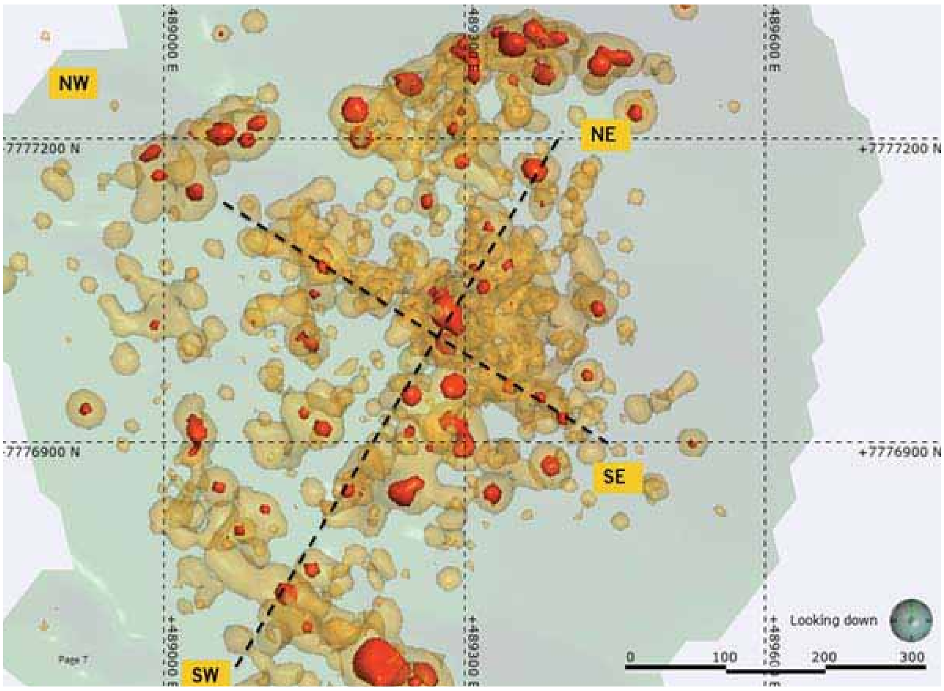


Figure 32. Implicit grade model (After Davis and Cowan, 2017).

All variograms were modelled using spherical models. Models have been normalised with the total modelled variance equal to 1.0. The variogram models are presented in Table 16.

			Rotations						Variogram Structures			Ranges - Structure 1			Ranges - Structure 2		
Domain	Indicator Number	Threshold	Axis 1	Axis 2	Axis 3	Angle 1	Angle 2	Angle 3	C0(Nugget)	C1 (sph)	C2 (sph)	X	Y	Z	X	Y	Z
1006	1	0.08							0.361	0.493	0.148	7.0	15.0	13.5	83.0	114.8	93.0
	2	0.09							0.361	0.493	0.148	7.0	15.0	13.5	83.0	114.8	93.0
	3	0.11							0.398	0.458	0.146	7.0	12.2	9.7	83.0	112.2	82.0
	4	0.14							0.398	0.458	0.146	7.0	12.2	9.7	83.0	112.2	82.0
	5	0.18							0.435	0.435	0.132	7.0	9.0	8.2	47.3	98.7	75.2
	6	0.22	3	2	1	24.3	27.0	-37.5	0.435	0.435	0.132	7.0	9.0	8.2	39.9	91.0	66.4
	7	0.28							0.517	0.359	0.126	7.0	5.4	6.5	26.6	72.8	55.4
	8	0.84							0.517	0.359	0.126	4.6	3.8	6.5	14.5	41.0	29.9
	9	1.74							0.567	0.309	0.126	4.6	3.8	4.8	9.3	21.7	17.7
	10	3.34							0.642	0.234	0.126	4.6	3.8	4.8	9.3	17.1	14.3
	11	6.50							0.642	0.234	0.126	5.0	5.0	5.0	10.0	10.0	10.0
	12	13.27							0.642	0.234	0.126	5.0	5.0	5.0	10.0	10.0	10.0
1007	1	0.05							0.292	0.516	0.192	16.2	11.4	15.2	83.9	122.4	79.3
	2	0.07							0.292	0.516	0.192	16.2	11.4	15.2	83.9	122.4	79.3
	3	0.09							0.292	0.516	0.192	16.2	8.4	10.7	79.4	114.3	57.5
	4	0.12							0.292	0.516	0.192	16.2	8.4	10.7	72.0	106.4	44.6
	5	0.16							0.350	0.461	0.189	16.2	8.4	8.0	61.2	83.5	33.4
	6	0.23	3	2	1	70.0	0.0	15.0	0.464	0.347	0.189	6.8	8.4	5.5	45.5	69.3	23.3
	7	0.33							0.464	0.347	0.189	6.8	8.4	5.5	34.5	45.0	12.5
	8	1.03							0.573	0.255	0.172	6.8	5.4	5.5	21.8	30.6	12.5
	9	2.25							0.573	0.255	0.172	6.8	5.4	5.5	17.5	16.3	12.5
	10	4.38							0.646	0.182	0.172	3.2	3.2	3.8	12.5	11.3	11.8
	11	8.80							0.650	0.180	0.170	3.2	3.2	3.8	12.5	11.3	11.8
	12	24.20							0.650	0.180	0.170	3.2	3.2	3.8	12.5	11.3	11.8

Table 16. Sarsfield indicator variogram models.

5.6 Block Model Framework

The block model covers a volume of 2,600m x 1,300m x 550m (XYZ) enclosing the full interpreted extent of the deposit with an additional margin. The model is based on 20m x 20m x 10m parent blocks with sub-blocking down to 5m x 5m x 1.25m.

Block size was selected based on a combination of drill hole spacing and consideration of likely mining selectivity. The Sarsfield-Nolans mineralisation is discontinuous with limited visual or other controls to allow highly selective mining. While it may be possible to improve selectivity with more data and better geological understanding, in SD2's opinion the current block size represents the smallest selection unit (or SMU).

The block model framework was used to create a volume model flagged with the interpreted domain codes. Due to the angular difference between the local mine grid and the Buck Reef Fault, Domain 1001 has a relatively high proportion of sub-blocks. The other domains are relatively orthogonal to the grid and sub-blocks are due to edge/boundary effects.

The wireframe vs. block model volume was compared for all domains. No material differences were identified.

The model was coded for the following binary variables:

- Air (1 = above topo, 0 = below topo);
- Oxide (1 = oxide, 0 = fresh);
- Rock (1 = in situ, 0 = air);

- Void (1 = mined void, 0 = unmined rock);
- Fill (1 = in-pit fill or tails, 0 = no fill);
- Design (1 = in design pit, 0 = outside of design pit); and
- E-Method (OK or MIK or Background).

The model is fully depleted. That is, blocks above the as-mined topography have a density and grade of zero. Similarly, the model is depleted for the underground workings at Nolans.

5.7 Estimation

Estimations was by a combination of ordinary kriging (OK) and multiple indicator kriging (MIK) into parent blocks. Block discretisation was set to 4 x 4 x 2

5.7.1 Kriging Neighbourhood and Search Strategy

The search strategy determines what composites are used to estimate each block in the model and, after domaining, selecting of a well-designed search is one of the most critical factors in developing a robust resource estimate. The kriging weights assigned by the kriging equations are a function of the block size, the variogram and the sample-to-block vectors for all samples in the search neighbourhood. The weights themselves are independent of the grades of the samples. An overly restrictive kriging neighbourhood restricts the number of composites that can inform a block estimate. This can result in conditional bias and poor estimation quality depending on the sample spacing and distribution. Similarly, a loose kriging neighbourhood potentially allows too many samples to be included in the weighting assignment. This can lead to broad grade smoothing or averaging and, in some instances the generation of negative weights and potentially negative grades.

There are several levers that can be used when designing a kriging neighbourhood. The search is typically defined using a combination of distances in three orthogonal axes (rotated to align with the variogram) forming an ellipse, plus a requirement for a certain minimum and/or maximum number of composites within the ellipse.

This can be further modified by applying a variety of declustering constraints such as octant/sector limits and specifying the maximum number of samples allowable from an individual drill hole. These declustering approaches have the effect of increasing the average sample-to-block distance compared to undeclustered searches. Thus, declustering is a trade-off between sample-block distance (a direct driver of estimation quality through the kriging matrix) and the potential for spatial bias generated by clustered data. While the kriging equations do, to some extent, result in declustering of the kriging weights, some block-to-sample arrangements can adversely impact on estimation performance.

Further complicating the selection of a kriging neighbourhood, it is rare for composites to be regularly arranged (on a grid pattern) for a resource estimate. This regular arrangement is much more commonly associated with grade control drill patterns. The inconsistency of block-to-sample geometry across any given domain means that any single neighbourhood definition will be sub-optimal in some regions.

In SD2's experience the most practical approach to optimising the kriging neighbourhood is to focus on the minimum and maximum numbers of composites used to inform a block estimate. The search distances are secondary as long as they are sufficiently large to capture the specified number of composites. Effectively, a wide search range is applied and when the maximum number of allowed composites is reached within that search range, no more composites are added. The practical range is therefore a function of sample spacing. In areas of widely spaced drilling the average sample-to-block distance will be greater when compared to areas of more closely spaced drilling. Likewise, the estimation performance (as measured by metrics such as kriging efficiency and slope of regression) will vary as a function of sample spacing.

There are additional considerations in the case of MIK estimation, including:

- The requirement for sufficient composites to allow sufficient probability for the estimated block grade distribution function; and
- The need for caution in changing the search neighbourhood at different indicator thresholds as this may cause an increase in order relationship errors and, in some extreme cases, result in some indicators not being estimated (when there are too few composites in the neighbourhood).

These considerations tend to drive MIK estimation to use a higher number of composites during estimation and to standardise the search strategy across all indicators.

The search neighbourhoods at Sarsfield-Nolans were developed after examining the key estimation quality metrics[8] for a series of sensitivity models. The primary control was based on defining the minimum/maximum numbers of composites required to inform a block estimate. The search ranges were then superimposed on the primary control, maintaining the orientation and anisotropy defined by the variogram model (i.e. the search is aligned with the variogram model). Stepwise increases in the minimum and maximum number of composites defined a target range of between 20 and 40 composites for all OK domains. For MIK domains the maximum increased to 60 composites.

All domains were estimated with hard boundaries (i.e., estimated only with samples lying within the interpreted domain volume). Search ellipse orientations were aligned to the variogram model (no dynamic anisotropy imposed).

[8] Slope of regression, sum of positive weights, kriging efficiency, weight of the mean in a Simple Kriging estimate.

A limit was set on the maximum number of composites per hole. For Domain 1004 (Nolans main zone) the maximum was 5. For all other domains the maximum was 10. The full search strategy is outlined in Table 17 and Appendix C.

			Rotations						Search Range (Pass 1)			Minimum	Maximum	Expansion	Minimum	Maximum	Expansion	Minimum	Maximum
Domain	Description	Type	Angle 1	Angle 2	Angle 3	Axis 1	Axis 2	Axis 3	X	Y	Z	Composites	Composites	Factor	Composites	Composites	Factor	Composites	Composites
1001	BRF	OK	(45)	(70)	25	3	1	3	40	40	15	20	40	1.5	20	40	2	12	40
1002	A4	OK	(60)	(170)	40	3	1	3	20	30	20	20	40	1.5	20	40	2	12	40
1003	Keel	OK	10	(20)	(25)	3	1	3	20	25	15	20	40	1.5	20	40	2	12	40
1004	Nolans	OK	-	(50)	90	3	1	3	35	55	90	20	40	1.5	20	40	2	12	40
1005	Nolans Background	OK	80	(80)	(5)	3	1	3	15	60	35	20	40	1.5	20	40	2	12	40
1006	A4-BRF	MIK	(165)	60	(120)	3	1	3	40	90	60	20	60	1.5	20	60	2	16	60
1007	SE A4	MIK	160	165	(90)	3	2	1	45	70	25	20	60	1.5	20	60	2	16	60
1008	W BRF	OK	70	(35)	(40)	3	1	3	20	15	60	20	40	1.5	20	40	2	12	40
9999	Waste	OK	(80)	(100)	5	3	1	3	70	35	150	20	40	1.5	20	40	2	12	40

Table 17. Search neighbourhood definitions.

5.7.2 Order Relationship

MIK estimates are prone to order relationship errors. This error occurs when the estimated proportion of a higher-grade indicator is greater than the estimated proportion of a lower-grade indicator for the same block. These errors are commonly caused by changes in the variogram models and/or search neighbourhoods at different indicator thresholds.

The MIK domains were examined for order relationship errors and the errors were rectified. Approximately 4% of the full array of indicator estimates were found to have an order relation problem. The highest percentage occurred between the 4^{th} and 5^{th} indicator and 5^{th} and 6^{th} indicators in both domains. This corresponds to the grade range between 0.1 g/t and 0.2 g/t Au.

There are several methods for correcting order relationship errors. The most common are:

- Top-down where the proportions of lower threshold indicators are increased to equal a higher indicator;
- Bottom-up where the proportions of higher threshold indictors are decreased to equal a lower indicator; and
- Averaging the top-down and bottom-up approach.

SD2 applied the bottom-up approach; this is the more conservative approach. The impact of top-down vs. bottom-up approach was less than 0.5%, affecting the third decimal place in the grade estimate.

5.7.3 Post-Processing

After estimation the model was checked for common estimation artefacts including negative grades and blocks that were un-estimated after applying all search options.

There were no negative grade (or indicator proportion) estimates. Un-estimated blocks were assigned a default grade of 0.001 g/t Au. The majority of un-estimated blocks occur at depth, below the Inferred resource limit. The remainder are located on the edges of the interpreted domains in positions where there is low drill coverage (Figure 33) placing them in extrapolation positions.

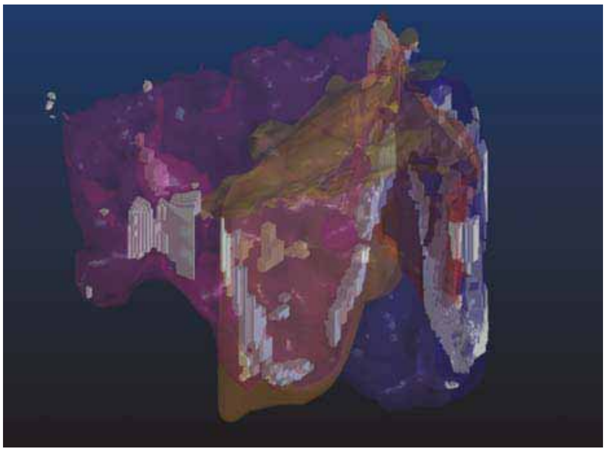


Figure 33. Location of un-estimated blocks.

6. Validation

A range of validation and comparisons were used to assess the quality of the resource estimate. The estimated domain grades were compared to the declustered composite grades (Figure 34) and swath plots were created in plan and section (Appendix I).

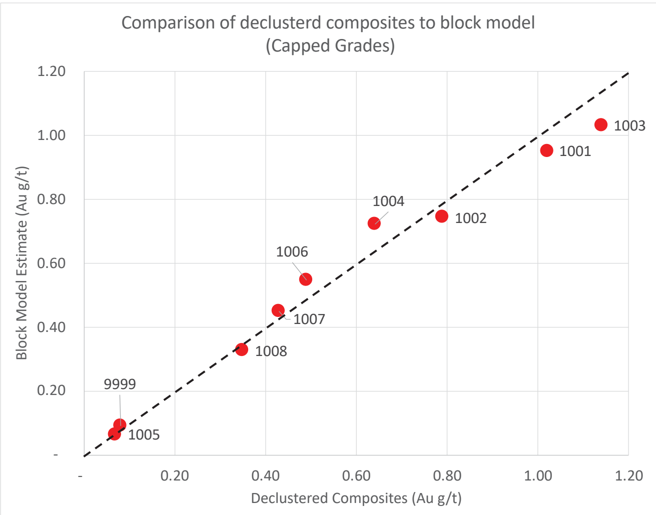


Figure 34. Scatterplot - composites vs model estimate.

Comparing block model estimates to declustered composite grades shows that there are some minor biases. Domains 1001, 1002 and 1003 are biased low compared to the composite data and domains 1004 and 1006 are biased high. The differences in each case are within reasonable precision tolerance limits. The apparent bias in both domain 1004 and 1006 appears to be caused by the number of unsampled intervals (~6%) that have been assigned a default grade of 0.005. If these data are excluded from the composite, the bias is negligible.

The swath plots (Appendix I) show a reasonable agreement between the composite grade and estimated grade, although there are some artifacts associated with clustering and isolated data. The apparent biases in domain 1001 are due to clustering in the upper regions of the domain (now mined out). This has affected bench, easting and northing plots in some sections. The apparent bias in domain 1004 reflects grade extrapolation below the near-surface drilling as can be seen in the bench swath (Figure 35). Both IK domains show good correlation with the composite except when the number of composites is low.

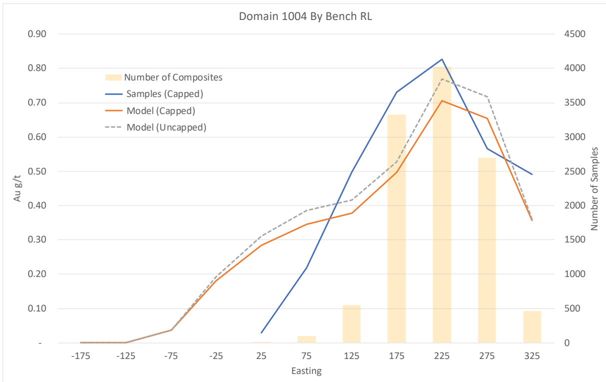


Figure 35. Domain 1004 Bench Swath Plot.

The features observed in the swath plots contributed to resource classification.

7. Mineral Resource Classification

7.1 Jurisdiction and Competent Person

This mineral resource estimate is classified and reported under the guidelines of the JORC Code[9] (2012). The estimate has been prepared by Mr Scott Dunham, a Fellow of the AusIMM (membership number 112857). Mr Dunham has more than 30 years of experience in the resource industry including more than the requisite five (5) years relevant experience in the estimation of mineral resources for the commodity and style of mineralisation at Buck Reef West. A brief summary of Mr Dunham's experience is provided in Appendix M. His expertise

[9] The Australasian Code for reporting of exploration results, mineral resources and ore reserves. 2012 Edition.

covers the complete range of resource estimation practices including geological sampling, interpretation and domaining, geostatistical analysis, estimation and reporting.

7.2 Reasonable Prospects Assessment

The JORC Code requires reported mineral resources to have 'reasonable prospects of eventual economic extraction'. In Mr Dunham's opinion this expectation has been demonstrated for Sarsfield-Nolans as follows:

- A positive NPV generated by Resolute Mining Limited in 2018;
- A positive NPV generated by EMR Capital during the due diligence study for the acquisition of the Ravenswood Gold Mine;
- The recently completed acquisition transaction.

Mr Dunham is aware that RAV are currently negotiating social, heritage and environmental licensing conditions. The negotiations are well advanced and no material impediments are likely. Ownership transfer is expected to be finalised in August/September 2020.

The reported resource lies above an AUD3800 optimised pit shell.

7.3 Classification Definitions

The Sarsfield-Nolans resource is classified as Measured, Indicated and Inferred. The classification is based on a combination of:

- Drill hole spacing and orientations;
- Estimation performance metrics including the slope of regression, kriging efficiency, sum of positive weights and weight of the mean; and
- The search pass and number of composites used during block estimation.

The classification limits were developed through a combination is implicit modelling and manual interpretation of the above metrics. In practice the classes strongly reflect drill hole spacing and the decrease in the number of drill holes at depth. This forms a set of nested shells beneath the current as-mined pit surface (Figure 36).

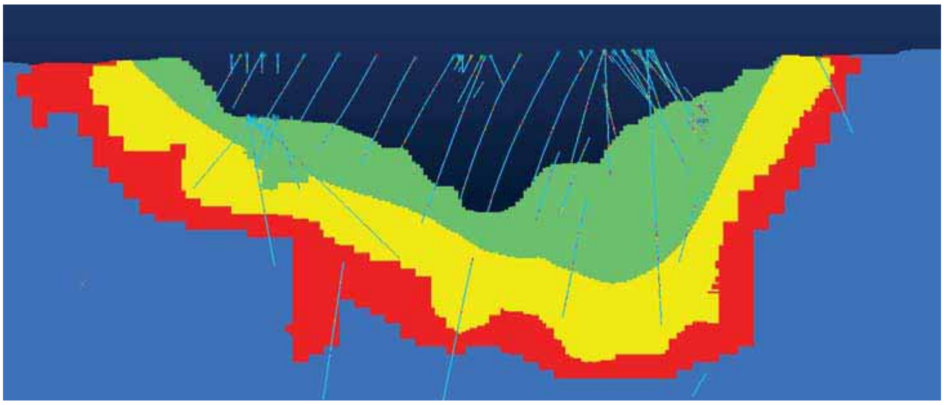


Figure 36. Cross section showing nested classification shells.

7.4 Risk and Range Assessment

During the course of preparing the Sarsfield-Nolans mineral resource estimate SD2 investigated:

- Alternate domaining options based on manual interpretation, pseudo-vein density and grade-based implicit modelling;
- The impact of Ordinary Kriging vs Multiple Indicator Kriging;
- The impact of grade capping at different values; and
- The impact of changes in the search strategy.

These investigations highlight that the primary risk is associated with data density and domain interpretation. While regions directly underneath the as-mine topography are reasonably well informed, the drill density decreases rapidly (see Figure 25 and Figure 26).

The July 2020 estimate was also compared to the previous model released by Resolute Mining Limited (an MIK model by MPR Geological Consultants) and the due diligence 'sensitivity' model prepared by SD2 in September 2019 (Table 18). There is a close agreement between this estimate and the Resolute estimate. The capped estimate and the due diligence estimate bracket the current model. This analysis and the results of the various investigations support a likely precision of +/-10% on the global contained ounces.

Model	Difference in Ounces
No capping	109%
MPR MIK Estimate	101%
SD2 Due Diligence	93%

Table 18. Comparison to previous estimates (above 0.3g/t).

While the Resolute estimate and the July 2020 estimate show good correlation on the global contained ounces, the two models differ in the spatial distribution of those ounces. The Resolute model did not have a separate domain for the A4 structure and other domains varied. The differences in the two models can be seen in the ounces by bench comparison (Figure 37).

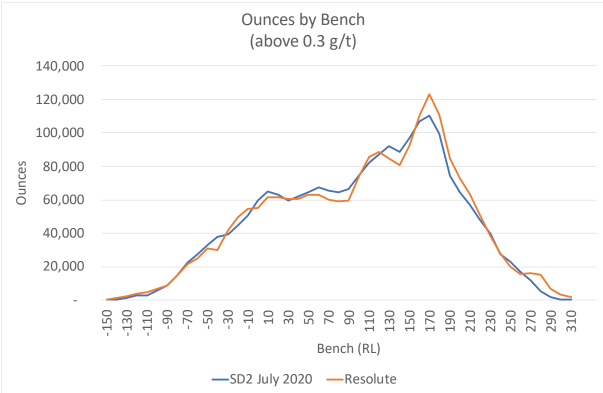


Figure 37. Ounces by Bench.

7.5 Upside Potential

The current estimate is limited by drill hole spacing at depth. Additional drilling focused on depth extensions in both the Nolans and Sarsfield regions should be investigated.

There is also potential to better understand the controls on the stockwork vein mineralisation. This may allow improved domaining which in turn would allow better estimation of the grade-tonnage curve.

8. Resource Statement

The Sarsfield-Nolans mineral resource estimate is reported above a cut-off of 0.3 g/t Au within an AUD3,800[10] optimised pit shell as at 10 July 2020.

Classification	Tonnes (kt)	Au (g/t)	Ounces (koz)
Measured	32,213.0	0.71	739.9
Indicated	71,354.2	0.65	1,498.2
Inferred	29,394.2	0.63	597.8
Grand Total	**132,961.4**	**0.66**	**2,835.9**

[10] AUD3,800 pit shell assuming material above 0.63g/t Au is direct feed to the Ravenswood ore treatment plant and material between 0.30g/t and 0.63g/t is beneficiated at the Ravenswood beneficiation plant.

9. References

McCormack, K., and McClay, K., 2018. Orthorhombic faulting in the Beagle Sub-basin, North West Shelf, Australia. In, McClay, K. R. & Hammerstein, J. A. (eds) Passive Margins: Tectonics, Sedimentation and Magmatism. Geological Society, London, Special Publications

Appendix A Competent Persons Consent Form

Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and
Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

Sarsfield-Nolans Mineral Resource Estimate July 2020

(*Insert name or heading of Report to be publicly released*) ('Report')

Ravenswood Gold Pty Ltd

(*Insert name of company releasing the Report)*

Sarsfield-Nolans

(Insert name of the deposit to which the Report refers)

If there is insufficient space, complete the following sheet and sign it in the same manner as this original sheet.

27 November 2020

(Date of Report)

Statement

I/We,

Scott Dunham

(*Insert full name(s)*)

confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code, 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of *The Australasian Institute of Mining and Metallurgy* or the *Australian Institute of Geoscientists* or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.

I am a full-time employee of

(Insert company name)

Or

I/We am a consultant working for

SD2 Pty Ltd

(Insert company name)

and have been engaged by

Ravenswood Gold Pty Ltd

(Insert company name)

to prepare the documentation for

Sarsfield-Nolans

(Insert deposit name)

on which the Report is based, for the period ended

30 September 2020

(Insert date of Resource/Reserve statement)

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Exploration Targets, Exploration Results, Mineral Resources and/or Ore Reserves *(select as appropriate)*.

Consent

I consent to the release of the Report and this Consent Statement by the directors of:

Ravenswood Gold Pty Ltd

(Insert reporting company name)

	27 November 2020
Signature of Competent Person:	Date:
Australasian Institute of Mining and Metallurgy	112857
Professional Membership: *(insert organisation name)*	Membership Number:
	Sherrill Dunham - Nanango Queensland
Signature of Witness:	Print Witness Name and Residence: (eg town/suburb)

Additional deposits covered by the Report for which the Competent Person signing this form is accepting responsibility:

None

Additional Reports related to the deposit for which the Competent Person signing this form is accepting responsibility:

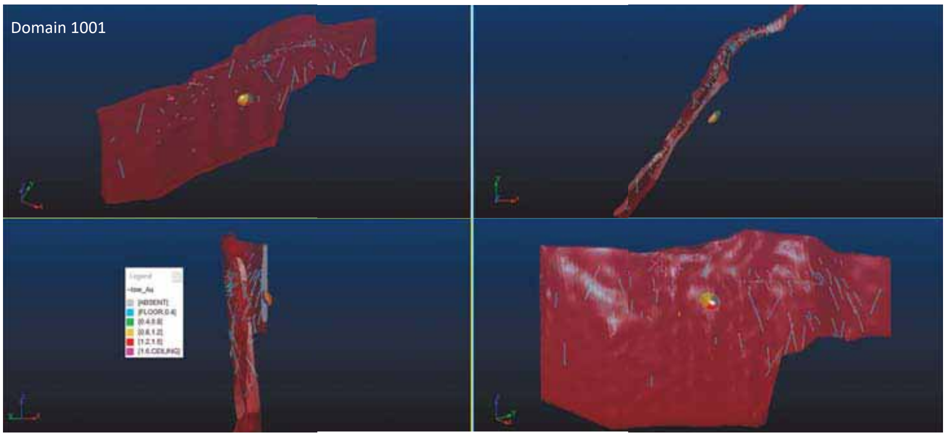
None

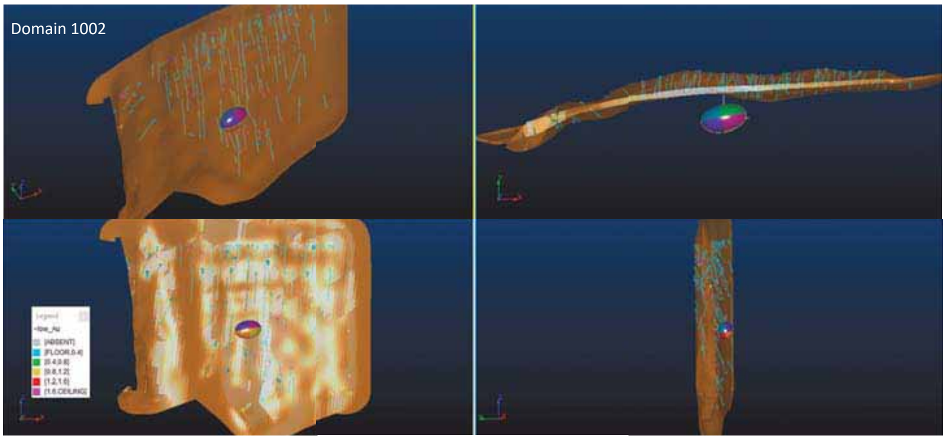
Signature of Competent Person:	Date:
Professional Membership: *(insert organisation name)*	Membership Number:
Signature of Witness:	Print Witness Name and Residence: (eg town/suburb)

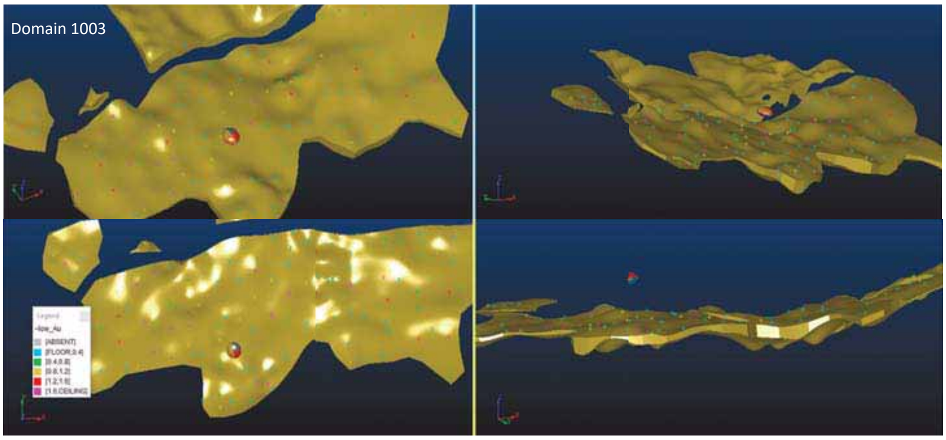
Appendix B Variogram Models

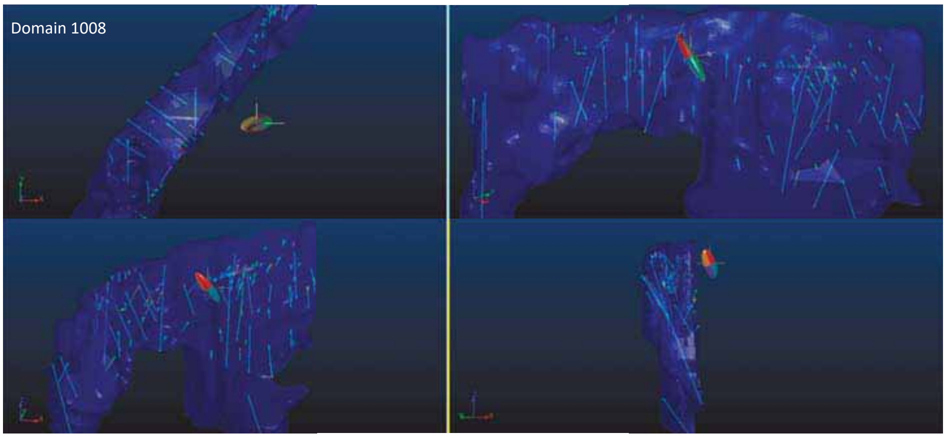
Appendix C Search Ellipses

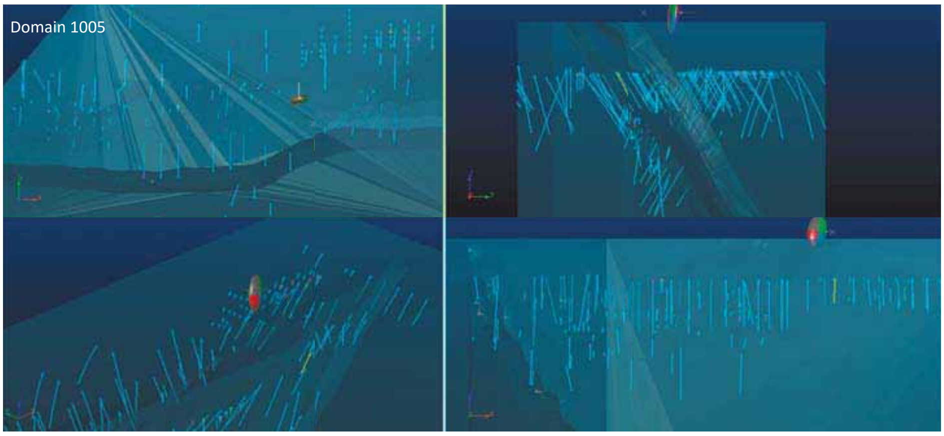
	Rotations						Distances (Search 1)											
Domain	Axis 1	Axis 2	Axis 3	Angle 1	Angle 2	Angle 3	X	Y	Z	Minimum Composites	Maximum Composites	Hole Restriction	Expansion Factor	Minimum Composites	Maximum Composites	Expansion Factor	Minimum Composites	Maximum Composites
1001	3	1	3	-45	-70	25	40	40	15	20	40	10	1.5	20	40	2	12	40
1002	3	1	3	-59.98	-170	40.02	20	30	20	20	40	10	1.5	20	40	2	12	40
1003	3	1	3	10	-20	-25	20	25	15	20	40	10	1.5	20	40	2	12	40
1004	3	1	3	0	-50	90	35	55	90	20	40	5	1.5	20	40	2	12	40
1005	3	1	3	80	-80	-5	15	60	35	20	40	10	1.5	20	40	2	12	40
1008	3	1	3	70	-35	-40	20	15	60	20	40	10	1.5	20	40	2	12	40
9999	3	1	3	-80	-100	5	70	35	150	20	40	10	1.5	20	40	2	12	40




Domain 1002


Domain 1003


Domain 1008


Domain 1005

Appendix D Drill Hole Coverage by Data Type

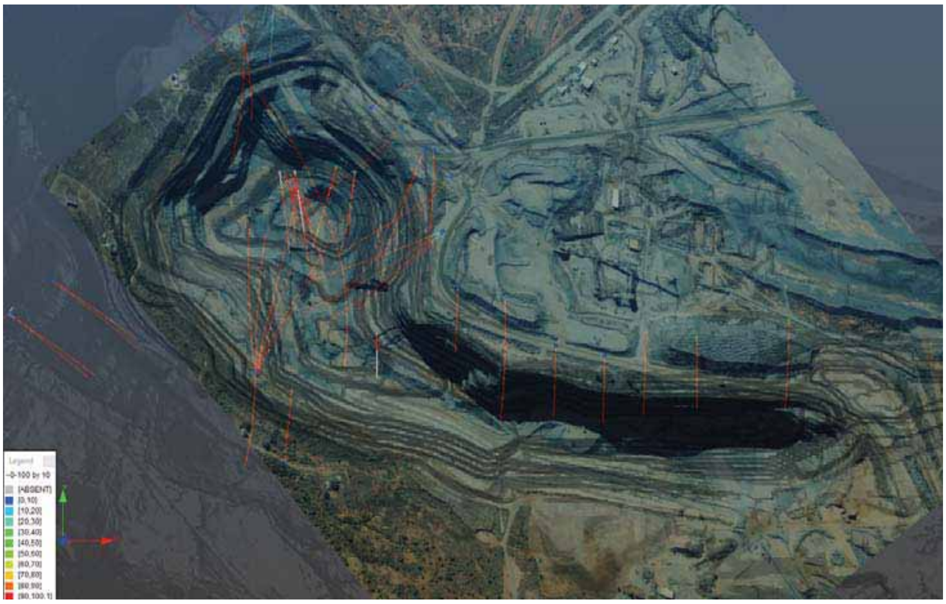


Figure 38. RQD and Geotechnical Drilling.

Figure 39. Structural logging coverage.

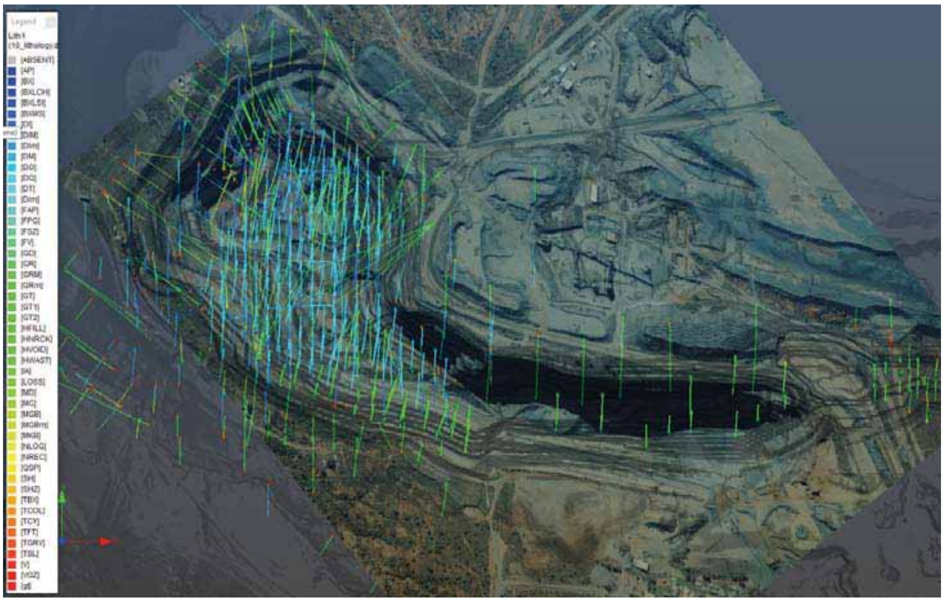


Figure 40. Lithology logging coverage.

Appendix E QC Performance Data

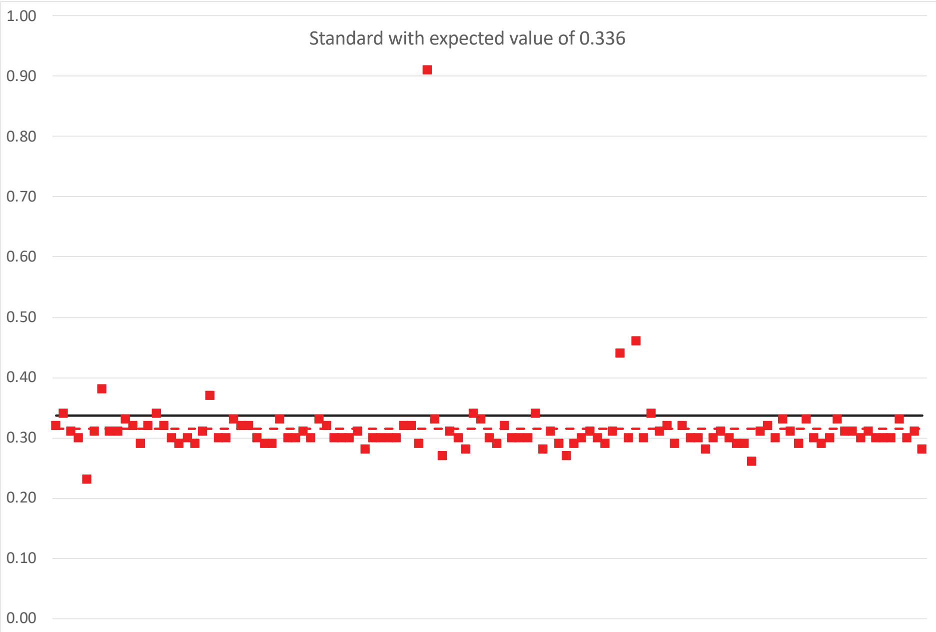


Figure 41. QC Standard from ~1997-98.

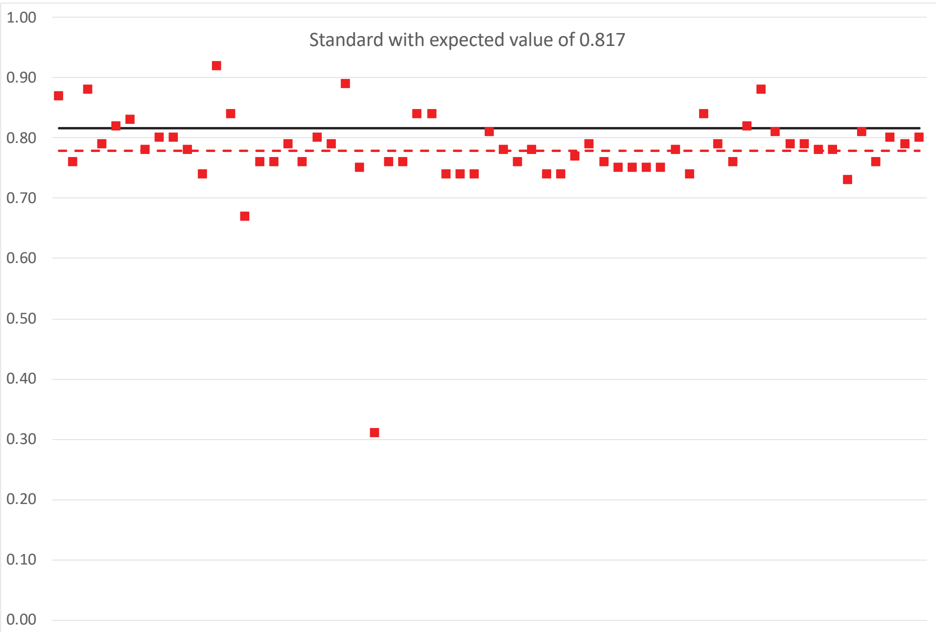


Figure 42. QC Standard from ~ 1997-98 (2).

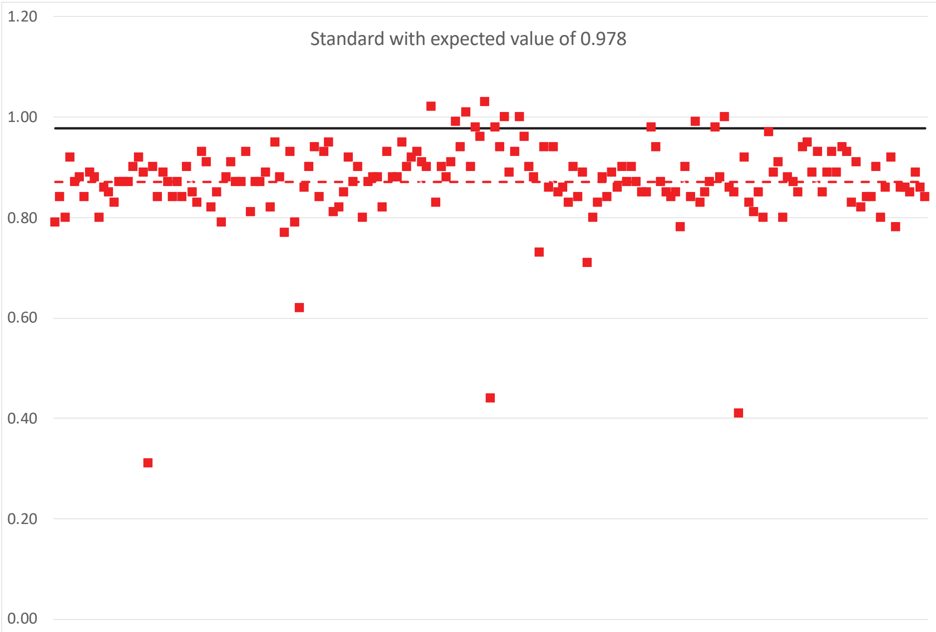


Figure 43. QC Standard from ~ 1997-98 (3).

Figure 44. QC Standard from ~1997-98 (4).

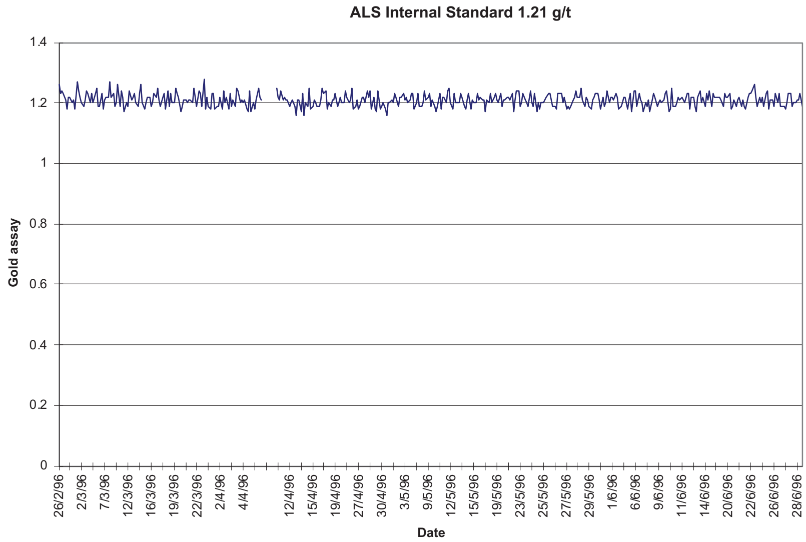


Figure 45. ALS Internal Standard 1996.

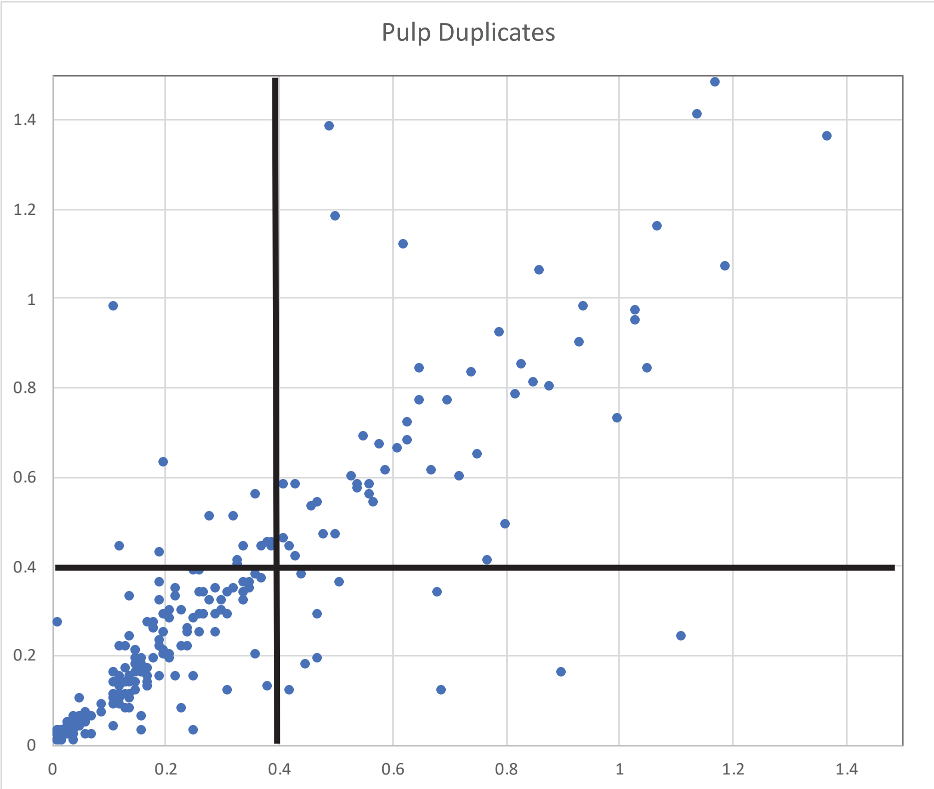


Figure 46. Pulp Duplicates ~ 1997-98.

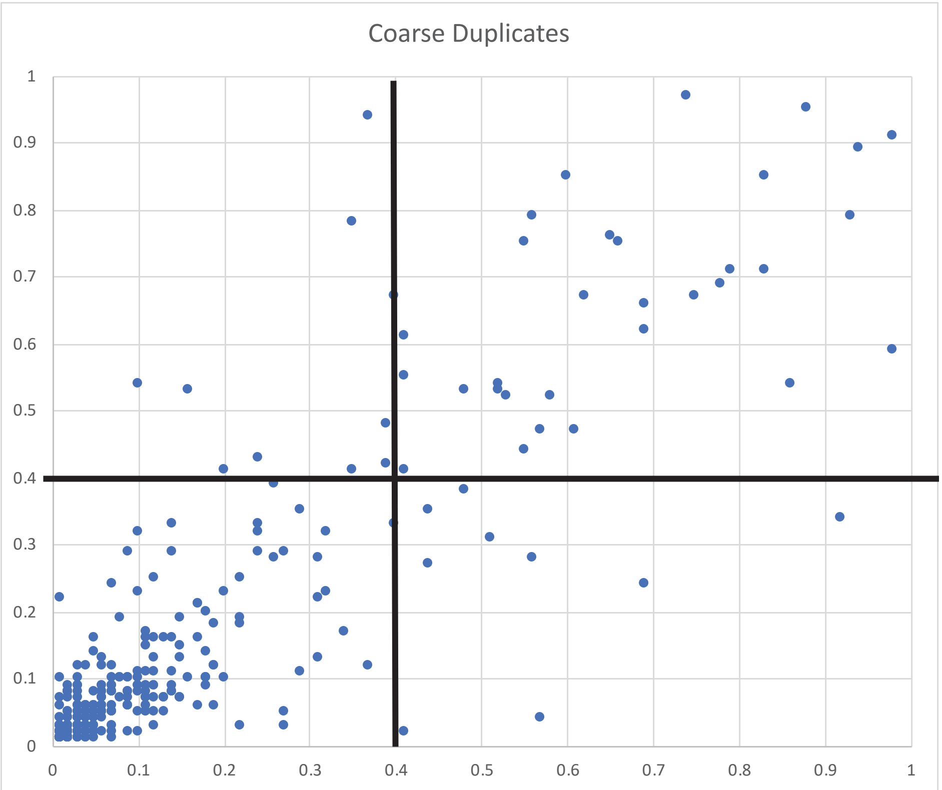


Figure 47. Coarse Duplicates ~ 1997-98.

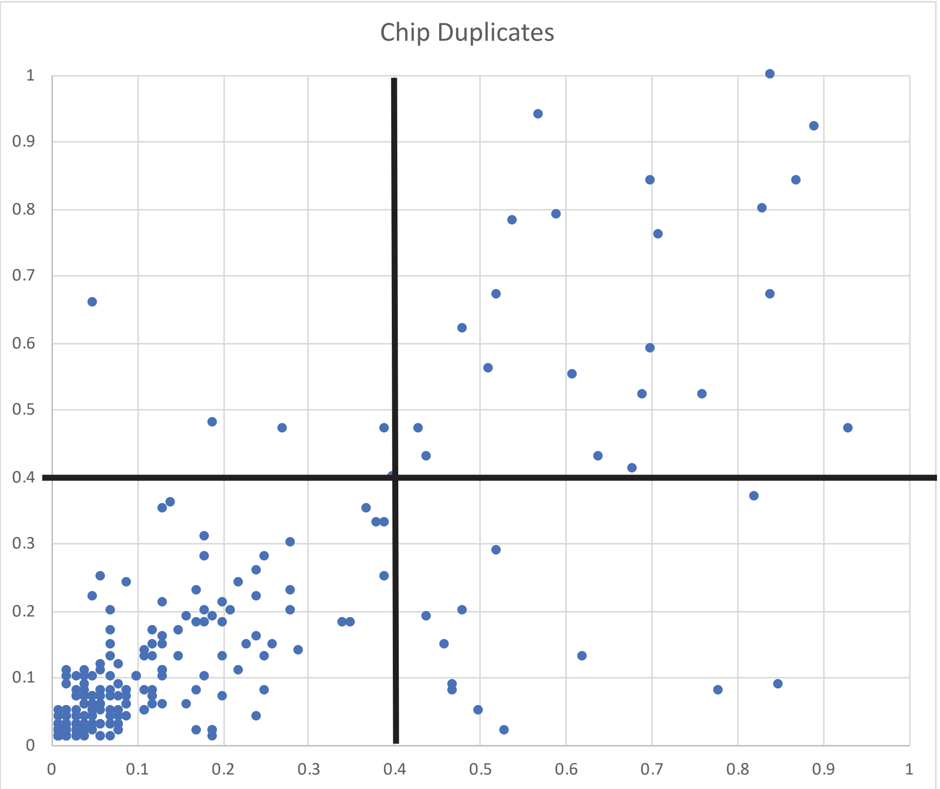


Figure 48. Chip Duplicates ~ 1997-98.

Appendix F Data Listing

Appendix G Model Field Names and Definitions

Field Name	Type	Description
DOMAIN	Numeric	1001 – Buck Reef Fault 1002 – A4 Fault 1003 – Keel Structure 1004 – Nolans 1005 – Nolans region background 1006 – A4-to-BRF 1007 – Southeast of A4 1008 – West of BRF 9999 - Background
VOID	Binary	1 – void (ug stope or development) 0 – solid rock
ROCK	Binary	1 – solid rock 0 – air or void
OXIDE	Binary	1 – above top of fresh rock (i.e., oxide and partially oxidised) 0 – fresh rock
REPORT	Binary	Used to limit size of reporting only. No meaning for JORC Class
Density	Numeric	In situ bulk density. Set to zero for air and voids.
Au_Capped	Numeric	Estimated gold grade – reportable grade for JORC Code reporting
Au_No_Cap	Numeric	Sensitivity only – estimate without capped grades. Not for public reporting
CLASS	Numeric	JORC Code reporting classification 0 - Unclassified 1 – Measured 2 – Indicated 3 – Inferred
AMDAD	Binary	1 – Inside AMDAD due diligence Stage 2 pit 0 – not in AMDAD due diligence Stage 2 pit
XMORIG	Numeric	Model origin Easting (bottom left)
YMORIG	Numeric	Model origin Northing (bottom left)
ZMORIG	Numeric	Model origin RL (bottom left)
NX	Numeric	Number of parent blocks in Easting (X)
NY	Numeric	Number of parent blocks in Northing (Y)
NZ	Numeric	Number of parent blocks in RL (Z)
XINC	Numeric	Sub-block Easting dimension
YINC	Numeric	Sub-block Northing dimension
ZINC	Numeric	Sub-block RL dimension
XC	Numeric	Block centre Easting
YC	Numeric	Block centre Northing
ZC	Numeric	Block centre RL
IJK	Numeric	Datamine Studio RM unique parent block index

Appendix H Grade Tonnage Curves

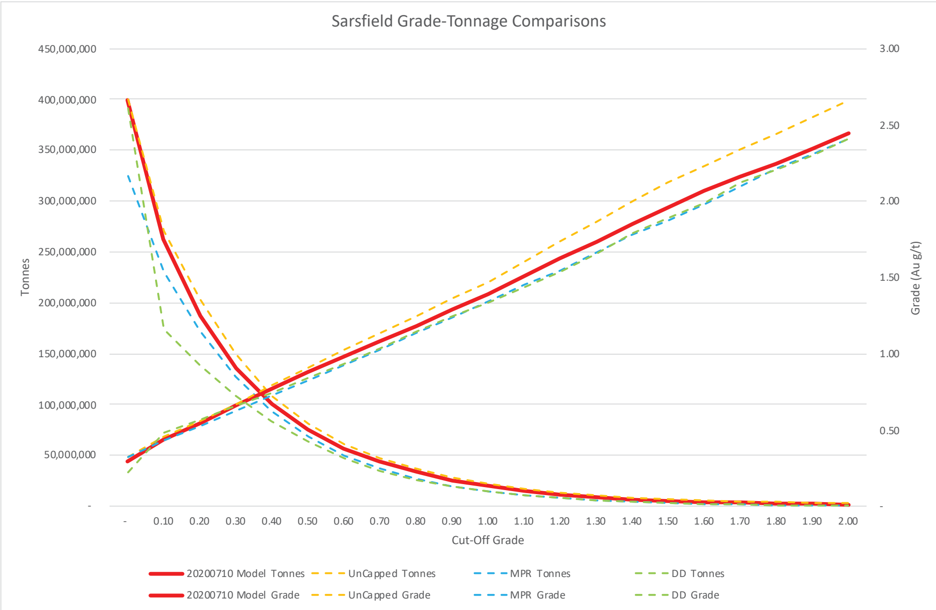
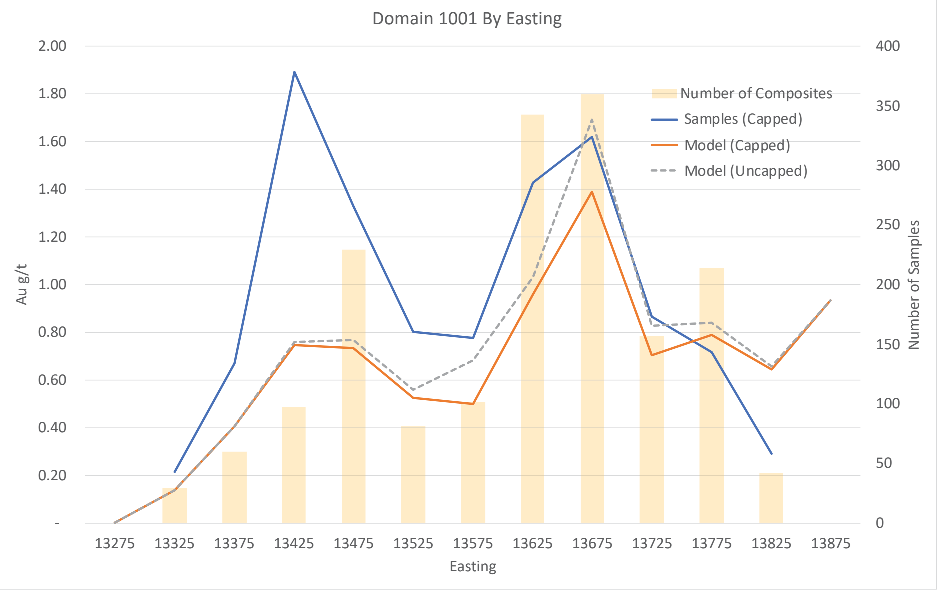
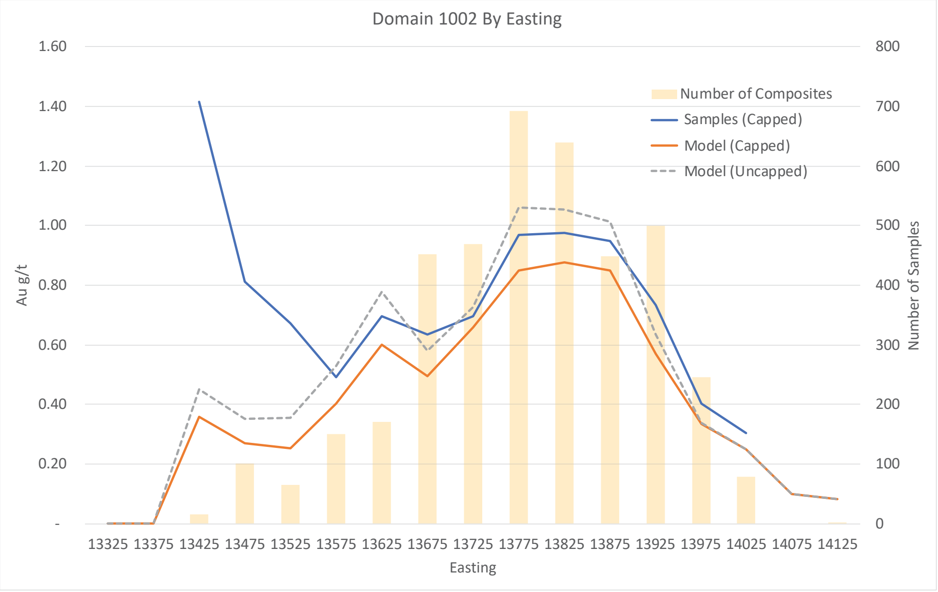
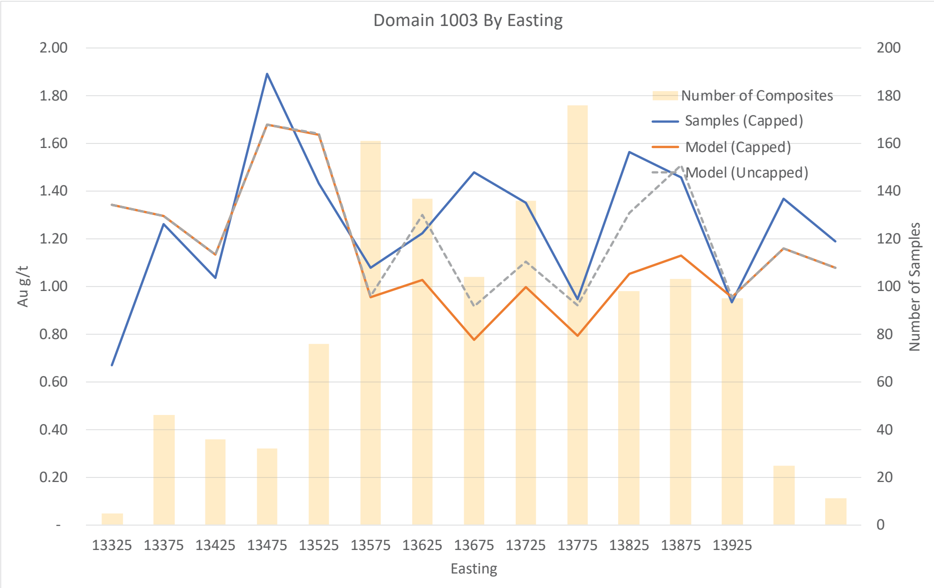


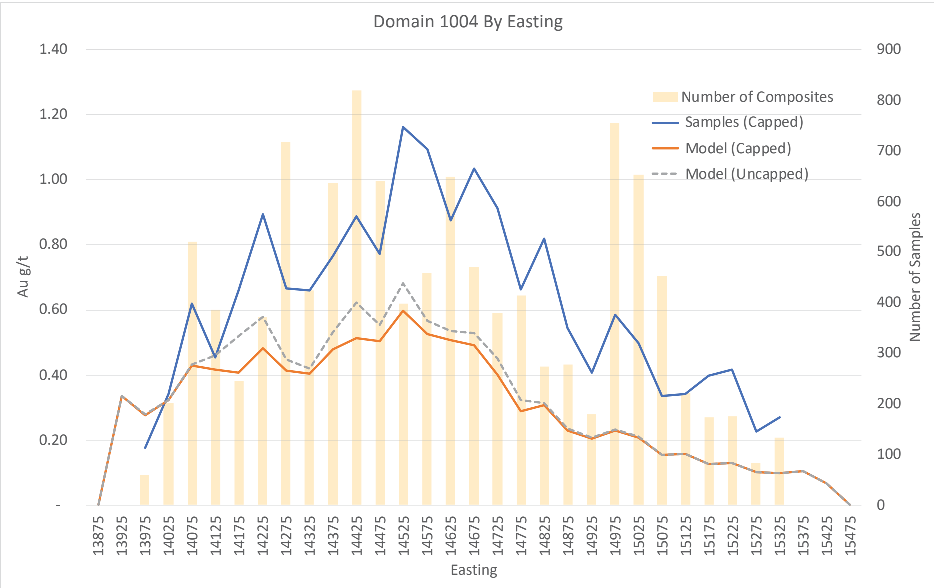
Figure 49. Grade-tonnage curve in AMDAD AUD3800 pit shell. All resource classes.

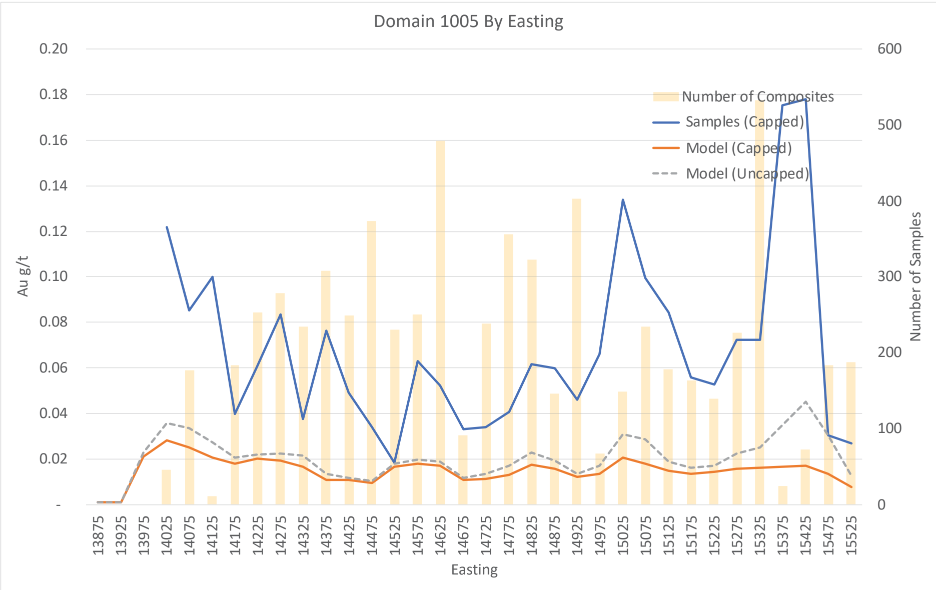
Appendix I Swath Plots (Eastings)






Domain 1003 By Easting
Au g/t
Number of Samples
Easting
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
-
200
180
160
140
120
100
80
60
40
20
0
13325 13375 13425 13475 13525 13575 13625 13675 13725 13775 13825 13875 13925


Domain 1004 By Easting
Au g/t
Number of Samples
Easting
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
1.40
1.20
1.00
0.80
0.60
0.40
0.20
-
900
800
700
600
500
400
300
200
100
0
13875 13925 13975 14025 14075 14125 14175 14225 14275 14325 14375 14425 14475 14525 14575 14625 14675 14725 14775 14825 14875 14925 14975 15025 15075 15125 15175 15225 15275 15325 15375 15425 15475


Domain 1005 By Easting
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
Au g/t
Number of Samples
Easting
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
-
600
500
400
300
200
100
0
13875
13925
13975
14025
14075
14125
14175
14225
14275
14325
14375
14425
14475
14525
14575
14625
14675
14725
14775
14825
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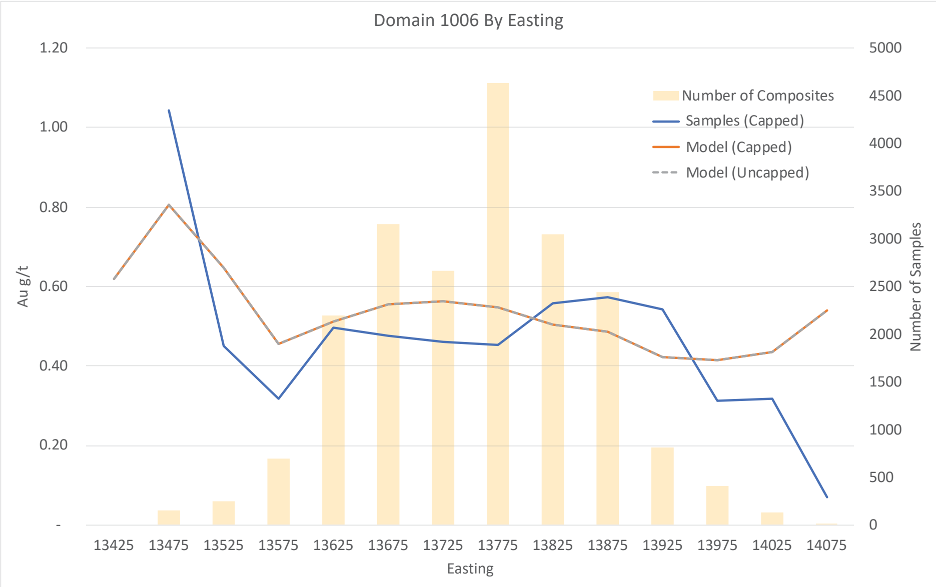
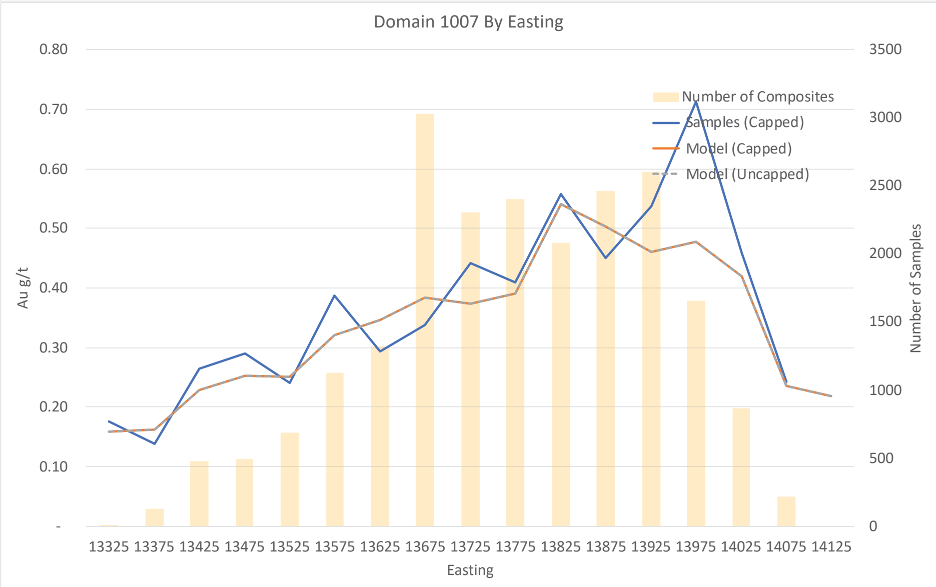
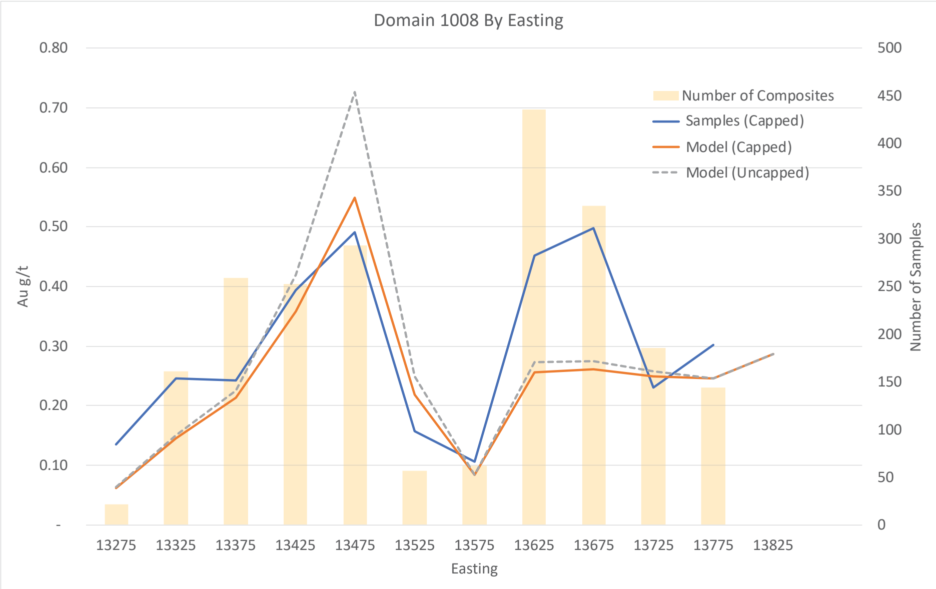
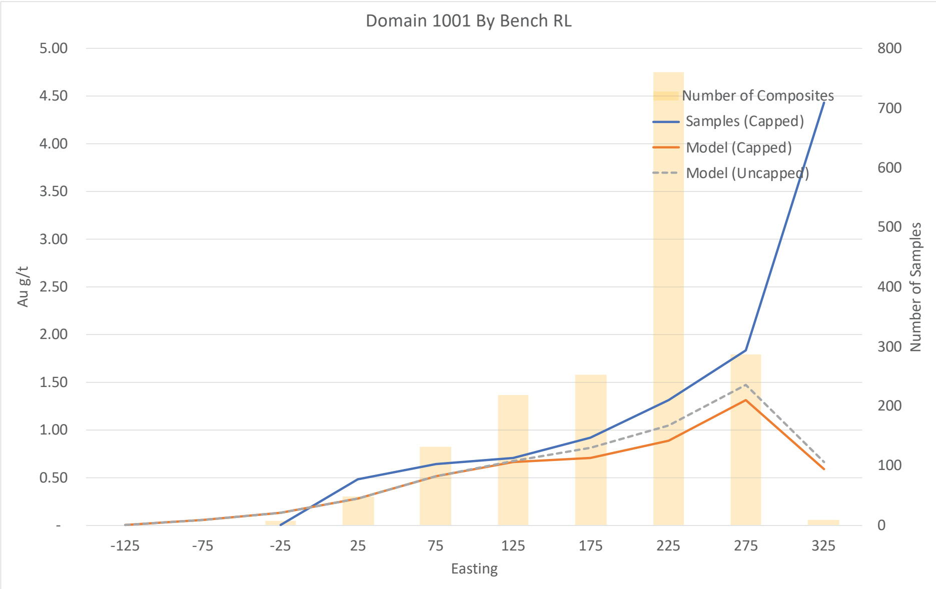
14975
15025
15075
15125
15175
15225
15275
15325
15375
15425
15475
15525

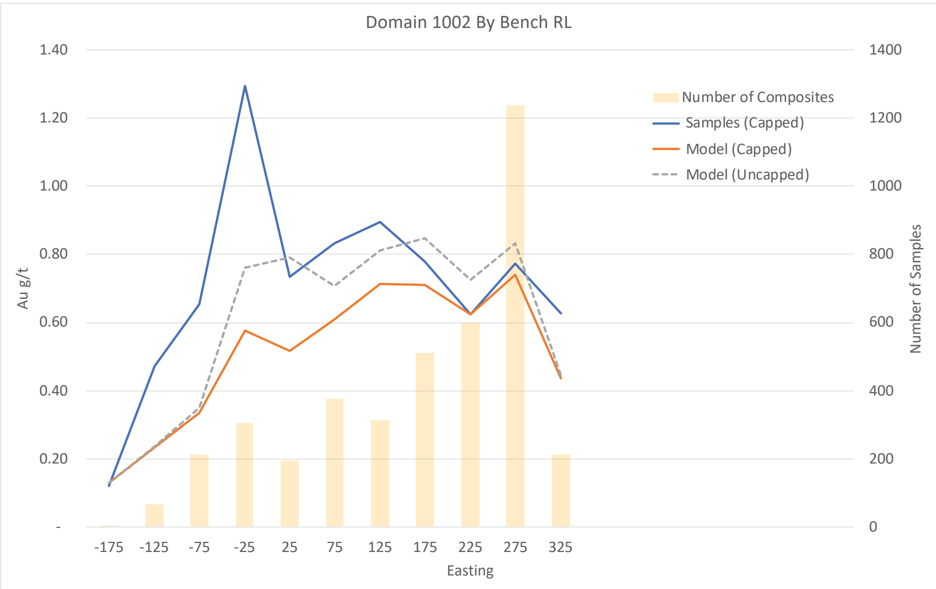

Domain 1006 By Easting
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
Au g/t
Number of Samples
Easting
1.20
1.00
0.80
0.60
0.40
0.20
-
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
13425 13475 13525 13575 13625 13675 13725 13775 13825 13875 13925 13975 14025 14075

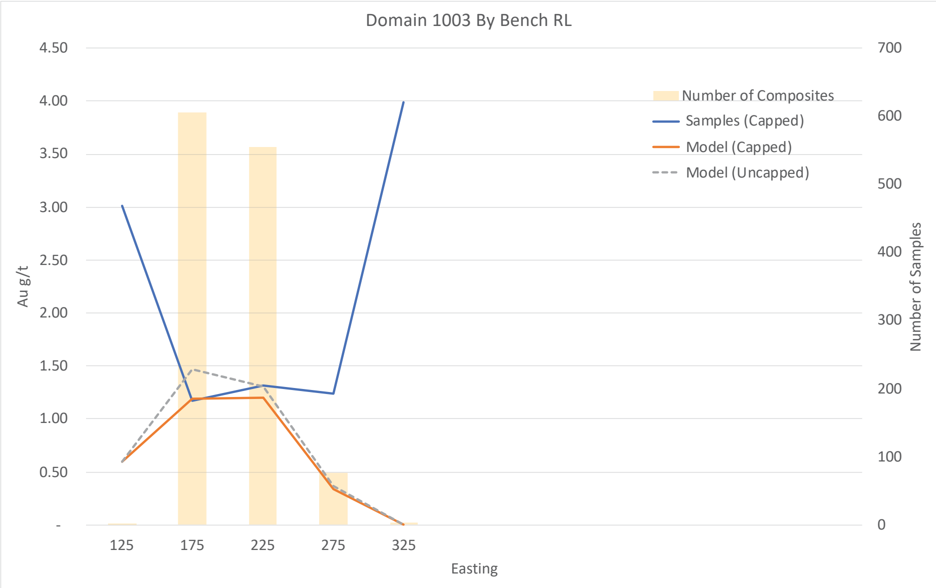

Domain 1007 By Easting
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
Au g/t
Number of Samples
Easting
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
-
3500
3000
2500
2000
1500
1000
500
0
13325 13375 13425 13475 13525 13575 13625 13675 13725 13775 13825 13875 13925 13975 14025 14075 14125

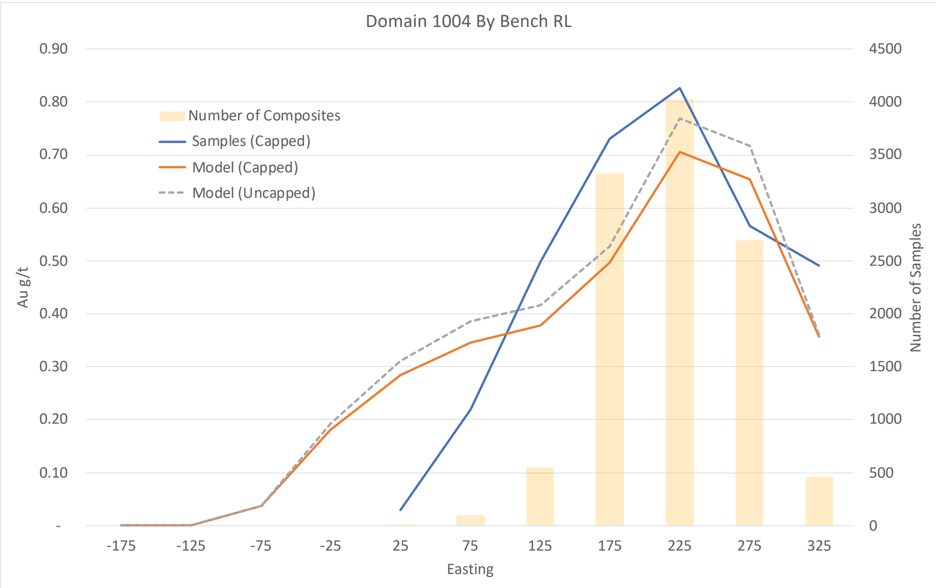

Domain 1008 By Easting
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
-
Au g/t
500
450
400
350
300
250
200
150
100
50
0
Number of Samples
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
13275
13325
13375
13425
13475
13525
13575
13625
13675
13725
13775
13825
Easting

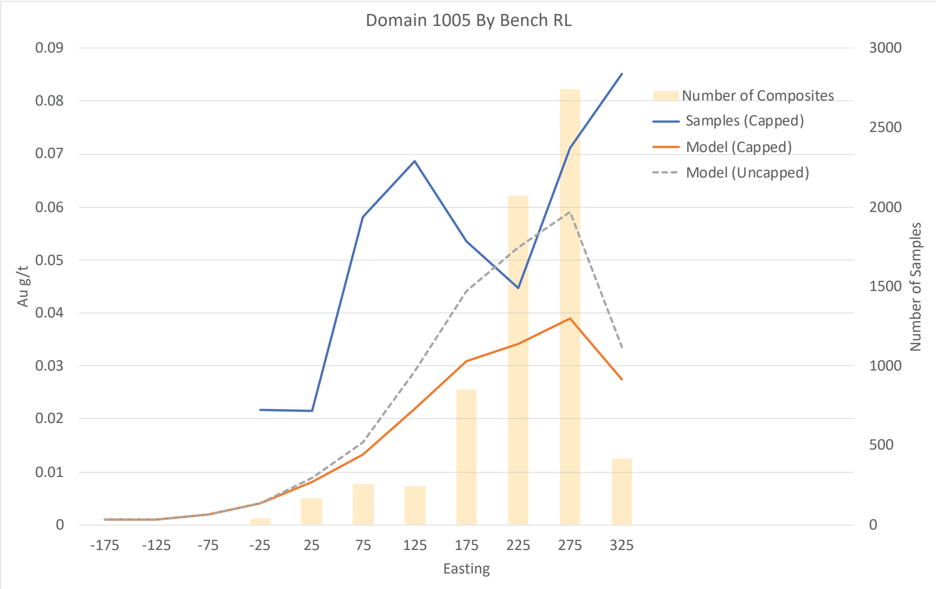
Appendix J Swath Plots (Plans)

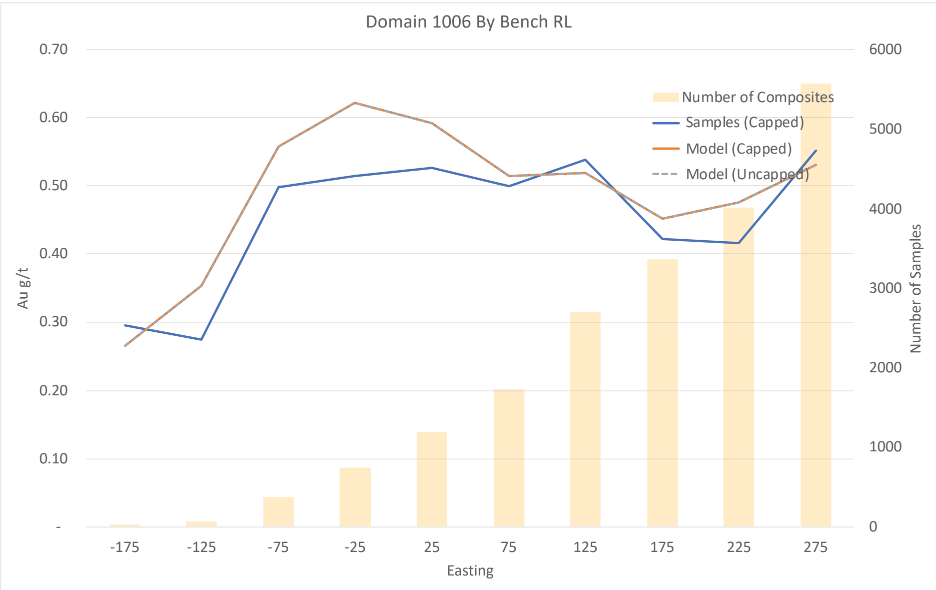


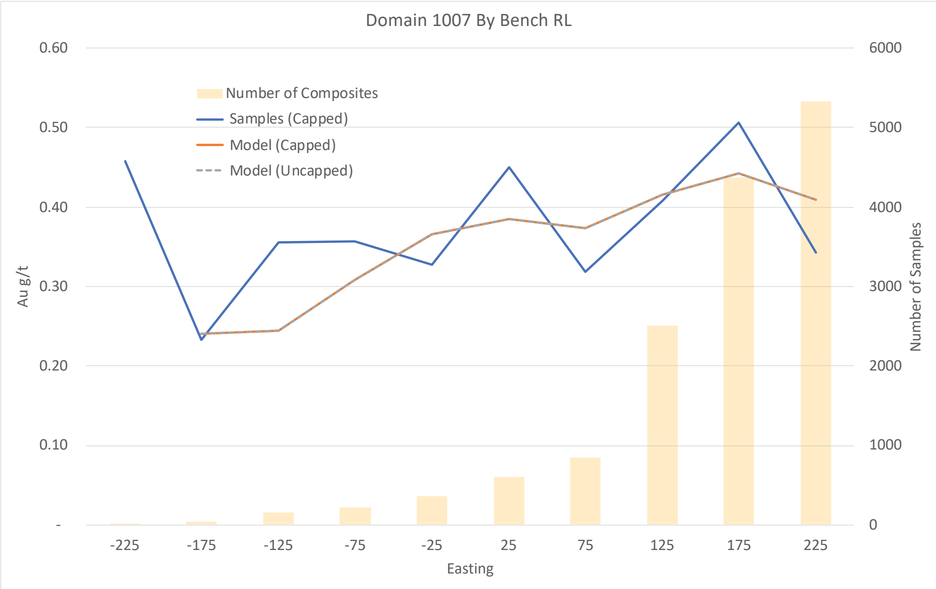


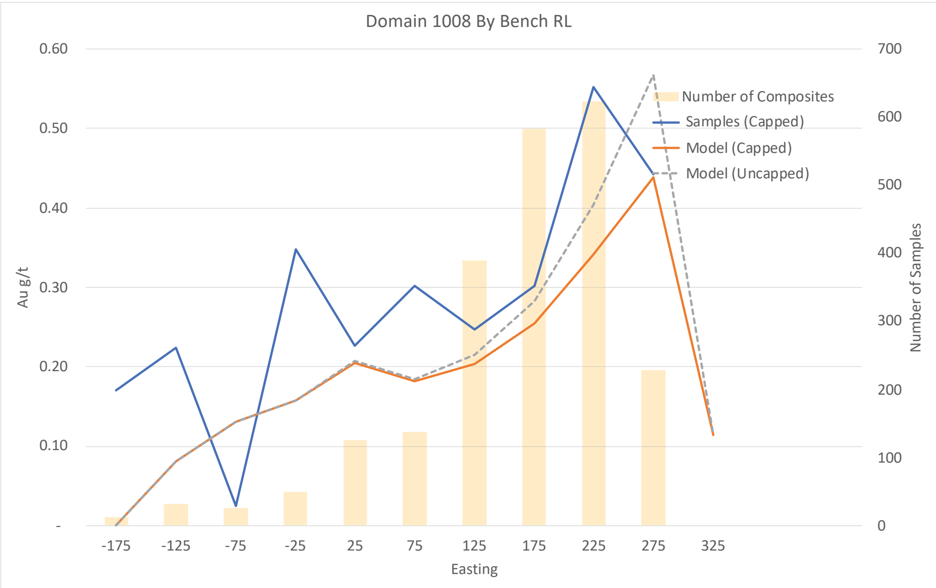

Domain 1003 By Bench RL
Au g/t
Number of Samples
Easting
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
-
700
600
500
400
300
200
100
0
125
175
225
275
325


Domain 1004 By Bench RL
Au g/t
Number of Samples
Easting
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
-
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-175
-125
-75
-25
25
75
125
175
225
275
325

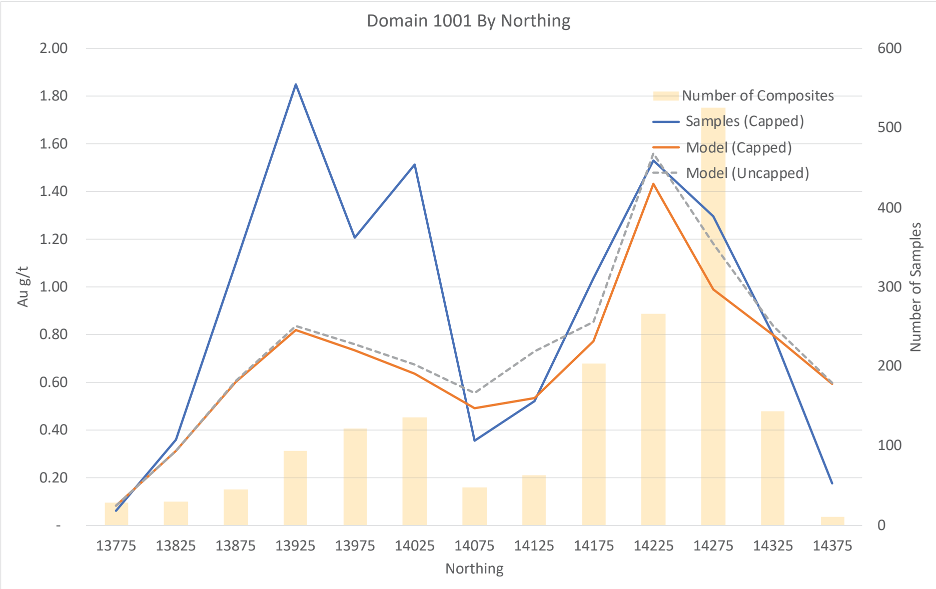

Domain 1005 By Bench RL
Au g/t
Number of Samples
Easting
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
3000
2500
2000
1500
1000
500
0
-175
-125
-75
-25
25
75
125
175
225
275
325

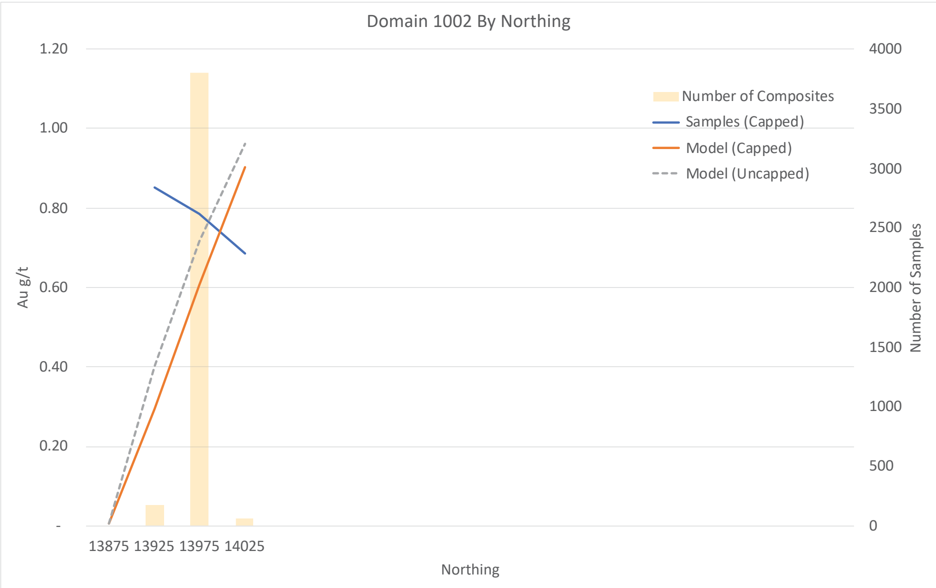

Domain 1006 By Bench RL
Au g/t
Number of Samples
Easting
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
0.70
0.60
0.50
0.40
0.30
0.20
0.10
-
6000
5000
4000
3000
2000
1000
0
-175
-125
-75
-25
25
75
125
175
225
275

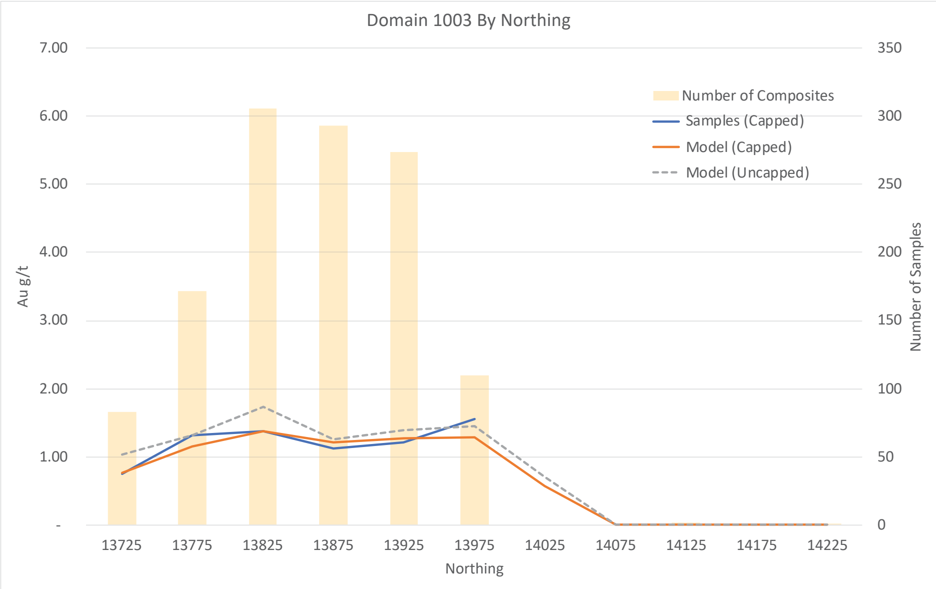

Domain 1007 By Bench RL
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
Au g/t
Number of Samples
Easting
0.60
0.50
0.40
0.30
0.20
0.10
-
6000
5000
4000
3000
2000
1000
0
-225
-175
-125
-75
-25
25
75
125
175
225

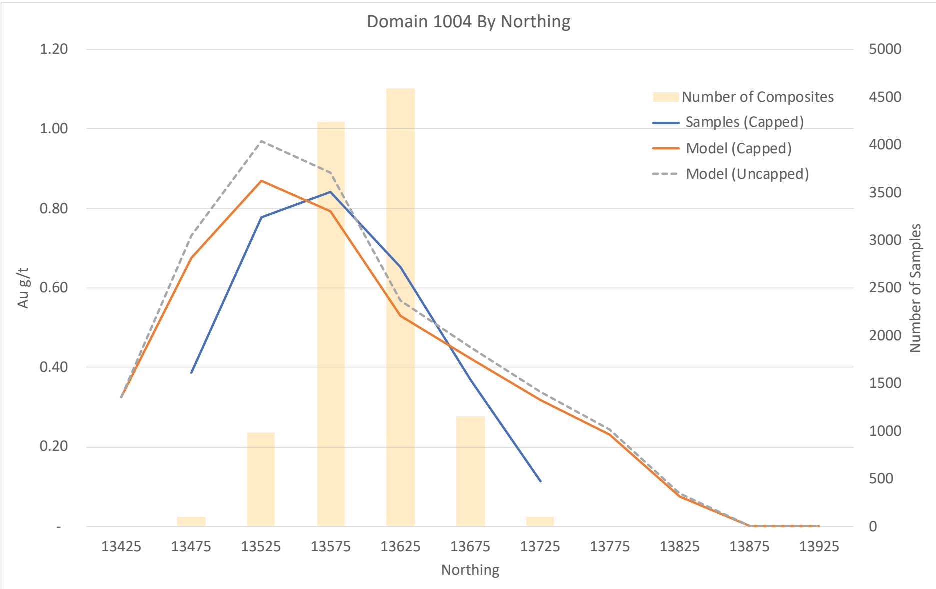

Domain 1008 By Bench RL
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
Au g/t
Number of Samples
Easting
0.60
0.50
0.40
0.30
0.20
0.10
-
700
600
500
400
300
200
100
0
-175
-125
-75
-25
25
75
125
175
225
275
325

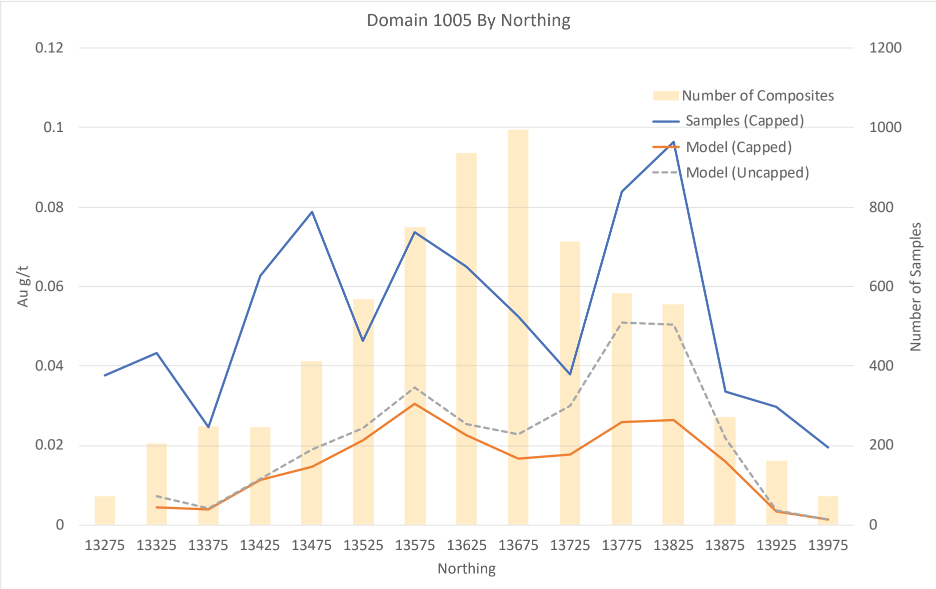
Appendix K Swath Plot – Northings

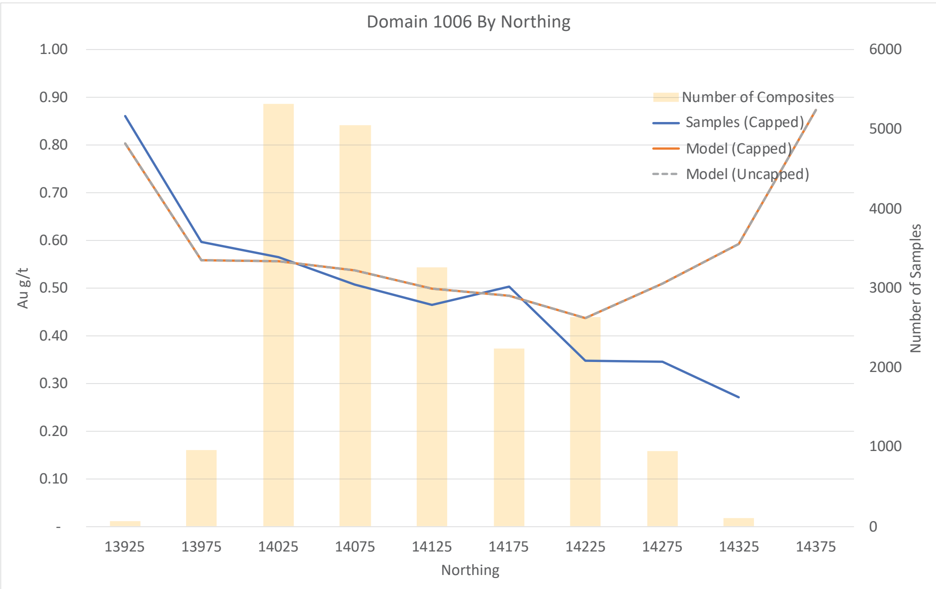


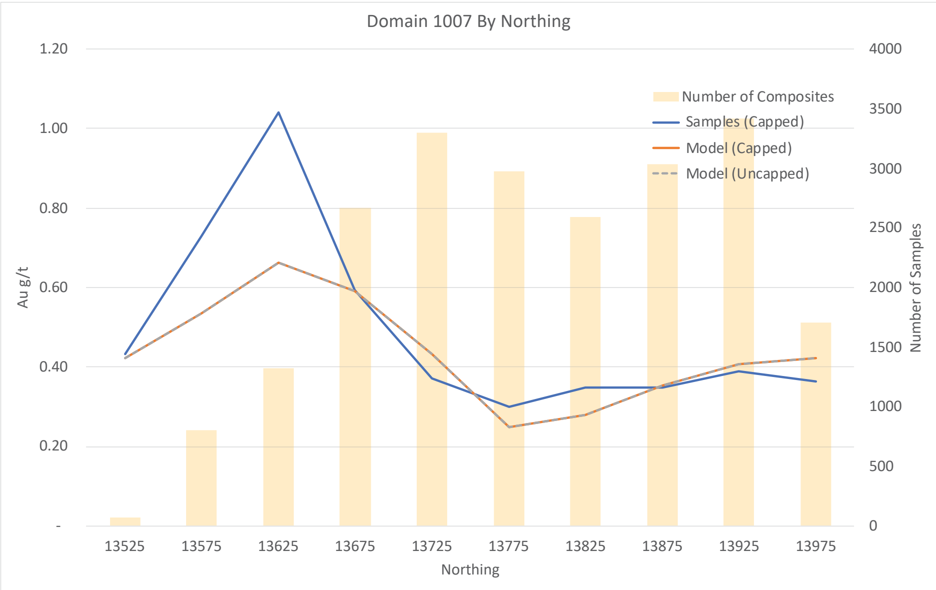


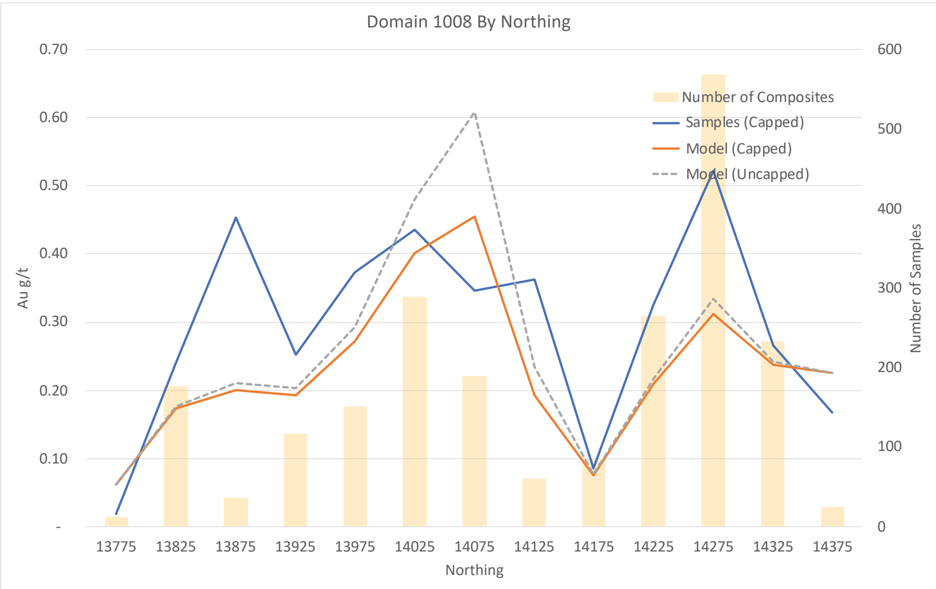

Domain 1003 By Northing
Au g/t
Number of Samples
Northing
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
7.00
6.00
5.00
4.00
3.00
2.00
1.00
-
350
300
250
200
150
100
50
0
13725
13775
13825
13875
13925
13975
14025
14075
14125
14175
14225


Domain 1004 By Northing
Au g/t
Number of Samples
Northing
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
1.20
1.00
0.80
0.60
0.40
0.20
-
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
13425
13475
13525
13575
13625
13675
13725
13775
13825
13875
13925


Domain 1005 By Northing
Au g/t
Number of Samples
Northing
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
0.12
0.1
0.08
0.06
0.04
0.02
0
1200
1000
800
600
400
200
0
13275 13325 13375 13425 13475 13525 13575 13625 13675 13725 13775 13825 13875 13925 13975

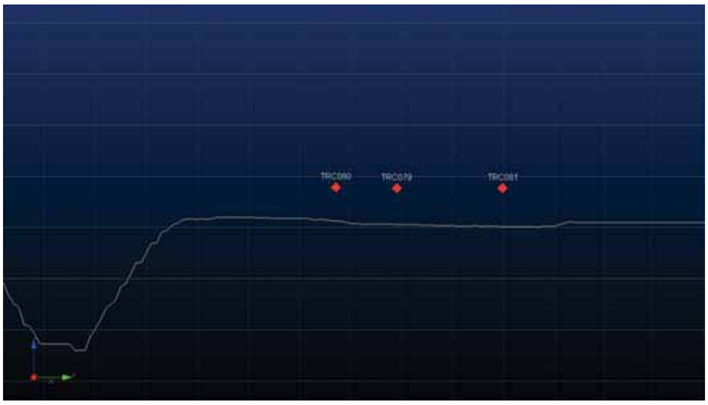

Domain 1006 By Northing
Au g/t
Number of Samples
Northing
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
-
6000
5000
4000
3000
2000
1000
0
13925 13975 14025 14075 14125 14175 14225 14275 14325 14375

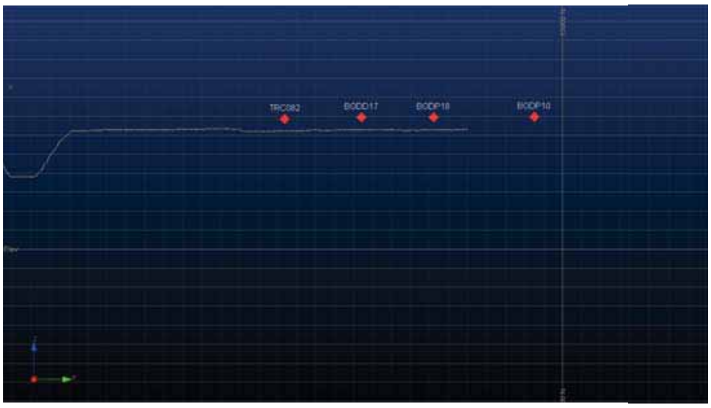

Domain 1007 By Northing
Au g/t
Number of Samples
Northing
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
1.20
1.00
0.80
0.60
0.40
0.20
-
4000
3500
3000
2500
2000
1500
1000
500
0
13525
13575
13625
13675
13725
13775
13825
13875
13925
13975

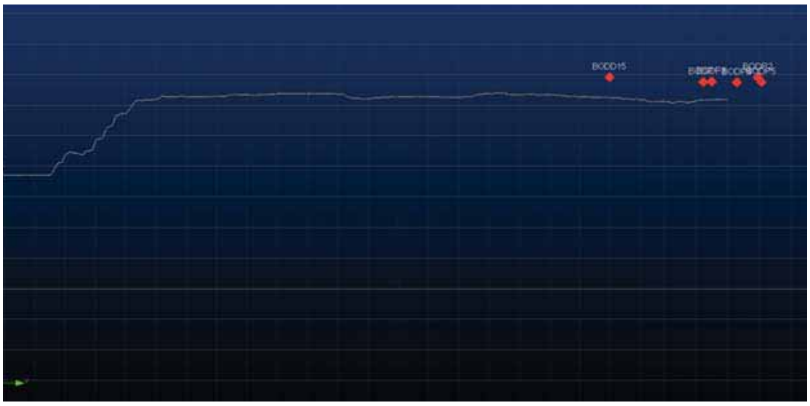

Domain 1008 By Northing
Au g/t
Number of Samples
Northing
Number of Composites
Samples (Capped)
Model (Capped)
Model (Uncapped)
0.70
0.60
0.50
0.40
0.30
0.20
0.10
-
600
500
400
300
200
100
0
13775
13825
13875
13925
13975
14025
14075
14125
14175
14225
14275
14325
14375

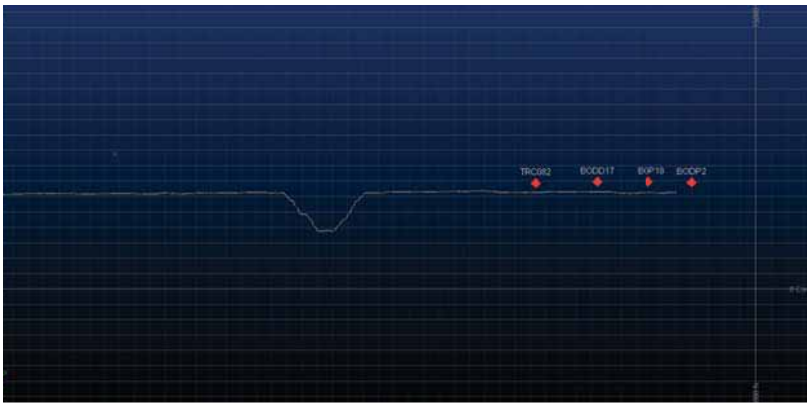
Appendix L Holes with suspect collars

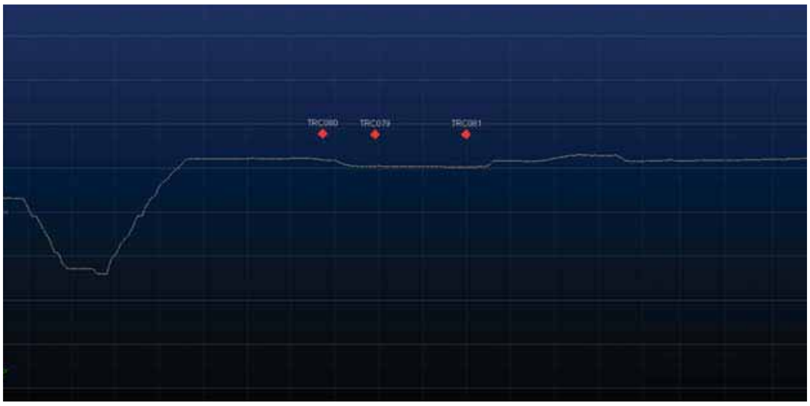
BODD15	BODP7
BODD16	BODP8
BODD17	BODP9
BODP1	TRC052
BODP10	TRC074
BODP11	TRC075
BODP18	TRC076
BODP2	TRC077
BODP3	TRC079
BODP4	TRC080
BODP5	TRC081
BODP6	TRC082







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Appendix M Scott Dunham – Brief CV

May 2017 – Present

SD2 Pty Ltd Principal Consultant and Director

- Resource estimation
- Resource audits and reviews
- Due Diligence investigations
- Reconciliation and grade control
- Variability and uncertainty studies
- Operational performance assessments
- Geometallurgical studies
- Training and professional development

March 2016 – October 2016

CRC ORE Ltd - Program Coordinator

- Research program coordination
- Foster collaboration between miners, METS and researchers
- Heterogeneity modelling and research
- Sensor, sampling and material evaluation adoption methodologies

August 2006 – February 2016

QG Australia Pty Ltd - Managing Director and Senior Principal Consultant

- Resource consulting including estimation, review/audit, advisory services
- Reconciliation and grade control
- Geometallurgical consulting
- Training and professional development

2004 – 2006

Newcrest Mining Limited – Technical Services Manager

2001 – 2004

WMC Resources Limited – Planning and Development Manager, Geology Manager

1998 – 2001

AMC Consultants – Senior Geologist

1994 – 1998

RGC Tasmania – Geology Manager Henty Gold Mine

1989 – 1994

Renison Goldfields Consolidated - Senior Geologist Renison Tin Mine

1987 – 1989

Mt Isa Mines Limited – Mine Geologist.

Ore Reserves Statement

Ravenswood Gold Mine

RAVENSWOOD GOLD

As at 11 September 2020

Prepared by Australian Mine Design and Development Pty Ltd

for

Ravenswood Gold Limited

Authors: John Wyche - AMDAD

Effective Date: 11 September 2020
Submitted Date: 11 September 2020

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Address:	PO Box 15366 City East QLD 4002	Level 4 46 Edward Street Brisbane QLD 4000	
Telephone:	61 7 3012 9256		61 419 299323
Facsimile:	61 7 3012 9284		
Email:	Chris.desoe@amdad.com.au		John.wyche@amdad.com.au

1 ORE RESERVES STATEMENT

1.1 SCOPE

The Ravenswood Gold Mine Ore Reserve deals with open cut mining of the Buck Reef West and Sarsfield-Nolans Pits as at 11th September 2020. The two adjacent open cut pits are being brought back into production to supply an expansion to the existing CIL processing facility at a lower cut-off grade and average head grade than the former full scale open cut mine which ceased operation in 2009. Open cut mining is due to re-commence in December 2020. The CIL process facility is currently treating reclaimed low grade stockpiles but will move to new mined ore from January 2021.

1.2 CONTRIBUTING PERSONS

The September 2020 Ore Reserve Statement prepared by AMDAD is supported by contributions from the persons listed in Table 2.

1.3 ACCORD WITH JORC CODE

This Ore Reserves Statement has been prepared in accordance with the guidelines of the Australasian Code for the Reporting of Resources and Reserves 2012 Edition (the JORC Code 2012).

The Competent Person signing off on the overall Ore Reserves Estimate is Mr John Wyche, of Australian Mine Design and Development Pty Ltd, who is a Fellow of the Australasian Institute of Mining and Metallurgy and who has 31 years of relevant experience in operations and consulting for open pit industrial minerals and metalliferous mines.

1.4 ORE RESERVES SUMMARY

The Ore Reserve Estimate is summarised in Table 1.

Table 1 Ravenswood Gold Mine Ore Reserves

Pit	Mt	Au g/t	Au koz
Sarsfield Nolans Pit			
Proved	34	0.7	700
Probable	56	0.6	1,100
Total Ore	91	0.7	1,900
Waste Rock	132	Wst:Ore	1.5
Buck Reef West Pit			
Proved	0	0.0	0
Probable	25	0.9	700
Total Ore	25	0.9	700
Waste Rock	77	Wst:Ore	3.1
Total Ore Reserve			
Proved	**34**	**0.7**	**700**
Probable	**81**	**0.7**	**1,900**
Total Ore	**115**	**0.7**	**2,600**
Waste Rock	**208**	**Wst:Ore**	**1.8**

Notes:

1. The tonnes and grades shown in the totals rows are stated to a number of significant figures reflecting the confidence of the estimate. The table may nevertheless show apparent inconsistencies between the sum of components and the corresponding rounded totals.
2. Au koz refers to contained gold in the mined ore before process recoveries are applied.
3. Wst:Ore is the ratio of Waste Rock tonnes to Ore tonnes
4. The Ore Reserves do not include substantial low-grade stockpiles left from the previous open cut mine which are currently being reclaimed and processed.
5. Waste rock tonnes for Sarsfield Nolans Pit include backfilled waste rock and coarse rejects which will be mined . They do not include tailings which will be dredged separately from the mine fleet.

1.5 SUMMARY OF MINE PLAN

At the time of preparing this Ore Reserve Estimate (September 2020) Ravenswood Gold Pty Ltd (RG) is in the process of re-commencing open cut mining at the Ravenswood Gold Mine to provide feed for the existing 5 Mtpa CIL process plant.

Gold has been mined from orebodies in and around the current Ravenswood mine area since 1868. Following depletion of the near surface oxide lodes historical production focussed on underground mining of the sulphide lodes with the majority of mining occurring between 1896 and 1912.

After a long hiatus modern mining began in the early 1980s with treatment of old mullock dumps and tailings dams. Operating history since 1985 has been:

- 1987 – Open cut mining of Buck Reef West to feed heap leach and 100ktpa CIL plant.
- 1993 – Expansion to 2.4 Mtpa CIL plant.
- 2000 – Expansion to 5.5 Mtpa CIL plant to take feed from the new Sarsfield-Nolans Pit.
- 2009 – Completion of Sarsfield Pit.
- 2011 – Plant scaled back to 1.5 Mtpa to take feed from Mt Wright underground mine.
- 2016 – Nolans East Pit mined to supplement Mt Wright production.

By 2019 production from Mt Wright was winding down. The then mine owner, Resolute Mining, proposed a major expansion based on mining and processing larger tonnages at lower grades from the Buck Reef West and Sarsfield-Nolans Pits. The plan is largely based on test work showing that material from Sarsfield-Nolans can be readily beneficiated with minimal loss of gold resulting in a significant reduction in processing costs.

RG acquired the project from Resolute Mining in early 2020. As of mid-2020 production from Mt Wright has ceased and all mill feed is coming from rehandled low grade stockpiles. The mill was re-furbished to bring it back up to 5 Mtpa capacity. Portable crushing and screening was established to allow beneficiation of the reclaimed low grade stockpiles and processing is currently performing in accordance with the predicted beneficiation recoveries and costs.

The life of mine plan is to proceed with the project expansion based on open cut mining of the Buck Reef West and Sarsfield-Nolans Pits. Production will initially come from Buck Reef West, which is not amenable to beneficiation, at 5 Mtpa. Additional crushing, screening and grinding capacity will be installed to allow the project to mill up to 7.1 Mtpa. As the Buck Reef West is depleted production will move to a pushback of the existing Sarsfield-Nolans Pit. All ore from Sarsfield-Nolans will be beneficiated which will require a maximum crushing rate of 11.83 Mtpa to achieve the maximum milling rate of 7.1 Mtpa.

Key aspects of the life of mine plan considered in the Ore Reserve Estimate include:

- Proximity of the pits to the Ravenswood township and heritage listed buildings and structures.
- Proximity of the Buck Reef West Pit to the Ravenswood cemetery.
- Formation of a noise bund around the new Buck Reef West Pit using waste rock from the pit to shield adjacent properties from the mining operation.
- Dredging of 28 Mt of tailings placed in the existing Sarsfield Pit since 2009.
- Placement of mine waste rock in the embankment of a preliminary expansion of the existing tailings storage facility to provide storage for the dredged tailings and new tailings from initial mine production.
- Placement of mine waste rock in subsequent expansions of the tailings storage facility to provide capacity for the life of mine tailings production.

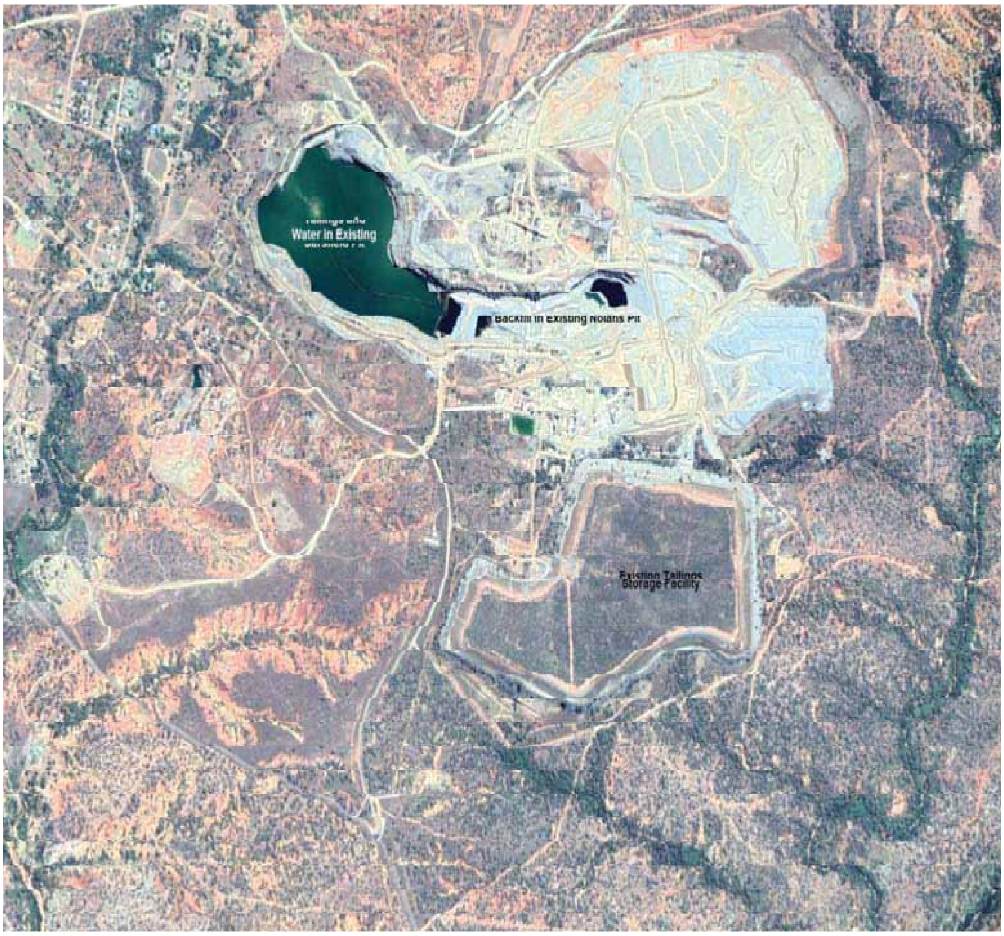

Figure 1 Existing Mine Area

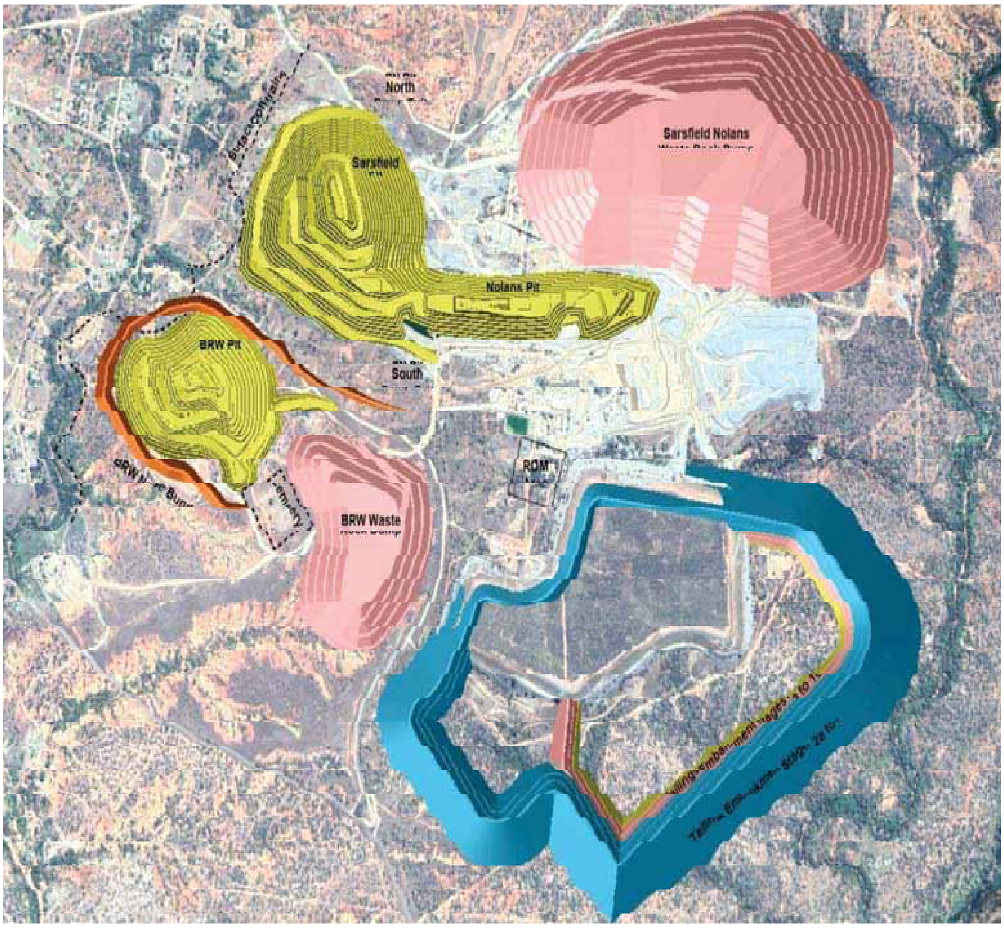

Figure 2 Life of Mine Plan Area

Table 2 Contributing Experts

Expert Person/Company	Area of Expertise	References / Information Supplied
Scott Dunham SD2	Mineral Resource Estimation	Mineral Resource Estimate
David Plowman Ravenswood Gold	Mining Manager	Mine operating costs, fleet capital estimates, design and scheduling
Glenn Harrison Ravenswood Gold	Processing Manager	Process plant design, test work and relevant capital and operating costs.
Alisa Wilkinson Ravenswood Gold	Environment, Approvals and Community Manager	Environmental studies and permitting/approvals
Andrew Lawry Ravenswood Gold	General Manager Projects	Expansion related capital input including process plant expansion, TSF construction and Sarsfield dredging
Ray McCarthy Ravenswood Gold	Commercial Manager	Financial modelling
David Mackay Ravenswood Gold	General Manager	Strategy and operational philosophy
John Wyche AMDAD Pty Ltd	Mining Engineering, Ore Reserves	Pit optimisation, design, scheduling. Competent Person for Ore Reserves.

The contributing experts listed above are responsible for elements of the Mineral Resource or Modifying Factors.

1.6 ORE RESERVE ASSESSMENT

Table 3 JORC Table 1 Section 4, Estimation and Reporting Ore Reserves

Sections 1, 2 and 3 of the following Table 1 are included in the 2020 Mineral Resource Estimates prepared by Scott Dunham of SD2 Pty Ltd.

JORC Code, 2012 Edition – Table 1

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. • Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Ore Reserve is based on Mineral Resource Estimates for Buck Reef West and Sarsfield-Nolans prepared by Mr Scott Dunham of SD2 Pty Ltd titled "Sarsfield-Nolans Mineral Resource Estimate July 2020" and "Buck Reef West Mineral Resource Estimate April 2020". The Mineral Resources for both Buck Reef West and Sarsfield-Nolans are inclusive of the Ore Reserves.
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 Competent Person for the Ore Reserve is Mr John Wyche of Australian Mine Design and Development Pty Ltd (AMDAD). Mr Wyche was unable to visit the site during 2020 due to the COVID19 pandemic. However, Mr Douglas Parbery, who is a full time employee of AMDAD, visited the site on 22 August 2019 as part of a due diligence review by the current owners. My Parbery inspected all areas of the mine and spoke with Resolute Mining personnel about the life of mine plan which is essentially the same as Ravenswood Gold plan. Mr Wyche is satisfied that information from Mr

Criteria	JORC Code explanation	Commentary
		Parbery's site visit and subsequent extensive discussions with current Ravenswood Gold personnel provide adequate support for the Ore Reserves.
Study status	• The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. • The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	Ravenswood is in the process of re-commencing open cut mining to provide feed for the existing CIL process plant. Studies and information supporting the Ore Reserve include: • Resolute Mining's Ravenswood Expansion Plan (REP200) document prepared during 2019. This is similar to Ravenswood Gold's current life of mine plan. • Due Diligence assessment by EMR Capital conducted during the second half of 2019 as part of the project purchase from Resolute Mining. This included check resource estimation, pit optimisation, processing reviews, capital and operating cost checks, production scheduling and financial modelling. • Updated Mineral Resource Estimates by SD2 for Buck Reef West and Sarsfield-Nolans prepared in the first half of 2020. • Slope stability assessments for Buck Reef West and Sarsfield-Nolans prepared for Resolute Mining and recent reviews of slope performance in the existing Sarsfield and Nolans East Pits. • Ravenswood Gold has been processing low grade stockpiles during 2020. These

Criteria	JORC Code explanation	Commentary
		stockpiles are being beneficiated and the processing data does not show material variances to the LOM assumptions. • Pit optimisation, designs and schedules prepared by Australian Mine Design and Development in conjunction with Ravenswood Gold mining personnel using the new Mineral Resource models and current process recoveries and operating cost forecasts from Ravenswood Gold. • Financial modelling by Ravenswood Gold. • A Life of Mine Plan report by Australian Mine Design and Development. Most of the inputs are based on current operations, such as process recoveries on low grade stockpiles, or actual purchases in progress, such as the mining fleet. The Sarsfield Pit was in operation from 2000 to 2009, Nolans East Pit has been in operation in the last five years and the CIL plant has been in operation for over 25 years. As such the information supporting the Ore Reserve for the revised large tonnage, lower grade operation is of at least Feasibility Study confidence.
Cut-off parameters	• The basis of the cut-off grade(s) or quality parameters applied.	The cut-off grade is defined as the gold head grade, after applying mining loss and dilution adjustments, for which the value of gold after applying CIL process recoveries just equals the ore costs. Ore costs include: • Incremental cost of mining a tonne of

Criteria	JORC Code explanation	Commentary
		material as ore instead of waste, • CIL processing costs per tonne, and • Site general and administration costs expressed as A$/tonne.

Pit		BRW	SN
Gold price	USD/oz	1500.00	1400.00
Exchange rate	AUD/USD	0.70	0.73
AUD gold price	AUD/g	68.89	61.66
Less realisation costs	AUD/g	4.06	3.69
Net gold price	AUD/g	64.84	57.97
Beneficiation recovery		N/A	95.0%
CIL recovery		91.5%	91.5%
Overall gold recovery		91.5%	86.9%
Recovered value	AUD/g	59.33	50.39
Incremental ore cost	AUD/t	0.23	0.23
Process cost	AUD/t	13.92	10.61
G&A cost	AUD/t	2.55	2.55
Total ore costs	AUD/t	16.70	13.39
Cut-off grade	**Au g/t**	**0.281**	**0.266**

Ore costs do not include the cost of mining a tonne of material as waste rock as the purpose of the cut-off grade is to determine whether a tonne of material exposed on the pit bench should be classed as ore or waste. If the recovered value exceeds the sum of the ore costs it will make money and so is ore. If the value is less than the ore costs it is waste.

Criteria	JORC Code explanation	Commentary
		The Buck Reef West cut off is calculated at a higher gold price and lower exchange rate on the basis that it will be mined first and so uses a shorter term gold price forecast. Sarsfield-Nolans uses the long term gold price and exchange rate forecast. All ore from Buck reef West will be processed without beneficiation resulting in a higher recovery and higher process costs per tonne crushed. All ore from Sarsfield-Nolans will be beneficiated resulting lower a lower process recovery but also lower process cost. AMDAD notes that the cut off grades of 0.281 g./t Au for Buck Reef West and 0.266 g/t Au for Sarsfield-Nolans are lower than the 0.3 g/t Au cut off used in the Mineral Resource estimates. However these cut off grades are run of mine values after application of mining loss and dilution adjustments which allow for inclusion of lower grade material with the 0.3 g/t Au resource.
Mining factors or assumptions	• The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). • The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. • The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc).	All ore and waste from Buck Reef West and Sarsfield-Nolans will be mined by conventional open cut methods using large hydraulic excavators and rigid body dump trucks. Open cut mining is appropriate for the relatively low grades and distribution of gold mineralisation within the depth range of the proposed pits. Underground mining may be an option for deeper high grade zones in Buck Reef West but this is beyond the scope of the current mine plan. Pit wall overall slopes and berm / batter configurations are based on a 2016 geotechnical assessment

Criteria	JORC Code explanation	Commentary
	grade control and pre-production drilling. • The major assumptions made, and Mineral Resource model used for pit and stope optimisation (if appropriate). • The mining dilution factors used. • The mining recovery factors used. • Any minimum mining widths used. • The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. • The infrastructure requirements of the selected mining methods.	prepared by Dempers and Seymour for Resolute Mining and a series of recent pit wall inspections. The current Nolans Pit void and a small part of the adjoining Sarsfield Pit void includes 16.8Mt of backfilled mine waste from the former Sarsfield mining operation and coarse rejects from the current beneficiation of low grade stockpiles. This backfill will be mined as waste without blasting. The rest of the ore and waste to be mined is rock which will require blasting. The current Sarsfield Pit void holds 28 Mt of tailings from processing of Mt Wright and Nolans East ore covered by up to 15 metres depth of water. The in pit tailings will be dredged and placed in a new expansion to the tailings storage facility ahead of mining in the Sarsfield area of the new Sarsfield-Nolans Pit. Pit designs are guided by Whittle™ pit optimisations run by AMDAD using cost, revenue and process recovery inputs supplied by Ravenswood Gold and the current Mineral Resource models from SD2. The Mineral Resource models are a combination of MIK and OK estimates with gold grades presented as a single grade per block. The blocks are sub-blocked against interpreted mineralisation wireframes to model shapes of the lodes. AMDAD modelled mining loss and dilution by re-blocking the Mineral Resource to a fixed 5x5x5 metre block size on the basis that this would represent a workable mining unit size for the production rates which will range from 5 to 11.8 Mtpa of ore feed. Re-blocking to this size mixes smaller

Criteria	JORC Code explanation	Commentary
		sub-blocked resource blocks with the surrounding blocks resulting in dilution along the margins of the potential ore zones. The pits are in close proximity to the Ravenswood township, Ravenswood cemetery and several heritage listed structures. Surface constraints were applied to prevent the pit crests coming closer than the proscribed distances from these items. Mining bench widths on pushbacks, including the Sarsfield Pit which is a pushback of the existing pit, are designed to a minimum width of 50 metres. There is a short section on the north west wall of Sarsfield Pit in the top 60 metres where proximity to the adjacent church and the current Sarsfield pit void results in unacceptably narrow benches. Pit ramps are placed either side of this pinch point to access the benches until the existing pit void steps in below RL240. Buck Reef West and, to a lesser extent, Nolans contain extensive historical underground workings. These have been mapped and excluded from the Mineral Resource. It is recognised that open cut mining through old underground workings may impact production in Buck Reef West. Alternative production schedules were prepared shifting mining priority to Sarsfield-Nolans to demonstrate that mitigation strategies are available if the Buck Reef West workings create excessive delays. The pit optimisations run to define the Buck Reef West and Sarsfield-Nolans Pits only considered Measured and Indicated Mineral resources. Inferred

Criteria	JORC Code explanation	Commentary
		was treated as waste. The life of mine production schedules include a small amount of Inferred (<4% of tonnes). Checks were done to ensure the pits would be viable without Inferred. The mine plan is an expansion of an existing project. The CIL process plant currently has capacity to crush and mill 5 Mtpa. All engineering and much of the procurement to expand to 12 Mtpa crushing and 7.1 Mtpa grinding and CIL over the next two years is in place. The expansion will include a major extension to the tailings storage facility with the bulk of the embankment fill coming from mine waste rock. All other necessary support infrastructure such as power supply, water supply and accommodation is either in place or in included in the expansion plan.
Metallurgical factors or assumptions	• The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. • Whether the metallurgical process is well-tested technology or novel in nature. • The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. • Any assumptions or allowances made for deleterious elements. • The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.	CIL processing of the Ravenswood gold ore has been conducted since the late 1980s. The existing 5.5 Mtpa facility processed ore from Sarsfield-Nolans between 2000 and 2009 then was de-rated to process Mt Wright and Nolans East ore at 1.5 Mtpa. In late 2019 the mills were re-furbished to bring it back up to 5 Mtpa. It is currently treating feed from reclaimed low grade stockpiles. Test work through 2018 and 2019 showed that simple crushing and screening of the Sarsfield-Nolans material can remove up to 40% of the gangue with only 5% gold loss. The saving on grinding and leaching costs exceeds the value of lost gold providing a higher margin and allowing processing of lower grades. Beneficiation is currently being used on

	• For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	reclaimed low grade stockpiles. Buck Reef West mineralisation is not amenable to beneficiation and will be processed normally. Process recoveries and costs are based on many years of operation including current beneficiation of low grade stockpiles. Forecast recoveries and costs for the expansion project have a high degree of confidence.
Environmental	• The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Ravenswood Gold has sufficient approvals in place in regards to the environmental authority associated with the operational tenements which permits mining of the Sarsfield and Buck Reef West pits, construction of tailings and waste storage facilities, operation of the ore crushing and processing plants and ancillary activities to the mining operations. Ravenswood Gold holds all major approvals required to facilitate commencement of the expansion project.
Infrastructure	• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.	The mine plan is an expansion of an existing project. The CIL process plant currently has capacity to crush and mill 5 Mtpa. All engineering and much of the procurement to expand to 12 Mtpa crushing and 7.1 Mtpa grinding and CIL over the next two years is in place. The expansion will include a major extension to the tailings storage facility with the bulk of the embankment fill coming from mine waste rock. All other necessary support infrastructure such as power supply, water supply and accommodation is either in place or in included in the expansion plan.
Costs	• The derivation of, or assumptions made, regarding projected capital costs in the study.	Ravenswood Gold is in the process of re-commencing open cut mining and CIL processing operations.

Criteria	JORC Code explanation	Commentary
	• The methodology used to estimate operating costs. • Allowances made for the content of deleterious elements. • The source of exchange rates used in the study. • Derivation of transportation charges. • The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. • The allowances made for royalties payable, both Government and private.	Experienced technical, management and administrative staff have been in place through most of 2020, including key personnel from the former Resolute Mining operation. Resolute Mining had advanced operating and capital cost estimates in place for the expansion in 2019. Each department in Ravenswood Gold has built these up into detailed first principles cost estimates which are currently being implemented. The mine will be run as an owner operation. Orders for the mining fleet are in place with a recent validation of excavator and truck fleet numbers against the new life of mine schedule. Mine operators are currently being employed. Explosives supply contract LOI has been issued. Final commercial documents are being prepared for negotiation and execution. Blast hole drilling tenders have been received and are currently undergoing technical and financial review. Process operating cost forecasts are based on a long and current operating history. Expansion capital costs are based on detailed engineering and final vendor quotes. Administrative and supply costs are current. Queensland Government royalties are set by the Office of State Revenue. USD / AUD exchange rates are the approximate median from a range of well qualified international and domestic forecasters. The exchange rate of 0.70 for

Criteria	JORC Code explanation	Commentary
		Buck Reef West is the five year forecast. The exchange rate of 0.73 for Sarsfield-Nolans is the long term forecast.
Revenue factors	• The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. • The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	USD gold prices used are the approximate median from a range of well qualified international and domestic forecasters. The price of US$1500/oz for Buck Reef West is the five year forecast. The price of US$1400/oz for Sarsfield-Nolans is the long term forecast.
Market assessment	• The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. • A customer and competitor analysis along with the identification of likely market windows for the product. • Price and volume forecasts and the basis for these forecasts. • For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Gold is a readily marketable commodity. Demand is not an issue but the gold price can be variable. Gold price forecasts are as discussed under "Revenue Factors".
Economic	• The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. • NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Ravenswood Gold has prepared a detailed life of mine financial model based on pit designs and production schedules prepared by AMDAD in conjunction with Ravenswood Gold mining personnel. The schedules use current operating and capital cost estimates as set out in this Table 1. Sensitivity analyses of the project NPV show that it

Criteria	JORC Code explanation	Commentary
		retains significant value with variations of ±10% around the Base Case values used for the US$ gold price, operating costs and discount rate. It is most sensitive to the gold price.
Social	• The status of agreements with key stakeholders and matters leading to social licence to operate.	Mining and processing operations at Ravenswood are governed by proximity, noise, vibration and dust constraints to protect residents, dwellings and heritage listed structures in the adjacent Ravenswood township and properties. Protections include formation of noise bunds to shield the pits from adjacent properties.
Other	• To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: • Any identified material naturally occurring risks. • The status of material legal agreements and marketing arrangements. • The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	Ravenswood Gold owns sufficient mining leases associated with the Ravenswood Gold Mine as well as additional mining leases and exploration tenements in the wider region to allow the project to proceed. Ravenswood Gold has sufficient approvals in place in regards to the environmental authority associated with the operational tenements which permits mining of the Sarsfield and Buck Reef West pits, construction of tailings and waste storage facilities, operation of the ore crushing and processing plants and ancillary activities to the mining operations. Ravenswood Gold holds all major approvals required to facilitate commencement of the expansion project.
Classification	• The basis for the classification of the Ore Reserves into varying confidence categories.	The modifying factors for conversion of the Mineral resource to the Ore Reserve are well understood for Ravenswood so the Ore Reserve categories are

Criteria	JORC Code explanation	Commentary
	• Whether the result appropriately reflects the Competent Person's view of the deposit. • The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	based solely on the Mineral Resource categories. Probable Ore reserves are derived from Indicated Mineral Resources. Proved Ore Reserves are derived from Measured Mineral Resources. No reasons were identified to cause Measured Mineral Resources to be converted to Probable Ore Reserves. The Ore Reserve does not include any Inferred Mineral Resources. In the opinion of the Competent Person for the Ore Reserves, Mr John Wyche, classification of the Proved and Probable Ore Reserve is an accurate reflection of the high degree of confidence for a mine plan based on many years of operating history, current approved permitting and detailed actual and forecast costs as the project moves into production.
Audits or reviews	• The results of any audits or reviews of Ore Reserve estimates.	No external audits of the Ore Reserve estimate have been undertaken.
Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it relates	Historical and current operating history and detailed cost estimation based on actual tendered prices gives a high degree of confidence in the modifying factors for conversion of the Mineral Resource to an Ore Reserve. For this reason accuracy and confidence in the Ore Reserve is largely related to accuracy and confidence in the Mineral Resource. The re-blocking method used to estimate mining loss and dilution is a reasonable way of balancing mining selectivity with required production rates. Areas of the Mineral Resource classified as Indicated

Criteria	JORC Code explanation	Commentary
	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. • Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. • It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	are expected to provide a good global estimate of contained gold, although there will be some variation in Ore Reserve to as mined reconciliations on a month to month basis. This applies to all of Buck Reef West Pit and parts of the Sarsfield-Nolans Pit. Measured Mineral Resource areas in the Sarsfield-Nolans Pit are expected to provide a very good global estimate of contained gold and a good local estimate of tonnes and gold grade with less variability in Ore Reserves to as mined reconciliations on a month to month basis. This assessment of accuracy and confidence in the Ore Reserve assumes that that grade control will be conducted as proposed.

1.7 RESOURCE AND RESERVE CATEGORIES – EXPLANATION

According to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code) 2012 Edition:-

A 'Mineral Resource' is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve.

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 or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The guidelines in the JORC Code state that the term 'economically mineable' implies that extraction of the Ore Reserves has been demonstrated to be viable under reasonable financial assumptions. This will vary with the type of deposit, the level of study that has been carried out and the financial criteria of the individual company. For this reason, there can be no fixed definition for the term 'economically mineable'.

A 'Probable Ore Reserve' is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Ore Reserve is lower than that applying to a Proved Ore Reserve.

A 'Proved Ore Reserve' is the economically mineable part of a Measured Mineral Resource. A Proved Ore Reserve implies a high degree of confidence in the Modifying Factors.

The guidelines provided in the JORC Code note that "A Proved Ore Reserve represents the highest confidence category of reserve estimate and implies a high degree of confidence in geological and grade continuity, and the consideration of the Modifying Factors. The style of mineralisation or other factors could mean that Proved Ore Reserves are not achievable in some deposits."

The following figure, from the JORC Code, sets out the framework for classifying tonnage and grade estimates to reflect different levels of geological confidence and different degrees of technical and economic evaluation.

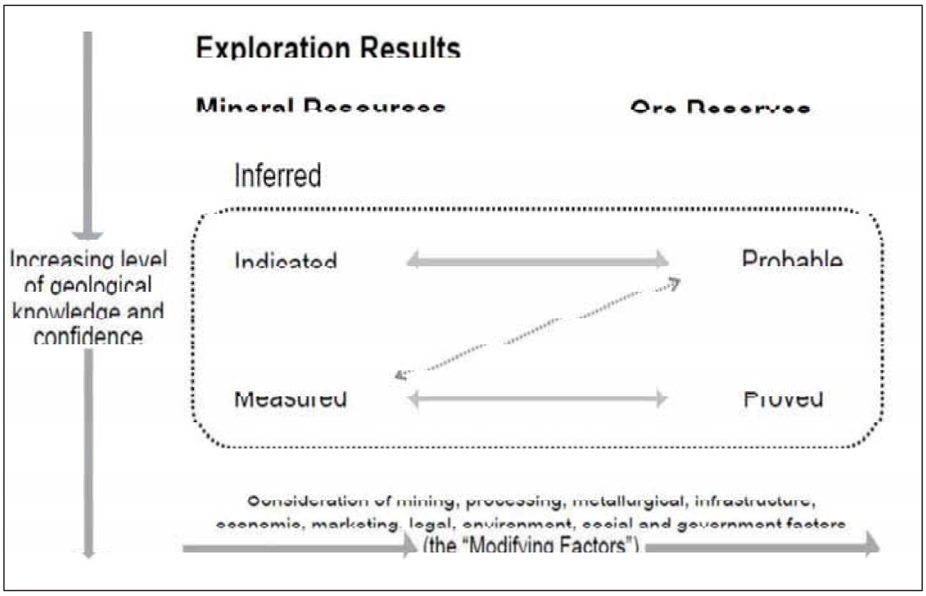

Figure 3 General relationship between Exploration Results, Mineral Resources and Ore Reserves, from 2012 JORC Code Figure 1

Mineral Resources can be estimated on the basis of geoscientific information with some input from other disciplines. Ore Reserves, which are a modified sub-set of the Indicated and Measured Mineral

Resources (shown within the dashed outline in the Figure above), require consideration of the Modifying Factors affecting extraction, and should in most instances be estimated with input from a range of disciplines.

Measured Mineral Resources may be converted to either Proved Ore Reserves or Probable Ore Reserves. The Competent Person may convert Measured Mineral Resources to Probable Ore Reserves because of uncertainties associated with some or all of the Modifying Factors which are taken into account in the conversion from Mineral Resources to Ore Reserves.

Inferred Resources cannot convert to Ore Reserves.

RAVENSWOOD GOLD PROJECT

QUEENSLAND AUSTRALIA

GOLDEN ENERGY AND RESOURCES LIMITED
AND
EMR CAPITAL

INDEPENDENT QUALIFIED PERSONS TECHNICAL
AND
VALUATION REPORT

November 2020

Report Prepared for

GOLDEN ENERGY AND RESOURCES LIMITED

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18 November 2020

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INDEPENDENT QUALIFIED PERSONS TECHNICAL AND VALUATION REPORT

RAVENSWOOD GOLD PROJECT

QUEENSLAND - AUSTRALIA

BEHRE DOLBEAR AUSTRALIA PTY LIMITED

1.0 INTRODUCTION

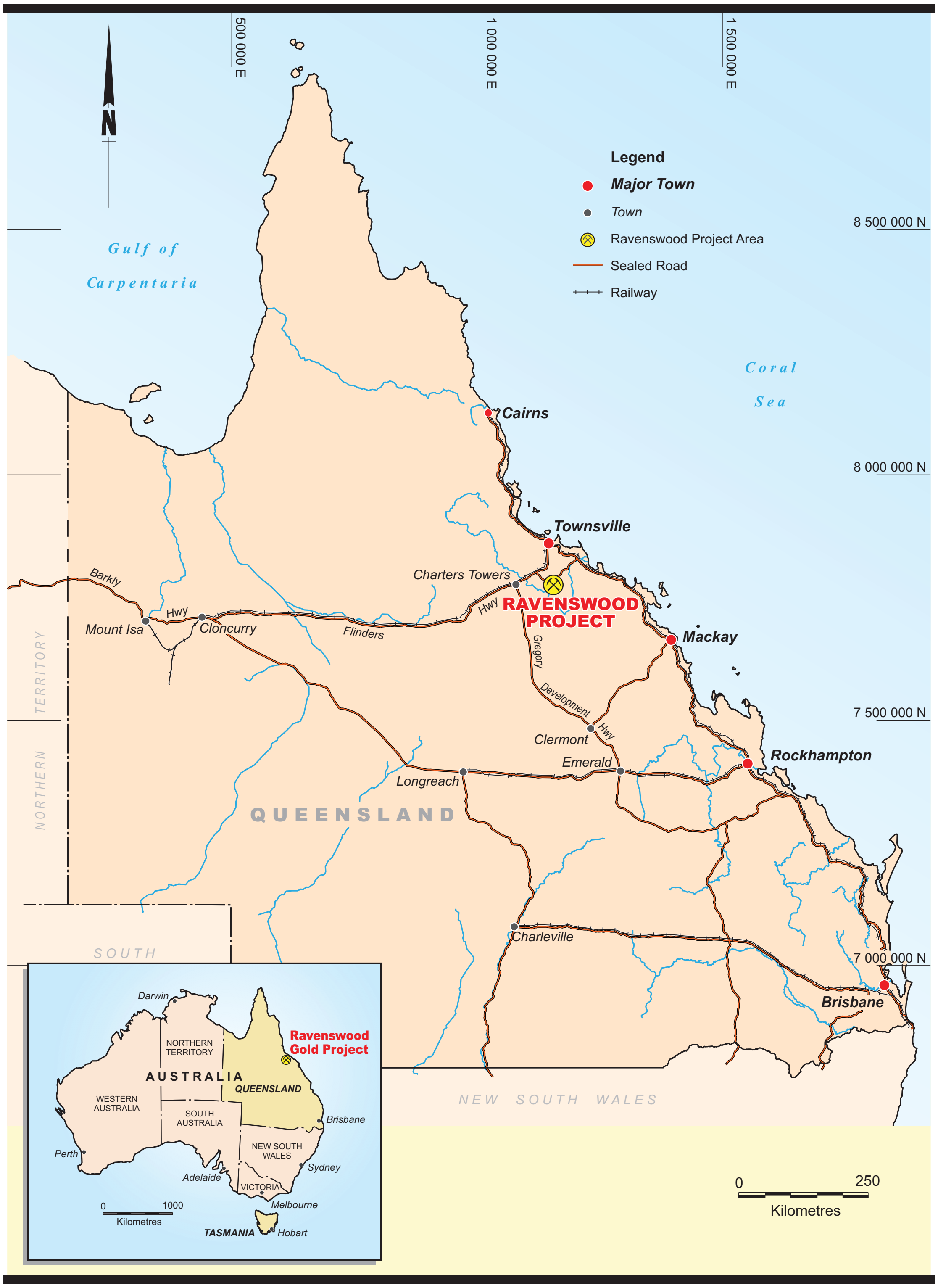
Golden Energy and Resources Limited ("GEAR") has requested that Behre Dolbear Australia Pty Limited ("BDA") undertake an independent technical and valuation assessment of the Ravenswood Gold Project ("Ravenswood project" or "the project"), and prepare an Independent Qualified Persons Technical and Valuation Report for submission to the Singapore Exchange ("SGX"), in connection with the investment by GEAR (by way of shares or shareholder loans) of up to A$60 million ("M") in Ravenswood Gold Group Pty Ltd ("the Proposed Acquisition").

The Ravenswood project is located approximately 120 kilometres ("km") south of Townsville and 60km east of Charters Towers, in northeastern Queensland (Figure 1) and is 100% owned by Ravenswood Gold Pty Ltd ("RGPL" or "the Company"). GEAR and EMR Capital ("EMR"), collectively "the GEAR EMR Consortium", each own 50% of Ravenswood Gold Group Pty Ltd which owns 100% of Ravenswood Gold Holdings Pty Ltd which in turn owns 100% of RGPL.

Ravenswood is a mature operation and has been in continuous production since 1987. Mining of the underground Mt Wright orebody, 10km northwest of the Ravenswood processing plant, was completed in 2019. The operation is currently processing low grade stockpiles. RGPL is planning a strip-back and expansion of the existing open pits, namely Buck Reef West ("BRW"), and Sarsfield-Nolans (Figure 2), together with an expansion of the existing processing facilities and construction of a new tailings storage facility ("TSF").

The project area comprises 38 granted Mining Leases ("MLs") with a total area of 28.75 square kilometres ("km^2") together with 13 Mineral Exploration Permits ("EPMs") (Figure 3). A Feasibility Study has been undertaken on the proposed expansion and re-development project. Updated Mineral Resource and Ore Reserve estimates have been undertaken on BRW and Sarsfield-Nolans, and pit plans and mine schedules prepared. Discussions are underway with equipment suppliers for purchase of a new mining fleet. Design work has been undertaken on the upgrade of the processing plant and orders are being placed for additional crushing, grinding and screening facilities and additional tankage. Plans have been prepared for expansion of the current TSF (Figure 2).

BDA is based in Sydney, Australia. BDA has conducted its review and valuation in accordance with Australian and international mining industry standards and the requirements of the VALMIN Code (Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets - 2015) and in compliance with the Code and Guidelines for Reporting Exploration Results, Mineral Resources and Ore Reserves - Joint Ore Reserve Committee of the Australasian Institute of Mining and Metallurgy ("AusIMM"), Australian Institute of Geoscientists ("AIG") and Minerals Council of Australia ("MCA") - December 2012 ("the JORC Code"). This report has been prepared in accordance with the Listing and Disclosure requirements of the Singapore Exchange for Main Board Listed Companies in relation to disclosures by Mineral, Oil and Gas Companies. BDA confirms that it is appropriately qualified in terms of both the requirements of the VALMIN Code and as a Qualified Person under SGX requirements.



Ravenswood Gold *Ravenswood Project*

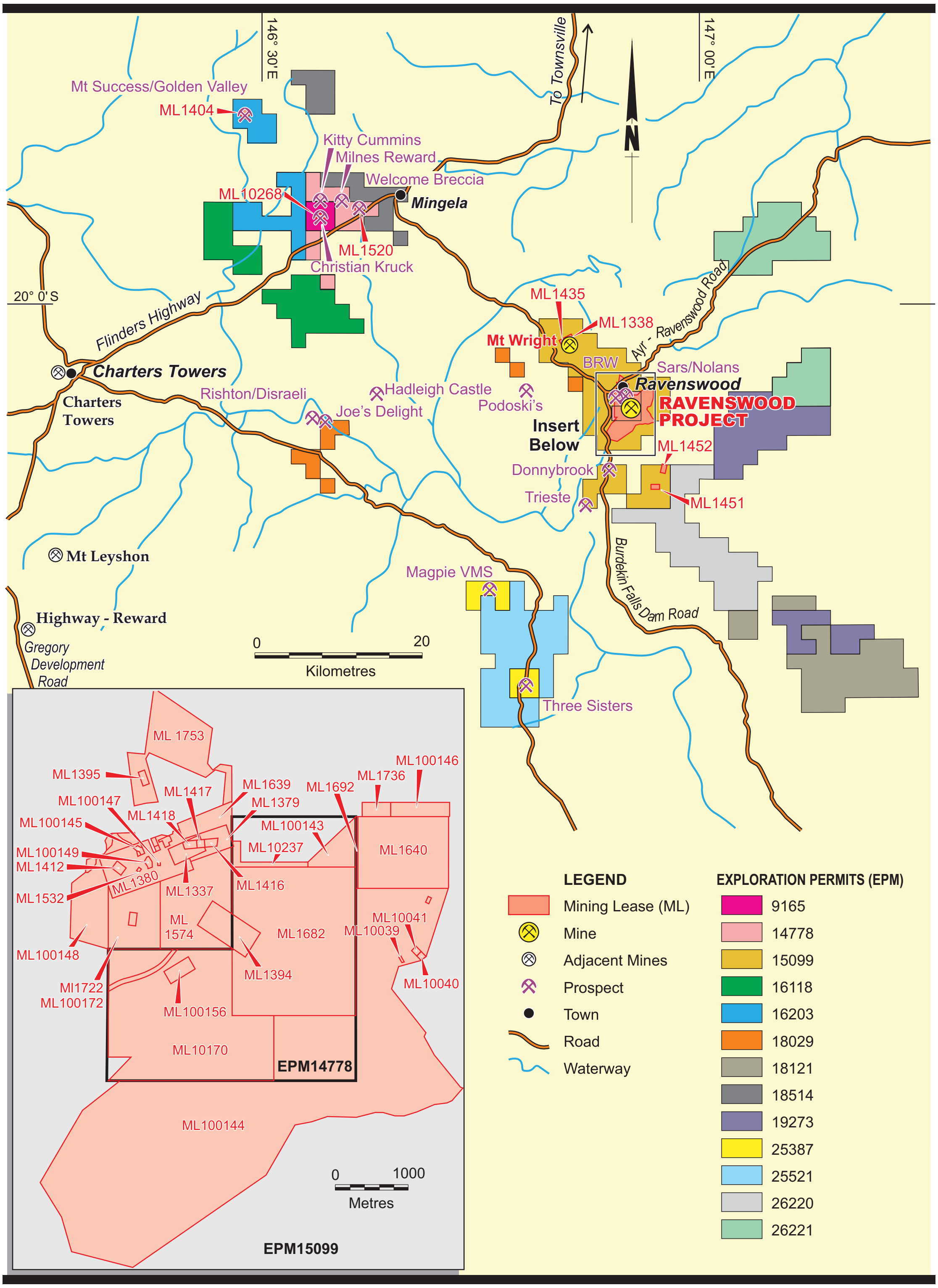
Figure 1 **PROJECT LOCATION PLAN**

BDA - 215 (01 - August 2020) Behre Dolbear Australia Pty Ltd

Ravenswood Gold *Ravenswood Project*

Figure 2 **SITE LAYOUT PLAN**

BDA - 215 (01 - August 2020) Behre Dolbear Australia Pty Ltd



Ravenswood Gold *Ravenswood Project*

Figure 3 **EXPLORATION PERMITS AND MINING LEASES**

BDA - 215 (01 - August 2020)

Behre Dolbear Australia Pty Ltd

BDA is the Australian subsidiary of Behre Dolbear & Company Inc., an international minerals industry consulting group which has operated continuously worldwide since 1911, with offices or agencies in Denver, Hong Kong, London, New York, Toronto, Santiago, and Sydney. Behre Dolbear specialises in mineral evaluations, due diligence studies, independent expert reports, independent engineer certification, valuations, and technical audits of resources, reserves, mining and processing operations and project feasibility studies. BDA has been involved in numerous such studies and Independent Engineer/Independent Technical Expert assignments in recent years; BDA has prepared independent technical reports for IPOs and equity fund raising purposes on the Australian, Hong Kong, Singapore, Toronto and London exchanges.

The technical review and valuation work have been conducted by Mr Malcolm Hancock, Executive Director of Behre Dolbear Australia, Mr John McIntyre, Managing Director of BDA and Mr Mark Faul General Manager of BDA. Mr Hancock is a qualified professional geologist with more than 45 years of relevant experience. Mr McIntyre and Mr Faul are qualified professional mining engineers with 40 years and 35 years respectively of relevant experience. All are Fellows of the Australasian Institute of Mining and Metallurgy (AusIMM), and Mr Hancock and Mr McIntyre are Members of the Australian Institute of Mineral Valuers and Appraisers (“AIMVA”).

Mr Hancock and Mr McIntyre undertook a site inspection as part of the review, together with BDA Senior Consultants, Mr Joe Pease (Processing), Mr Adrian Brett (Environmental and Community) and Mr Andrew Wollaston (Engineering), all of whom contributed to preparation of the technical report. All BDA Associates and Consultants are Fellows or Members of the AusIMM or equivalent professional bodies and all fulfil the necessary requirements in terms of technical and professional qualifications and experience, and in terms of Professional Society membership and affiliations to qualify as Qualified Persons under SGX listing rules.

BDA’s assessment covers the technical areas of geology, exploration, drilling, sampling, resource and reserve estimation, mining, mineral processing, infrastructure, power and utilities, environmental and community aspects, licensing, permitting and approvals.

BDA’s valuation assessment has considered the industry standard valuation methodologies and the relevance of each to an assessment of the value of the project. As an operating mine, with an established history, a detailed feasibility study and life of mine (“LOM”) plan covering future production and capital and operating costs, BDA considers that a discounted cash flow analysis is the appropriate and industry-standard approach for determining an appropriate project valuation. BDA has also considered relevant recent transactions, comparable transactions, yardstick data, other published valuations and exploration expenditure, and has also applied these methods in assessing a value of project and associated exploration tenements.

BDA visited the Ravenswood project site during August 2020. As part of its due diligence review, BDA inspected the mining and processing operations, the existing and planned TSF and environmental programmes and held discussions with operations’ management, technical staff and principal consultants on site and in RGPL’s Brisbane offices. RGPL has provided relevant reports, studies and project documentation and data as background for the review.

BDA confirms that BDA, its partners, directors, substantial shareholders and associates (“BDA and Associates”) are independent of all relevant parties, including GEAR and EMR and their directors, substantial shareholders, advisers and associates. BDA and Associates do not have any interest, direct or indirect, in GEAR, its subsidiaries or associated companies, or the assets or parties involved. BDA confirms that it has not and will not receive benefits (direct or indirect) other than remuneration paid to BDA in connection with this report. BDA will be paid a fee for this report comprising its normal professional rates and reimbursable expenses. The fee is not contingent on the conclusions of this report.

BDA has not undertaken an audit of the data or re-estimated the resources or reserves. BDA has not independently verified the current ownership status and legal standing of the tenements that are the subject of this report, but has relied on independent tenement certification and inspection of Queensland Government records provided by RGPL for BDA’s review.

This report contains forecasts and projections based on data provided by RGPL. However, these forecasts and projections cannot be assured and factors both within and beyond the control of RGPL could cause the actual results to be materially different from BDA’s assessments and estimates contained in this report. BDA has made reasonable enquiries and exercised judgment on the reasonable use of such information and found no reason to doubt the accuracy or reliability of the information provided. In preparing this report, BDA has taken into account all relevant information supplied to BDA by GEAR and RGPL.

The sole purpose of this BDA report is for use by GEAR, its advisors and shareholders in connection with the Proposed Acquisition and the listing requirements of the SGX, and should not be used or relied upon for any other purpose. A draft copy of this report has been provided to GEAR and RGPL for correction of any material errors or omissions. Neither the whole nor any part of this report nor any reference thereto may be included in or with or attached to any document or used for any other purpose, without BDA's written consent to the form and context in which it appears, except as required by law or by the rules of the Listing Manual of the SGX and other requirements of the SGX.

In this regard, BDA acknowledges that this report is intended to be used for the purposes of the Proposed Acquisition (including reference to and/or inclusion in a shareholders' circular or other documents in connection with the Proposed Acquisition). The foregoing sentence constitutes BDA's approval and consent to the aforesaid use of BDA's report.

2.0 EXECUTIVE SUMMARY – RAVENSWOOD GOLD PROJECT

2.1 Background

This Ravenswood Gold Project Independent Qualified Persons Technical and Valuation Report has been prepared by Behre Dolbear Australia Pty Limited (BDA) for Golden Energy and Resources Limited (GEAR) for submission to the Singapore Exchange (SGX) in accordance with the SGX Main Board Listing Rules.

BDA has conducted an independent technical and environmental review and valuation of the Ravenswood Gold project in northeastern Queensland, based on visits to the project site, review of Company reports as provided in the virtual data room and discussions with management and technical staff and Company consultants.

BDA has reviewed available data relating to the resource and reserve estimates, the mining plans, schedules and mine operations, metallurgical testwork, process flowsheet and plant operations, infrastructure facilities, environmental issues including waste and tailings storage, historical mine production, life of mine production forecasts and capital and operating cost projections.

BDA has undertaken a valuation of the project in accordance with the VALMIN Code, based on the resources and reserves, the proposed LOM plan and production profile and capital and operating costs, applying the discounted cashflow or net present value method. BDA has also considered alternative means of valuation including recent transactions, comparable transactions, yardstick data, other independent expert valuations and exploration expenditure to assess a likely range of project values and a value of the exploration tenements.

The valuation principles adopted by BDA are reviewed in Section 3. Section 4 provides a Risk Summary and Sections 5-17 provide a more detailed background to the technical components of the project. The valuation of the assets is discussed in Section 18.

2.2 Location, Ownership, History

Location, Topography and Climate

The Ravenswood gold mine is located in northeastern Queensland, 120km south of Townsville and 60km east of Charters Towers (Figure 1). Access is via the Flinders Highway, southwest from Townsville towards Charters Towers as far as Mingela, and from there, south along the Burdekin Falls Dam Road to the township of Ravenswood, which has a population of around 200. The Ravenswood open pits, mine offices and processing plant lie to the immediate south of the township (Figure 2).

The project compromises both mining and exploration tenements. The mine area topography is relatively flat, but undulating, and the vegetation is sparse and scrubby. The area is on the edge of the north Australian monsoonal belt with the bulk of the annual rainfall occurring from November through April; annual rainfall is around 680mm. Temperatures range up to peaks of 40°C between October and March, with mild daily temperatures and cool nights from April to September.

Ownership

The project is owned by Ravenswood Gold Pty Limited (RGPL), which is 100% owned by a 50:50 consortium comprising Golden Energy and Resources Limited (GEAR) and EMR Capital (EMR), collectively the GEAR EMR Consortium. GEAR has assets in Australia and Indonesia and is listed on the Singapore Stock Exchange (SGX); EMR is a specialist mining private equity manager with assets in Western Australia, Queensland, North and South America, Spain, UK and Zambia.

Property History

Ravenswood is a mature gold mine having been in continuous production since 1987. Gold was first discovered in the Ravenswood area in 1868. Early mining comprised shallow alluvial and near-surface mining. Deeper underground mining commenced around 1897 at Buck Reef West (Figure 2) with shafts developed to 400m depth. Mining ceased around 1917 due to problems with deeper mining, labour shortages due to the First World War, and a miners' strike. At its peak there were 5,000 people on the Ravenswood goldfield and the historical field produced around 900,000 ounces ("oz") of gold.

Modern exploration commenced in the late 1970s with Carpentaria Gold Pty Limited ("Carpentaria Gold" or "CGPL"), then a subsidiary of MIM Holdings Limited ("MIM"). In 1987 open pit mining commenced at Buck Reef West; production averaged around 30,000oz per annum from 1988-1993.

The Nolans deposit (Figure 2) was discovered in 1992. In 1993 a 2 million tonne per annum ("Mtpa") carbon in leach ("CIL") plant was constructed at Nolans treating open pit and underground ores. The large tonnage, low-grade Sarsfield deposit (Figure 2), located immediately to the north of the Nolans pit, was discovered in 1994. In 2002, the CIL plant was expanded to 4.5Mtpa, with ore sourced predominantly from the Sarsfield open pit plus Nolans and underground operations at Buck Reef West.

In 2003 Xstrata Limited ("Xstrata") completed a takeover of MIM and in 2004 Resolute Mining Limited ("Resolute") purchased the project from Xstrata. The Mt Wright breccia-hosted deposit, located 10km northwest of Ravenswood (Figure 3), was discovered by Carpentaria Gold in 1992 and Resolute commenced underground development of the Mount Wright deposit in 2006. Mining of the Sarsfield pit was completed in 2009 and the processing plant was de-rated to 1.5Mtpa to accommodate the lower rate of ore production from Mt Wright. Mining of the Nolans East open pit commenced in 2016 and was completed in 2018 and Mt Wright underground was completed in 2019. Over the period of Resolute ownership, the annual gold production ranged from around 85,000 - 160,000oz per annum.

In 2018 Resolute completed a Ravenswood Expansion Project ("REP") Feasibility Study based on mining two open pits, Buck Reef West and Sarsfield-Nolans, with expansion of the processing plant capacity to 5Mtpa, producing 100-150,000oz of gold per annum. Resolute followed up this study in 2019 with the Ravenswood Expansion Project REP 200 Concept Study, targeting a production rate of 200,000oz per annum.

In mid-2019, Resolute decided to divest its interest in Ravenswood to focus on its African gold projects. GEAR and EMR in a 50:50 joint bid purchased the project, with project completion payments made in March 2020.

The Ravenswood mine is currently treating accumulated low grade stockpiles (Figure 2), producing approximately 5-6,000oz of gold per month from the processing of 300,000-400,000 tonnes ("t") of ore at an average grade of 0.6 grams per tonne of gold ("g/t Au").

RGPL has reviewed and revised Resolute's REP 200 study; updated resource and reserve estimates and mine optimisation studies have been completed, and detailed work is underway on plant expansion designs and design of an expanded tailings storage facility (TSF). RGPL plans to produce around 200,000oz per annum over a 14 year mine life, based on open pit mining at BRW and Sarsfield-Nolans, with a plant expansion to 7.2Mtpa. The crushing and screening circuits will be expanded to a throughput capacity of 12Mtpa to allow screening and beneficiation of low grade Sarsfield-Nolans ores, with the coarser lower grade portion rejected and the finer higher grade product forwarded to the upgraded CIL plant.

To date over 4 million ounces ("Moz") of gold have been mined from the Ravenswood and Mt Wright deposits, with a further 4Moz remaining in resources, giving a total mined and in-situ endowment of the Ravenswood goldfield of around 8Moz of gold.

2.3 Geology, Resources and Reserves

Regional Geology

The Ravenswood gold deposits are located within the Ravenswood Granodiorite Complex, or Ravenswood Batholith, of the Charters Towers Province of northeastern Queensland (Figure 4).

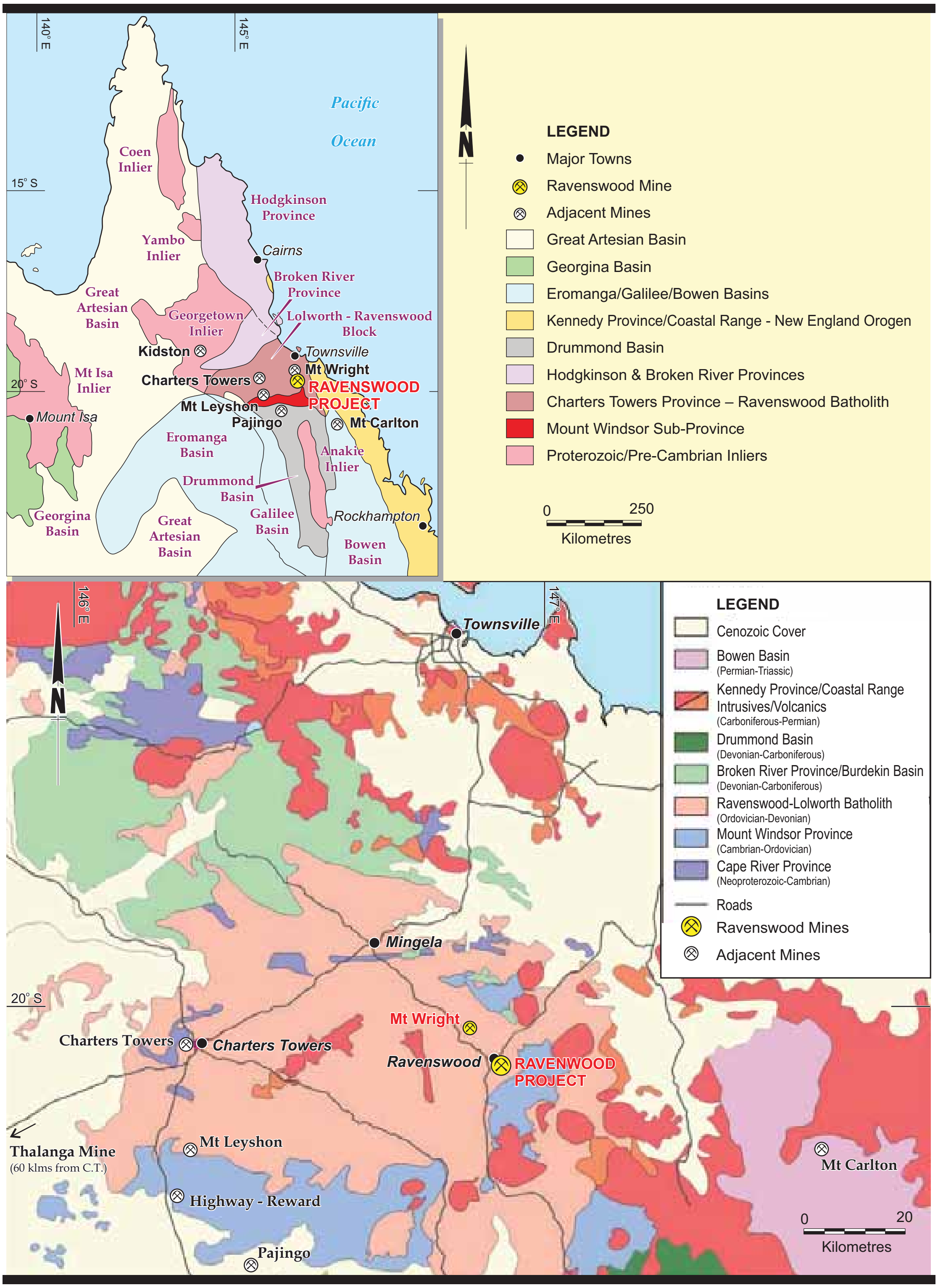
The Ravenswood Batholith is Ordovician to Devonian in age, comprising a range of granites, granodiorites, tonalites, diorites and gabbros. The main host to the Ravenswood gold mineralisation is the Silurian Jessop Creek Tonalite, dated at around 420 million years ("Ma"). The Ravenswood Batholith outcrop covers an area of 220 x 150km.

In the late Carboniferous to early Permian, significant igneous activity took place, leading to the intrusion of numerous trachytic, rhyolitic, and granitic stocks and plugs, with associated hydrothermal activity. This intrusive phase is associated with the gold mineralisation at Ravenswood. The Ravenswood deposits are classified as Permo-Carboniferous-age Intrusion-Related Gold Deposits ("IRGD"), with the gold introduced with the intrusions and associated hydrothermal fluids, permeating through pre-existing faults, shears and fractures resulting in mineralisation of favourable sites within the older rock sequences.

Ravenswood Local Geology and Mineralisation

The distribution of gold mineralisation at Ravenswood is strongly influenced by pre-existing structures – faults, shears, breccias and fracture planes, which cut the competent host rocks and which have served as conduits for mineralising fluids. Re-activation of these structures during the Permo-Carboniferous intrusive phase facilitated the permeation of hydrothermal fluids. The principal lodes extend along these major structures. Mineralisation also occurs along conjugate joints and shears associated with the major structures, resulting in significant zones of lower grade stockwork mineralisation.

Two principal areas have been mined in the past and are the basis for the mine plan going forward, Buck Reef West (BRW) and Sarsfield-Nolans (Figure 5).



Ravenswood Gold *Ravenswood Project*

Figure 4 **REGIONAL GEOLOGY**

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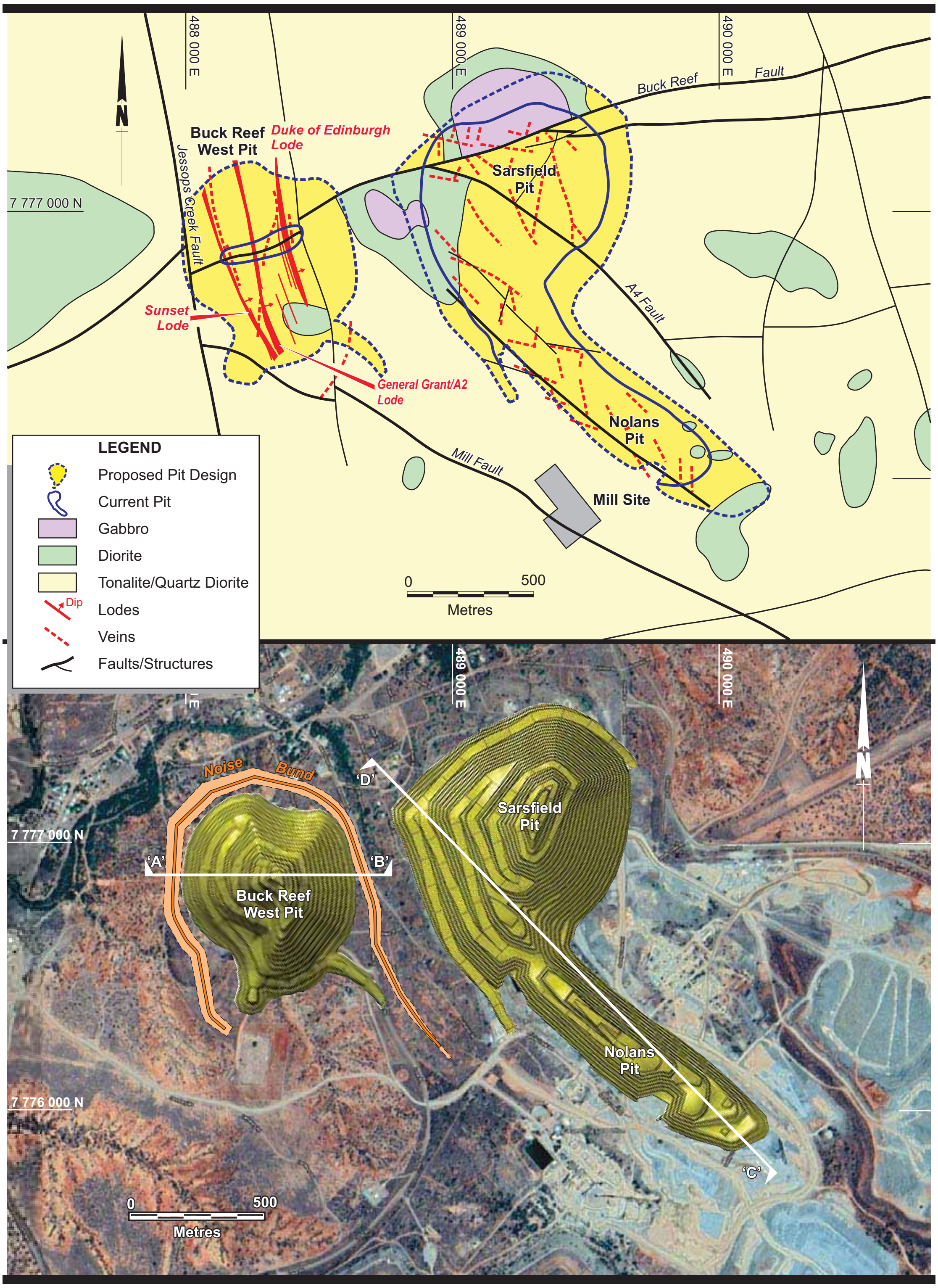

Ravenswood Gold *Ravenswood Project*

Figure 5 **LOCAL GEOLOGY AND PROPOSED PIT DESIGNS**

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The current BRW pit is a small elongate east-west pit developed along the Buck Reef Fault ("BRF"). The pit is underlain by extensive underground workings, principally developed along north-northwest striking, east dipping lodes. The BRW deposit comprises mineralisation along the subvertical BRW fault, and within three north-northwest striking lodes, the Sunset (west), General Grant/A2 (central) and Duke of Edinburgh (east), developed along 40-50° east-dipping shear structures (Figure 6).

These north-northwest lode structures are all intersected by the east-west Buck Reef Fault, which is a 40m wide zone of anastomosing faults, shears and breccias and has been traced over 1.8km through the BRW pit and the northern part of the Sarsfield pit.

Tension and shear veins, trending variably sub-parallel to the main lodes, or forming a conjugate shear pattern, extend out from the main lodes, with mineralisation along the fractures, forming a wide low-grade stockwork zone around the major lodes.

Sarsfield and Nolans were formerly two separate pits but are now combined. Mineralisation extends over an area of 800 x 450m and to a depth of around 400m. Four major mineralised corridors have been defined, comprising the Buck Reef Fault (BRF), Area 4 fault, the Keel Zone and the Area 5/Nolans Fault Zone. Gold mineralisation occurs along these structurally controlled zones, as well as within a stockwork of conjugate shears and tension veins between the major structures (Figures 5 and 6).

Gold mineralisation at BRW and Sarsfield-Nolans occurs along fractures and grain boundaries within quartz-carbonate veins associated with a range of sulphides, principally pyrite, pyrrhotite, arsenopyrite, sphalerite, chalcopyrite and galena. The mineralisation is characterised by a zone of phyllic alteration of sericite and chlorite, with more distal chlorite-epidote-carbonate alteration.

Geological Data

Resource definition drilling at Ravenswood comprises diamond drilling ("DD"), reverse circulation percussion ("RC") and open-hole percussion drilling. Although drill data covers a 40-year period involving different companies and procedures, overall, the historical data appears reliable and procedures have generally followed standard international mining industry practice.

Current data collection and database management at Ravenswood are well organised and well documented. The data has been reviewed by independent resource consultancy SD2 Pty Ltd ("SD2") as part of recent resource estimation work. Drill samples are sent to an independent laboratory, ALS Laboratory Services Pty Limited in Townsville ("ALS"), for sample preparation and fire assay analysis.

Mr Scott Dunham of SD2 visited site in August 2019, January 2020 and June 2020; BDA has had meetings with Mr Dunham who has confirmed that the database is in good order. BDA visited the site in August 2020 and reviewed the geological data, drill core, sampling and assaying processes and procedures and concurs that the data is suitable and appropriate for resource and reserve estimation.

Mineral Resources

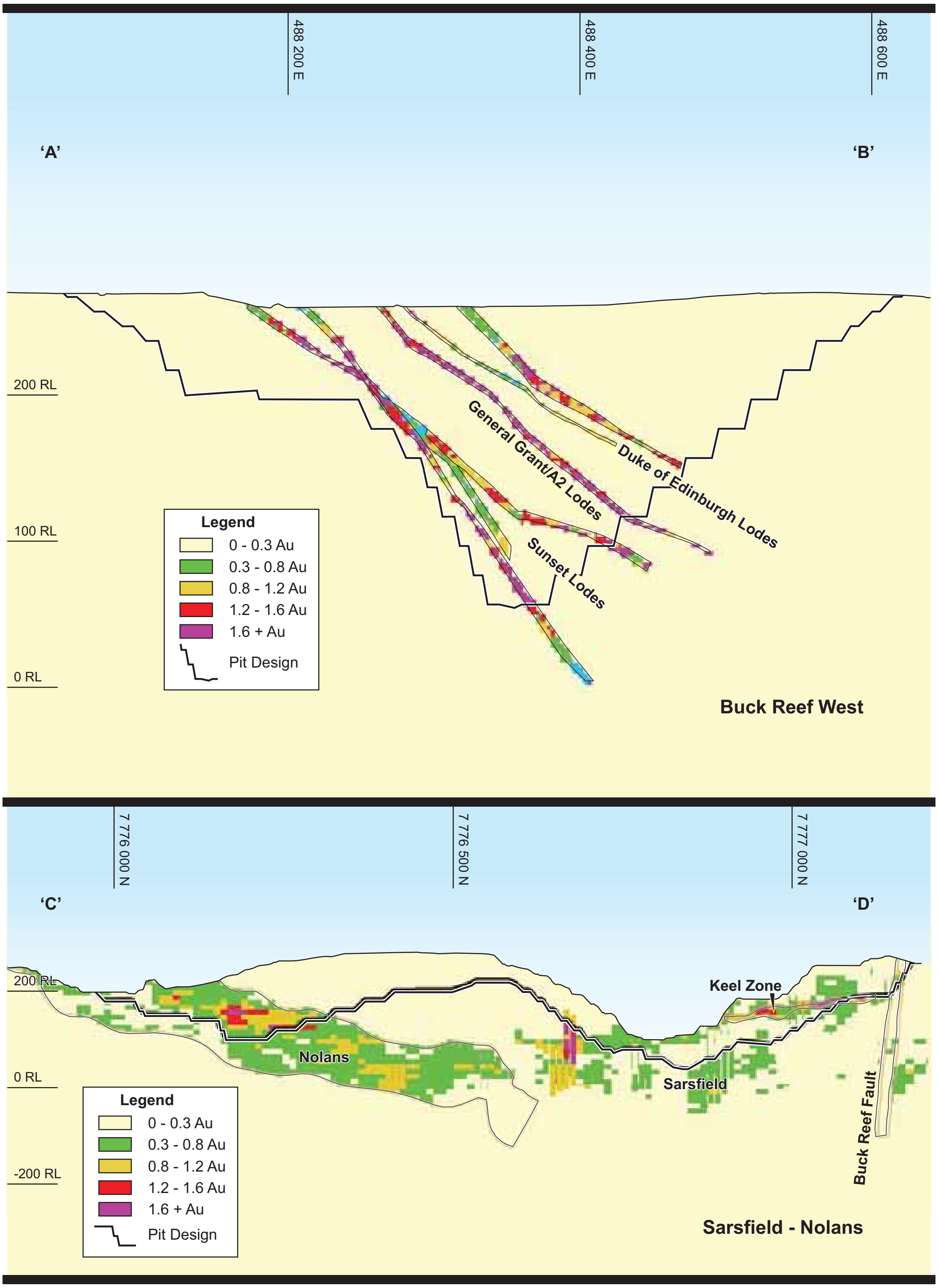
RGPL commissioned Mr Scott Dunham of the resource consultancy group SD2 to undertake an independent Mineral Resource Estimate ("MRE") on the Buck Reef West and Sarsfield-Nolans deposits.

SD2 reviewed the data base records, discussed data base management practices and procedures with RGPL staff, and ran a suite of data checks and concluded that the database was of high quality.

The approach taken by SD2 for resource estimation was similar for each deposit, but with some variations in block size, grade top cuts and kriging methodology. Mineralisation is focussed along specific lode and structural orientations but, at Sarsfield, also exists along conjugate fractures adjacent to these major structures, forming a lower grade halo to the lodes. To model the complex nature of the Ravenswood mineralisation, SD2 defined major domains around the principal mineralised structures or lodes, together with surrounding domains to capture the lower grade stockwork mineralisation. Composite grades were reviewed and the higher gold values cut to limit the risk of over-estimation of grade.

Grade estimation applied Ordinary Kriging ("OK") with Multiple Indicator Kriging ("MIK") also used for the stockwork zones within Sarsfield-Nolans.

A range of validation checks was undertaken for both estimates. RGPL also engaged Manna Hill GeoConsulting ("MHG") to undertake an independent peer review of SD2's resource estimates. MHG concluded there were no fatal flaws and the estimation work was consistent with, or above, general industry standards.



Ravenswood Gold *Ravenswood Project*

Figure 6 **BRW AND SARSFIELD-NOLANS SECTIONS**

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SD2 classified the BRW and Sarsfield-Nolans resources as Measured, Indicated and Inferred, based on geological continuity and confidence, drill hole spacing, and a range of estimation metrics. No resource blocks were classified as Measured at BRW but RGPL is currently undertaking an infill grade control drilling programme to a depth of 50m over the southern half of the BRW pit which should allow the upgrade of some Indicated blocks to Measured.

The Sarsfield-Nolans Mineralised Waste Dump ("MWD") resource was estimated by RGPL based on holes drilled on an approximate 50 x 50m grid. Due to the uncertainties of drilling a broken ore stockpile and the potential error in the bulk density factor, RGPL classified the MWD resource as Inferred.

BDA has reviewed the processes and procedures applied by SD2 and RGPL in the resource estimates and considers them appropriate and in accordance with industry standards. The classifications are considered reasonable and the resources are considered to provide an appropriate, and potentially slightly conservative basis for reserve estimation and mine planning.

Resource Reporting

The Mineral Resource estimates for the Buck Reef West and Sarsfield-Nolans deposits are summarised in Table 2.1. The resources are reported at a 0.3g/t Au cut-off; at BRW, deeper higher grade mineralisation with underground mining potential is reported at a cut-off grade of 3.5g/t Au.

Table 2.1

Ravenswood Gold Mineral Resource Estimate - 2020

Deposit and Cut-Off Grade	Category	Tonnage Mt	Gold Grade g/t Au	Contained Gold koz
BRW				
Potential O/P	Indicated	25.050	1.03	833
(0.3g/t Au)	Inferred	1.170	1.10	42
	Subtotal	*26.220*	*1.04*	*875*
Potential U/G	Indicated	0.091	4.97	14
(3.5g/t Au)	Inferred	0.065	4.71	10
	Subtotal	*0.156*	*4.86*	*24*
Total		**26.376**	**1.06**	**899**
Sarsfield-Nolans				
Potential O/P	Measured	32.213	0.71	740
(0.3g/t Au)	Indicated	71.354	0.65	1,498
	Inferred	29.394	0.63	598
Total		**132.961**	**0.66**	**2,836**
Mineralised Waste Dump				
	Inferred	18.000	0.40	226
Total		**18.000**	**0.40**	**226**
BRW + Sarsfield-Nolans + MWD				
Open Pit Potential	Total	159.181	0.73	3,711
Mineralised Waste Dump	Total	18.000	0.40	226
Underground Potential	Total	0.156	4.86	24
Total	**Total**	**177.337**	**0.69**	**3,961**

Note: Open pit resource estimates reported at a 0.3g/t Au cut-off grade and within an A$3,800 pit shell; underground resources reported at a 3.5g/t Au cut-off grade and within continuous zones >2m wide and with a volume >1,000m^3; resource estimates undertaken by SD2 in April 2020 for BRW and July 2020 for Sarsfield-Nolans; Mineralised Waste resource estimated by RGPL as of September 2020 after depletion

BDA considers that the resource estimation approach used by SD2 has produced a reasonable resource estimate and provided an appropriate basis for reserve estimation and mine planning.

Ore Reserves

RGPL engaged the mining consultancy group Australian Mine Design and Development ("AMDAD"), to undertake the BRW and Sarsfield-Nolans open pit optimisation, reserve estimation and mine planning, based on SD2's Buck Reef West and Sarsfield-Nolans resource estimates. The Ore Reserve estimates are summarised in Table 2.2. The reserve estimates form the basis for the current LOM plan and Base Case financial model ("BCFM"), namely *RG Financing Financial Model 20200924 RG (CW).xlsx*, *September 2020***"**. The low-grade (mineralised waste) stockpile material has not been included in the reserve statement due to its classification as an Inferred resource, although it is intended to mine and process a portion of this material in the LOM plan.

Table 2.2

Ravenswood Gold Ore Reserve Estimate - September 2020

Deposit and Cut-Off Grade	Category	Tonnage Mt	Gold Grade g/t Au	Contained Gold koz
BRW	Probable	25	0.9	700
	Total	**25**	**0.9**	**700**
Sarsfield-Nolans	Proved	34	0.7	700
	Probable	56	0.6	1,100
	Total	**91**	**0.7**	**1,900**
BRW + Sarsfield-Nolans	Proved	34	0.7	700
	Probable	81	0.7	1,900
	Total	**115**	**0.7**	**2,600**

Note: figures rounded as per AMDAD report; BRW open pit reserve estimates reported at a 0.28g/t Au cut-off grade within a US$1,500/oz gold price pit shell; Sarsfield-Nolans open pit reserve estimates reported at a 0.27g/t Au cut-off grade within a US$1,400/oz gold price pit shell; stripping ratio BRW 3.1:1; stripping ratio Sarsfield-Nolans 1.5:1

BDA considers that the AMDAD reserve provides a reasonable basis for LOM planning. A comparison of the AMDAD reserve estimates and the previous Resolute estimates show that the estimates compare closely in both tonnes and grade.

2.4 Mining

Mine Operations and Mine Plan

The existing operations at Ravenswood are currently confined to the processing of low-grade stockpiles which accumulated during past Sarsfield-Nolans open pit mining operations. The current processing facilities are handling approximately 3.5-5Mtpa of this material to produce around 60,000-70,000oz of gold per year.

The proposed expanded Ravenswood mining operation will comprise cut-backs to both the BRW and the Sarsfield-Nolans pits, which ultimately will become two large open cut mines separated by a narrow services and access corridor (Figure 2).

It is planned that, post expansion of the ore processing facilities, the plant will have an annual nameplate capacity of around 7.2Mtpa and will produce of the order of 200,000oz of gold per annum over a 14-year mine life. Because of the proposed upgrading beneficiation process (crushing and screening) ahead of the expanded CIL gold processing plant, the mine will need to have the capacity to supply ore to the primary crushers at a rate of up to 12Mtpa, in addition to a substantial waste stripping capacity.

AMDAD was commissioned to prepare updated mine plans for the proposed expansion of operations. AMDAD has developed a LOM schedule and LOM plan in collaboration with RGPL technical and management personnel.

Current operations are progressing with a haulage fleet that comprises articulated 40-60t rear-dump trucks, with a variety of different-sized excavators and loaders. It is proposed, as part of the expansion, that the earthworks fleet will be replaced with new 260-360t excavators, and up to fifteen new 180t rigid-body rear-dump trucks, with associated support equipment (graders, dozers, drills and service equipment).

Geotechnical and Hydrological Aspects

The geotechnical aspects of the open pits have been analysed by a number of specialist consultants including Dempers and Seymore (“D&S”), Golders, Proactive Mining Solutions (“PMS”), Pells Sullivan and Meynick (“PSM”) and AMDAD, together with the RGPL mine technical department, based on the history of the open cut mines and analysis of the complex geological structures. Pit slopes have been designed based on geotechnical parameters, and no material stability issues are anticipated.

Experience to date has indicated low rock permeabilities, with only minor dewatering required within the pits. The proposed pumping system will adequately manage the dewatering requirements, including water management during the annual wet season.

Mining Schedule

Mining operations will commence in the BRW pit, producing 5Mtpa of ore from 2021 ramping up to 7Mtpa from 2022. Production will be supplemented as required by the processing of low grade stockpile material, which will be screened and beneficiated. Limited production will commence from Sarsfield-Nolans in 2024; Sarsfield-Nolans will take over as the major ore production source from 2025, mining up to 12Mtpa which, after screening and beneficiation, will provide up to 7.2Mtpa of ore feed to the grinding circuit.

From completion of former mining in the Sarsfield-Nolans pit in 2009, the pit has been used as a repository for storage of tailings and waste rock. Prior to resuming full production from Sarsfield-Nolans in 2025, the deposited tailings and overlying water have to be removed and pumped to the new tailings dam extension. RGPL is considering dredging and pumping options, with submersible pumps suspended from a floating pontoon the favoured option. Pumping will commence in 2021, pumping around 8.3Mt of tailings material per annum, with an estimated 25-28Mt of material to be removed over 3-4 years.

2.5 Processing

The current ore processing operation at Ravenswood comprises the treatment of low grade stockpiles derived from the Sarsfield-Nolans pit, averaging around 0.4-0.5g/t Au. Overall gold recovery from waste dumps (including beneficiation and leach recovery) is around 81-85%.

The process flow sheet is shown in Figure 7 and comprises:

- ore crushing in the Nolans fixed crushing plant, supplemented by mobile crushing plants
- beneficiation during crushing, by screening off and rejecting around 40% of the mass as low-grade coarse particles
- grinding the beneficiated fines to a suitable size for leaching
- a gravity concentrator to recover around 25% of the gold from the grinding circuit
- conventional leach, carbon-in-pulp, to leach gold and adsorb it on activated carbon
- washing and elution of carbon, recovering gold by electrowinning, and regeneration of activated carbon
- tailings thickening and storage of tailings in the Sarsfield pit.

The flowsheet in Figure 7 also shows the proposed plant expansion from the current 5Mtpa throughput capacity to 7.2Mtpa, with a crushing and screening capacity of 12Mtpa. Beneficiation screening will not be applied to ore from the Buck Reef West pit, which from testwork does not appear amenable to beneficiation; however, material from the Sarsfield-Nolans pit has proved amenable to beneficiation, with rejection of the coarser lower grade fraction allowing an upgraded finer fraction containing most of the gold to be fed to the CIL plant.

The Nolans plant has operated for 20 years on ores from the Sarsfield, Nolans, Nolans East and Buck Reef West pits, and therefore the processing characteristics are well understood.

The proposed expansion project will target a finer grind size and increased leach residence time which should lead to improvements in overall recovery.

The expansion project proposes to install new equipment in three stages:

Stage 1

- three additional agitated leach/adsorption tanks to increase leach residence time and gold recovery at the recently reinstated 5Mtpa milling rate.

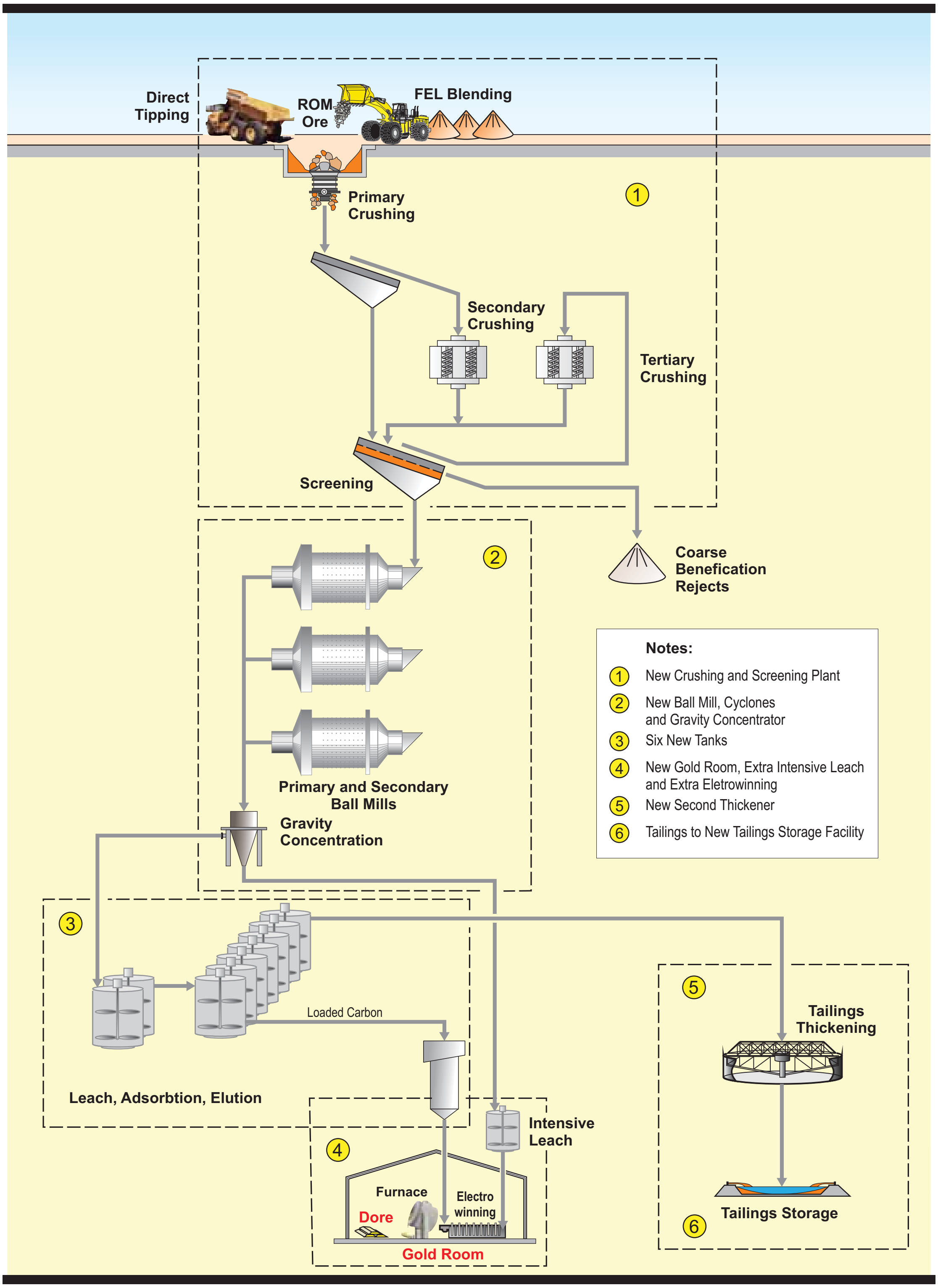
Stage 2

- a new 12Mtpa three-stage crushing and screening plant; BRW ore will not be beneficiated but up to 40% of coarser and lower grade Sarsfield-Nolans material will be rejected during crushing and screening to provide a constant 7.2Mtpa of mill feed over the LOM
- a second gravity concentrator and intensive cyanidation plant to recover coarse gold from the mill feed
- a further three agitated leach/adsorption tanks; with the total of six additional tanks installed (Stage 1 and Stage 2), residence time will increase from 16 hours at the current 5Mtpa throughput to 24 hours at 7.2Mtpa
- additional gold electrowinning cells and a new gold room to accommodate production up to 250kozpa
- an 18m diameter tailings thickener to complement the existing 22m thickener.

Stage 3

- a fourth grinding mill with 12MW installed power, and associated cyclones; this will more than double installed grinding power to process 7.2Mtpa at a finer grind size of 80% passing 106µm (currently 80% passing 180µm).

The current plant appears well-maintained and operated. The project design, process modelling, and construction sequencing is well conceived, follows good practice, and will be executed by an experienced minerals engineering company. Gold processing at Ravenswood has been proved to be relatively straightforward and predictable, and there seems a low risk of unforeseen metallurgical issues.



Ravenswood Gold *Ravenswood Project*

Figure 7 **PROCESS FLOWSHEET**

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2.6 Infrastructure

The Ravenswood gold mine is located immediately south of the historic mining township of Ravenswood, 120km south of Townsville and 60km east of Charters Towers. All materials are trucked via the Flinders Highway (80km) and the Burdekin Falls Dam Road (40km). Construction access will utilise the existing roads which are suitable for taking all envisaged wide loads, including those associated with the grinding mills and mining fleet.

Water supply to the operation is from the Burdekin River via Suhrs Creek dam (Figure 2) and is used to provide potable water for the mine and the township. Decant water from the TSF is recirculated to the plant process water supply. The existing water supply is sufficient for future planned operations.

Electricity is supplied to the operation via a high voltage transmission line with 17MW continuous supply capacity with the ability to increase to 25MW. A further approximately 5MW is likely to be required for the larger mill that is currently being sourced. It is proposed that additional power will be sourced through gas pods delivered to site to power gas turbines, or via conventional diesel generation.

Employee accommodation is available in RGPL's camp on the edge of the Ravenswood township. The camp is considered adequate for the existing operations but is planned to be expanded to cater for the construction phase of the project.

2.7 Approvals, Permits, Health and Safety, Environmental and Social

Regulatory Approvals

RGPL took possession of a number of Mining Leases and Exploration Permits as part of the acquisition of the Ravenswood operation from Resolute. RGPL holds 38 mining leases covering all the Ravenswood project deposits, processing plant, stockpiles, tailings storage facilities and other project facilities. The project site and surrounds are located within the existing mining leases which cover 2,875 hectares ("ha").

RGPL operates under Environmental Authority ("EA") EPML00979013 issued by Queensland Department of Environment and Science ("DES"). This EA provides for existing operations and the planned Buck Reef West and Sarsfield-Nolans open pit extension projects and the planned Nolans Tailings Storage Facility ("NTSF") expansion project.

BDA has reviewed the Ravenswood tenements and permits documentation from information provided by RGPL. The process for gaining variations and amendments to regulatory permits appears relatively straightforward. Relations with the local Ravenswood leaseholders and Birriah People (Native Title holders) appear good. BDA can foresee no impediment to the approval of any future mine development applications or variations to tenements, permits and statutory instruments.

Environment and Community

Mining is an accepted and historic part of the Ravenswood and Charters Towers District's history, bringing employment opportunities to the local population and significant revenue to the government through state royalties and taxation.

RGPL has the required environmental approvals for current and planned future operations and, with the construction of the Nolans TSF expansion, will have adequate waste and tailing storage facilities necessary for its proposed expansion projects, however managing the compliance requirements for groundwater and surface water discharge conditions is a key issue demanding ongoing attention, management plans and co-operation with authorities.

The cost to rehabilitate the currently disturbed areas of the Ravenswood mine site has been estimated under the new *Queensland Mineral and Energy Resources (Financial Provisioning) Act 2018* at A$116M. Given the various environmental legacies associated with the current site, BDA is of the opinion that this estimate is more than adequate for the proposed operations.

Occupational Health and Safety

RGPL is operating under a Safety and Health Management System ("SHMS"), which provides a major risk control framework that focuses on action management and accountability, hazard reporting and awareness, independent safety audits (including contractor safety management systems), continuous improvement, and collaboration on implementing solutions to reduce at-risk behaviour, and training. Coronavirus COVID-19 audits have been added in recent months.

The overall objective of the SHMS is to ensure the highest health and safety standards across the mining and processing operations, focusing on the identification and effective management of all high risk activities on site.

2.8 Production

Table 2.3 and Figure 8 set out the forecast production data in the LOM schedule, which extends from 2021 to 2034, based on the LOM plan in the Base Case Financial Model (BCFM).

Table 2.3

LOM Production Schedule - 2021-2034

Item	Unit	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031-34	Totals
Ore Mined	Mt	4.6	7.2	8.2	8.3	8.2	10.3	14.6	13.8	15.4	15.0	15.7	121.3
Mined Grade	g/t Au	0.87	0.89	0.78	0.80	0.67	0.60	0.68	0.61	0.60	0.67	0.76	0.70
Waste Mined	Mt	13.6	32.3	30.5	29.9	29.7	21.1	11.4	12.7	11.4	7.1	2.6	202.3
Strip Ratio	W:O	2.9	4.5	3.7	3.6	3.6	2.0	0.8	0.9	0.7	0.5	0.2	1.7
Ore Crushed	Mt	6.0	7.2	7.2	7.6	10.7	11.8	11.3	11.3	11.3	11.3	40.7	136.2
Crushed Grade	g/t Au	0.76	0.89	0.84	0.85	0.59	0.57	0.77	0.66	0.69	0.77	0.51	0.67
Ore Milled	Mt	5.0	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	25.0	94.8
Milled Grade	g/t Au	0.88	0.89	0.84	0.89	0.83	0.87	1.15	0.97	1.01	1.14	0.74	0.90
Au contained	koz	141	207	195	205	193	202	265	225	234	263	621	2,750
Au recovery	%	85.2	91.8	92.4	92.0	87.7	85.2	87.4	86.9	87.1	87.3	80.2	87.0
Payable Au	koz	125	190	181	190	178	186	245	208	216	243	572	2,535

Note: 2021-2034 based on LOM forecast; Ore Mined is ore mined from open pits; Ore Crushed includes low grade material reclaimed from low grade stockpiles

The low-grade stockpile reclamation rate is planned to ramp up to an annualised rate of around 5Mtpa in H2 2020, and will then supplement ore production from the BRW pit through 2021-2024 as required. Ore mining of the BRW pit is planned to commence in 2021 and to be completed around 2025. The process plant expansion programme will increase throughput to 7.2Mtpa ore milled from 2022. From 2026 ore production will be largely from the Sarsfield-Nolans pit, and the mine production rate will increase to around 12Mtpa to allow for the rejection of up to 40% of the coarser lower grade Sarsfield-Nolans material in the beneficiation plant. The final two years of production comprise the remainder of the Sarsfield-Nolan ore, supplemented by feed from the low-grade stockpiles. The LOM strip ratio (waste:ore) is estimated at 1.7:1.

The planned plant expansion increases both production capacity and processing power, and is designed to increase throughput rate while maintaining or improving gold recovery. Both the production rate and gold recovery forecasts appear consistent with the forecast commissioning schedule, demonstrated plant performance over the last 20 years, and the available testwork on samples from Buck Reef West and Sarsfield-Nolans ore.

2.9 Capital Costs

The LOM plan shows capital project expenditure for the mine life from July 2020 to be a total of A$729M (Table 2.4) including mine closure costs of A$54M.

Table 2.4

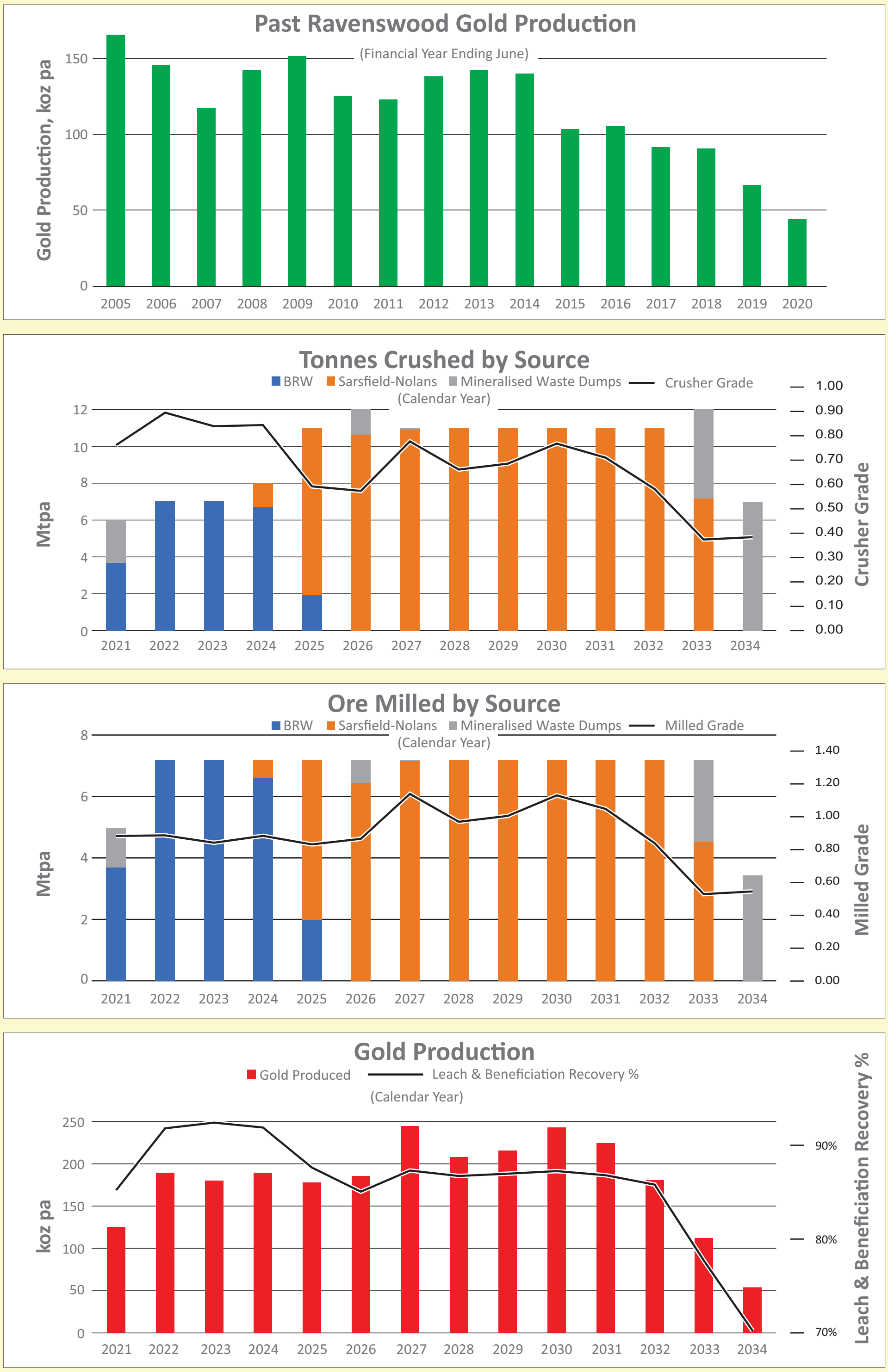
LOM Capital Summary - A$M

Capital Projects	2020 A$M	2021 A$M	2022 A$M	2023 A$M	2024 A$M	2025 A$M	2026-2038 A$M	Total A$M
Open Pit/Mining	32	70	37	0	0	12	0	151
Processing	78	222	38	30	42	13	18	441
Admin HSEC	7	13	1	0	0	0	0	21
Maintenance	3	11	0	0	0	0	0	14
Sustaining Capex	6	4	4	3	3	4	24	48
Subtotal	*126*	*320*	*80*	*33*	*45*	*29*	*42*	*675*
Mine Closure	0	0	0	0	0	0	54	54
Total	**126**	**320**	**80**	**33**	**45**	**29**	**96**	**729**

Note: 2020 figures are from July-December 2020; HSEC = Health, Safety, Environment, Community

The LOM Mining capital of A$151M comprises principally the cost of the mining fleet, estimated at A$141M; the pricing is in line with current new fleet pricing.

Processing plant capital estimates are based on the proposed plant expansion (A$179M), a new crushing facility (A$61M), expansion of the TSF (A$169M) and the cost of removing the tailings deposited in the Sarsfield-Nolans pit (A$32M), including a total contingency of approximately A$39M. The estimates have been prepared by Ausenco Services Pty Limited ("Ausenco") and are based on detailed engineering together with supplier quotes and historical data with an estimated accuracy of +15%, -9%. The expansion costs are based on the addition of a 12MW mill.



Ravenswood Gold *Ravenswood Project*

Figure 8 **PRODUCTION GRAPHS**

BDA - 215 (01 - August 2020) Behre Dolbear Australia Pty Ltd

The A$169M allowed for the TSF construction is phased over the life of the project. RGPL has advised that, based on quotes received, there may be opportunities for some reductions in the estimated price.

RGPL has sought tenders from nine dredging companies for the removal of tailings from the Sarsfield-Nolans pit and pumping the tailings to the new TSF. The tender selected is based on a proposal from a contractor using slurry pumps suspended from a pontoon. The system has been successfully trialled and, based on prior experience, site personnel are confident the system will work.

Administration, Health, Safety, Environment, Community ("HSEC"), Maintenance and Sustaining capex estimates are considered reasonable. Mine Closure costs of A$54M are considered a reasonable basis for the LOM forecast, though BDA notes that the latest Queensland Government (*Queensland Mineral and Energy Resources (Financial Provisioning) Act 2018*) estimate is approximately double this figure at A$116M.

2.10 Operating Costs

Forecast operating costs from 2021 to 2034, based on the LOM plan and BCFM are shown in Table 2.5.

Table 2.5

LOM Operating Costs and Production Schedule - 2021-2034

Item	Unit	Calendar Years											
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031-34	Total
Physicals													
Ore Mined (O/P)	Mt	4.6	7.2	8.2	8.3	8.2	10.3	14.6	13.8	15.4	14.96	15.7	121.3
Waste Mined (O/P)	Mt	13.6	32.3	30.5	29.9	29.7	21.1	11.4	12.7	11.4	7.1	2.6	202.3
Total Rehandle	Mt	3.7	5.9	7.1	2.6	4.6	4.9	4.1	4.1	4.1	4.8	30.2	76.0
Total Mined/Handled	Mt	22.0	45.4	45.8	40.8	42.5	36.3	30.1	30.5	30.9	26.9	48.5	399.6
Ore Crushed	Mt	6.0	7.2	7.2	7.6	10.7	11.8	11.3	11.3	11.3	11.3	40.7	136.2
Ore Milled	Mt	5.0	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	25.0	94.8
Payable Au	koz	125	190	181	190	178	186	245	208	216	243	572	2,535
Site Op Costs													
Mining (O/P/rehandle)	A$M	76.1	110.1	115.9	114.7	107.3	98.4	82.0	86.5	86.4	78.6	134.9	991.1
Crushing/Milling	A$M	95.2	103.4	97.4	94.8	99.0	100.8	99.8	99.7	99.7	99.8	346.2	1,335.8
G&A and Other	A$M	21.3	20.0	19.8	19.8	19.7	19.6	19.5	19.5	19.6	19.4	65.8	264.1
Royalty	A$M	15.5	21.6	19.2	18.6	17.1	17.8	23.5	19.9	20.7	23.3	54.9	252.1
Total C1 Costs	**A$M**	***208.1***	***255.0***	***252.3***	***247.9***	***243.1***	***236.7***	***224.9***	***225.7***	***226.5***	***221.1***	***601.8***	***2,943.0***
Unit Costs													
Mining/t Ore	A$/t milled	15.2	15.3	16.1	15.9	14.9	13.7	11.4	12.0	12.0	10.9	5.4	11.5
Processing	A$/t milled	19.2	14.4	13.5	13.2	13.7	14.0	13.9	13.9	13.9	13.9	13.8	14.1
G&A and Other	A$/t milled	4.3	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.8
Royalty	A$/t milled	3.1	3.0	2.7	2.6	2.4	2.5	3.3	2.8	2.9	3.2	2.2	2.7
Total C1 Costs	***A$/t milled***	***41.9***	***35.4***	***35.0***	***34.4***	***33.8***	***32.9***	***31.2***	***31.4***	***31.5***	***30.7***	***24.0***	***31.1***
C1 Cash Costs	***A$/oz Au***	***1,659***	***1,344***	***1,396***	***1,306***	***1,363***	***1,272***	***915***	***1,085***	***1,047***	***909***	***1,052***	***1,161***

Note: 2021-2034 based on LOM forecast; Ore Crushed includes Ore Mined plus material from low grade stockpiles (rehandle); Sarsfield-Nolans ore and low grade stockpiles are beneficiated through crushing and screening, with around 40% of material rejected and trucked as Beneficiation Rejects (BR); ore from Buck Reef West is not beneficiated and mill throughput is the same as crushing throughput; Mining costs include tonnes mined, rehandle and BR

Mining quantities (Mined/Handled) covered in Table 2.7 include mining ore and waste from the open pits, rehandle of mineralised waste from the old Sarsfield low-grade dumps, stockpile and rehandle of low-grade ore from future mining of BRW and Sarsfield-Nolans pits, and reclaim and haulage of both beneficiation rejects ("BR") and mill scats from the mineral processing plant. Total mining costs include the cost of all material mined (ore and waste) and rehandled; however, unit costs in Table 2.7 are based on $/t of ore milled.

Based on the quantities of all material mined/handled, the LOM mining unit cost averages A$3.06/t (ore and waste) ex-pit (including drill and blast), and A$1.31/t of rehandle, for total LOM average mining costs of A$2.73/t of all material moved. These are considered achievable costs and consistent with similar-scale operations elsewhere. BDA considers that the cost estimates should be accurate within ±10%.

Processing unit costs are quoted as total costs for crushing, milling and gold processing, divided by tonnes milled (not tonnes crushed). The beneficiation screening process may reject up to 40% of the material between crushing and milling. Average unit processing costs over the LOM reduce to around A$14.10/t compared with approximately A$21/t year-to-date 2020, based on an annualised milling rate of around 7.2Mtpa for most of the LOM period. In BDA's opinion the processing cost estimates in the BCFM appear reasonable.

The assumptions for G&A, OHSC, environmental and corporate costs appear reasonable.

The overall site operating costs are estimated at a C1 cash site cash cost of around A$1,414/oz Au over the next five years from 2021 to 2025, and A$1,161/oz for the LOM. The all-in sustaining cost (AISC), including both sustaining capital and exploration, is estimated at A$1,206/oz for the LOM from 2021 to 2034.

2.11 Project Implementation

RGPL proposes to construct the expanded process plant and facilities using an Engineering, Procurement and Construction Management ("EPCM") contracting model, with Ausenco the nominated EPCM provider, with the EPCM contract administered and supervised by a small RGPL project team. The overall contracting strategy is for the EPCM contractor to carry out the detailed design and let contracts for the crushing and processing facilities expansion primarily based on horizontal packaging. BDA understands final EPCM contract negotiations are well progressed, with all key terms agreed. Preliminary orders have been let to allow the progression of critical early works and finalisation of detailed scope.

The mine development is proposed to be carried out directly by RGPL as owner-operators, with a fleet of Hitachi trucks and hydraulic excavators and associated mine support equipment.

The principal schedule milestone dates are shown in Table 2.6.

Table 2.6

Project Schedule Milestone Dates

Item	Scheduled Date
EPCM Contract Award	June 2020
Site Works Commence	August 2020
Stage 1 Complete - Additional Leach Tanks	March 2021
Stage 2 Complete - Crushing, Additional Leaching and Gold Plant Upgrade	July 2021
Stage 3 Complete - Mill 4 and Associated Structures and Equipment	January 2022

Subject to satisfactory contracts being let to suitable contractors, BDA considers the contracting strategy is reasonable and appropriate and project schedule is realistic and achievable, assuming that Australia remains on track in containing the spread of Covid-19 and that the construction and industrial sectors continue to operate without any serious interruptions.

2.12 Valuation Summary

BDA has derived a valuation for the Ravenswood project based on a number of considerations. BDA has primarily considered the discounted cash flow net present value of the project in assessing value; the project has a long operating history and a well-defined future LOM plan backed up by a detailed Feasibility Study and subsequent detailed designs, contract proposals and cost quotes.

However, BDA has also considered alternative methodologies including recent comparable transactions and yardstick factors based on ounces of gold in resource and ounces of gold in reserve.

In relation to the valuation of the exploration tenements, BDA has considered exploration expenditure, with a prospectivity enhancement multiplier ("PEM") and relevant comparable transactions and yardstick methods.

A description and commentary on the valuation methods considered is provided in Section 3. A full description of the valuation estimation process is given in Section 18. The valuation ranges derived from these assessments are shown in Table 2.7.

BDA's overall assessment of the value of the Ravenswood Gold Project including associated exploration tenements is a range of A$419-720M, with a preferred most likely value of A$527M.

Table 2.7

Summary Valuation of the Ravenswood Gold Project and Exploration Tenements

Methodology	Valuation (A$M)			Comments
	Low	Most Likely	High	
Ravenswood Project				
Net Present Value	425	531	637	60% weighting
Comparable Transaction Yardsticks - $/Resource Oz	306	379	598	20% weighting
Comparable Transaction Yardsticks - $/Reserve Oz	459	599	1,017	20% weighting
Average of Values	*408*	*514*	*705*	
Exploration Tenements				
Exploration Expenditure x PEM	5	6	7	20% weighting
Comparable Transaction Yardsticks – A$/km^2	9	11	12	40% weighting
Yardstick – Resource Ounces	15	19	23	40% weighting
Average of Values	*11*	*13*	*15*	
BDA Assessed Total Valuation	**419**	**527**	**720**	

3.0 VALUATION METHODOLOGY

3.1 Effective Date

The effective date for the valuation is 1 October 2020.

3.2 Standards and Procedures

This report has been prepared in keeping with the VALMIN Code for the Technical Assessment and Valuation of Mineral Assets and Securities for Independent Expert Reports as adopted by the Australasian Institute of Mining and Metallurgy in 1995 and as amended and updated in 2005 and 2015. Resource and reserve estimation procedures and categorisations have been reviewed in terms of the JORC Code, 2012.

3.3 Valuation Principles

As a general principle, the fair market value of a property as stated in the VALMIN Code is the amount a willing buyer would pay a willing seller in an arm's length transaction, wherein each party acted knowledgeably, prudently and without compulsion.

3.4 Valuation Methods

There is no single method of valuation which is appropriate for all situations. Rather, there are a variety of valuation methods, all of which have some merit and are more or less applicable depending on the circumstances. The following are appropriate items to be considered:

- discounted cash flow
- amount an alternative acquirer might be willing to offer
- the amount which could be distributed in an orderly realisation of assets
- the most recent quoted price of listed securities
- the current market price of the asset, securities or company.

The *discounted cash flow* or net present value method is generally regarded as the most appropriate primary valuation tool for operating mines or mining projects close to development. Reference to comparable transactions can also provide a useful guide to value.

Valuing properties at an earlier stage of exploration where ore reserves, mining and processing methods, and capital and operating costs, are yet to be fully defined, involves the application of alternative methods. The methods generally applied to exploration properties are the *past expenditure* method, *comparable transactions* or the value indicated by *alternative offers* or by *joint venture terms*.

Yardstick values based on certain industry ratios can be used for both mining and exploration properties.

Under appropriate circumstances, values indicated by *stock market valuation* should be taken into account, as should any *previous independent valuations* of the property.

The valuation methods considered are briefly described below.

Net Present Value ("NPV")

If a project is in operation, under development, or at a final feasibility study stage and reserves, mining and processing recoveries, and capital and operating costs are well defined, it is generally accepted that the net present value of the project cash flows is a primary component of any valuation study. While this provides a technical value, it does not imply that the fair market value of the project necessarily is the NPV, but rather that the value should bear some defined relationship to the NPV.

If a project is at the feasibility study stage, additional weight has to be given to the risks related to uncertainties in costs and operational performance, risks related to the ability to achieve the necessary finance for the project, risks related to granting of licenses or permits, environmental and community aspects, political or sovereign risk and sometimes a lower degree of confidence in the reserves and recoveries. In an ongoing operation, many of these items are relatively well defined.

The NPV provides a technical value as defined by the VALMIN Code. The market value could be determined to be at a discount or a premium to the NPV due to other market or risk factors.

A detailed feasibility study has been completed for the Ravenswood project; resources and reserves have been estimated and life of mine production schedule have been developed. Estimates have been made of likely capital and operating costs, and the project has an extensive operating history, providing a high level of confidence in the operational parameters, recoveries and costs.

In these circumstances, BDA considers that the discounted cashflow or NPV method is both applicable and appropriate and forms a primary guide to project value.

Alternative Valuation Methods

Previous Transactions, Alternative Offers and Joint Venture Terms

If discussions have been held with other parties and offers have been made on the projects or tenements under review, then these values are certainly relevant and worthy of consideration. In the case of the Ravenswood Gold Project, the project was only recently acquired by GEAR and EMR from Resolute Mining Limited, with the transaction concluded in January 2020 and project completion payments made in March 2020.

Given that this was a competitive, arms-length transaction between unrelated parties the purchase price paid is considered indicative of the market value at the time.

Comparable Transactions

Recent comparable transactions on other gold properties can be relevant to the valuation of the Ravenswood project and tenements. While it is acknowledged that it can be difficult to determine to what extent other properties and transactions are indeed comparable, this method can provide a useful benchmark for valuation purposes. The timing of such transactions must be considered as there can be substantial change in value with time.

BDA has considered whether, in recent years, there have been any comparable relevant transactions that could be used as a basis for estimation of value of the Ravenswood project, and has listed a number of transactions which it has considered, both from a project and exploration perspective.

Rules of Thumb or Yardsticks

Certain industry ratios are commonly applied to mining projects to derive an approximate indication of value. The most commonly used ratios relating to gold projects are dollars per ounce of gold in resources and dollars per ounce of gold in reserves. These yardsticks commonly cover a significant range, however, allowances can be made for the respective ‘quality’ of the deposits in deriving appropriate yardstick values.

BDA has considered a number of comparable transactions relating to gold properties and projects with defined resources and reserves, and has calculated a range of yardstick values relating to $/oz of gold in resource or reserve. BDA has also referenced 1 year, 3 year and 5 year Yardstick values calculated and published by industry valuation specialists. BDA has used these yardsticks applied to Ravenswood resources and reserves as a guide to the value of the Ravenswood project.

BDA has also applied the same Yardstick procedure to exploration tenements in terms of $/square kilometre of exploration ground as a guide to the value of the Ravenswood exploration tenements.

Market Valuation

On the fundamental definition of value, as being the amount a knowledgeable and willing buyer would pay a knowledgeable and willing seller in an arm’s length transaction, it is clear that due consideration should be given to market capitalisation. In the case of a one project company or a company with one major asset, the market capitalisation gives some guide to the value that the market places on that asset at that point in time, although certain sectors may trade at premiums or discounts to net assets, reflecting a view of future risk or earnings potential. Commonly however, a company has several projects at various stages of development, together with a range of assets and liabilities, and in such cases it may be difficult to define the value of individual projects in terms of the share price and market capitalisation.

GEAR is a listed company but has many different assets so its market capitalisation does not provide a clear guide to the market value of any one of those assets. EMR is not listed so there is no readily available market valuation, and EMR also holds a number of mining assets. Resolute is a company listed on the ASX, and therefore, as a former owner of the project, its market capitalisation could give some guide as to the market value of the Ravenswood project. However, Resolute also is the owner of a number of mining assets, so allocation of value to any one asset is considered problematic. BDA has reviewed Resolute’s historical share price around the date of announcement of the Ravenswood transaction to determine whether this provides any guide to the market’s assessment of project value.

Past Expenditure

Past expenditure, or the amount spent on exploration of a tenement, is commonly used as a guide in determining the value of exploration tenements, and 'deemed expenditure' is frequently the basis of joint venture agreements. The assumption is that well directed exploration has added value to the property. This is not always the case and exploration can also downgrade a property and therefore a 'prospectivity enhancement multiplier' ("PEM"), which commonly ranges from 0.5-3.5, is applied to the effective expenditure. The selection of the appropriate multiplier is a matter of experience and judgement. To eliminate some of the subjectivity with respect to this method, BDA applies a scale of PEM ranges as follows to exploration expenditure:

- PEM 0.5 - 0.9 Previous exploration indicates the area has limited potential
- PEM 1.0 - 1.4 The existing (historical and/or current) data consists of pre-drilling exploration and the results are sufficiently encouraging to warrant further exploration.
- PEM 1.5 - 1.9 The prospect contains one or more defined significant targets warranting additional exploration.
- PEM 2.0 - 2.4 The prospect has one or more targets with significant drill hole or sample intersections.
- PEM 2.5 - 2.9 Exploration is well advanced and infill drilling or sampling is required to define a resource.
- PEM >3.0 A resource has been defined but a (recent) pre-feasibility study has not yet been completed.

BDA has considered exploration expenditure as one method of determining a value for the Ravenswood exploration tenements.

Prospectivity

Over-riding any mechanical or technical valuation method for exploration ground must be recognition of prospectivity and potential, which is the fundamental value in relation to exploration properties.

Other Expert Valuations

Where other independent experts or analysts have made recent valuations of the same or comparable properties these opinions clearly need to be reviewed and to be taken into consideration. We have inquired of RGPL whether any other recent valuations of the project have been undertaken and these have been considered and discussed.

Special Circumstances

Special circumstances of relevance to mining projects or properties can have a significant impact on value and modify valuations which might otherwise apply. Examples could be:

- *environmental risks* - which can result in a project being subject to extensive opposition, delays and possibly refusal of development approvals
- *indigenous peoples/land rights issues* - projects in areas subject to claims from indigenous peoples can experience prolonged delays, extended negotiations or veto
- *country issues* - the location of a project can significantly impact on the cost of development and operating costs and has a major impact on perceived risk and sovereign risk
- *technical* - issues peculiar to an area or orebody such as geotechnical or hydrological conditions, or metallurgical difficulties could affect a project's economics.

We have considered, and have inquired of RGPL, whether any such factors apply to the project under review.

4.0 RISK SUMMARY

4.1 Risk Overview

Mining and exploration companies have a relatively high risk profile compared with many industrial and commercial operations. Each orebody is unique; the nature of an orebody, the occurrence and grade of the ore, and its behaviour during mining and processing can never be wholly predicted. Estimates of the tonnes, grade and overall metal content of a deposit are not precise calculations but are based on interpretation and on samples from pitting, trenching and drilling which, even at close spacing, remain very small samples of the whole orebody. There is always a potential error in the projection of drill hole or sample data when estimating the tonnes and grade of the surrounding rock. Ground and hydrology conditions can impact on mine productivity and the availability of reserves. Process recovery projections, process flowsheet and plant design are commonly based on limited testwork and depend on the representivity of the testwork samples and the scale up of the testwork results. Process operations can be subject to a number of start-up and ramp-up issues.

Estimations of project capital and operating costs are rarely more accurate than ±10-15%. For projects in the early planning stages, estimation accuracy will be no better than ±20-30%. Mining project revenues are subject to variations in metal prices and exchange rates. Environmental and social issues can result in project delays and restrictions, and can impact on productivity and costs.

BDA notes that many of the above risks are significantly mitigated in the case of the Ravenswood project. The project has a long operating history, the deposits to be mined have been mined previously, the geotechnical and hydrological conditions are relatively well known, the ore characteristics and process throughput and recoveries are also well known from current and past operations, the process plant is established and operating so the processing risk is largely reduced to the plant expansion risk, and project approvals are in place.

4.2 Risk Profile

In reviewing the Ravenswood gold project, BDA has considered areas where there is perceived technical risk to the operation, particularly where the risk component could materially impact the potential cashflows. The assessment is necessarily subjective and qualitative. Risk has been classified from low through to high. A summary of the principal risk components of the Ravenswood project is given in Table 4.1.

Table 4.1

Ravenswood Project Risk Components

Risk Component	Comments
Geology/Resources/Reserves *Low/Medium Risk*	The overall geology and mineralisation controls at Ravenswood are reasonably well understood, and the area has an established mining history. Individual structural controls and inter-relations however are complex and present challenges to geological modelling and domaining. Structural preparation of the relatively brittle tonalite has provided channelways for mineralised hydrothermal fluids to infiltrate through fault breccias, shears and conjugate fractures with formation of quartz-carbonate veins and breccia-fill with gold and sulphides. While higher grade zones occur along the specific lode structures, these are relatively narrow, and RGPL is targeting broad mining zones incorporating a stockwork of mineralised veins along conjugate fractures and tension cracks, suited to a high tonnage - bulk mining approach. Current operations have demonstrated that crushing the bulk low grade material from selected deposits, and screening out the larger fractions removes much of the un-mineralised material, resulting in a significant upgrade within the finer fractions. Drill data spans over 40 years, undertaken by different companies and with varying processes and procedures. However, the bulk of the work has been undertaken by MIM (Carpentaria Gold) and Resolute and independent review has concluded that the data conforms with industry standard and provides a reasonable and appropriate basis for resource and reserve estimation. Drilling provides reasonable coverage of the BRW and Sarsfield-Nolans areas, supplemented by past open pit and underground mining and sampling data, but drill density diminishes substantially at depth. An RC grade control drilling programme currently underway should provide detailed information on the upper levels of the BRW pit, and this will be a standard operation prior to mining.

Risk Component	Comments
Geology/Resources/Reserves (Continued) *Low/Medium Risk*	Resource estimation has been undertaken by independent specialist consultancy SD2, and the estimation work and reporting has been further reviewed by independent consulting group MHG. The deposits have been subdivided into separate geological domains based on the major structures, and the domain block grades estimated principally by Ordinary Kriging, with Multi Indicator Kriging used for some of the stockwork domains in Sarsfield-Nolans; estimation has generally been carried out using hard domain boundaries. MHG concluded that the domains are appropriate and robust, and that the estimations are in accordance with industry standards. MHG commented that the grade cutting procedures are possibly conservative, suggesting some possible upside to the grade estimates. BDA concurs that the resource estimates are technically sound and provide a reasonable and appropriate basis for reserve estimation and mine planning. Independent mining consultancy group AMDAD, working with RGPL, has optimised the BRW and Sarsfield-Nolans pit designs and determined the Proved and Probable Ore Reserves. The reserves and pit designs are based on Whittle optimised pit shells, allowing for surface constraints (such as the Ravenswood township and heritage structures) and forecast metal prices, recoveries and costs. BDA considers that the reserves provide a reasonable estimate of the likely mine production, but that it would be prudent to allow for an additional 5% grade dilution as a sensitivity. The area covered by RGPL's 13 EPMs has significant exploration potential, though it is recognised that exploration has been conducted over the various prospects over a number of years, and to date, other than Mt Wright, no major additional reserves have been defined. Nevertheless, with systematic exploration, BDA considers there is good potential to define and develop additional resources that could potentially add to the mill feed with trucking of ore to the existing process plant.
Mining *Low/Medium Risk*	Ravenswood Gold proposes to run the mine as an owner-operator mine, with a new dedicated truck-excavator fleet and staffed to meet the requirements. The Company has a sound mine operations management and technical services team supported by consultants. There are various risks associated with open pit mining operations, but at Ravenswood there is some mitigation of production risk through having both BRW and Sarsfield-Nolans mining areas plus substantial low-grade stockpiles to offset or supplement open pit production as required. Geotechnical conditions are generally expected to be manageable with appropriate monitoring and pit-slope design, but ground conditions always represent some risk in deeper open pit operations and there are areas where some localised bench-scale wall failures may be anticipated. Mining conditions within the open pits will require further detailed work on void detection as an ongoing activity, given the presence of old (and often unrecorded or poorly documented) underground workings; it will be possible to incorporate much of this work as part of the grade control drilling, but it is expected there will be areas where particular measures will be required to maintain safe operations. It will also be important to ensure the completion of the dewatering and tailings removal in the Sarsfield-Nolans pit; BDA notes that initial mining at the base of the former pit and removal of any remaining accumulated sludge could be problematic. The LOM plan requires sustained and substantial ongoing ore mining and waste stripping to achieve the plant feed (post beneficiation) production targets; current low-grade stockpile reclamation is ramping up to target rates, however, there is still some way to go to achieve the ramp up to a consistent 5Mtpa. Post the expansion to 7Mtpa plant feed, consistent production from the open pits in terms of both tonnes and grade will be critical to the meeting of the LOM targets.

Risk Component	Comments
Processing *Low Risk*	The current plant is well-maintained and operated. Existing space is favourable to facilitating the proposed expansion. Sequencing and 'tie-ins' have been thoroughly investigated and the construction engineering company, Ausenco, is experienced and well-regarded. These factors will assist in reducing the risk of the brownfield construction. Ore characteristics are known from previous operations. Process design and modelling has followed good practice, and is supported by good engineering design. There is more likely to be upside to the processing rate than downside. Mineralogical variability has probably caused some variability in past plant recoveries. Ore from the BRW pit is likely to exhibit higher variability, however the process changes will ameliorate this, and any effect is likely to cause increased variability in recovery rather than a downward shift. Overall the recovery estimates appear reasonable and justified.
Infrastructure, Services and Utilities *Low Risk*	The project is adequately serviced with necessary infrastructure. Road access from Townsville is via the Flinders Highway and the Burdekin Falls Dam Road and poses no material issues with respect to construction and ongoing operations. Power is supplied to the operation via a 25MVA reliable power line, with any additional power requirements planned to be sourced from third-party over-the-fence suppliers on a per kWh basis, with initial quotes only marginally higher than current grid supply rates. Accommodation on site is provided in a 250-person camp currently being expanded to 298; additional rooms will be provided for the construction phase. Water is supplied to the project via an established pipeline from the Burdekin River.
Tenements, Approvals and Permits *Low Risk*	BDA has not undertaken a title search or legal due diligence on the status of the tenements or regulatory approvals held by RGPL. RGPL has advised BDA that there are no material tenement title issues for any of RGPL's mineral tenement assets. From the statutory approval, permit and licence information provided by RGPL, BDA is of the opinion that all necessary approvals, permits and licences are in place for the continuation of RGPL's current mining operations and proposed expansion projects. The site has a complex history with associated environmental legacies. RGPL is working to progressively undertake rehabilitation activities. Overall, the approvals process for gaining variations and amendments to regulatory permits appears relatively straightforward and the approvals achieved appear appropriate for the ongoing mining operations and proposed extension projects. BDA can foresee no reason why any future mine development approval applications or variations required in the future would not be forthcoming.
Environmental Issues *Low/Medium Risk*	BDA considers that the environmental management and monitoring programmes are appropriate for the location, nature and scale of the project. Statutory environmental management and monitoring programmes are being undertaken and appropriate mitigation measures are in place to reduce potential environmental impacts. RGPL is substantially in compliance with most of its environmental conditions and regulations, however, managing groundwater and surface water quality and site waste-water discharge will be the key issue demanding ongoing attention, management plans and co-operation with authorities. Managing and monitoring potential dust and noise impacts and heritage conservation are also important ongoing issues. BDA concludes that the risks associated with the potential for off-site water contamination via site run-off, waste rock leachate seepage, or tailings seepage, are low/medium risk, measures for which are currently being addressed in conjunction with the authorities under the current Environmental Authority conditions.

Risk Component	Comments
Occupational Health and Safety *Low Risk*	RGPL is operating under a Safety and Health Management System (SHMS) which provides a major risk control framework that focuses on action management and accountability for line management, hazard reporting and awareness, independent safety audits (including contractor safety management systems), continuous improvement, collaboration on implementing solutions to reduce at-risk behaviour, and training. Coronavirus COVID-19 workplace procedures have been added in recent months. The overall objective of the SHMS is to ensure the highest health and safety standards across the mining and processing operations, focusing on the identification and effective management of all high risk activities on site.
Community Issues *Low Risk*	Mining is an accepted and historic part of the District's history, bringing substantial employment opportunities to the local population and significant revenue to the government through State royalties and taxation. RGPL appears to have a good working relationship with Ravenswood community. There is a Native Title Agreement in place between RGPL and the Birriah People to address aboriginal heritage matters. Provided dust, noise and heritage issues are appropriately managed, BDA considers local community issues to be low risk.
Production Forecast *Low/Medium Risk*	The targeted mine production rates are considered medium risk. A significant increase in mining productivity is required to consistently achieve the proposed ramp up to 12Mtpa ore production rate. However, there are five years before this peak target rate is required. Up to 40% of the coarser lower grade Sarsfield-Nolans material will be rejected in the crushing and screening beneficiation circuit to provide approximately 7Mtpa of feed to the grinding circuit. There is some uncertainty as to how quickly the open pit cut-backs can be established, which may affect shorter term production targets. The schedule has some reliance on lower confidence Inferred resources and low grade stockpiles, but it is expected that most of the Inferred material will be upgraded to Indicated status with infill drilling prior to mining. Infill drilling is also expected to increase the proportion of Measured resources. Production tonnages will become increasingly dependent on deeper pits together with intersection of old underground workings; any development delays may affect production, although that risk is to some extent offset by the presence of significant quantities of low-grade stockpiles as alternative ore sources, and there remains potential for material extensions to be defined to the resources at depth. Mining in the Sarsfield-Nolans pit will be dependent on the success of the tailings removal system. RGPL has 3-4 years to complete the removal and redeposition of tailings to the new TSF; initial pumping tests appear positive and the preferred contractor appears well-experienced. Issues may be experienced with areas of more consolidated tailings, or of mixed tailings and waste, and with final clean-up of mud and slurry, but all these issues should be resolvable within the timeframe. The crushing, grinding and processing changes have been professionally designed. The proposed installed layout is logical and operable and the chosen equipment is conventional and proven on this ore; there is a low risk that the plant will not achieve design throughput. Gold recovery may at times be lower than planned since testwork has indicated that some ore is relatively more complex and may experience lower recovery levels; there is a low risk this will reduce overall forecast production. The processing production profile relies on achieving the project installation and commissioning schedule.
Capital Costs *Low/Medium Risk*	Estimates of capital are generally based on budget quotes, historical costs and data and methodology which are considered appropriate for budgeting for an operating mining project. The major capital items relate to the procurement of a mining fleet, and capital costs associated with the expansion of the existing milling facilities, expansion of the tailings facility and dredging/pumping of tailings within the Sarsfield-Nolans pit. Overall the capital costs are considered low/medium risk, with the greatest risks potentially associated with the fast track nature of the development, dredging of the Sarsfield pit and the limited level of engineering completed at the current stage. BDA considers that a 5% sensitivity on Capital Costs would be prudent in the financial analysis.

Risk Component	Comments
Operating Costs *Low/Medium Risk*	The mine operating costs have been prepared on the basis of first principles, but supplemented with actual cost inputs (labour, fuel, consumables) available from current operations; this provides comparison with current mining and service costs and the projections are considered reasonable, although for prudence, sensitivity studies are recommended. The LOM mining costs assume achieving steady state at up to 12Mtpa crusher/beneficiation plant feed and 7.2Mtpa mill feed; there is potential for increased unit costs if production targets are not achieved. The processing costs in the RGPL BCFM allow for the additional installed equipment, and the estimated costs appear reasonable. The G&A costs are reasonably well established after many years of operation.

4.3 Risk Mitigation Factors

There are a number of factors which combine to reduce some of the identified risks. Principal amongst these are:

- The Ravenswood area has a long mining history and the geology and mineralisation controls are reasonably well defined and understood.
- The resources and reserves have been independently estimated; the resource estimates have been independently peer-reviewed and found to be reasonable and appropriate and estimated in accordance with industry standards.
- The peer review suggested that the grade cutting procedures adopted may be conservative, with some possible upside on grade.
- Systematic 10 x 10m RC grade control drilling is underway at BRW which should provide valuable guidance to the details of the grade distribution. Grade control drilling will be an ongoing component of the planned open pit mining and will provide detailed definition of the ore outlines prior to mining.
- The LOM plan is based on ore production from a number of ore sources, including substantial stockpiles of low-grade ore, providing some flexibility to maintain overall target levels should one area experience production delays.
- Mine ore production and waste stripping operations will be undertaken by an experienced mine management team and operators who are familiar with site conditions. There is already an established workforce in place, with access to additional experienced operators from surrounding regions, including Townsville and Charters Towers.
- The processing characteristics of Ravenswood ores are well known from over 20 years operating experience. The proposed processing enhancements are guided by that experience and confirmed by recent test work. The processing methods are conventional in the industry and well-proven at Ravenswood.
- The unusually good response of Ravenswood ore (Sarsfield-Nolans) to reject low-grade coarse ore by beneficiation confers some flexibility. The beneficiation ratio can be varied to some extent in response to changes in ore supply, process disruptions or market conditions.
- RGPL has conducted trial pumping and geotechnical drilling of the tailings deposited in the Sarsfield-Nolans pit; personnel on site have had prior experience with tailings reclamation, redeposition and hydro-mining techniques and the preferred contractor appears well experienced.
- All major infrastructure is in place and only relatively minor works are required to cater for the planned expanded operations.
- Numerous capital programmes have been undertaken at Ravenswood over the years and there is an established cost base for ongoing capital works; all major process and mining equipment requirements have been identified and firm quotes received; in some cases expenditure is already committed.
- RGPL has the required environmental development approvals and adequate planned waste and tailing storage facilities necessary for its continuing and planned future operations.
- RGPL has in place a long standing Safety and Health Management Systems and monitoring system and measures in place to ensure compliance under the Environmental Authority requirements.

4.4 Opportunities

- There appears significant potential to further extend the mineralisation in depth at BRW and Sarsfield-Nolans where drilling to date is relatively sparse. There are also possible lateral extensions around the BRW and Sarsfield-Nolans pits, and these opportunities are to be followed up with planned drilling in 2020 and 2021.
- RGPL holds extensive exploration tenements in the district with numerous anomalies and mineralised drill intersections from historical work warranting further follow-up. A resource has been defined at Welcome Breccia. There appear to be good prospects for the identification of further mineralisation which could be mined and trucked to the Ravenswood mill to supplement the BRW and Sarsfield-Nolans ores.
- BDA understands that RGPL is in discussion with various other parties holding exploration properties in the district, with the potential to form joint ventures to further explore known prospects and resources.

5.0 RAVENSWOOD GOLD PROJECT

5.1 Location, Topography and Climate

The mine is located in northeastern Queensland, 120km south of Townsville and 60km east of Charters Towers (Figure 1). Access is via the Flinders Highway, southwest from Townsville towards Charters Towers as far as Mingela, and thence south along the Burdekin Falls Dam Road to the township of Ravenswood.

The Ravenswood Gold open pits, mine offices and processing plant lie to the immediate south of the historic Ravenswood township (Figure 2). In 1974 the Ravenswood township was listed with the National Trust. Local infrastructure includes two hotels, a primary school, church and gravel airstrip, used predominantly by the Royal Flying Doctor Service ("RFDS"). The population is approximately 200. RGPL has a mine camp constructed within the township; most employees are drawn from the local area, including Charters Towers and Townsville, and work on a drive-in drive-out basis.

The project compromises both mining tenements (38 MLs) and exploration permits (13 EPMs) (Figure 3). The mine area topography is gently undulating, and generally wooded, though vegetation is relatively sparse. The area lies on the western side of the Great Dividing Range. The area provides feedstock for beef cattle, which is the main cash economy of the district after mining.

The area is on the edge of the north Australian monsoonal belt with a sub-tropical climate, with a wet season from November through April and a pronounced dry season for the rest of the year. The main rain influence is from moist on-shore northeasterly trade winds during the mid- to late-summer period. Storms can be common during the early summer due to the influence of the monsoon, while cyclones moving inland from the coast can result in heavy rainfall. Annual rainfall is around 680mm with an annual evaporation rate of 2,900mm; evaporation exceeds rainfall in every month of the year.

Temperatures reach daily peaks of up to 40°C between October and March, with mild daily temperatures and cool nights from April to September.

5.2 Ownership

The project is owned by Ravenswood Gold Pty Limited (RGPL), which is 100% owned by a 50:50 consortium comprising Golden Energy and Resources Limited (GEAR) and EMR Capital (EMR), collectively the GEAR EMR Consortium. EMR is a specialist mining private equity manager and currently owns and operates eight mines globally, including, in Australia, Golden Grove in Western Australia, and Kestrel Coal, Capricorn Copper and Ravenswood Gold in Queensland. GEAR is listed on the Singapore Stock Exchange (SGX) with coal assets in Australia and Indonesia and gold investments in Western Australia.

5.3 History

Ravenswood is a mature gold mine having been in continuous production since 1987. Gold was first discovered in the Ravenswood area in 1868. Early mining focussed on alluvial and shallow oxide resources. In 1897 the New Ravenswood Company introduced cyanidation and underground mining commenced at Buck Reef West on the Sunset, General Grant and Duke of Edinburgh lodes and other narrow high grade shoots, with shafts developed to 400m depth. Mining ceased around 1917 due to problems with deeper mining, labour shortages due to the First World War, and a miners' strike. At its peak there were 5,000 people on the Ravenswood goldfield and the field produced around 900,000oz.

There was limited activity at Ravenswood from 1917 until the 1970s and 80s. Modern exploration commenced in 1978 when Carpentaria Gold Pty Limited (Carpentaria Gold or CGPL), then a subsidiary of MIM Holdings Limited (MIM), pegged exploration leases in the Ravenswood area. Following exploration success, open pit mining commenced in 1987 at Buck Reef West and at Sarsfield at Slaughter Yard Creek (SYC), Open Cut Area (OCA), and Area 4 and Area 5, feeding a 250,000tpa carbon in pulp ("CIP") plant and a 300,000tpa heap-leach operation at Sandy Creek. Production averaged around 30,000oz per annum from 1988-1993.

The Nolans deposit was discovered in 1992 about 1.5km south of Ravenswood township. In December 1992 MIM entered into a Tribute Agreement with Haoma North West NL ("Haoma") covering the exploitation of Haoma's Nolans Mining Lease ML 1394. Trial mining of the Nolans deposit began in October 1993, with initial processing being undertaken at the Sandy Creek CIP plant.

In 1993 a 2Mtpa carbon in leach (CIL) plant was constructed at Nolans; underground operations at BRW, Area 2 and SYC supplemented the open pit feed from the Nolans pit. During this period a joint venture operated between Carpentaria Gold and Haoma; MIM purchased Haoma's interest in 2003.

The large tonnage, low-grade Sarsfield deposit, located immediately to the north of the Nolans pit, was discovered in 1994. The Sarsfield area bordered on the residential boundaries of the Ravenswood township but lay wholly within existing mining leases. A resource of 24.5Mt at 1.4g/t Au was delineated. A feasibility study on the expansion of the Nolans plant to exploit the Sarsfield resource was completed in 1999, based on both direct treatment of higher grade ores (>0.9g/t Au) and beneficiation of the lower grade (0.6-0.9g/t Au) material to improve the economics. In 2002, the CIL plant was expanded to 4.5Mtpa. Ore was sourced predominantly from the Sarsfield open pit plus Nolans and underground operations at Buck Reef West.

In 2003 Xstrata completed a takeover of MIM, and in 2004 Resolute Mining Limited (Resolute) purchased the Ravenswood project from Xstrata. The Mt Wright breccia-hosted deposit, located 10km northwest of Ravenswood, had been discovered by Carpentaria Gold in 1992. Resolute completed a feasibility study into the mining of the Mount Wright deposit; a resource of 9.8Mt at 3.4g/t Au was defined and underground development commenced in 2006. Mining of the Sarsfield pit was completed in 2009 and the processing plant was de-rated to 1.5Mtpa to accommodate the lower rate of ore production from Mt Wright. To 2009, production at Ravenswood totalled approximately 2.4Mozs from the processing of 44Mt of ore averaging 1.7g/t Au.

Mining of the Nolans East open pit commenced in 2016, with an upgrade of the plant to 2.8Mtpa. Mining of the Nolans East open pit was completed in 2018 and Mt Wright underground was completed in 2019. Over the period of Resolute ownership, annual gold production ranged from around 85-160,000oz per annum.

In 2018 Resolute completed a Ravenswood Expansion Project (REP) Feasibility Study based on mining two open pits, an expanded Buck Reef West pit from mid-2019 and a cut back on the Sarsfield-Nolans area from 2023, with expansion of the processing plant capacity to 5Mtpa, producing from 100-150,000oz of gold per annum over a 13 year mine life. Resolute followed up this study in 2019 with the Ravenswood Expansion Project REP 200 Concept Study, targeting a production rate of 200,000oz per annum.

In mid-2019, Resolute decided to divest its interest in Ravenswood to focus on its African gold projects. EMR submitted an offer to purchase the project in September 2019; the transaction was finalised in January 2020, with GEAR joining with EMR in a 50:50 joint bid, and project completion payments were made in March 2020.

The GEAR EMR consortium has reviewed and revised Resolute's REP 200 study, updated resource and reserve estimates and mine optimisation studies have been completed. Detailed work is underway on plant expansion designs and design of an expanded tailings storage facility (TSF). The 200,000oz per annum target over a 14 year mine life has been retained.

The Ravenswood mine is currently treating accumulated low grade stockpiles with a plan to recommence open pit mining at BRW in early 2021. Commencement of the plant upgrade is planned for Q4 2020, with the plant operating initially at 5Mtpa treating low grade stockpiles and BRW ore, with an expansion to 7.2Mtpa proposed by Q1 2022. The crushing and screening circuit will be expanded to a throughput capacity of 12Mtpa to allow screening and beneficiation of low grade Sarsfield-Nolans ores and stockpiles, with the coarser lower grade portion rejected and the finer higher grade product forwarded to the upgraded grinding and CIL plant.

Current production, based on treatment of low grade stockpiles is approximately 5-6,000oz per month based on the processing of 300-400,000t of ore at an average grade of around 0.6g/t Au.

5.4 Tenements and Land Ownership

Overview

BDA has not undertaken a title search or legal due diligence on the status of the tenements or regulatory approvals held by RGPL. RGPL has advised BDA that there are no material tenement issues relating to title regarding any of RGPL's mineral assets (see Section 12 - Regulatory Approvals, Licences and Permits).

RGPL took possession of a number of Mining Leases and Exploration Permits as part of the acquisition of the Ravenswood operation from Resolute in 2020. At that time, the tenement holder was Carpentaria Gold Pty Ltd. BDA understands that these leases were transferred to RGPL after the settlement of the acquisition transaction on 1 April 2020. BDA can confirm that stamp duty due for these tenement transfers has been paid and the change in ownership is registered on the Queensland Government Minerals Titles Register.

Mining Leases

In total 38 Mining Leases are held under the *Minerals Resources Act 1989* covering an area of 2,875ha or 28.75km^2. These Mining Leases cover all of the Ravenswood project deposits, the processing plant, stockpiles, tailings storage facilities and other project facilities comprising current and planned operations (Figure 2). The project area extends over a mix of State land, land leased from Charters Towers Regional Council and RGPL-owned land. RGPL owns a number of freehold land parcels in Ravenswood Township, including company housing and land blocks purchased adjacent to the Sarsfield open pit. Table 5.1 lists the Mining Leases held by RGPL together with the term of the lease.

Table 5.1

RGPL Mining Tenements

Mining Lease	Lease Name	Grant Date	Expiry Date	Area (ha)
ML 1337	New Coronation	04/04/1974	30/04/2028	8.655
ML 1338	The Mother Lode	05/12/1974	31/12/2034	12.14
ML 1379	Golden Hill	28/11/1974	30/11/2034	12.5
ML 1380	Buck Reef	28/11/1974	30/11/2034	60.79
ML 1394	Nolan 1	01/03/1979	31/03/2028	32.37
ML 1395	Keerson	21/04/1977	30/04/2028	2
ML 1404*	Mt Success	28/02/1980	28/02/2022	100
ML 1412	Sunrise	15/01/1981	31/01/2023	2.024
ML 1416	Buck 1	14/05/1987	31/05/2023	1.975
ML 1417	Buck 2	14/05/1987	31/05/2023	1.184
ML 1418	Buck 3	14/05/1987	31/05/2023	2.04
ML 1435	Mt Wright Ext.	25/07/1985	31/07/2027	115.9
ML 1451	Standard	06/03/1986	31/03/2026	50
ML 1452	Britannia	15/12/1988	31/12/2024	50
ML 1520	Welcome	27/10/1988	31/10/2024	24
ML 1532	Duke	24/10/1985	31/10/2027	0.2022
ML 1574	Sarsfield	24/09/1987	30/09/2027	103
ML 1639	Evlinton	24/09/1987	30/09/2027	21.3451
ML 1640	Sandy Creek	06/08/1987	31/08/2027	130
ML 1682	Teatree Creek	22/10/1992	31/10/2022	346.8
ML 1692	Sandy Creek West	02/02/1989	30/04/2028	2.782
ML 1736	Sandy Creek North	13/06/1991	30/06/2028	8
ML 1753	Mellaneur	20/12/1990	30/04/2028	97.47
ML 10039	John Bull Claim	14/11/1991	31/08/2025	0.2828
ML 10040	John Bull Two Claim	09/04/1992	31/10/2024	0.8348
ML 10041	John Bull Three Claim	09/04/1992	31/10/2024	0.8205
ML 10170	A L Wilson	16/12/1993	31/12/2020	362.6431
ML 10237	Le Breton	29/03/2007	31/03/2027	10.8667
ML 10268	Christian Kruck	12/08/2004	31/08/2029	20.7107
ML 100143	Suhrs Creek	13/05/2019	31/05/2039	25.88
ML 100144	Sandy Creek South	13/05/2019	31/05/2039	1,117
ML 100145	Buck 4	13/05/2019	31/05/2039	1.03
ML 100146	Sandy Creek East	13/05/2019	31/05/2039	17.11
ML 100147	Buck 6	13/05/2019	31/05/2039	0.2023
ML 100148	Buck Reef West	13/05/2019	31/05/2039	64.31
ML 100149	Buck 5	13/05/2019	31/05/2039	1.3
ML 100156	Wilson 1	13/05/2019	31/05/2039	8
ML 100172	Buck Reef South	13/05/2019	31/05/2039	58.46

*Note: ML denotes Mining Lease; * - this lease (ML1404) is in the process of being transferred - an expired Mineral Development Lease MDL 257 is in the process of being relinquished which will facilitate the transfer of ML1404 within the next few months*

Exploration Permits

RGPL holds 13 EPMs covering some 1,180km^2 (see Table 5.2 and Figure 3).

Table 5.2

RGPL Exploration Tenements

Exploration Permit	Permit Name	Grant Date	Expiry Date	Area (Sub-Blocks)
EPM 9165	Christian Kruck	07/04/1993	06/04/2021	4
EPM 14778	Mingela	21/11/2005	20/11/2020	15
EPM 15099	Ravenswood	15/05/2006	14/05/2021	54
EPM 16118	Macrossan	11/02/2015	10/02/2025	30
EPM 16203	Mt Success	27/09/2007	16/09/2022	20
EPM 18029	Pandanus	06/02/2014	05/02/2024	10
EPM 18121	Glenroy North	06/01/2014	05/01/2024	40
EPM 18514	Meadowvale	06/01/2014	05/01/2024	18
EPM 19273	Leichardt	06/02/2014	05/02/2024	40
EPM 25387	Three Sisters	29/05/2014	28/05/2024	9
EPM 25521	St Pauls	19/03/2015	18/03/2025	40
EPM 26220	Care Creek	19/12/2016	18/12/2021	36
EPM 26221	Mt Benjonney	19/12/2016	18/12/2021	40

Note: the expiry date for EPMs listed above is the permit's first renewal date, which is 5 years since a permit's commencement with a nil relinquishment requirement. A second renewal is available 5 years following the first renewal with a 50% relinquishment required, and 10 years after the first renewal marks the end of the tenure.

As with the MLs, BDA can confirm that stamp duty due for these EPM tenement transfers to RGPL has been paid and the change in ownership is registered on the Queensland Government Minerals Titles Register.

Under *Queensland's Mineral Resources Act 1989*, an Exploration Permit for Minerals (EPM) is issued for the purpose of exploration, and allows the holder to take action to determine the existence, quality and quantity of minerals on, in or under the land by methods which include prospecting, geophysical surveys, drilling, sampling and testing. An EPM is initially granted for a period of up to five years, and can be renewed.

RGPL advises that all the tenements are in good standing, have work programmes in place and can be renewed. Under new regulations from May 2020, there is now a cap of 15 years on any new tenements or existing tenements being renewed, so any tenements renewed moving forward will now have a cap of 15 years. There is a requirement to relinquish 50% of the area after 5 years and a further 25% of the original area after 10 years. However multiple tenements can be grouped and given "Project" status which provides more flexibility on the sub-blocks to be relinquished.

Mineral Ownership under the Native Title Act (Queensland) 1993

The *Native Title (Queensland) Act 1993* confirms Queensland's existing ownership of any natural resources. The National Native Title Tribunal is the body that rules on disputes between mining tenement applicants and Native Title parties.

The Queensland Government is liable for any compensation payable as a result of validation of past acts (before 1 January 1994) or intermediate period acts (between 1 January 1994 and 23 December 1996), and the past extinguishment of Native Title. RGPL advises that the Ravenswood Mining Leases granted prior to 23 December 1996 are not subject to Native Title. For those leases granted post 23 December 1996, Native Title applies; these leases are covered under the executed Native Title Agreement between Carpentaria Gold and the Birriah Aboriginal Corporation (RNTBC ICN 8261).

On 23 March 2016, the Federal Court of Australia made a determination order (QUD6244/1998) recognising the existence of Native Title over tenure held by CGPL in favour of the Birriah People. The Ravenswood Expansion Project Mining Leases are wholly within the determined Native Title claim of the Birriah People.

Some of CGPL's granted Mining Leases were granted prior to the commencement of the Native Title Act and therefore constitute valid 'past acts' under the Act. Consequently, their grant is valid as against Native Title, notwithstanding that their grant may have occurred without regard to Native Title rights and interests. However, the Ravenswood Expansion Project has required further tenements for production and infrastructure purposes granted after the commencement of the Native Title Act, which therefore trigger the "right to negotiate" process and notification under the Native Title Act.

CGPL entered into a Native Title Agreement on 3 March 2018 with the Birriah Aboriginal Corporation (RNTBC ICN 8261) on its own behalf and as trustee of the Birriah Native Title Holder's Native Title under the Birriah Determination. Under this Native Title Agreement, Birriah Native Title Holders have consented to the grant of the respective tenements and the undertaking of the Ravenswood Expansion Project. Further to this, on 3 August 2020, the Birriah Aboriginal Corporation signed an additional Native Title Agreement that builds upon the previous agreement to facilitate the grant of additional tenement surface area within ML 10170.

RGPL advises that relations with the Birriah Aboriginal Corporation and Birriah Native Title Holders are good. All proposed mining and infrastructure expansion areas on the Mining Leases are surveyed by representatives of the Birriah People prior to any disturbance activities occurring.

Queensland State Royalties

Mining royalties represent a payment to the State for the right of use of the State's mineral resources. The *Mineral Resources Act 1989* requires that the holders of a Mining Lease lodge a royalty return and any royalty payable at least annually for all leases and claims held. The rates of royalty payable on minerals are determined in accordance with the Mineral Resources Regulation 2003.

Royalties (currently 5%) are payable to the Queensland Government on all gold produced. Payment of royalties for minerals mined under the authority of a Mining Lease transfers the ownership from the Crown to the holder of the Mining Lease. There are no other royalties payable for production from the project.

Private Royalty

BDA is advised that no private royalty applies to the Ravenswood Gold project.

Conclusions

The Ravenswood gold project is located in northeast Queensland, approximately 120km south of Townsville and 60km east of Charters Towers. Gold mining at Ravenswood has an extensive history, from both open pit and underground operations. Early operations took place in the late 1800s and early 1900s; modern mining commenced in the 1980s and has continued to the present day, mining a number of open pit and underground orebodies. Past owners have been Carpentaria Gold Pty Limited (MIM) and Resolute Mining Limited. EMR and GEAR (50:50) purchased the operation from Resolute in Q1 2020.

Current operations involve the processing of low grade stockpiles, but the development plan involves expansion of the processing plant to 7.2Mtpa, expansion of the TSF and commencement of large scale open pit mining at Buck Reef West, to be followed by development of the Sarsfield-Nolans pit. A 14-year mine life is targeted, with annual production of around 200,000oz of gold.

BDA has completed a review of RGPL's tenements and permits from the documentation provided by RGPL. The process for gaining variations and amendments to regulatory permits appears relatively straightforward. Relations with the local Ravenswood leaseholders and Birriah People (Native Title holders) appear good. BDA can foresee no reason why any future mine development applications or variations to tenements, permits and statutory instruments would not be forthcoming.

6.0 GEOLOGY AND MINERALISATION

6.1 Regional Geology

The Ravenswood gold deposits are located within the Ravenswood Granodiorite Complex, or Ravenswood Batholith, within the Lolworth-Ravenswood block of the Charters Towers Province of northeastern Queensland (Figure 4). The Ravenswood Batholith lies east of the 'Thompson Line' which trends north-south through northern Queensland, dividing the Proterozoic and Pre-Cambrian craton to the west from the younger Palaeozoic and Mesozoic rocks to the east. The Palaeozoic and Mesozoic domains represent progressive easterly accretions to the Proterozoic Australian Shield.

The oldest rocks in this area of northeastern Queensland are late Proterozoic metamorphics of the Georgetown inlier, to the northwest of the Ravenswood Complex. To the south of the Ravenswood Batholith lies the Cambrian-Ordovician Seventy Mile Range Group and Mount Windsor Volcanics Belt, hosting the volcanic massive sulphide deposits of Thalanga, Liontown and Highway-Reward.

The Ravenswood Batholith is Ordovician to Devonian in age, comprising a range of granites, granodiorites, tonalites, diorites and gabbros. The Charters Towers quartz-sulphide-gold vein mineralisation was formed during this period of igneous activity.

To the north of the Ravenswood block lie the Devonian to Carboniferous Broken River and Hodgkinson Provinces, comprising predominantly thick turbidite sequences with minor limestones and volcanics.

To the south of the Ravenswood Block and the Mount Windsor Volcanics, the Devonian to Carboniferous sequence is represented by the sediments and volcanics of the Drummond Basin, with younger Permo-Triassic sediments occurring in the Bowen and Galilee Basins.

The Carboniferous-Permian period in northeastern Queensland is marked by wide-ranging igneous activity of the Coastal Ranges Igneous Province of the New England Orogen, with ignimbrites and andesitic volcanics and calc-alkaline trachytic, rhyolitic, granitic and granodiorite intrusives. This period of igneous activity is associated with much of the gold mineralisation in northeastern Queensland, with hydrothermal and epithermal activity resulting in mineralisation of favourable sites within the older rock sequences. The Ravenswood gold mineralisation dates from these events.

The principal geological events are summarised in Table 6.1.

Table 6.1

Ravenswood Area - Principal Geological and Mineralising Events

Age	Formation/Member	Lithology	Mineralisation
Carboniferous-Permian	Kennedy/Coastal Range Igneous Province	Calc-alkali intrusives, rhyolites, aplite dykes	D7 - Permo-Carboniferous gold mineralisation; hydrothermal fluids mineralising pre-existing structures: Ravenswood - BRW/Sarsfield-Nolans, Mt Leyshon, Mt Wright
Devonian-Carboniferous	Drummond and Burdekin Basins	Flysch-turbidite sequence with lesser volcanics and limestones	
Ordovician-Silurian-Devonian	Ravenswood-Lolworth Batholith	Transcurrent shear zones (D3) east-west and north-northwest; intrusion of Granodiorite Complex – granite, granodiorite, tonalite, diorite, gabbro	D3-D5; Charters Towers and Hadleigh Castle – Devonian quartz-sulphide-gold veins
Cambrian-Ordovician	Seventy Mile Range Group - Mt Windsor Volcanics	Volcanics and sediments, and intrusion of Ordovician granitoids	D2 - Ordovician Volcanic Massive Sulphide (VMS) deposits – copper-lead-zinc; Thalanga, Liontown, Highway-Reward
Pre-Cambrian to Early Palaeozoic	Georgetown Inlier, Cape River Province	Pre-Cambrian to early Palaeozoic metamorphics	

The regional structure of the Charters Towers Province is dominated by major east-west trending structures and north-northwest trending faults. The former includes the Alex Hill Shear Zone, a 2-5km wide east-west shear zone extending over 100km across the northern edge of the Ravenswood Batholith, and the Mosgardies Mylonite Shear Zone extending some 30km west of Ravenswood. In the Ravenswood area, principal structures include the north-northwest trending Jessop Creek Fault and Nolans Fault and the east-northeast trending Buck Reef Fault. Across the region, seven principle deformation events (D1-D7) are recognised, with the Charters Towers mineralisation associated with D5 and the Ravenswood mineralisation with D7.

The Lolworth-Ravenswood block comprises remnant amphibolite grade metamorphics intruded by the Ordovician-Devonian Ravenswood Granodiorite Complex, a series of intrusive rocks ranging from felsic to ultrabasic. The Ravenswood Batholith outcrop covers an area of 220 x 150km.

The Ravenswood Batholith intrusions commenced in the mid-Ordovician with hornblende-biotite granitoids. The bulk of the batholith formed in the mid-Silurian with granite and granodiorite intrusions. The main host to the Ravenswood gold mineralisation is the Silurian Jessop Creek Tonalite, dated at around 420 million years (“Ma”).

In the late Carboniferous to early Permian period, a number of high potassium calc-alkaline intrusions took place (Coastal Range Igneous Province) forming fracture-controlled stocks and trachytic plugs. This intrusive phase is associated with the gold mineralisation at Ravenswood. The Ravenswood deposits are classified as Permo-Carboniferous-age Intrusion-Related Gold Deposits (IRGD), with the gold introduced with calc-alkaline intrusions and associated hydrothermal fluids, permeating through pre-existing faults, shears and fractures within the tonalite.

Other gold mineralisation in the region attributed to the same period of igneous and hydrothermal activity includes the epithermal vein, breccia pipe, diatreme and skarn mineralisation at Pajingo, Kidston, Mt Leyshon, and Red Dome. Different styles of gold mineralisation are present, but most are interpreted as related to Permo-Carboniferous intrusive activity and associated hydrothermal events.

The quartz-sulphide vein deposits at Charters Towers and Hadleigh Castle are considered to be earlier, of Devonian age.

6.2 Local Geology, Structure and Mineralisation

The main host lithology to the Ravenswood gold mineralisation, the Silurian Jessop Creek Tonalite, is an intermediate igneous intrusive rock of medium to coarse grained texture, comprising plagioclase and quartz with accessory mafic minerals, primarily hornblende with biotite and minor magnetite. Diorite and gabbroic phases are also present locally, together with minor aplitic and andesitic dykes.

The spatial distribution of gold mineralisation at Ravenswood is strongly influenced by pre-existing structures - faults, shears, breccias and fracture planes - which cut the competent host rocks and which have served as conduits for mineralising fluids. Re-activation of these structures during the D7 Permo-Carboniferous intrusive phase facilitated the permeation of hydrothermal fluids. The principal lodes extend along these major structures, with concentrations commonly occurring at the intersection of structures. Mineralisation also occurs along conjugate joints and shears associated with the major structures, resulting in significant zones of lower grade stockwork mineralisation.

The sub-vertical Buck Reef Fault (BRF) trends east-northeast through the BRW pit and the northern part of the Sarsfield pit and is interpreted to have approximately 350m of dextral strike slip movement, within a 40m wide zone of anastomosing faults, shears and breccias. To the west, the BRF is truncated by the north-northwest trending Jessop Creek Fault, with a projected sinistral displacement. A number of similar trending north to north-northwest faults or shears are associated with mineralised lodes in the Sarsfield-Nolans area.

In the BRW area the principal lodes which were mined underground are associated with north-northwest striking shallow to moderate east-dipping faults with reverse thrust movement. These faults appear to cross-cut the Buck Reef Fault without significant obvious displacement. A lesser group of fractures with similar strike dip to the west.

Surrounding the major lodes at Sarsfield-Nolans are zones of conjugate fractures carrying stockwork mineralisation.

Gold occurs along fractures and grain boundaries associated with pyrite, pyrrhotite, sphalerite, arsenopyrite, chalcopyrite, quartz and carbonate. The mineralisation is characterised by a zone of phyllic alteration of sericite and chlorite, with more distal chlorite-epidote-carbonate alteration. A regional haematite-albite-chlorite-epidote alteration occurs throughout the district.

Buck Reef West

The current BRW pit is a small elongate east-west pit, 120m wide by 350m long, developed along the Buck Reef Fault. The pit is underlain by extensive underground workings, principally developed along the north-northwest striking, east dipping lodes, extending over an 800m strike to a depth of over 400m.

The BRW deposit is hosted by the Jessop Creek Tonalite. Mineralisation extends over an area of approximately 800 x 400m and to a depth in excess of 400m. The BRW deposit comprises mineralisation along the subvertical east-northeast striking BRW fault, and within the three principal north-northwest striking lodes which intersect the BRF at approximately 100m intervals. These lodes, the Sunset (west), General Grant (central) and Duke of

Edinburgh (east) lodes, are developed along 40-50° east-dipping shear structures. The A2 lode which was mined underground appears to be a depth extension, or associated with, the General Grant lode. A reverse thrust movement is interpreted on the lode structures, reactivating the Buck Reef Fault during mineralisation.

These north-northwest lode structures are all intersected by the east-northeast Buck Reef Fault, which has been traced over 5km through the BRW pit and the northern part of the Sarsfield pit. The BRF typically exhibits a zone of anastomising shears around a central breccia.

Tension and shear veins, trending variably sub-parallel to the main lodes, or forming a conjugate shear pattern, extend out from the main lodes, with mineralisation along the fractures, forming a wide low-grade stockwork zone around the major lodes.

Gold is contained within the lodes, along smaller veins along fractures and shears, and within breccia-fill along the BRF. There is little to no mineralisation within the unfractured tonalite wall rocks. The mineralised veins comprise quartz-carbonate with a range of sulphides - pyrite, pyrrhotite, arsenopyrite, sphalerite, chalcopyrite and galena. The rocks proximal to the mineralised veins show sericite-chlorite alteration, with more distal chlorite-epidote-carbonate alteration.

Pyrrhotite is the principal sulphide associated with BRW, though the highest grades occur when sphalerite and chalcopyrite are also present.

Sarsfield-Nolans

The Sarsfield and Nolans deposits are hosted by the Jessop Creek Tonalite, including minor mineralisation within diorite, quartz diorite, microdiorite and gabbro phases. Mineralisation extends over an area of 800 x 450m and to a depth of around 400m. Gold mineralisation occurs along several structurally controlled zones, as well as within a stockwork of conjugate shears and tension veins, and within breccia fill along the Buck Reef and Area 4 faults. There is little to no gold mineralisation within the unfractured wall rocks.

There are three major fault zones/corridors in the Sarsfield region and a distinct vein corridor at Nolans. The principal defined mineralised domains comprise:

- BRF - the east-northeast trending subvertical Buck Reef Fault in the north of the Sarsfield pit
- Area 4 fault – north-northwest trending, located in the northern part of the Sarsfield pit
- Keel Zone - located in the central portion of the Sarsfield deposit, a 35m thick zone comprising south-dipping vein structures
- Bell Zone - vein networks formed at the intersection of a zone of north-dipping veins and the Area 4 fault zone
- OCA (Open Cut Area) stockwork - an area of structural complexity, dilation and vein networks in the northern portion of the Sarsfield pit
- North Veins - north dipping stockwork of veins from the Area 5/Nolans Fault zone to the BRF
- Area 5/Nolans Fault zone – north-northwest trending zone hosting a conjugate vein set; the southern part comprises the Nolans deposit.

These zones form the basis for the resource estimate domaining of the Sarsfield-Nolans deposit.

Mineralisation at Sarsfield-Nolans comprises a complex vein network controlled by reactivation of earlier structures. Wall exposures in parts of the Sarsfield-Nolans pit clearly show a conjugate fracture pattern, with mineralised veins developed along the fractures. In some areas one set of the fractures can dominate. Mineralised veins comprise quartz-carbonate-pyrite with sphalerite, chalcopyrite, arsenopyrite, galena and pyrrhotite. Alteration is characterised by a selvage of sericite, calcite, chlorite and pyrite. Biotite and hornblende are weakly altered to chlorite and epidote.

Mount Wright

The Mt Wright deposit is located approximately 10km northwest of Ravenswood, and comprises a vertical pipe of rhyolite breccia mineralisation with a strike length of 200m, a width of 60m and a vertical extent of around 850m. The Mt Wright mine was operated as a satellite operation by Resolute, with the ore trucked to the Ravenswood processing facilities. Mining was by sub-level shrinkage stoping. Essentially all the defined recoverable reserves have been mined, with operations ceasing in 2019.

6.3 Exploration Potential

RGPL holds 13 Exploration Permits - Minerals (EPMs) to the north and south of Ravenswood, broadly on a northwest-southeast trend, covering a total area of 1,180km^2 with numerous prospects and anomalies (Figure 3). Many prospects are associated with old workings, while others have been defined by soil sampling, rock chip sampling and mapping. Principal prospects have been drilled using percussion, reverse circulation (RC) and diamond drilling (DD), and resources have been defined on some prospects.

The principal near-mine exploration focus is on defining extensions to the BRW and Sarsfield-Nolans deposits to refine and optimise the open pit designs. Drill holes are planned west of BRW, to the north of Sarsfield, east and west of Nolans and between Sarsfield and BRW, to follow-up potential resource extensions. Infill grade control drilling at BRW is also being undertaken to better delineate ore zones for early mining, and some 670 holes and 25,000m have been completed. Deeper holes are also planned to upgrade areas of Inferred resources on the eastern limit of the BRW pit to Indicated status.

An active regional exploration programme is also underway, re-examining past exploration data and defining priority targets for further work. Forty one prospects have been identified and reviewed, and eighteen listed for priority follow-up, particularly in and around the Mingela region, approximately 40km northwest of Ravenswood. The dominant structural feature in the Mingela region is the east-west trending Alex Hill shear zone, a major crustal-scale transcurrent fault, with several northwest-trending splays. The area is underlain by Ordovician to Silurian granodiorite and tonalite intrusives. A number of high grade intersections have been achieved in past drilling; RGPL's exploration objective is to define targets with sufficient tonnage to warrant development and trucking to the Ravenswood mill. Properties in the region held by others are also under review, for potential joint ventures.

Welcome Breccia

The Welcome Breccia prospect is located 40km northwest of Ravenswood, near Mingela. Gold mineralisation occurs within a vertical granodiorite breccia pipe, similar in style to the Mt Wright deposit, with grades averaging around 3g/t Au. A shallow open pit has been developed over the surface outcrop of the breccia. Diamond drilling has shown the breccia zone and associated mineralisation extend to depths of 500m, with one deep intersection giving 37m at 12.6g/t Au. Resolute reported an Inferred resource of 2Mt averaging 3.2g/t Au containing 210koz of gold.

Christian Kruck

Located 3km west of the Welcome Breccia prospect, a shallow open pit was worked in the late 1800s, mining quartz-pyrite-gold veins along shear zones. Relatively poor recoveries were reported on the sulphide ores. A 1,700m long soil anomaly has been mapped. The western half has been extensively drilled with intercepts including 30m at 7.1g/t Au and 43m at 5.1g/t Au. The mineralisation appears to have a steep westerly plunge, open down dip, with the deepest intersection around 130m. The eastern half of the anomaly, where there is also a northwest-trending component, is largely unexplored.

Milnes Reward

Located between Welcome Breccia and Christian Kruck, Milnes Reward is marked by several historic shafts and pits, with a 1.5km long northwest trending soil anomaly, with shallow trenches returning values of 1-2g/t Au over 4-6m. Limited drilling has been undertaken with the best intersection being 12m at 11.3g/t Au. Mineralisation remains open down dip and along strike.

Kitty Cummins

Located 1km northeast of Christian Kruck, along a 2km northwest-southeast striking soil anomaly. Limited drilling has returned some significant results, including 6m at 14.8g/t Au and 4m at 12.0g/t Au. Additional drill testing of the strike of the anomaly is planned.

Joe's Delight

Located 35km west of Ravenswood, and 7km from the Hadleigh Castle mine, the prospect represents the down-dip extension of mineralisation mined in the Joe's Delight pit which is on a lease held by a third-party. Gold mineralisation occurs within structurally-controlled quartz-sulphide veins and shoots. Drilling has given intersections of 24m at 3.5g/t Au and 23m at 2.9g/t Au. Mineralisation appears to dip to the south and further drilling is planned to establish a resource.

Conclusions

The overall geology and mineralisation controls at Ravenswood are reasonably well understood, although individual structural controls and inter-relationships are complex. Structural preparation of the relatively brittle tonalite has provided channel-ways for mineralised hydrothermal fluids to infiltrate through fault breccias, shears and conjugate fractures, with formation of quartz-carbonate veins and breccia fill with gold and sulphides.

The principal structural domains within the BRW area are the Buck Reef Fault and the Sunset, General Grant/A2 and Duke of Edinburgh lodes. The principal defined structural domains in the Sarsfield-Nolans area are the Buck Reef Fault, the Area 4 Fault, the Keel zone, the Bell zone, the Area 5 zone, the OCA stockwork, the North-Dipping vein stockwork and the Area 5/Nolans Fault zone. The structural controls and interaction of the mineralised structures and domains present challenges to geological modelling and domaining. It is anticipated that detailed infill grade control drilling, currently underway in the BRW pit area, will greatly assist in defining the mineralised domains.

While higher grade zones occur along specific lode structures, these are relatively narrow, and RGPL is targeting broad mining zones incorporating a stockwork of mineralised veins along conjugate fractures and tension cracks, suited to a high tonnage-bulk mining approach.

The unfractured tonalite away from the main lodes carries little or no gold; crushing the bulk low grade material and screening out the larger fractions removes much of the un-mineralised material, and has been shown to result in a significant upgrade of the Sarsfield-Nolans mineralisation, within the finer fractions comprising the mineralised stockwork and veins. The BRW ores appear less amenable to beneficiation.

The gold mineralisation is free-milling and process recoveries are relatively high, in the high 80s or low 90s.

In BDA's opinion the area covered by RGPL's 13 EPMs has significant exploration potential, though it is recognised that significant exploration has been conducted over the various prospects over a number of years, and to date no major additional reserves have been defined, other than at Mt Wright. Nevertheless, with systematic exploration, BDA considers there is good potential to define and develop some additional resources that could add to the mill feed with trucking of ore to the existing process plant.

7.0 GEOLOGICAL DATA

7.1 Overview

BDA has not undertaken an audit of the resource database as part of this review. The following information is based on discussions with RGPL staff, senior management and resource consultant SD2, and review of geological reports. BDA visited the site in August 2020 and reviewed the geological data, drill core, sampling and assaying processes and procedures.

Data collection and database management at Ravenswood are well organised and well documented. Procedures generally follow standard international mining industry practice.

SD2 has been involved with reviews of drilling, sampling, and database quality assurance/quality control (“QA/QC”) as part of resource estimation work since 2019. Mr Scott Dunham of SD2 visited site in August 2019, January 2020 and June 2020; BDA has had meetings with Mr Dunham who has confirmed that the database is in good order and suitable for resource and reserve estimation purposes.

7.2 Drilling and Survey

Drilling

The Ravenswood deposits have been drilled using mostly fully-cored diamond drill holes (DD) and reverse circulation (RC) holes. A number of the diamond drill holes were pre-collared with RC and open hole percussion drilling. Earlier drilling by Carpentaria Gold (MIM) included some open hole percussion drilling, Rotary Air Blast (“RAB”) drilling and Aircore drilling, but these holes have generally been superseded by diamond and RC holes.

The deposits have been defined by 5,084 drill holes totalling around 351,000m, as detailed in Table 7.1. In addition a further 1,763 holes have been drilled in the surrounding Exploration Permit areas. This number includes only holes drilled by Resolute, MIM and joint venture partner Haoma Mining; more than 40 exploration companies have held ground around Ravenswood over the last fifty years and results from their exploration and drilling activities are generally available from Annual Exploration Reports

Table 7.1

Ravenswood - Resource and Exploration Drilling

Company	Year	Drill Type	No of Holes	No of Metres
Ravenswood Mining Area				
RGPL (EMR/GEAR)	2020	DD	4	739
		RC	3	278
Subtotal			*7*	*1,017*
Carpentaria Gold (Resolute)	2004-2019	DD	208	66,239
		RC	346	49,674
Subtotal			*554*	*115,913*
Carpentaria Gold (MIM)	1980-2003	DD	387	56,705
		RC	984	94,383
		OHP	822	65,763
		RAB/Aircore	2,516	30,735
Subtotal			*4,523*	*234,436*
Total			***5,084***	***351,366***
Regional Area				
Carpentaria Gold (Resolute)	2004-2019	DD	50	25,695
		RC	641	52,397
		RAB/Aircore	392	3,525
Subtotal			*1,083*	*81,617*
Carpentaria Gold (MIM)	1980-2003	DD	117	52,845
		RC	374	35,103
		OHP	12	1,394
		RAB/Aircore	177	1,938
Subtotal			*680*	*91,280*
Total			***1,763***	***172,897***

Note: DD = Diamond Drill (and includes holes with RC or Percussion Pre-Collar and Diamond Tail); RC = Reverse Circulation Percussion; OHP = Open Hole Percussion; RAB = Rotary Air Blast; Carpentaria Gold (MIM) totals include JV partner Haoma Mining; Totals exclude water bores, auger, sludge or blast hole drilling; the seven recent RGPL holes have not been included in the SD2 2020 resource estimates

Drilling has focussed on Buck Reef West, Nolans, Sarsfield and Mt Wright, but Carpentaria Gold also drilled numerous other prospects located within, approximately, a 50km radius of Ravenswood. Drilling has been carried out during numerous campaigns over many years.

Drill hole spacing is variable, given the different structural controls, orientations, and dips. Nominal spacing is approximately 40 x 40m at BRW and 25 x 25m at Sarsfield-Nolans, but can be from less than 20 x 20m to more than 50m; at depth, drill hole spacing increases markedly. Current infill grade control RC drilling at BRW is being undertaken on a 10 x 10m grid.

Diamond drill holes have generally been drilled at HQ size (61mm), with reduction to NQ (45mm) or BQ (36mm) where necessary. Hole inclinations range from vertical to 60-70° depending on the drill site and target location. Holes have been drilled at varying orientations, depending on the orientation and dip of the targeted lode.

All recent cores have been orientated where possible, using an industry standard orientation tool on each core run.

Core recoveries are reported as generally good, except when drilling through areas of old underground workings. SD2 reviewed recoveries and reported that, while recovery data was commonly not recorded for historical drilling programmes, more recent recoveries were good and there was no evidence of bias in recent drilling between gold grade and core recovery. RC recoveries have historically generally not been recorded.

The drill hole data is stored in a relational database using MaxGeo data management software. Drill data is captured with MaxGeo Logchief and synced into the MaxGeo Datashed data base. Standard data validation procedures are undertaken and the data was reviewed by SD2 prior to use in resource estimation.

Current Resource Infill Drilling

RGPL is currently undertaking infill and exploration drilling in and around the BRW and Sarsfield-Nolan pits. Grade control infill RC drilling is being carried out at BRW, with vertical holes, around 50m in depth, on a 10 x 10m grid. To date, 670 holes and 25,000m have been completed. This drilling should allow a detailed grade control model to be developed to define ore-waste boundaries and to guide initial mining. It is also anticipated that this drilling will allow a portion of the current BRW resource to be upgraded from Indicated to a Measured status. It is planned that comparable grade control drilling will be a standard component of the ongoing mining operation.

In addition, deeper RC and diamond holes are being drilled to the west of the BRW pit to explore the potential for the pit design to be expanded in this direction, focussed on extensions of mineralisation along the BRF and a possible western lode, the Twilight lode, running subparallel to the Sunset lode.

At depth, and on the eastern margin of the BRW pit, a zone of Inferred mineralisation defined by relatively few holes, has been included in the BRW pit design. Drilling is planned to better define this area and to upgrade this portion of the resource from Inferred to Indicated status.

At Sarsfield-Nolans drilling is planned to the north to follow up potential extensions to mineralisation, and similarly to the east and west of the currently planned Sarsfield-Nolans pit where there are lode intersections which could continue beyond the current pit boundary and which are to be followed-up with further drilling.

Survey

Collar locations are surveyed by contract and staff surveyors using digital global positioning system ("DGPS") and Leica Total Station instruments. Coordinates and azimuths are reported in National Grid GDA94 (MGA94 Zone 55) coordinates. Coordinates are transformed into local mine grid coordinates; the local mine grid north at BRW is oriented 35° west of magnetic north (bearing 325°); the local mine grid north at Sarsfield-Nolans is oriented 25° west of magnetic north (bearing 335°). All orientations in this report are based on true north.

Down hole surveys are performed by the drilling contractor under geological supervision using electronic survey instruments, either single shot, multi-shot or gyroscopic tools; down hole surveys are carried out typically at 30m intervals down hole.

The majority of holes at Sarsfield-Nolans are inclined at 50-60° northeast-southwest, with a smaller north-south portion, and some vertical holes; grade control holes were drilled vertically.

Survey topographic control at the mine site is provided by LIDAR surveys, drill hole collar surveys and historic end-of-pit mining surfaces.

7.3 Logging, Sampling and Assaying

Logging

All drill cores are systematically logged, recording lithology, colour, grain size, mineralisation, alteration, geological structures, core recovery and magnetic susceptibility; geotechnical parameters logged include rock quality designator ("RQD"), rock strength, and structure orientation.

Diamond core is photographed, wet and dry, prior to sampling, but few records exist for historic holes.

RC holes are logged on 1m intervals for lithology, colour and mineral content based on a washed sample collected from each metre drilled.

Data is entered onto a laptop computer at the drill site or in the core shed, validated, and then entered into the computer database. Historical logging was entered manually onto traditional logging sheets.

Sampling

Recent drill core sampling is generally based on 1m samples. Historic holes were sampled on a 1m or 2m interval. Diamond drill core is sawn in half through the mineralised zone, providing a 2-4kg half-core sample which is submitted for sample preparation and analysis. The remaining core is retained for reference and additional sampling if required.

RC holes are sampled at 1m intervals and the sample cone split or riffle split to obtain a 2-3kg sample which is sent to the laboratory for sample preparation and analysis. Historic RC holes, open hole percussion, air core and RAB holes were sampled at 1m or 2m intervals.

There is limited documentation on sampling methods for the historical samples, but generally Carpentaria Gold's processes and procedures are considered consistent with industry standards. Recent sampling and sampling protocols have been reviewed by SD2 prior to resource estimation and are of industry standard and deemed appropriate for resource estimation.

Sample Preparation and Analysis

Sample preparation and analysis of Ravenswood drill samples is conducted off-site at the Australian Laboratory Services Pty Ltd (ALS) facility in Townsville or the SGS laboratory, also located in Townsville.

Diamond core samples are sent to the laboratory for oven drying and crushed to 70% passing 6mm. Samples are split if greater than 3kg and then pulverised to 85% passing 75 microns, and a 200g pulp sample collected for assay determination. Gold is determined using a 50gm fire assay with atomic absorption spectrometry ("AAS") finish.

RC samples are dried, split if greater than 3kg, and then pulverised and a similar pulp taken for analysis.

Historic samples (Carpentaria Gold - MIM and Resolute) were generally also dispatched to Townsville laboratories for analysis, also generally using a 30gm or 50gm fire assay for gold.

Multi-element analyses are undertaken as required, based on a four acid digest and analysis by Inductively Coupled Plasma – Atomic Emission Spectroscopy ("ICP-AES").

Current RC grade control samples are being processed through the on-site mine laboratory using a partial leach ("PAL") method. Samples are split to approximately 0.5kg and mixed with two 'Leachwell' pills in one litre ("L") of water. The solution is left for 70 minutes and 10 millilitres ("mL") of liquor extracted and the gold content determined by AAS. RGPL advises that the PAL method typically gives a 10-15% lower gold grade, than fire assay, commonly equivalent to the recovered gold through the process plant. SD2 noted a 5-10% low bias for the on-site laboratory (Leachwell) results.

The RC grade control PAL data is not used in the current resource estimation work, but is planned to be used as the basis for a grade control model for detailed comparisons with the resource model.

The larger sample-size tested by the PAL method (0.5kg) should smooth out some of the sample variability experienced with testing only a small fire assay sample, but care will need to be taken in applying cut offs to a PAL-based grade control model if the values are systematically lower than the total gold content on which the resource and reserve cut offs are based.

7.4 Quality Assurance/Quality Control (QA/QC)

QA/QC protocols used by RGPL and previously by CGPL, generally meet standard mining industry practice.

QA/QC procedures include insertion of a QC sample every 10th sample, alternating between field duplicates (1 in 20 samples), certified reference material ("CRM") (1 in 40 samples), and certified blanks (1 in 40 samples). QC samples are included in all dispatches to the laboratory and results are routinely analysed for accuracy and precision.

RC field duplicates are collected at the rig and inserted at a rate of 1 in 20 samples. Core duplicates are collected after crushing, and also inserted at the rate of 1 in 20 samples.

CRMs are currently sourced from specialist Australian company, GeoStats Pty Limited ("GeoStats") and cover a range of typical Ravenswood grades. Historically a combination of OREAS and Geostats standards were used. From 2009 to the present, thirteen different CRMs have been used; overall, ALS results indicated a slight negative bias for values below 2g/t Au and a slight positive bias for values above 2g/t Au, but the variances are less than ±2%.

Routine sieve checks are undertaken to ensure the sample preparation process is achieving the required grind sizes.

ALS runs extensive internal control protocols including internal repeats, splits, blanks and standards. The laboratory also participates in a monthly round-robin inter-laboratory check analysis.

Umpire pulp analyses are carried out by a second external laboratory, SGS Townsville, with approximately 5% of sample pulps sent for check analysis by the second laboratory. Reconciliations between the two laboratories are good.

The chain of custody of drill hole samples from the core shed through to the Townsville laboratory and results from the laboratory to the assay database is considered satisfactory and secure.

Overall, results of Ravenswood's QA/QC control samples show acceptable performance. Coarse duplicate and pulp duplicate inter-laboratory checks show good repeatability and CRM results show that an acceptable level of accuracy has been achieved. There is no evidence of a consistent bias in any of the sampling or assay data used for resource estimation.

The QA/QC information for historical data is limited, but BDA understands from Ravenswood staff that similar industry standards were applied by Carpentaria Gold.

Database

All drill hole collars, down hole surveys, geology, geotechnical and mineralisation data is stored and validated within a DataShed® SQL database which is maintained by the on-site data base administrator. The database is backed up daily to the head office server. Drill hole traces are reviewed in 3D to check the validity of the surveys.

Analytical results are electronically received from the laboratories and imported into the database. QA/QC data is continuously monitored and reported. Only the original sample values are used for resource estimation unless QA/QC results indicate a requirement for re-analysis of a sample batch.

Independent Reviews

SD2 completed a review of logging procedures, QA/QC protocols and data management procedures prior to resource estimation in 2019 and 2020. SD2 also reviewed the ALS sample preparation and assay procedures in Townsville in 2019. None of SD2's reviews revealed any material errors or issues relating to Ravenswood's procedures or its drill hole database. SD2 also ran validation checks on the database prior to resource estimation.

7.5 Bulk Density

Bulk densities are determined on core using the Archimedes water immersion method, based on 15-20cm lengths of core. Current procedure is for a core sample for density measurement to be taken approximately every 2m in ore zones and every 10m in waste zones. If porous, the core is sprayed with sealant before immersion in water.

The drill hole data base contains 1,957 density measurements, mostly from drilling conducted by Resolute from 2014-2018. Approximately one in every 25 samples is sent for an independent laboratory check measurement. SD2 advises that the bulk density data is supported by historical reconciliations. Table 7.2 shows the average bulk density values in tonnes per cubic metre ("t/m^3") used for resource estimation.

Table 7.2

Bulk Density Values for Ravenswood

Rock Type	Bulk Density (t/m^3)
Oxide - BRW/Sarsfield-Nolans	2.40
Fresh Lode Material - BRW	2.86
Un-mineralised Fresh Rock - BRW	2.78
Fresh Rock - Sarsfield-Nolans	2.78

7.6 Geophysical and Geochemical Exploration

Exploration has utilised a range of geochemical and geophysical techniques including soil sampling, rock chip sampling, magnetics, induced polarisation, electro-magnetics, gravity, radiometrics, and seismic. Several geological studies have been undertaken, variably focussed on lithology, alteration, mineralisation, and structure. University-based research studies have been completed on each of the main deposits and other prospects in the region.

Conclusions

BDA considers that the geological investigations carried out by RGPL and, as far as can be determined, by its predecessors, have been thorough, and the drilling, logging, sampling and assaying procedures adopted are appropriate and in accordance with industry standards. QA/QC results are generally satisfactory with good repeatability and no significant bias. The database is well managed and has been independently reviewed by SD2.

Overall, BDA considers the current Ravenswood resource database forms an appropriate and reasonable basis for resource and reserve estimation.

8.0 MINERAL RESOURCES AND ORE RESERVES

8.1 Standards and Definitions

The Ravenswood Gold resource and reserve estimates have been reported under the JORC Code.

A Mineral Resource is defined in the JORC Code as a concentration or occurrence of solid material of economic interest in or on the earth's crust in such form, grade, quality and quantity that there are reasonable prospects for eventual economic extraction. Resources are classified as Measured, Indicated or Inferred according to the degree of confidence in the estimate.

A Measured Mineral Resource is one for which quantity, grade, densities, shape and physical characteristics are estimated with sufficient confidence to support mine planning and evaluation; geological evidence is derived from detailed sampling and testing sufficient to confirm geological and grade continuity; a Measured Mineral Resource may be converted to a Proved Ore Reserve.

An Indicated Mineral Resource is one for which quantity, grade, densities, shape and physical characteristics are estimated with sufficient confidence to support detailed mine planning and final evaluation; geological evidence is derived from adequately detailed sampling and testing sufficient to assume geological and grade continuity; an Indicated Mineral Resource may be converted to a Probable Ore Reserve.

An Inferred Mineral Resource is one for which quantity and grade are estimated on the basis of limited geological evidence and sampling; geological evidence is sufficient to imply but not verify geological and grade continuity; an Inferred Mineral Resource is not known with sufficient confidence to be converted to an Ore Reserve, but it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated status with continued exploration.

An Ore Reserve is defined in the JORC Code as the economically mineable part a Measured or Indicated Resource. It includes diluting materials and allowances for losses which may occur when the material is mined or extracted, and is defined by studies at Pre-Feasibility or Feasibility level that include the application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. Proved and Probable Reserves are based on Measured and Indicated Resources respectively. Under the JORC Code, Inferred Resources are deemed to be insufficiently delineated to be transferred into a reserve category. In this report, and in the reporting of resource and reserve data by RGPL, resources are inclusive of reserves.

8.2 Mineral Resource Estimation

RGPL commissioned Mr Scott Dunham of the resource consultancy group SD2 to undertake an independent Mineral Resource Estimate (MRE) on the Buck Reef West and Sarsfield-Nolans deposits. The BRW MRE estimate was completed and reported in April 2020, and the Sarsfield-Nolans MRE was reported in July 2020.

Prior to finalisation, RGPL commissioned Mr Chris De-Vitry of Manna Hill GeoConsulting (MHG) to undertake an independent review of the draft MRE reports. MHG advised that estimation processes and procedures were at or above industry standards and that no fatal flaws had been detected. MHG made a number of recommendations for consideration and these were incorporated as appropriate in the final MRE reports.

BDA has reviewed the resource estimates with RGPL staff and has discussed the processes and procedures with Mr Dunham. BDA concurs with MHG that the estimates are in accordance with industry standards and provide an appropriate basis for reserve estimation and mine planning.

SD2's MREs form the basis for the Ore Reserve estimate undertaken by mining consultant AMDAD in conjunction with RGPL staff. This reserve estimate forms the basis for the current LOM plan and BCFM.

Resource Modelling and Estimation - Overview

The database for resource estimation contains both recent and historical data, collected by multiple companies over many years, and incorporating a range of different drill data. In the BRW data base, prior to resource estimation, SD2 removed all aircore, blast hole, RAB and water bore data. Open hole percussion samples were retained on the basis of a 2019 review by MPR Geological Consultants of nearby holes which concluded that there was a reasonable correlation between diamond core, RC and open hole percussion samples with no material bias. SD2 noted that most areas of open hole percussion drilling were also covered by RC and diamond drilling, and that the influence of the open hole samples was limited.

The Sarsfield-Nolans data base includes diamond, RC and blast hole samples. The blast hole data impacts only on the upper levels of a limited area of the pit, and SD2 determined to use all available data for the Sarsfield-Nolans resource estimate.

The drill data used by SD2 in the resource estimates is summarised in Table 8.1.

Table 8.1

Drill Holes used by SD2 for Resource Estimation - April/July 2020

Deposit and Drill Type	Total Number of Holes in Data Base	Holes Used for SD2 Resource Estimate
Buck Reef West		
Diamond/Diamond Tail	361	349
RC	281	273
Open Hole Percussion	96	96
Aircore/RAB/Blast Hole/Water Bore/Sludge	106	0
Total	**844**	**718**
Sarsfield-Nolans		
Diamond/Diamond Tail	260	260
RC	1,120	1,120
Blast Hole	43	43
Total	**1,423**	**1,423**

Note: Diamond Tail includes holes that were precollared with RC and with Open Hole Percussion; drill holes used for resource estimation require a validated collar survey, down hole surveys, lithological logs and assay data

In the BRW area approximately 60% of the holes were drilled by MIM/CGPL from 1980-2003 and 40% by Resolute/CGPL and RGPL from 2004 to the present.

In the Sarsfield-Nolans area many of the holes were drilled in the upper levels of the pit and do not penetrate below the current pit topography; nevertheless, this data is still relevant in terms of geology and grade modelling; 951 holes have intersections remaining below the as-mined topography. The Sarsfield-Nolans database is dominated by holes drilled prior to 2001; post 2001, drilling focussed on deeper areas below the existing open pit, and these holes inform the bulk of the current resource volume.

SD2 reviewed the data base records, discussed data base management practices and procedures with RGPL staff, and ran a suite of data checks. SD2 also undertook visual checks of drill hole data plots on plan and section and concluded that the database was of high quality. Generally only the visibly veined or altered sections of core have been sampled and assayed. SD2 assigned a background value of 0.005g/t Au to samples with no assay data for estimation purposes.

The approach taken by SD2 for resource estimation was similar for each deposit, but with some variations, for example block size, grade top cuts and kriging methodology. Mineralisation is focussed along specific lode and structural orientations but also exists along conjugate fractures adjacent to these major structures, forming a lower grade halo to the lodes. To model the complex and discontinuous nature of the Ravenswood mineralisation, SD2 defined a number of major and surrounding domains. The resource estimation methodology and parameters used are summarised below.

- SD2 reviewed the geological database, the topography and void records, survey and grid transformations, drill hole collar data vs topography, geological logging, sampling and assaying data, quality control performance, bulk density data, structural geology and the interpretation of domains.
- SD2 noted the complications introduced by the use of local mine grids, which were commonly not well oriented in relation to major structures. SD2 strongly recommended the adoption of the Australian Mapping Grid ("MGA") across the site to provide consistency and also a better orientation in relation to the major structures, but undertook the resource work in the context of the existing local mine grids.
- SD2 and RGPL's Exploration Department worked closely together on the geological interpretation and to produce the new resource domain models. Domains were based on the major mineralised structures using a combination of grade cut offs and known bounding structures and mineralisation trends. The Exploration Department used Leapfrog software to define domain wireframes.
- Indicator kriging was used to assist in the definition of domains. The BRW grade estimation applied Ordinary Kriging (OK) with dynamic anisotropy to align with the interpreted strike, dip and plunge of the mineralisation. The Sarsfield-Nolans estimation was based on OK for the major structures and Multi Indicator Kriging (MIK) for the stockwork zones.
- SD2 assigned a bulk density of 2.85t/m^3 to the BRW lode domains, 2.78t/m^3 to the background domain and 2.4t/m^3 to all oxide material; a value of 2.78t/m^3 was used for all Sarsfield-Nolans fresh rock.

- Resource categorisation is based primarily on confidence in the geological interpretation and drill hole spacing, but also considers geostatistical estimation parameters. The BRW resource was categorised as Indicated and Inferred. Additional drilling is planned to provide greater confidence in some Inferred resource blocks which fall within the initial design of the BRW pit. A close-spaced 10 x 10m RC grade control drilling programme is underway which should allow a portion of the BRW Indicated resource to be upgraded to a Measured status. The Sarsfield-Nolans deposit was classified as Measured, Indicated and Inferred, with the Measured component representing an envelope around the existing mined pits, with Indicated and Inferred material at depth.

Further details on the resource modelling and estimation for each deposit are provided in the following sections.

Buck Reef West Resource Estimation

The estimation processes and procedure for the BRW deposit were as follows:

- SD2 defined separate domains for the east-northeast subvertical Buck Reef Fault, and the north-northwest striking southeast dipping Sunset, General Grant and Duke of Edinburgh lodes. Up to three domains were defined for each principal lode to accommodate changes in strike, dip or lode characteristics.
- A Buffer Zone was defined around each of the principal lode structures to encapsulate near-lode high grade samples; the BRW deposit is characterised by a high proportion of isolated, relatively high grade samples that lie outside the principal interpreted lodes.
- A further Proto-Lode domain was defined surrounding the Buffer Zones, incorporating discontinuous mineralisation or isolated high grades.
- Wireframe solids were defined for all historical open pit and underground mining and development.
- Kriging parameters were defined for each domain based on downhole and directional variograms. The variograms were modelled in the plane of the lodes and were generally well structured. All variograms were modelled using spherical models. Nugget effects ranged from moderate to high, with 65% of the total variance occurring within the first 10m, in line with expectations based on the geology and nature of the mineralisation.
- SD2 selected a sample composite length of 1m; the majority of assay samples are 1m in length with about 15% being 2m.
- Samples were flagged by domain. SD2 examined the grade distribution in each domain and identified a number of high grade outliers. SD2 examined the change in the coefficient of variation when the highest grade samples were removed, and on this basis selected a grade cap for each domain. A total of 521 composites were capped; the capped values ranged from 7g/t Au to 35g/t Au, and averaged the 98.4th percentile of the distributions.
- The block model was based on 5 x 10 x 5m parent blocks (X, Y and vertical) with sub-blocking to 1.25 x 2.5 x 1.25 along boundaries. Blocks were flagged with the interpreted domain code.
- Grade estimation applied Ordinary Kriging (OK) with dynamic anisotropy to align with the interpreted strike, dip and plunge of the mineralisation; a local dip, strike and plunge was assigned to each block to define the orientation of the search ellipse. Because of the lode geometry, the search ellipses were kept to a discoidal shape. A minimum number of 6 composites and a maximum of 24-32 composites were required to estimate a block grade for the lode or buffer domains, increased to a maximum of 64 composites for the background domain, with a maximum of three composites per drill hole allowed. Search ranges in the X and Y directions for the various lode domains ranged from 25m to 160m.
- A combination of hard boundaries and one-way soft boundaries was applied; hard boundaries were applied to limit the smearing of higher grade data from lode zones into the buffer domains and from the buffer domain into the background domain, but soft boundaries allowed the sample data in the background areas to influence the grade estimation in the buffer domain, and similarly a soft boundary was applied to using buffer domain data in the estimation of the lode domains.
- Background domains were estimated using a wide search with a relatively high number of sample composites required (20), smoothing the impact of any isolated high grade samples.
- Previous mining was accounted for by setting all the grades and densities within the ‘void’ blocks to zero.

SD2 undertook a range of validation checks, comparing the domain composite grades with the domain block grades, checking visually the drill hole longitudinal and cross sections with the block model sections, and reviewing swath plots of composite and block model grades. Some biases were identified, but overall SD2 considered the estimate was performing as expected.

MHG undertook an independent review of SD2's resource estimate. MHG considered that the Buffer domains and Proto-Lode domains warranted some review, in that some areas of the Proto-Lode domains appeared to have reasonable continuity, while some areas of the Buffer domain appeared to include areas with very low grade and little quartz veining or alteration.

MHG considered that grade capping as currently applied may not be the best approach for all domains, and may have been too conservatively applied in some areas. MHG also suggested an increase in the number of composites per drill hole from 3 to 6. However, apart from these and other suggestions to refine the modelling, MHG concluded there were no fatal flaws and the estimation work was consistent with, or above, general industry standards.

AMDAD is undertaking the BRW open pit planning, and provided SD2 with a pit shell based initially on a gold price of A$4,000/oz, later reduced to A$3,800/oz for consistency with the Sarsfield-Nolans estimate. It is considered good practice for estimation of potentially open pittable resources to limit the depth extent of the quoted resource to that which might have reasonable prospects for eventual economic extraction. SD2 applied the AMDAD pit shell to the resource block model and reported the resource within the pit shell at a cut off of 0.3g/t Au, which AMDAD had indicated as a potential economic open pit cut off.

Material which lay beneath the pit limits was separately tested against criteria for potential underground extraction, based on a higher grade cut off of 3.5g/t Au, a minimum thickness of 2m and a minimum volume to 1,000m^3, to exclude isolated blocks with little or no prospect of economic extraction.

On this basis SD2 reported a BRW open pit resource and a separate small underground resource.

SD2 classified the BRW resource as Indicated and Inferred, with the bulk of the resource categorised as Indicated. Classification is based on geological continuity and interpretation, drill hole spacing and orientation, and estimation metrics including slope of regression, kriging efficiency, search pass and the number of composites. SD2 did not consider the geological continuity or the drill hole spacing or orientations to be sufficient to classify any of the blocks as Measured.

RGPL is currently undertaking an RC infill grade control drilling programme and it is anticipated that this will allow much of the shallow zone designated for initial mining to be classified as Measured.

Some blocks which fall within the eastern limit of the pit shell are classified as Inferred. RGPL intends to diamond drill this area with the aim of potentially upgrading these blocks to an Indicated status.

SD2 compared its estimate with the previous Resolute resource estimates (see Section 8.3). SD2 generally estimated a lower tonnage at a higher grade, with lower overall contained gold. SD2's uncapped estimate gave 30% more ounces than the capped model.

BDA has reviewed the processes and procedures applied by SD2 in the BRW resource estimate and considers them appropriate and in accordance with industry standards. The classification as Indicated and Inferred is considered reasonable and the resource is considered to provide an appropriate, and potentially slightly conservative basis for reserve estimation and mine planning.

Sarsfield-Nolans

The estimation process and procedures for the Sarsfield-Nolans deposit were as follows:

- There are three major fault zones/corridors in the Sarsfield area and a distinct vein corridor at Nolans. SD2 defined separate domains for the Buck Reef Fault (1001), the A4 fault (1002), the Keel zone (1003) and the Nolans zone (1004). Additional domains were defined as Nolans Background (1005), BRF to A4 (1006), Southwest of A4 (1007) and North of BRF (1008) (note, these orientations are relative to true north and are differently described in the SD2 resource report which uses mine grid orientations). A background waste zone was designated 9999.
- The Sarsfield-Nolans area is reasonably well drilled to around 100m below the as-mined topography, but at depth drill spacing decreases; the database includes 1,423 holes of which approximately 950 holes contribute data below the as-mined topography.
- A composite length of 2m was selected; drilling prior to 2004 was largely sampled on 2m intervals whereas drilling post 2004 was sampled on 1m intervals.
- SD2 considered multiple alternate geological interpretations, and while some structures (BRF and A4 fault) are well defined, other structures and controls are more subjective. SD2 considers the difficulty in defining

geological domains contributes to the resource risk, but that this should be ameliorated by close-spaced grade control drilling.

- The major identifiable zones of mineralisation were domained and estimated using Ordinary Kriging (Domains 1001-1005, 1008 and 9999). The remaining mineralisation domains (1006 and 1007) were estimated using MIK with an E-type (whole block) estimate. Variogram and search parameters were determined through 3D analysis.
- Wireframes were defined for the existing pit mined surfaces and all historical underground mining and development.
- The orientations of the variogram axes and search ellipses were aligned as far as possible with the known structures and mineralisation trends.
- Vein density was considered a useful parameter to guide the Indicator Kriging of the mineralised stockwork areas. However, drill hole logging of vein density was limited, and SD2 determined to use grade-density as a proxy, calculated on the basis of the number of composite grades above 0.2g/t Au within a specified volume. While of some value, the parameter was also strongly controlled by the density of drilling.
- Grade distribution in all domains has a strong positive skew with a significant 'tail' of high grade outliers. SD2 examined the rate of change of the coefficient of variation as the highest grade samples were removed from the distribution and on this basis selected a grade cap for each domain. A total of 899 composite grades were capped equating to 1.2% of the data. Grade caps for the principal mineralised domains ranged from 4.0g/t Au to 17g/t Au and averaged the 98.7th percentile of the distribution across all domains. Grade capping is not applied to areas estimated by MIK, as MIK uses increasing nugget effects and decreasing ranges to moderate the impact of high grades. The impact of the grade cap is to reduce the contained ounces in the estimated resource by around 20%.
- For MIK estimation, SD2 adopted grade thresholds based on evenly distributed metal contents in the higher grade ranges, based on the domain composites, and equally distributed number of composites in the lower grade ranges. Twelve indicator thresholds were defined for each MIK domain. The highest grade thresholds each contain 15% of the metal; the lower grade thresholds each contain 15% of the remaining composites. The grade for each indicator was set to the average of the composites in the bin, except for the highest bin for Domain 1007 where the median was used.
- Kriging parameters were defined for each domain based on downhole and directional variograms. The variograms were modelled in the plane of the lodes and were generally reasonably structured. All variograms were modelled using spherical models. Nugget effects are generally moderate, however about 65% of the total variance is typically within 10m.
- The block model was based on 20 x 20 x 10m parent blocks (X, Y and vertical) with sub-blocking to 5 x 5 x 1.25 along boundaries. Blocks were flagged with the interpreted domain code. Search ellipse orientations were defined by the variogram model.
- Grade estimation is based on a combination of Ordinary Kriging (OK) and Multiple Indicator Kriging (MIK). Domains with a strong geological basis were estimated using OK whereas the stockwork zones were estimated using MIK. All domains were estimated with hard boundaries. A minimum number of 20 composites was required to estimate a block grade for the OK estimated domains, with a maximum of 40. For the MIK domains the maximum was increased to 60 composites. The maximum number of composites that could be used from one hole was set at 10 (or 5 for Domain 1004). Un-estimated blocks were assigned a default value of 0.001g/t Au.

SD2 commented that the Sarsfield-Nolans mineralisation is represented by a zone of relatively weak stockwork with relatively low fluid flow. The mineralisation associated with the stockwork veining can be discontinuous over short distances and this may impact on the quality of the estimate.

A range of validation checks was undertaken, comparing the domain composite grades with the domain block grades, checking visually the drill hole longitudinal and cross sections with the block model sections, and reviewing swath plots of composite and block model grades. Some biases were identified, but overall SD2 considered the estimate was performing as expected.

MHG undertook an independent review of SD2's Sarsfield-Nolans resource estimate. MHG considered domains defined by SD2 to be appropriate and robust. However, MHG noted that the top cuts applied by SD2 were perhaps overly conservative and that alternative treatments of high grade composites such as outlier-restricted kriging could be considered. MHG also noted that the quantum of the resource classified as Measured was possibly optimistic. Apart from these and some suggestions to refine the modelling and variography, MHG concluded there were no fatal flaws and the estimation work was consistent with or above general industry standards.

AMDAD is undertaking the Sarsfield-Nolans open pit planning, and provided SD2 with a pit shell based on a gold price of A$3,800/oz to limit the depth extent of the quoted resource to that which might have reasonable prospects for eventual economic extraction. SD2 applied the AMDAD pit shell to the resource block model and reported the resource within the pit shell at a cut off of 0.3g/t Au, which AMDAD had indicated as a potentially economic open pit cut off.

SD2 classified the Sarsfield-Nolans resource as Measured, Indicated and Inferred, with 78% of the resource categorised as Measured and Indicated. Classification is based on geological continuity and confidence, drill hole spacing, and a range of estimation metrics including the slope of regression, kriging efficiency, the search pass and number of composites used for block estimation. While the percentage of the resource categorised as Measured appears somewhat high at around 24%, BDA recognises that much of this material lies immediately below the existing open pit surface, where there is a reasonable density of drilling and records from previous mining. SD2 compared its estimate with the previous Resolute 2019 MIK resource estimate by MPR Consultants and notes that the estimates are quite similar (see Section 8.3).

BDA has reviewed the processes and procedures applied by SD2 in the Sarsfield-Nolans resource estimate and considers them appropriate and in accordance with industry standards. The resource is considered to provide a reasonable basis for reserve estimation and mine planning.

Mineralised Waste Dump Resource Estimation

The Sarsfield-Nolans Mineralised Waste Dump (MWD) resource was estimated by RGPL based on 219 drill holes drilled on an approximate 50 x 50m grid. Samples were taken at 1m intervals for analysis, and a 10g/t Au top cut was applied prior to resource estimation. Grades were estimated by inverse distance cubed (ID^3) into 25 x 25 2.5m blocks. A bulk density of $1.9t/m^3$ was applied.

Due to the uncertainties of drilling a broken ore stockpile and the potential error in the bulk density factor, RGPL classified the MWD resource as Inferred.

8.3 Reported Mineral Resources

The Mineral Resource estimates for the Buck Reef West and Sarsfield-Nolans deposits are summarised in Table 8.2. The resources are reported at a 0.3g/t Au cut-off within a A$3,800 optimised pit shell (SD2 initially reported the BRW resource within a A$4,000 pit shell but this was later modified for consistency with the Sarsfield-Nolans estimate). At BRW, deeper higher grade mineralisation beneath the pit shell, with underground mining potential (satisfying a minimum volume and >2m wide), is reported at a cut-off grade of 3.5g/t Au.

Table 8.2

Ravenswood Gold Mineral Resource Estimate – 2020

Deposit and Cut-Off Grade	Category	Tonnage Mt	Gold Grade g/t Au	Contained Gold koz
BRW				
Potential O/P	Indicated	25.050	1.03	833
(0.3g/t Au)	Inferred	1.170	1.10	42
	Subtotal	*26.220*	*1.04*	*875*
Potential U/G	Indicated	0.091	4.97	14
(3.5g/t Au)	Inferred	0.065	4.71	10
	Subtotal	*0.156*	*4.86*	*24*
Total		**26.376**	**1.06**	**899**
Sarsfield-Nolans				
Potential O/P	Measured	32.213	0.71	740
(0.3g/t Au)	Indicated	71.354	0.65	1,498
	Inferred	29.394	0.63	598
Total		**132.961**	**0.66**	**2,836**
Mineralised Waste Dump				
	Inferred	18.0	0.4	226
Total		**18.0**	**0.4**	**226**
BRW + Sarsfield-Nolans + MWD				
Open Pit Potential	Total	159.181	0.73	3,711
Mineralised Waste Dump	Total	18.000	0.40	226
Underground Potential	Total	0.156	4.86	24
Total	**Total**	**177.337**	**0.69**	**3,961**

Note: Open pit resource estimates reported at a 0.3g/t Au cut-off grade and within an A$3,800 pit shell; underground resources reported at a 3.5g/t Au cut-off grade and are within continuous zones >2m wide and within a volume >1,000m³; resource estimates undertaken by SD2 in April 2020 for BRW and July 2020 for Sarsfield-Nolans; Mineralised Waste resource estimated by RGPL as of September 2020 after depletion

The total Indicated and Inferred resource estimate at BRW is 26.4Mt at 1.06g/t Au containing 899koz of gold; 95% of the resource has been categorised as Indicated. At Sarsfield-Nolans, the total Measured, Indicated and Inferred resource estimate is 133.0Mt at 0.66g/t Au containing 2,836koz of gold; 78% of the resource has been categorised as Measured and Indicated. The MWD Inferred resource is estimated at 18Mt at 0.4g/t Au containing 226koz of gold.

Overall, BDA considers that the resource estimation approach used by SD2 has produced a reasonable in situ resource estimate and provided an appropriate basis for reserve estimation and mine planning. The numerous mineralised structures, with varying orientations and dips, together with the surrounding stockwork zones, present a difficult modelling challenge. With additional drilling and open pit mining exposures, the details of some of the domain definitions may change, but BDA considers the current models provide a reasonable basis for current planning. RGPL has reported that results from initial grade control drilling at BRW have generally been positive with improved continuity and identification of additional mineralised structures. Detailed grade control drilling prior to mining will be important in optimising and maximising ore recovery.

Grade cutting in gold deposits such as Ravenswood is important to avoid over-estimation of grade. SD2 examined the impact of the grade cap on the estimates. At BRW, variations of ±10% in the grade cap had relatively minor impact, but the impact of the grade cap itself was significant, with a 30% increase in contained gold if no grade cap is applied, demonstrating the influence of a few very high grades on the overall mean grade. The Sarsfield-Nolans deposit gold content increases by 9% with no grade cutting. BDA concurs that with a highly skewed distribution it is prudent to moderate the influence of individual high composite grades on the overall grade distribution, either by cutting or other geostatistical techniques restricting the spatial influence of such samples, however MHG considered that the level of grade cutting adopted by SD2 was somewhat conservative. BDA considers that it is appropriate to err on the side of conservatism in resource estimation, but agrees there is some potential for increased gold content should the grade cutting prove to be overly conservative.

SD2 compared its 2020 estimates with previous Resolute estimates of Buck Reef West and Sarsfield-Nolans. The various estimates are summarised in Table 8.3 below.

Table 8.3

Comparison with Previous Ravenswood Mineral Resource Estimates

Deposit and Cut-Off Grade	Tonnage Mt	Gold Grade g/t Au	Contained Gold koz
BRW (0.3g/t Au)			
Resolute - June 2018	34.4	0.97	1,073
Resolute MPR - Dec 2019	92.1	0.70	2,160
SD2 - April 2020	26.2	1.04	875
Sarsfield-Nolans (0.3gt/t Au)			
Resolute MPR – Dec 2019	142.9	0.70	3,100
SD2 – July 2020	133.0	0.66	2,836

The SD2 BRW estimate is significantly more constrained than the previous Resolute estimates which were based generally on broader domains, estimating larger tonnages but lower average grades. Following a review by RGPL and SD2 it was considered that Ordinary Kriging (OK) rather than Multiple Indicator Kriging as previously used, would be a more appropriate estimation technique for the lode-style mineralisation at BRW and the structurally controlled zones at Sarsfield-Nolans. The updated estimate also constrained the extent of known mineralisation by reducing grade extrapolation beyond existing drill hole intersections. While the combination of improved geological interpretation, adoption of OK and limiting extrapolation has the effect of reducing overall tonnages compared to the previous estimate, it is considered a better representation of the in-situ grade-tonnage distribution for the proposed mining method.

The Sarsfield-Nolans estimate is reasonably close to the previous Resolute estimate, in tonnage, grade and contained gold; the contained gold contents differ by only 9%.

BDA considers the SD2 resource estimates provide a reasonably prudent basis for mine planning and reserve estimation. Detailed grade control drilling may confirm that bulk low grade stockwork mineralisation is more widespread, and that additional tonnages of low grade material above cut off can be delineated, as suggested by the Resolute BRW estimates. However, at this stage it would be prudent to consider this simply as a potential upside.

Resolute estimated the MWD resource in December 2019 at 32.6Mt at 0.4g/t Au, but recognised that the tonnage was too high and revised it back to 21.8Mt, compared with RGPL's current estimate of 18Mt.

BDA notes that Resolute also reported an Inferred resource of 2Mt grading 3.2g/t Au containing 210koz of gold at the Welcome Breccia prospect at Mingela; RGPL has not to date reviewed or re-estimated this resource.

8.4 Ore Reserve Estimation

The Ore Reserve estimate for Ravenswood is based on the SD2's Buck Reef West and Sarsfield-Nolans resource estimates. The reserve estimates have been undertaken by mining consultant AMDAD in conjunction with RGPL staff. These reserve estimates form the basis for the current LOM plan and BCFM.

The BRW and Sarsfield-Nolans reserves are based on a regularised 5 x 5 x 5m regularised block model. Whittle optimisation has been undertaken to define optimum pit shells based on the Measured and Indicated resource blocks, and the reserves are reported within the optimised pit shells. The pit shells are constrained by the proximity of the Ravenswood township, heritage listed buildings and the Ravenswood cemetery, and pit limits have been defined to maintain appropriate distances between the pit outlines and these sites and structures.

Pit slope angles have been applied as determined by geotechnical studies, primarily the geotechnical assessment undertaken by Dempers and Seymour and Pells, Sullivan and Meynick, together with historical pit slope performance and recent pit wall inspections. Revenue and cost parameters have been used to determine a block value to apply to the optimisation process.

The BRW pit is mined first, followed by the Sarsfield-Nolans pit; slightly different gold price and exchange rate parameters have been applied to the two pits, based on variations in the short-medium term (5-year) and long term forecasts. No beneficiation factors have been applied to the BRW ore as no beneficiation screening is planned for the BRW ore. The Sarsfield-Nolans ore however is to be beneficiated with up to 40% of the low grade coarse material rejected, resulting in a projected 5% loss of contained gold. These parameters are taken into account in the determination of block value. The BRW and Sarsfield-Nolans parameters applied to determine the ore-waste cut off are listed in Table 8.4. The net result of the revenue and cost calculations is a cut-off grade of 0.281g/t Au for BRW and 0.266g/t Au for Sarsfield-Nolans. BDA notes that the calculated reserve cut-off grades are actually slightly lower than the 0.3g/t Au cut-off grade applied to the resource reporting.

Table 8.4

Reserve and Pit Optimisation Parameters - September 2020

Item	Unit	BRW	Sarsfield-Nolans
Gold Price	US$/oz	1500	1400
Exchange Rate	A$:US$	0.70	0.73
A$ Gold Price	A$/g	68.89	61.66
Realisation Costs	A$/g	4.06	3.69
Net Gold Price	A$/g	64.84	57.97
Beneficiation Recovery	%	100	95
CIL Recovery	%	91.5	91.5
Overall Gold Recovery	%	91.5	86.9
Recovered Value	A$/g	59.33	50.39
Incremental Ore Cost	A$/t	0.23	0.23
Process Cost	A$/t	13.92	10.61
G&A Cost	A$/t	2.55	2.55
Total Ore Costs	A$/t	16.70	13.39
Cut Off Grade	g/t Au	0.281	0.266

Note: Ore costs do not include the cost of mining a tonne of material as waste rock as the purpose of the cut-off grade is to determine whether a tonne of material exposed on the pit bench should be classed as ore or waste

AMDAD has not applied any mining recovery or mining dilution factors to the reserve estimate. AMDAD considers that the block regularisation process adequately accounts for likely edge-dilution factors, and has provided additional data to back-up this opinion, which BDA has reviewed.

8.5 Reported Ore Reserves

The Proved and Probable reserves for Ravenswood represent the Measured and Indicated resources within the designed open pits. The September 2020 Ore Reserve estimate reported by AMDAD, based on the SD2 April and July 2020 resource models, is shown in Table 8.5.

Table 8.5

Ravenswood Gold Ore Reserve Estimate - September 2020

Deposit and Cut-Off Grade	Category	Tonnage Mt	Gold Grade g/t Au	Contained Gold koz
BRW	Probable	25	0.9	700
	Total	**25**	**0.9**	**700**
Sarsfield-Nolans	Proved	34	0.7	700
	Probable	56	0.6	1,100
	Total	**91**	**0.7**	**1,900**
BRW + Sarsfield-Nolans	Proved	34	0.7	700
	Probable	81	0.7	1,900
	Total	**115**	**0.7**	**2,600**

Note: figures rounded as per AMDAD report; BRW open pit reserve estimates reported at a 0.28g/t Au cut-off grade within a US$1,500/oz gold price pit shell; Sarsfield-Nolans open pit reserve estimates reported at a 0.27g/t Au cut-off grade within a US$1,400/oz gold price pit shell; stripping ratio BRW 3.1:1; stripping ratio Sarsfield-Nolans 1.5:1

BDA notes that the low-grade stockpile material has not been included in the reserve statement, although it is intended to mine and process this material to supplement the ore feed in selected years. RGPL advises that, although drilled on a 50 x 50m grid, the mineralised waste material is only considered to be of Inferred resource status.

A comparison of the AMDAD reserve estimates and the previous Resolute estimates is shown in Table 8.6. The estimates compare closely in both tonnes and grade, with contained gold estimates within 4% (BRW) and 8% (Sarsfield-Nolans).

Table 8.6

Comparison with Previous Ravenswood Ore Reserve Estimates

Deposit and Cut-Off Grade	Tonnage Mt	Gold Grade g/t Au	Contained Gold koz
BRW			
Resolute - Dec 2019	25	0.8	670
AMDAD - Sept 2020	25	0.9	700
Sarsfield-Nolans			
Resolute – Dec 2019	90	0.7	2,060
AMDAD - Sept 2020	91	0.7	1,900

Note: Resolute reserves quoted at a 0.3g/t Au cut off; AMDAD BRW reserve reported at a 0.28g/t Au cut-off grade, and Sarsfield-Nolans reserve reported at a 0.27g/t Au cut-off grade

The LOM plan, from 2021 to 2034, is based on a Mining Inventory of 136Mt at 0.67g/t Au (tonnes crushed) which is made up of the Proved and Probable open pit reserves of 115Mt at 0.7g/t Au, approximately 6Mt of Inferred resources lying within the pit shells, and 15Mt of low grade stockpiles. BRW ore will not be beneficiated but both the Sarsfield-Nolans material and the low grade stockpile material will be processed through the crushing and screening beneficiation circuit, resulting in a planned recovery of around 60% of the original tonnage, containing around 94% of the original contained gold. The crushing rate will peak at around 12Mtpa to provide mill feed of around 7.2Mtpa.

8.6 Mine Reconciliation

Historical mine reconciliation data is limited, and the most recent mining and processing phase (2008-2018) relates primarily to the mining of the Mt Wright underground ore, which is not relevant to the likely performance of the BRW and Sarsfield-Nolans open pit deposits.

However, Resolute produced a reconciliation report in 2009 covering the period of operation of the Sarsfield pit (2003-2009) and this data is directly relevant to the future open pit mining at Ravenswood. Ore was subdivided into low grade (0.4-0.7g/t Au) and high grade (>0.7g/t Au); all the high grade ore was processed, but only a portion of the low grade, with the rest being placed on low grade stockpiles. A total of 33.5Mt of ore was mined averaging 0.91g/t Au as shown in Table 8.7.

Table 8.7

Sarsfield Pit Mine Production – 2003-2009

Ore Type	Tonnage Mt	Gold Grade g/t Au	Contained Gold Oz
High Grade	19.584	1.16	729,900
Low Grade	13.907	0.56	250,600
Total	**33.491**	**0.91**	**980,500**

Note: High Grade >0.7g/t Au; Low Grade 0.4-0.7g/t Au

A reconciliation of the mine production figures (based on grade control estimates), and the resource model depletion is shown in Table 8.8.

Table 8.8

Reconciliation - Sarsfield Pit 2003-2009 – Ore Mined vs Resource Model

Ore Type	Category	Tonnage Mt	Gold Grade g/t Au	Contained Gold Oz
High Grade	Ore Mined - Grade Control	19.584	1.16	728,900
	Resource Model Estimate	18.125	1.29	750,400
	Reconciliation Mined vs Resource	*108%*	*90%*	*98%*
Low Grade	Ore Mined -- Grade Control	13.907	0.56	250,600
	Resource Model Estimate	15.663	0.56	283,900
	Reconciliation Mined vs Resource	*89%*	*100%*	*88%*
Total	Ore Mined - Grade Control	33.491	0.91	980,500
	Resource Model Estimate	33.788	0.95	1,034,300
	Reconciliation Mined vs Resource	*99%*	*96%*	*95%*

Note: High Grade >0.7g/t Au; Low Grade 0.4-0.7g/t Au

Overall, tonnes mined were within 1% of resource model predictions, and grade and contained ounces were within 5% of model predictions; in BDA's opinion this is a good result. While the comparisons here are being made against the Resolute resource model, a new resource model has been prepared by SD2 which forms the basis for the current LOM plan; however, as shown in Table 8.3, there is a reasonably close comparison between the SD2 and Resolute Sarsfield-Nolans models. The data suggests that in spite of the complexity of the geological controls at Sarsfield-Nolans, the mineralisation can be effectively modelled and estimated.

While grade control data provides a valuable comparison with the resource model, the final determination of tonnage and grade is made by the mill. Mill records for the relevant 2003-2009 period show 19Mt of high grade ore processed at a grade of 1.1g/t Au plus 2Mt of low grade ore. The grade control predicted grade for this material was 1.15g/t Au, approximately a 5% over-prediction.

Overall, the data suggests a risk of overestimation of the resource grade by 5-10%.

Conclusions

BDA has not undertaken an audit of the Mineral Resource or Ore Reserve estimates. BDA has reviewed the methodology and procedures used by RGPL and specialist consultants SD2 and AMDAD on the modelling and estimation of the resources and reserves, and discussed processes and procedures with RGPL staff and the consultants.

BDA considers the resource estimation approach used by SD2 in 2020 has produced models with mineralisation domains that are generally well defined, considering the complexities of the mineralisation controls, and which should result in reasonable block estimations. Overall BDA considers the resource methodology to be generally appropriate and the work to have been competently undertaken.

Estimation of Ore Reserves has been achieved through close collaboration between RGPL mining staff and AMDAD. Reserve parameters and modifying factors applied to the resource models are considered appropriate for the open pit designs.

Reconciliation of the ore mined and ore milled data is limited, but Resolute data covering the mining and processing of Sarsfield open pit ore over a six year period shows an acceptable outcome, with tonnage and grade mined within a range of around 5-10% of resource predictions. This data is based on earlier Resolute resource models, while the current LOM plan is based on new SD2 models. However, there is a reasonable correlation between the SD2 and Resolute models and overall BDA finds it encouraging that despite the complexities of the geological controls on mineralisation, the resource models appear to provide a good overall estimate of the resource tonnage and grade. BDA considers it would be prudent to test the sensitivity of a 5% reduction in the grade of ore delivered to the mill.

9.0 MINING

9.1 Overview

Background

The existing operations at Ravenswood are currently confined to the processing of low-grade stockpiles which accumulated during past mining operations. The current processing facilities are handling approximately 3.5-5Mtpa of this material to produce around 60,000-70,000oz of gold per annum. The proposed expanded Ravenswood mining operation will comprise cut-backs to both the BRW and the Sarsfield-Nolan pits which will ultimately become two large open cut mines separated by a narrow services and access corridor.

It is planned that, post expansion of the ore processing facilities, the plant will have4a nameplate capacity of around 7.2Mtpa and will produce of the order of 200,000oz of gold per annum over a 14 year mine life. Because of the proposed beneficiation process (crushing and screening) ahead of the expanded CIL gold processing plant, the mine will need to have the capacity to supply ore to the primary crushers at a rate of up to 12Mtpa, as well having a significant waste stripping capacity.

Australian Mine Design and Development Pty Ltd (AMDAD), based in Brisbane, has been commissioned to prepare updated mine plans for the proposed expansion of operations. The optimisation, design and scheduling work for the development and production from the BRW and Sarsfield-Nolans pits has generated an updated Life of Mine (LOM) plan for the identified open pit reserves. AMDAD has developed the proposed LOM schedules and LOM plan in collaboration with RGPL technical and management personnel.

Current operations are progressing with a mixed haulage fleet that comprises 40-60t rear-dump articulated trucks, with a variety of different-sized excavators and loaders. This equipment operates satisfactorily and can continue to do so for the current low-grade stockpile reclamation and crusher feed activities. It is proposed, as part of the expansion, that the whole earthworks fleet will be replaced with new 260-360t excavators, matched to new 180t rear-dump trucks, with associated support equipment (graders, dozers, drills and service equipment).

Project Status

Buck Reef West (BRW) and Sarsfield-Nolans pits have been subject to numerous design and scheduling iterations since 2015 and AMDAD has now updated in detail the previous studies, using the most recent drilling results and resource estimates and a full suite of mine design, planning studies and production scheduling. Additional drilling in the past two years has been completed in the BRW area and revised geological interpretations and block models have been prepared. Further geotechnical reviews have been completed by Dempers and Seymore (D&S) using Televiewer borehole logging and survey data and kinematic structural analysis.

The Sarsfield-Nolans area mine design has been updated and is included incorporated in the latest AMDAD reserves, LOM plans and pit designs, with Whittle optimisation studies used to define the pit boundaries. The mine redevelopment schedule includes the tailings removal and dewatering of the Sarsfield-Nolans pit, which has been used for tailings and water storage in recent years and during the processing of the low-grade stockpiles. The schedule makes allowance for the progressive removal and pumping of tailings from the pit and transfer to the new TSF, and the ore production and waste mining schedules are designed to accommodate that process.

9.2 Mine Planning and Design

The mining plans cover the initial pre-stripping and development of the BRW pit, scheduled to take place between 2021 and 2025, followed by the extraction of the Sarsfield-Nolans pit from 2024 until final depletion in 2035. The final two years of production include reclaim of low-grade stockpiles to supplement mill feed.

AMDAD has been commissioned to prepare updated mine plans for the proposed expansion of operations. The optimisation, design and schedules for the development, and interaction between the existing BRW and Sarsfield-Nolans pits, have generated an updated Life of Mine (LOM) plan for the identified open pit reserves. AMDAD has developed the proposed LOM schedules and LOM plan in collaboration with RGPL technical and management personnel.

AMDAD has optimised the BRW and combined Sarsfield-Nolans pit shells using the latest geological block models with Surpac®, MineSched® and Whittle® software. The cost inputs were generated using results from recent LOM BCFM based on first principles, with actual site cost inputs for labour, fuel and consumables to provide comparison with similar fleets. The cost parameters for the optimisation are shown in Table 9.1.

Table 9.1

Cost and Technical Inputs to the Whittle® Optimisation Studies

Cost Area	Units	Cost A$/t
Mining - BRW Pit - ore	A$/t mined	3.13
Mining - BRW Pit - waste	A$/t mined	2.90
Mining - Sarsfield Nolans Pit - ore	A$/t mined	3.27
Mining - Sarsfield Nolans Pit - waste	A$/t mined	3.04
Processing - BRW (non-beneficiated)	A$/t milled	13.92
Processing - Sarsfield Nolans (beneficiated)	A$/t milled	10.61
General & Administration	A$/t milled	2.55

Note: mining costs include ore and waste; processing costs include tailings management; tailings removal from the Sarsfield-Nolans pit is treated as a capital cost

Other inputs to the Whittle optimisation and pit shell generation include:

- variable wall angles derived from work on the most recent geotechnical analysis and recommendations conducted by Dempers and Seymore (D&S) and earlier by Pells Sullivan and Meynick (PSM)
- material defined as Inferred resource is classified as waste
- lump sum capital for infrastructure items related to extension of pit limits (eg. infrastructure relocation)
- the Buck Reef West pit optimisation uses EMR's five-year gold price forecast of US$1,500/oz at an A$/US$ exchange rate of 0.70, to give A$2,143/oz.
- the Sarsfield-Nolans pit optimisation uses EMR's long-term gold price forecast of US$1,400/oz at an A$/US$ exchange rate of 0.73, to give A$1,918/oz.
- a selling cost of A$20/oz is applied to revenue to cover transport, insurance and refining costs of the gold
- Queensland State Government royalty of 5% of sales revenue
- post grinding, the optimisation uses a CIP processing recovery of 91.5%; thus the gold recoveries used are:
  - Buck Reef West - non-beneficiated 100% x CIP 91.5% = 91.5%
  - Sarsfield-Nolans - beneficiated 95% x CIP 91.5% = 86.9%.

The pit optimisations do not consider the whole-of-project BRW and Sarsfield-Nolans capital as an input to the ore cost; thus the mining fleet, the tailings removal from Sarsfield-Nolan pit, TSF construction and process plant upgrades are excluded from the optimisation. Operating cashflows in the pit optimisations are indicative only and are used to rank the shells.

BDA notes that AMDAD has re-blocked the BRW and Sarsfield-Nolans pit resource model estimates to 5m x 5m x 5m blocks for pit optimisation purposes and considered that this process adequately provided for mining dilution at realistic mining block sizes compatible with the proposed excavator sizing. AMDAD has not applied any additional mining recovery or mining dilution factors to the reserve estimate, as it considered that the block regularisation process adequately accounted for likely edge-dilution factors. BDA does not consider that this approach provides an adequate process to account for mining losses and mining dilution, and suggests it would be prudent in addition to allow for 5% mining loss and 5% dilution, or effectively a 5% reduction in projected mined grade.

BDA further notes that the AMDAD re-blocking procedure included provision for voids in the ore blocks due to historical underground mining. However, BDA considers that there is a risk that some of the old workings were either not recorded or were inaccurately plotted, and there may be some additional losses around some areas where mining was previously conducted.

Mining layouts include provision for mining ramps and benches, with consideration given to known and forecast geotechnical conditions. All benches are designed at 10m height, with the option of dropping to 5m benches or smaller flitches if conditions warrant. In a couple of areas in BRW, it may be possible to combine two benches to form a 20m composite bench. Ramp widths are designed at 29m to accommodate the preferred equipment, and the standard ramp gradient is designed at 10%, with slightly steeper short ramps where necessary.

The AMDAD pit optimisations for the BRW deposit involved a three-stage pit; the cut-backs assist with pit scheduling and allow consistent sizing of the mining fleet throughout the mine life, without material fluctuations in tonnages between years. In addition, the use of staging enables the operation to ensure that the waste stripping ties in with the TSF construction, providing material suitable for the ongoing dam construction. Shell 33 was selected as the optimised design for the BRW pit.

However, the Sarsfield-Nolans pit is longer and narrower in design than BRW and the pit geometry means that it works better as a single-stage operation. For Sarsfield-Nolans, there was no material advantage in multiple staging and some specific disadvantages in doing so; Shell 29 was selected as the optimised design.

9.3 Geotechnical Considerations

The Ravenswood orebodies are hosted within a structurally complex zone of faults and shears with variable orientations, located predominantly within medium-grained tonalites and diorites. The geotechnical aspects of the open pits have historically been analysed by Dempers and Seymore (2016-2020), Golders, Proactive Mining Solutions (PMS), Pells Sullivan and Meynick (PSM), AMDAD and the RGPL mine technical department, based on the history of the open cut mines and analysis of the complex geological structures within the design shells.

Dempers and Seymore conducted photogrammetry to provide structural interpretation in the BRW pit and identify relevant structures material to mining considerations. For the BRW pit, the wall designs, berm widths and batter angles are based on the 2016 Dempers and Seymore study, and result in berms ranging from 5-14m width, and batter angles of 50°-80°. The upper sections of the walls are battered off to 50° to avoid rubble failure in the highly weathered zones and the deeper sections of the walls will be at 80°. The eastern wall of the pit is considered to have the poorest conditions, but while there will likely be some bench wall failures, they are expected to be localised, with no major failures anticipated at the angles selected.

The Sarsfield-Nolans pit geotechnical conditions are more complex and the designs rely both on early (2012) work be PSM and more recent work by Dempers and Seymore. For the wall designs in the Sarsfield-Nolans pit, berm widths are standardised at 7m throughout, while the batter angles range from 51°-80°. The upper sections of the walls are battered off to 50° to avoid rubble failure in the highly weathered zones and the deeper sections of the walls will be at 80°. Similarly to the BRW design, there will likely be minor bench failures in some areas due to the presence of blocky ground and structural complexity, but these are likely to be reasonably confined and localised, with no major failures anticipated at the selected wall and batter angles.

A Geotechnical Management Plan (GMP) has been developed including real-time movement monitoring in line with the industry requirements to ensure ground control is appropriately managed and mine designs are accurately assessed.

The key geotechnical issues that were considered include:

- safe productive operations within the open pits
- safe productive intermediate and final wall geometry
- interactions with open voids during remnant mining within the pits
- maintenance of key infrastructure of ramps and benches.

As part of the management of these geotechnical issues RGPL has established procedures for:

- routine cable-bolting and meshing in areas of unstable or potentially unstable walls
- a real-time seismic system to monitor the open pit operations
- surveys for void monitoring and cavity detection.

The GMP addresses the technical aspects of the open pit operations, including the potential hazards and risks associated with mining through old underground workings.

9.4 Hydrogeology Considerations

RGPL reports that dewatering activities in the BRW pit have been successful, with little recharge. The host rocks appear to have generally low permeability with groundwater flow primarily along major fault lines and fractures, and through the historical underground mine workings.

Recharge of the water table occurs by direct infiltration of rainwater and surface water into rock fractures. The proposed pumping system will adequately manage the dewatering requirements, including water management during the annual wet season. Overall, dewatering of the pits and the old underground workings appears manageable, and hydrological issues are considered a low risk to the mining operations, with planned pumping capacity sufficient to manage the groundwater flows. Major rain events may cause short term issues but both open pits will have established storage capacity for sudden water flows.

The Sarsfield-Nolans open pit has been used in recent years for tailings storage and for storage of coarse beneficiation rejects. The tailings will need to be dredged or pumped and the pit dewatered ahead of continuing mining at depth. However, mining at depth will not be necessary for several years (2026), with initial mining being focussed on BRW and the near-surface Sarsfield-Nolans cut back.

Test pumping of the tailings slurry has been undertaken with specialist contractors, using submersible pumps suspended below a floating pontoon. Trials indicate that this, or a comparable system, should achieve the removal of the tailings slurry and redeposition within the new TSF extension over a period of approximately three years.

9.5 Mining Operations

Operations

Mining is split into two phases, the current low-grade stockpile reclaim and, from 2021, the re-commencement of open pit mining, comprising ramp-up and then steady-state production from a new excavator and truck fleet mining the BRW and Sarsfield-Nolans pits. This will be accompanied by the CIL plant expansion and the commissioning of the new primary crushers. Initial open pit mining will focus on the BRW pit, with the Sarsfield-Nolans operation becoming the main source of ore feed from 2026. Stockpile reclaim operations are planned to continue through to 2024 to supplement the open pit mining and will also supplement production in the final two years of operation.

The existing operations at Ravenswood are currently confined to the processing of low-grade stockpiles which accumulated during past Sarsfield-Nolans open pit mining operations. The current processing facilities are handling up to approximately 5Mtpa of this material to produce around 60,000-70,000oz of gold per year.

The proposed expanded Ravenswood mining operation will comprise expansions to both the BRW and the Sarsfield-Nolans pits, which ultimately will become two large open cut mines separated by a narrow services and access corridor (Figure 2).

It is planned that, post expansion of the ore processing facilities, the plant will have an annual nameplate capacity of around 7.2Mtpa and will produce of the order of 200,000oz of gold per annum over a 14-year mine life. Because of the proposed upgrading beneficiation process (crushing and screening) ahead of the expanded CIL gold processing plant, the mine will need to have the capacity to supply ore to the primary crushers at a rate of up to 12Mtpa, in addition to a substantial waste stripping capacity.

Current operations are progressing with a mixed haulage fleet that comprises articulated 40-60t rear-dump trucks, with a variety of different-sized excavators and loaders. This equipment operates satisfactorily for the current tasks and can continue to do so for the current low-grade stockpile reclamation and crusher feed activities until the new fleet arrives. It is proposed, as part of the expansion, that the whole earthworks fleet will be replaced with new 260-360t excavators, matched to new 180t rigid-body rear-dump trucks, with associated support equipment (graders, dozers, drills and service equipment).

All mining operations will be conducted by RGPL management and staff as owner-operators. Overall, the RGPL team, based on current operations and past experience, appears well-suited to run the operation successfully.

The mine offices and mine fleet workshops are located in the existing central facility, although it is planned that separate maintenance infrastructure will be constructed adjacent to the BRW and Sarsfield-Nolans final ramp accesses. RGPL will manage the mining and processing operations as well as carrying out all technical services, including mine planning, scheduling, geotechnical engineering, survey and geological grade control.

Mining Fleet

The expanded open pit mining operation will have a mining fleet comprising, initially, eight Hitachi EH3500AC-3 rigid-body rear-dump trucks of 181t capacity, two Hitachi EX3600-7 22m^3 capacity and one Hitachi EX2600-7 17m^3 capacity diesel-hydraulic excavators, and two Atlas Copco Epiroc T40/T45 drills. This equipment will be supported by an auxiliary fleet comprising Caterpillar D10 dozer, Caterpillar 777G water truck, Caterpillar 18M grader, Caterpillar 834 dozer, Caterpillar 992 wheel loader, plus miscellaneous maintenance and service equipment units and light vehicles.

The first EX3600 excavator and trucks are on site, and the second EX3600, the EX2600 and additional trucks will be delivered in November/December 2020. The truck fleet will expand from an initial eight units in 2020 to fifteen trucks by 2023, with any short-term peak requirements handled by hire units if necessary. The drill fleet will increase to twelve units (3 x T40, 9 x T45 units) by 2022.

Local explosives suppliers Orica Australia Mining Services (“Orica”) has been awarded the contract for on-site down-hole charging services for blasting. Mine equipment will be serviced and maintained in the site workshops being constructed adjacent to the BRW and Sarsfield-Nolan access ramps.

Mine Production

Table 9.2 sets out the forecast mining production data from 2021 to 2034, based on the LOM plan in the BCFM.

Table 9.2

Mining Production Schedule - 2021-2034

Item	Unit	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031-34	Totals
Ore Mined	Mt	4.63	7.20	8.20	8.30	8.18	10.34	14.64	13.76	15.43	14.96	15.7	121.3
Mined Grade	g/t Au	0.84	0.89	0.78	0.79	0.67	0.61	0.68	0.61	0.60	0.67	0.76	0.70
Waste Mined	Mt	13.6	32.3	30.5	29.9	29.7	21.1	11.4	12.7	11.4	7.1	2.6	202.3
Strip Ratio	W:O	2.9	4.5	3.7	3.6	3.6	2.0	0.8	0.9	0.7	0.5	1.2	1.7

Note: 2021-2034 based on LOM forecast; Ore Mined is ore mined from open pits

Based on the BCFM "*RG Financing - Financial Model 20200924 RG (CW).xls*", Table 9.2 and Figure 8 set out the forecast production data in the LOM schedule, which extends from 2021 to 2034. The low-grade stockpile reclamation rate is planned to ramp up to an annualised rate of around 5Mtpa in H2 2020, and will then supplement ore production from the BRW pit through 2021-2024 as required. Ore mining of the BRW pit is planned to commence in 2021 and to be completed around 2025. The process plant expansion programme will increase throughput to 7.2Mtpa ore milled from 2022. From 2026 ore production will be largely from the Sarsfield-Nolans pit, and the mine production rate will increase to around 12Mtpa to allow for the rejection of up to 40% of the coarser lower grade Sarsfield-Nolans material in the beneficiation plant.

The new mining fleet will provide the front-end capacity to achieve the expanded project production rates. Overall, BDA considers that the proposed production fleet has the capacity required to undertake the proposed schedule and that the forecast mine production is realistic and achievable.

The LOM schedule draws on the Measured and Indicated resources and some additional Inferred resources within the current pit designs. RGPL proposes to drill the areas of Inferred material, principally at depth and towards the eastern limit of the BRW pit to allow this material to be upgraded to Indicated status. None of the BRW resource has been categorised as Measured, but a RC grade control drilling programme is underway at BRW and it is likely that a significant portion of the shallower mineralised material will be able to be upgraded to a Measured status based on this drilling.

Systematic grade control drilling will be an ongoing programme as mining progresses, to provide details of the ore boundaries and grades prior to mining.

Overall, BDA considers that the forecast mine production is realistic and achievable.

Conclusions

The RGPL LOM plan is considered appropriate and grade control drilling will facilitate detailed planning in the short and medium term.

Overall the geotechnical knowledge is appropriate for the operation; RGPL has drawn on external consultants to assist in managing the known risks associated with the geotechnical conditions and pit-wall designs.

RGPL will be the mine owner-operator, using experienced management and operators who generally should be capable of meeting the requirements for the mine forecast; RGPL plans to replace the existing mining fleet with new trucks, excavators and support equipment.

The establishment of the new mining areas in the BRW and Sarsfield-Nolans pits is critical to RGPL meeting the planned production rates. In addition to ore mining rates, it will be important that planned waste stripping rates are achieved to allow access to mining on multiple benches. The proposed mining and earthworks fleet should have sufficient capacity to meet the proposed production rates. Removal of the tailings from the Sarsfield-Nolans pit will be required prior to recommencement of substantial mining from the pit, though the upper levels are accessible to commence the cut-backs.

The inclusion of some Inferred resource mineralisation in the LOM plan inventory increases the long term production risk, given the lack of definition of this material, but these areas should be infill drilled well before mining. The combined ore sources planned to be mined in the LOM schedule and the availability of substantial low-grade stockpiles provide some mitigation of any production risk, and there remains material upside from definition of additional ore through infill and exploration drilling.

Overall BDA considers that the proposed target of 7.2Mtpa of ore production post plant expansion and crushing and screening upgrades, as per the LOM plan, is achievable, but depends on the timely development of the planned production sources.

10.0 PROCESSING

10.1 Overview

The milling and gold processing circuit at Ravenswood has been progressively developed to mill around 5Mpta ore. In recent years, some equipment was idled and throughput was reduced to match available ore supply. In 2020 the third ball mill was reintroduced to increase milling capacity from around 3Mtpa to 5Mtpa.

Ore processing for gold recovery at Ravenswood consists of:

- crushing and beneficiation of ore by screening and rejection of coarser low grade material
- grinding the beneficiated fines to a suitable size for leaching
- gravity concentration to recover around 25% of the gold from the grinding circuit for intensive cyanidation
- conventional leach-CIL to leach gold and adsorb it onto activated carbon
- washing and elution of activated carbon to recover gold and silver by electrowinning
- regeneration of activated carbon
- tailings thickening and tailings storage, currently in the Sarsfield pit, but to be replaced under the expansion plan with storage in an expanded Nolans TSF.

An unusual feature of the ore at Ravenswood (principally the Sarsfield-Nolans ore) is its amenability to beneficiation. After crushing, the gold-bearing minerals are preferentially distributed with the finer particles. Screening the crushed ore recovers the gold-enriched fines for further processing and allows the coarser lower-grade material to be discarded. This simple step reduces total processing cost by reducing the tonnage of ore to be milled while retaining the bulk of the contained gold, and enables the economic processing of lower grade materials. The beneficiation ratio varies with the ore source and crush size; typically for ore containing 0.4-0.7g/t Au, around 90% of the gold is recovered in 60% of the mass (the finer fraction) for downstream processing. For some ores, the gold deportment to fines is less favourable and beneficiation screening is not undertaken. It is not planned to beneficiate the ore from the Buck Reef West pit.

Beneficiation can be problematic for metal accounting. A relatively high volume of coarse, sparsely mineralised rock is produced; with mobile crushing plants the mass of rejects is estimated by truck movements and stockpile changes. Accurate accounting would require a high-cost installation with weighing, fine crushing and several stages of inventory sampling with multiple handling steps. Instead, performance estimates are based on historical pilot trials, operating ‘grab’ samples, and long-term reconciliations. This appears to have provided adequate reporting at Ravenswood over twenty years of beneficiation practice. Nevertheless, the beneficiation mass rejection rate and gold recovery for future ores should be considered as estimates rather than precise predictions.

The beneficiated fines respond well to conventional grinding, gravity separation and leach-CIL recovery, with gold recovery from fines typically around 90% or higher. Some recovery variability appears related to occasionally elevated levels of refractory gold-bearing and oxygen-consuming minerals, probably arsenopyrite and pyrrhotite. The detailed distribution of these minerals and their effects throughout the orebodies are not well defined, but while some variability in recovery is anticipated, historical data does not indicate any material impact on overall gold recovery. The most important factors influencing gold recovery at Ravenswood have been found to be grind size and leach/adsorption residence time; both factors are addressed in the proposed expansion project.

10.2 History

Gold has been recovered from Ravenswood ores since the 1860s. The current Nolans processing plant was commissioned in 1995 to process 2.5Mtpa ore. From 2000, the plant was expanded in several stages with additional crushing and screening, a third ball mill, a gravity separator and intensive cyanidation, and extra leaching tanks. These expansions ultimately resulted in a design capacity of 4.5Mtpa; subsequent debottlenecking and operating improvements increased throughput to 5Mtpa, with a peak of 5.4Mtpa in 2005. Coarser grind sizes and lower residence time at 5Mtpa reduced gold recovery by around 5% to approximately 85% (not including beneficiation losses).

The application of beneficiation screening from around 2002 increased the ore mining and crushing rate, with up to 40% of low grade coarse ore rejected, providing around 5Mtpa of beneficiated fines for processing. The annual beneficiation reject rate has varied between 0% and 40%, with the higher rates applying to Sarsfield ores, and lower rates applying to higher grade ores or when mining rate more closely matched mill capacity. Beneficiation was not applied to less amenable ores including the Mt Wright underground material processed from 2007 to 2019.

Mining of the Sarsfield pit was completed in 2009, and plant throughput was reduced to 1.5Mtpa to match the lower underground mining rate at Mt Wright. The largest grinding mill, Mill 3, was placed on care and maintenance. In 2016, mining commenced at the Nolans East pit, and the mill feed rate increased to 2.8Mtpa. Since the completion of the Nolans East pit in 2018 and Mt Wright in 2019, the plant has been processing low grade mineralised waste dumps (MWD); most of this material originated from the Sarsfield pit. MWD material is crushed and beneficiated using both mobile crushers and the Nolans fixed crushing plant. Material around 0.4-0.5g/t Au is upgraded to around 0.7g/t Au by rejection of the coarser fraction before milling and gold recovery.

Mill 3 was refurbished in 2019 and recommissioned in May 2020. In June, July and August the milling rate averaged 330,000t per month, equivalent to an annual throughput of around 4Mtpa. Gold recovery August YTD has averaged around 89%, based on an average head grade of around 0.55g/t Au. Gold production through June, July and August averaged 5,500oz per month, equivalent to an annual production rate of 66,000oz.

Since commissioning, the Nolans plant has processed open pit ores from Buck Reef West, Sarsfield, Nolans, Nolans East and from Buck Reef West underground and Mt Wright underground mines. With the exception of the now-exhausted Mt Wright, the ores have been of a similar mineralisation style, exhibiting similar metallurgical characteristics. There is no indication that future ore from the planned Buck Reef West, and Sarsfield-Nolans pits will behave substantially differently, albeit of generally lower grade.

10.3 Plant Operations

From BDA's site inspection, the processing plant appears to be well maintained, and is operated professionally.

The plant flowsheet is shown in Figure 7 and includes the following operations:

- a 2.8Mtpa three-stage fixed crushing and beneficiation plant (the Nolans crusher)
- supplementary crushing and beneficiation of low-grade ore in mobile crushers; the combined crushing and beneficiation operations are currently producing around 5Mtpa of beneficiated fines
- grinding of the beneficiated fines in three SAG/ball mills, Mills 1 and 2 (each 3.25MW) and Mill 3 (4MW); after being idle for several years, Mill 3 was refurbished and re-commissioned in May 2020, returning milling to the design capacity of 5Mtpa
- a Knelson gravity concentrator in the grinding circuit which typically recovers 25% of the gold for intensive cyanidation and gold recovery
- conventional leach-CIL for cyanide leaching of gold from slurry for adsorption onto activated carbon; in total the nine tanks have a residence time of around 16 hours at the design rate of 5Mtpa; residence time had been around 24 hours in recent years at lower throughput rates
- washing and elution of activated carbon for recovery of gold and silver by electrowinning
- tailings thickening and storage, currently in the Sarsfield pit but to be replaced under the expansion plan with an expanded Nolans TSF.

The ore beneficiation step at Ravenswood is successful on amenable ores, however, reject tonnages and gold recoveries are difficult to measure to a high standard of metal accounting. Long term reconciliations appear consistent with average expected values, but short-term results may vary by around 5-10% in terms of rejection rates and 2-5% in terms of gold recovery.

Beneficiation screening is not planned to be applied to ore from the Buck Reef West open cut, which comprises the majority of proposed feed between 2021 and 2025.

Downstream processing for gold recovery from beneficiated fines is conventional and operates predictably. The most significant influences on processing recovery have been shown to be:

- *residence time in leaching and adsorption* - the recent reduction from around 24 hours to 16 hours residence time at 5Mtpa is expected to reduce leaching gold recovery by 3-6%
- *grind size of leach feed* - this had coarsened to around 80% passing 210µm at higher throughput and without Mill 3; optimisation of Mill 3 should return sizing to the design of 80% passing 180µm
- *variable amounts of gold in refractory minerals (probably arsenopyrite), and minerals that consume oxygen from leach pulp (e.g. pyrrhotite)* - there have been no reports of significant impacts from cyanide consuming minerals in the plant history, but it is likely that variations in mineralogy explain short term variations around average recovery in historic plant operations.

Of these three factors:

- increasing residence time in leaching and adsorption is a major design focus of the proposed expansion project
- producing a finer feed size to leaching is also a major design focus of the expansion project
- finer grinding and longer leach residence time will reduce the impact of variable mineralogy; further effort to identify mineral variability in future ore sources would improve the predictability of plant results.

From BDA's inspection and from recent daily data (March to August 2020) the process plant appears to be reliable, well maintained and professionally operated. Housekeeping was observed to be good and there was little spillage, suggesting stable operations. This is assisted by the low-clay content and good handling characteristics of the current feed. Plant management is considered capable, experienced and knowledgeable regarding plant operations. The employee turnover rate of around 12% suggests a loyal workforce, with a healthy balance of retaining local experience while introducing new ideas.

10.4 Proposed Expansion Project

The proposed processing expansion includes:

- a new 3-stage crushing and screening plant (450 kilowatt ("kW") primary gyratory, one 750kW secondary and two 600kW tertiary crushers) with capacity for 12Mtpa ore; a diverter gate in tertiary screening will allow the beneficiation screening to be switched on for Sarsfield-Nolans ore and off for BRW pit ore; the current 2.8Mtpa Nolans crusher will remain available as a back-up if required, but will be idled; mobile crushing will no longer be required
- a new 12MW grinding mill and associated classification which will more than double total installed grinding power and increase grinding throughput to 7.2Mtpa at a finer grind size of 80% passing 106µm (currently 80% passing 180µm); the 7.2Mtpa grinding throughput will match the 12Mtpa Sarsfield ore mining rate after rejection by beneficiation of 40% of the mass
- a second gravity concentrator and intensive cyanidation plant to recover coarse gold from the Mill 4 and Mill 3 grinding circuits, to complement the existing gravity unit in the Mill 1 and Mill 2 circuits
- six additional agitated leach/adsorption tanks, to increase residence time from 16 hours at the current 5Mtpa grinding feed to 24 hours at 7.2Mtpa
- additional gold electrowinning cells and a new gold room to meet production of up to 250koz per annum
- a second 18m diameter tailings thickener to complement the existing 22m thickener which has proven capacity for the current feed rate of 5Mtpa.

Carbon washing, elution and regeneration currently operate between 33% and 50% of the time and were assessed by Ausenco as having sufficient capacity to match forecast gold production through increased operating time.

Ausenco has modelled the designed processing steps and assessed them to have capacity to achieve the target throughput rate and gold production; BDA considers the Ausenco analysis to be thorough and based on good practice modelling and design.

The equipment will be progressively installed and commissioned over approximately two years and plant capacity and recovery will ramp up in stages. Some equipment selections have recently changed to maximise processing power and to take advantage of available second-hand equipment. The grinding mill specification has been increased from 9MW to 12MW. The equipment changes will improve plant processing power and capability, but introduce some risk to project schedule and costs.

BDA notes that once the new crushing circuit has been installed, the current Nolans crushing plant will still be available as back-up for periods of maintenance or potential supplementary feed.

10.5 Future Ore Supply and Mineralogy

The plant is currently processing mineralised waste dumps (MWD) built primarily from low grade material from the Sarsfield pit. Historically the plant has processed ore from Buck Reef West, Sarsfield, Nolans, and Nolans East pits, and Buck Reef West and Mt Wright underground mines. The history of processing ore and low grade mineralised waste dumps over 20 years makes it unlikely there will be any issues with future ore processing characteristics. Mt Wright ore had different metallurgical characteristics and was processed between 2008 and 2019 without beneficiation and at finer grind sizes; the deposit has now been exhausted and forms no part of future plans.

Most past production came from Sarsfield, Nolans and Nolans East, which exhibited good beneficiation and gold recovery. The Buck Reef West pit was mined to around 40m depth, with deeper extraction from the underground lodes. The planned BRW pit will reach 220m depth and mine material from four lodes, the Buck Reef West fault and the Sunset, General Grant and Duke of Edinburgh lodes. The BRW ore is relatively higher grade and has more complex sulphide mineralogy than Sarsfield-Nolans. The ore will be crushed and direct-fed to the grinding circuit without beneficiation, so will incur no beneficiation losses. However, the more complex sulphide mineralogy reduces gold leaching recovery. Testwork conducted by SGS and reviewed by Ausenco (October 2019) demonstrated lower recovery for BRW ore and more sensitivity to grind size and leach residence time than Sarsfield-Nolans ores.

Testwork data shows that the lowest gold recoveries (78-80%) coincided with the highest arsenic content (1,200 parts per million (ppm)). Though there is no confirmatory mineralogy, this suggests some gold deportment in the refractory mineral arsenopyrite. The process changes proposed (reducing grind size from 80% passing 180µm to 80% passing 106µm and increasing leach residence time from 16 hours to 24 hours) were designed to maximise recovery from this ore. In testwork, these changes restored gold recovery to above 90% in samples up to 400ppm As, and improved recovery to 85% for samples with 1200ppm As.

Overall, there is little quantitative data on gold deportment by minerals throughout the deposits. This is not a serious flaw, as while both plant performance and gold recovery testwork suggest that mineralogical variation has caused variation, there has been no material shifts in recovery at Ravenswood. Finer grinding and increased residence time will reduce that variability and increase average recovery. Nevertheless, BDA suggests that due attention should be paid to mineralogical variations in the metallurgical drill core test programme being planned for late 2020, including:

- relating testwork results to sulphide mineralogy rather than only to elemental assays
- confirming the presence or otherwise of gold in arsenopyrite
- for tests with higher than average gold losses, quantifying the deportment of gold by mineral and size in the tailings
- measuring oxygen demand in testwork and relating this to mineral content, in particular pyrrhotite
- mapping the occurrence of potentially problematic minerals in 3-dimensional space in the deposits
- when compositing samples for testwork, combining samples of similar mineralogy to define the behaviour of that class rather than a homogenised blend.

From discussions with site staff and data review, BDA does not expect this programme to substantially change recovery estimates. However, the resulting improved orebody knowledge will inform mine scheduling and assist operating stability.

In summary, the gold recovery estimates in the current BCFM appear reasonable and consistent with past plant performance, the limited testwork on future ore sighted by BDA, and the proposed plant improvements.

10.6 Layout, Sequencing and Commissioning of Plant Changes

There is ample space within the Nolans plant area at Ravenswood to enable reasonable construction access, facilitate tie-in and sequencing of stages, and result in a logical and operable expanded plant layout. Construction is planned in three stages:

- *Stage 1* - install three additional leach tanks to increase gold recovery at the current rate of 5Mtpa; mill feed supply will continue to be from mobile crushers and the Nolans crushing circuit
- *Stage 2* - install the new 12Mtpa crushing and screening plant, the new gravity separator and intensive cyanidation, extra gold electrowinning capacity, a further three leach tanks and the second tailings thickener; this will prepare the plant for the processing of 7.2Mtpa grinding feed after completion of Stage 3
- *Stage 3* - install the 12MW Mill 4 and associated classification and infrastructure to achieve 7.2Mtpa milling rate.

The staged installation will assist commissioning. The process steps are straightforward incorporating newly installed crushing and grinding equipment and expanding the CIL gold recovery circuit. Good practice has been used to size the crushing and grinding equipment. Design and project management is by an experienced and well-regarded minerals engineering company. BDA consider there is a low risk of fundamental process, design or execution flaws.

The available space allows for a logical layout. However, some compromises are needed to minimise production interruption during construction. The most challenging area is the new reclaim tunnel to service the crushed ore stockpile to feed the new Mill 4. This will impact operating simplicity and will reduce stockpile capacity, but the design appears workable. At worst, stockpile and reclamation capacity could be supported by mobile equipment.

Careful consideration is being given to minimise production delays during construction. Twenty tie-in points have been identified in Stage 1. The schedule is still being developed for Stages 2 and 3 which are expected to involve another thirty tie-in points. While the risk of production delays remains, the combination of a good layout, experienced plant management, and a competent engineering company minimises the risk of unexpected production interruptions.

Assuming the construction is achieved on time, and there are no mechanical issues with equipment or unexpected tie-in complications, the forecast plant ramp-up in both throughput and recovery appears reasonable.

Conclusions

The process plant is in good condition and is operating reliably and steadily. Operations management and staff appear professional and knowledgeable. The project concept addresses the fundamental needs of additional gravity recovery, finer grind size and more leach residence time. Beneficiation will not be applied to ore from the Buck Reef West pit, the major production source from 2021 to 2025. Beneficiation will be applied to ore from the Sarsfield-Nolans pit which has previously responded well. In addition to higher capacity, the proposed crushing and screening plant is better designed and more flexible than the current plant.

The impact of increased variability in sulphide minerals in ore from Buck Reef West pit should be investigated further in the planned metallurgical testing programme, however, impacts are likely to relate to short-term variability rather than a significant reduction in overall recovery below model-prediction levels. The expansion design significantly increases the ability to deal with ore variations, increasing flexibility to optimise the balance between beneficiation rate and grind size to suit prevailing conditions.

Brownfield projects involve an inherent risk of production interruption, cost overruns and schedule delays. While such impacts cannot be discounted, the implementation schedule is carefully planned and the sequencing is logical. The project steps match steps in expected ore supply, and construction tie-ins have been designed to minimise production interruption. The site has good available space compared with many brownfield projects, which assists construction planning and sequencing, and should result in a plant which retains a logical and operable layout.

The expansion project addresses the key areas required to increase throughput rate and gold production. The design concept and selected equipment should have the capacity to process at higher rates than forecast and with more flexibility than the current plant. The proposed changes support the forecast throughput and gold recovery estimates in the BCFM provided the construction and commissioning schedule is achieved.

Recently proposed process enhancements have evolved faster than engineering design. The changes are metallurgically sound but may introduce some risks to the capital cost and construction schedule.

11.0 INFRASTRUCTURE

11.1 Overview

The Ravenswood gold mine is located immediately south of the historic mining township of Ravenswood, 120km south of Townsville and 60km east of Charters Towers. Modern mining operations have been undertaken on site since 1987, with historical mining dating back to the 1870s.

All stores, reagents and supplies are trucked via the Flinders Highway (80km) and the Burdekin Falls Dam Road (40km). Construction access will utilise the existing roads which are suitable for taking all envisaged wide loads, including those associated with the grinding mills and mining fleet.

Development of the BRW pit and associated mine haulage will require the closure of a section of a current council road (Loop Road). The local council has been consulted and has given approval in principle for the road closure; the road is a loop road and is not required for through access and as such will not require realignment.

11.2 Power

Power for the Ravenswood mine is supplied through a connection to the regional grid distribution network. Two main lines connect the Ravenswood area to the regional grid, one from Charters Towers and the other from Clare, meeting at a common substation on the outskirts of the township. Agreements are in place with Ergon Energy to supply up to 17MW of continuous demand with the ability to increase supply up to 25MW. It has been estimated that an additional 5MW is likely to be required for the larger grinding mill that is currently being sourced. RGPL proposes that any additional power requirement will be sourced through an over-the-fence power supply arrangement with a third-party contract supplier on a take-or-pay arrangement. Power would be provided by a gas turbine plant using gas pods delivered to site, or via conventional diesel generation. RPGL advises that the rate for such an arrangement is not likely to be significantly more expensive than the currently supplied grid power.

11.3 Water

Water supply to the operation is by pipeline from the Burdekin River via Suhrs Creek Dam, providing potable water for the mine and the township, and process water. An inclined decant structure at the TSF will collect decant water from process plant tailings and tailings dredging/pumping activities. Decant water reports to an external sump for re-circulation to the process plant and to the tailings dredging/pumping operations.

An assessment of the site water balance indicates that the volume of water required during dredging/pumping of the Sarsfield tailings to the new TSF will exceed the $4Mm^3$ which is currently stored within the Sarsfield pit, requiring additional supply. Raw water supply from Suhrs Creek Dam will need to be increased to approximately 11.4 megalitres per day to provide sufficient water for the proposed tailings pumping operation from Sarsfield pit over three years. Historical water supply from the Suhrs Creek Dam has exceeded 14 megalitres per day, however maintenance works on the pumps and pipeline will be required due to scaling and sedimentation. The Suhrs Creek Dam water supply requirements will return to around 7.4 megalitres per day on completion of tailings pumping activities.

11.4 Accommodation and Communications

Employee accommodation is provided in RGPL's camp on the edge of the Ravenswood township. The camp comprises around 250 single rooms with attached bathrooms and messing facilities and is currently being expanded to 298 rooms. The camp does not have a bar, but the township has two local hotels. The camp is considered adequate for the existing operations but is planned to be expanded to cater for the construction phase of the project.

Telecommunications are provided by Telstra and the site operates a dedicated frame-relay data link.

Conclusions

Site infrastructure, power, water, accommodation and access are appropriate and generally well managed and maintained with some maintenance works required for the additional tailings pumping water requirements. Extra accommodation is planned for the construction phase and will be reviewed to ensure accommodation is sufficient for peak construction requirements when the detailed schedule and workforce plans are finalised. Additional power of around 5MW is planned to be sourced from a third-party supplier on an over-the-fence take-or-pay arrangement.

12.0 ENVIRONMENTAL REGULATORY APPROVALS

Environmental Impact Statement (EIS)

An Environmental Impact Assessment (EIA) was undertaken for the Sarsfield pit expansion project, resulting in an Environmental Impact Statement (EIS) and subsequent Supplementary Environmental Impact Statement (SEIS) being produced. These documents supported the Environmental Authority (EA) amendment to permit the Sarsfield pit expansion project which was approved on 3 March 2017.

An EIS was not required for the BRW open pit expansion project as the environmental assessment was conducted under the EA amendment process.

Environmental Authority

The Ravenswood project operation is permitted via an Environmental Authority (EA) issued by the Queensland Department of Environment and Science (DES), various Mining Leases and Exploration Permits issued by the Department of Natural Resources, Mines and Energy (DNRME) and a licence to take water issued by DNRME.

RGPL operates under Environmental Authority EPML00979013 issued by DES. The latest amendment of the EA took effect from 9 March 2020. The various EA Amendments and their relevance to the site development and infrastructure arrangements are shown in Table 12.1 and summarised below:

- *Buck Reef West (BRW) Pit Expansion Project* - the current EA permits the BRW expansion project to proceed.
- *Sarsfield-Nolans Pit Expansion Project* - RGPL currently holds all relevant permits for mining in the Sarsfield-Nolans open pit and for the current tailings disposal into the pit.
- *Nolans Tailings Storage Facility (NTSF) Expansion* - the current EA permits the Nolans TSF Expansion Project to proceed, subject to specific EA requirements.

Table 12.1

Key Regulatory Development Approvals from 2017

Year	Regulatory Development Approvals	Comment/Status/Documentation
2017	Environmental Impact Statement (EIA) 2014 for the Sarsfield open pit expansion	Approved 3 March 2017
2017	Environmental Authority EPML00979013 Amendment 1 - Sarsfield pit expansion	EA Amendment Supporting Document submitted September 2016; EA Amendment 1 issued 3 March 2017
2018	Environmental Authority EPML00979013 Amendment 2 - Buck Reef West open pit	EA Amendment Supporting Document submitted August 2017; EA Amendment 2 issued 22 March 2018
2019	Environmental Authority EPML00979013 Amendment 3 - Nolans TSF expansion	EA Amendment issued 5 November 2019
2020 (March)	Environmental Authority EPML00979013 Amendment 4 - Surface Water Conditions	Application submitted 31 December 2018 (APP0029648) EA Amendment Supporting Document; DES Information Request response July 2019; EA Amendment issued 9 March 2020

Conclusions

BDA has reviewed RGPL's statutory approvals from the documentation provided by RGPL. The approvals process for gaining variations and amendments to the Environmental Authority permit appears relatively straightforward and the approvals achieved since 2017 appear appropriate for the planned expanded mining operations. Given Ravenswood's historic mining legacies, and the proximity of the mining operations to the township, detailed review and oversight of planned operations is to be expected. However, interactions with DES, as the regulator, in relation to site water management and monitoring, particularly with regard to water quality legacy and compliance issues appear constructive. BDA can foresee no reason why any future mine development approval amendments or variations would not be forthcoming, provided they do not materially impact on the township or legacy items.

13.0 ENVIRONMENT, HEALTH AND SAFETY, COMMUNITY AND HERITAGE

13.1 Background

BDA has reviewed those environmental aspects which are a material part of the project and which may have implications for project approvals and costs.

RGPL's current environmental management programme focuses particularly on the monitoring of water volumes and water quality held on site and discharged. Annual audits are conducted to establish performance against the requirements of the Environmental Authority (EA) and site environmental management programme targets.

13.2 Environmental Management and Monitoring

Current monitoring programmes provide an indication of existing air and water quality in and around the Ravenswood operation. Dust monitoring conducted throughout the township shows that air quality can be impacted by the current mining operations. Due to the proximity of the operations to the Ravenswood township, this is not unexpected, but highlights the requirement for dust mitigation measures to be a key consideration of the project. Water quality monitoring provides for a reasonably thorough assessment of water quality throughout the area. Most surface water flows in the area exhibit minor to no signs of influence from the existing operation, however on-site monitoring shows the potential for legacy issues to impact water quality in the groundwater and creeks to the south of the operation, particularly in respect to TSF seepage.

Environmental Management Plan

The operation has an extensive Environmental Management Plan (EMP) that continues to be updated to reflect the various requirements of the EA, as amended. The EMP outlines environmental values identified for the area, potential impacts of the operation on those values and the management strategies and mitigation measures that are in place to manage those potential impacts. It covers all atmospheric, aquatic, terrestrial, acoustic, cultural and socio-economic values.

RGPL's management plans and programmes are comprehensive and include: SHE (Safety, Health, Environment) Management System, Environmental Aspects and Impacts Register, Risk Register, Emergency Response Plan, Complaints Register, Dust Management Plan, Waste Management Plan, Water Management Plan (Surface and Groundwater), Noise Monitoring and Management Programme, Blast Monitoring Programme, Seepage Management Plan, Post Mine Land Use Plan and Historic Heritage Management Plan.

Environmental Impact Assessment

While an EIA was not required for the Buck Reef West pit and Nolans TSF expansion projects, investigations were conducted on environmental factors in support of the EA amendment applications. Technical reports that were completed to accompany the EA amendment applications included: Air Quality, Noise and Vibration, Surface Water, Groundwater Resources, Terrestrial Ecology, Aquatic Ecology, Mineral Waste Geochemistry, Land Resources, Rehabilitation and Decommissioning and Historical Heritage assessments.

13.3 Water Management

A significant proportion of site water is recycled through the operations. RGPL plans to continue to recycle as much water as possible in order to reduce the amount of discharged water, as well as reducing the use of raw water extracted from the Burdekin River. Surface water collected onsite is pumped to the process plant water storage ponds for reuse or used for dust suppression.

Effluent produced as a result of sewage treatment is recycled for use on the Ravenswood Golf Course.

RGPL advises that the formerly hired (and now de-mobilised) Reverse Osmosis ("RO") plants will not be required for the proposed operations, as there is no plan to discharge site water from the site. The proposed water circulation between pit tailings dredging/pumping and the processing plant and new tailing storage dams are such that future water storage and usage will remain in balance, however, the site RO plants remain available for future water treatment to enable off-site discharge to occur if required. Any future brine waste from the RO plants, if operated, is planned to be removed off-site by a licenced waste management contractor.

Sarsfield Pit Water and Tailings Re-Deposition

Currently, process plant tailings from treatment of the low grade stockpiles are being discharged into the Sarsfield pit. As of May 2019, it was estimated that the pit contained approximately 21Mt (dry) of tailings. It is projected that an additional 11Mt of tailings will have been added to Sarsfield pit before the NTSF Expansion is ready for tailings deposition. In addition, it is estimated that the Sarsfield pit contains approximately 4.3Mm^3 of water, which is planned, initially, to be utilised in the tailings dredging/pumping process and ultimately recycled within the proposed expanded processing plant and mining operations.

An approved discharge point has been designated under the current Environmental Authority to enable any treated water from the RO plants to be discharged into Suhrs Creek, which flows into Elphinstone Creek. As noted, RO plants are not planned to be operated, however if needed in the future, they are approved under the EA and transportable units can be hired and re-established to enable excess water to be treated and discharged offsite.

Environmental Impact

The EIS conducted for the Sarsfield open pit expansion project concluded that with the groundwater and surface water management measures in place, downstream watercourses such as Plumtree Creek, Kirk River and Burdekin River are not expected to show elevated concentrations of sulphate above existing levels and no adverse impacts are expected to other users or sensitive environments as a result of project activities.

13.4 Waste Management - Waste Rock

A Waste Rock Management Plan is in place to ensure monitoring of seepage collection sumps, water sampling at all waste rock dump ("WRD") locations potentially discharging from the site, and capture on site of any seepage from dumps with potential for acid mine drainage, to ensure all seepage is collected for subsequent treatment and re-use within the processing plant.

Buck Reef West WRD

The Buck Reef West (BRW) project involves the recommencement of mining at the decommissioned BRW mine site which has previously been subject to small scale underground and open pit mining. The project will involve the excavation of an enlarged open pit and construction of a permitted waste rock storage dump located to the south of the BRW open pit; the bulk of the BRW waste will be used in the construction of the expanded TSF embankments and the construction of noise bunds to the north and east of the pit to minimise the impact on the Ravenswood Township of any elevated noise levels.

It is reported that approximately 80% of the BRW waste rock is expected to be non-acid forming ("NAF") with approximately two-thirds of waste rock having a sulphur concentration of <0.3% S.

It is planned that the BRW waste rock dump will reach a maximum height of approximately 40m, with a surface area of 58ha. The dump will be capped to prevent water ingress and to shed clean water away from project disturbed areas. The BRW waste rock dump is approved under the current EA.

Sarsfield WRD

Waste rock from the Sarsfield pit expansion will be placed in a 120ha WRD approximately 45-55m high (approximately 20m higher than the current dump). It will be shaped with 10m high benches with capacity to store 143Mt of waste rock. The waste rock will include 45Mt of potentially acid forming ("PAF") material and 96Mt of non-acid forming (NAF) material. The PAF material is associated with sulphide minerals in the waste rock and will predominantly come from the Sarsfield pit.

The geochemical-related impacts are expected to be dominated by leachate and seepage with elevated sulphate concentrations, but near-neutral pH and relatively low concentrations of metals and metalloids in the medium term. The waste rock dump is stated to have been designed in accordance with the Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland and to have sufficient capacity to store all of the waste rock produced by the project. PAF material will be encapsulated in NAF, with at least a 30m buffer from PAF to the outer wall toe and a NAF base at least 2m thick. On closure, the design aim is for internally draining runoff to be directed back towards the pit. The dump would have a store and release cover to manage rainfall and be designed to manage erosion, including rock armouring.

The Sarsfield WRD is approved under the current Environmental Authority.

13.5 Waste Management - Tailings Storage Facilities

Existing Nolans and Sarsfield Tailings Storage Facility

The existing Nolans TSF has been closed, capped and the surface rehabilitated. There is some ongoing leakage of contaminated leachate from the unlined TSF, which has resulted in a contaminated groundwater plume developed under and downstream of the Nolans TSF. Surface flows of this contaminated groundwater are recorded as flowing into the adjacent Sandy Creek. Monthly reports, which report seepage recovery rates pumped via recovery boreholes show a rapid decrease in the pumping rate from February to July 2019, from approximately 2ML/day to a present stabilised rate of approximately 0.25ML/day, the reduction being a response to the TSF being closed and capped.

RGPL advise that by end-2020 the Sarsfield pit will contain about 32Mt of tailings from the processing of Mount Wright ores and low grade stockpiles. The tailings in the Sarsfield pit are known to have an elevated risk of acid generation linked to the higher sulphide content of the Mount Wright tailings, compared to the tailings generated from processing BRW and Sarsfield-Nolans ores, of which, approximately 30% are considered to be potentially acid forming (PAF).

It is proposed that the tailings deposited in the Sarsfield pit will be removed by dredging or slurry pumping and, together with the tailings from the new BRW and expanded Sarsfield-Nolans pits, re-deposited in the proposed Nolans TSF extension.

Nolans Tailings Storage Facility (NTSF) Expansion

The NTSF expansion project requires a new 160ha TSF that would be constructed around, to the south, and connected to the existing Nolans TSF (Figure 9 and Table 13.1). It is proposed that the embankment construction will be staged, with construction of Stages 1A (260mRL) in Year 1 to 1.5, 1B (270mRL) in Year 2, 1C (280mRL) in Year 3 and 2A (286mRL) in Year 4-5. The NTSF Stage 2A design crest elevation at 286mRL represents the current EA limit for the NTSF Expansion. Future staged construction of Stage 2B in Year 6, Stage 3 in Year 7, Stage 4 in Year 9, and Stage 5 in Year 12 are envisaged, to a crest height of 313mRL, but will be subject to further EA amendments.

Table 13.1

Planned TSF Expansion Capacities and Projected Tailings Production

Years	TSF Staged Expansions	Dredged Tailings (Mt)	Processed Tailings (Mt)	Cumulative Tailings (Mt)	Storage Capacity (Mt)	Cumulative Capacity (Mt)
1 - 5 (2021 - 2025)	Nolans Stages 1A, 1B, 1C, 2A	32	27	59	59	59
6 - 12 (2026 - 2032)	Nolans Stages 2B, 3, 4, 5	-	50	109	50	109
13 -15 (2033 - 2035)	BRW pit storage	-	21.3	130	18	127
	Future Nolans TSF Southwest Extension	-			27	154

Note: process plant tailings production beyond 2032 is assumed at 7.2Mtpa

The initial NTSF design expansion (to Stage 2A) will provide storage for 59Mt of tailings over Years 1-5, comprising approximately 32Mt of dredged/pumped tailings from the Sarsfield pit (4 years at 7-8Mtpa) and 27Mt of new tailings from the processing of BRW open pit ores and stockpiled material.

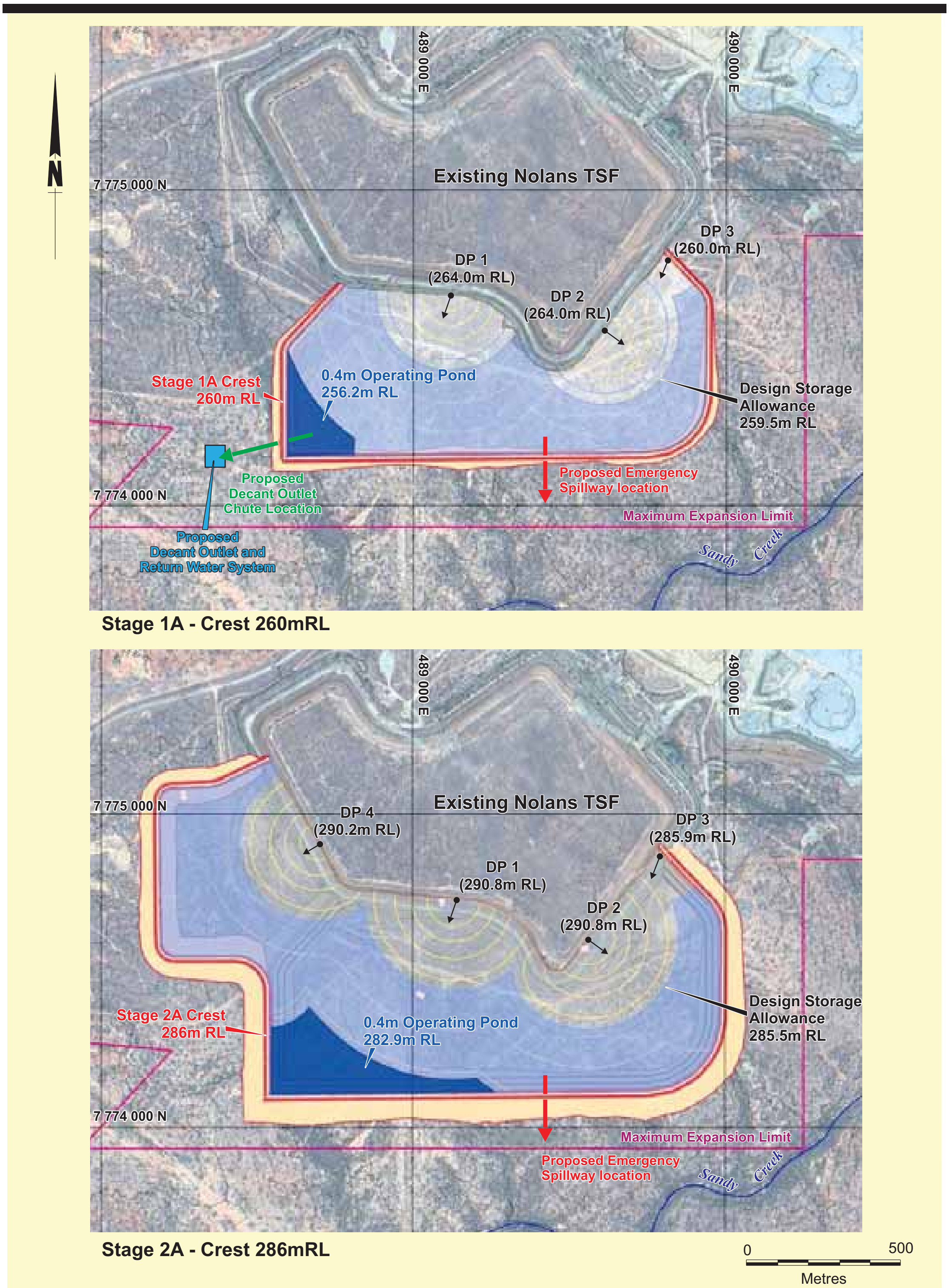
The planned process plant tailings production over the 14 year LOM is estimated at 77Mt, which, together with 32Mt of dredged tailings from the Sarsfield pit gives a total tailings storage requirement of 109Mt. The full NTSF Expansion project design to Stage 5 is based on these planned tailings production rates.

Additional tailings storage capacities are available beyond Year 12. They include the BRW open pit option which is already fully permitted to receive tailings upon the completion of planned BRW mining, with an estimated storage capacity of 18Mt. A further option, but yet to be permitted, is to construct an additional Nolans TSF storage cell with capacity of 27Mt to the southwest of the currently planned NTSF on land held by RGPL under exploration tenement permits .

Stage 2B construction development type is a downstream rise, whilst Stages 3-5 are combined downstream and upstream raises. The TSF stages will be designed and constructed according to the Tailings Management Guideline of the Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland, Australian National Committee on Large Dams (“ANCOLD”) guidelines and the Department of Environment and Heritage Protection (DES) manual for assessing hazard categories and hydraulic performance of dams.

The DES manual assessment categorises the NTSF as a High Consequence category and ANCOLD categorises it as High C Consequence Category. Both these consequence assessments have equivalent outcomes for the adopted design criteria.

The NTSF expansion is being designed by TSF specialists, ATC Williams Pty Ltd (“ATC Williams”). The adopted design criteria for the NTSF embankment and infrastructure are contained in the ATC Williams TSF design report. The design flood storage allowance is 1:100 Annual Exceedance Probability (“AEP”) 3-month wet season + process inputs, while the spillway capacity is the greater of 1:100,000 AEP plus 1:10 AEP wave run-up or Probable Maximum Flood (“PMF”) with no wave run-up. Seismic and stability criteria are documented within the ATC Williams design reports.



Ravenswood Gold *Ravenswood Project*

Figure 9 **NOLANS TSF EXPANSION**

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Behre Dolbear Australia Pty Ltd

The NTSF Stage 1A embankment is to be constructed to a height of 20m as a zoned rockfill embankment. An exposed bituminous geomembrane ("BGM") liner will be installed on the upstream face of the embankment and cover the entire impoundment area. The BGM liner is expected to provide a typical permeability k-value of approximately 7 x 10^{-14} metres per second ("m/s"). For comparison, a typical HDPE liner provides a permeability k-value of approximately 1 x 10^{-11}m/s.

An underdrainage system will be installed across the lined impoundment area (ie. above the BGM liner), which will be constructed in a herringbone pattern. The underdrainage system will have three exit points across the perimeter of the embankment which will require trenching and pipe encasement through the foundations, reporting to the downstream toe of the final embankment for underdrainage collection and recycling.

A decant system will be installed on the upstream face of the embankment, which will be comprised of a concrete decant chute, associated access and operations infrastructure, concrete encased decant outlet pipe and downstream collection sump.

As a consequence of the known seepage from the existing unlined Nolans TSF, the monitoring and management of seepage and leakage of contaminants to surface or groundwater from the proposed NTSF Expansion and project works must be able to separately identify existing contamination from contamination from the new facilities and operations for compliance purposes. The overall performance management of both the proposed NTSF and the existing TSF must be coordinated and delivered in such a way that all relevant environmental values are protected.

13.6 Rehabilitation and Closure Provisions

The current rehabilitation strategy is designed to align with the Environmental Authority (EPML00979013), Closure Plan and Post Mine Land Use Plan as well as other relevant legislation and guidelines.

The Ravenswood operations currently occupy some 607ha of disturbed land. The current EA permits a disturbance envelope of some 1,044ha. This disturbance envelope includes the Nolans TSF Expansion for tailings disposal and the BRW and Sarsfield/Nolan open pit expansion projects including the associated waste rock storage dumps.

Disturbance areas or features are generally summarised into domains, reflecting different rehabilitation requirements, methods and costs based on the risks associated with the operational activities that have occurred on the site and the remaining landform characteristics. The disturbance area domains are listed in the EA document.

The total rehabilitation cost for the Ravenswood Expansion Project is estimated at A$48.3M in the current Plan of Operations ("PoO") as shown in Table 13.2. However, the PoO regulatory process ceased in June 2019 under the new provisions of the *Mineral and Energy Resources (Financial Provisioning) Act 2018*. An allowance of A$54M has been made for rehabilitation costs in the project BCFM.

Table 13.2

Ravenswood Gold Expansion Project – Plan of Operations Estimated Rehabilitation Costs

Area	Costs Estimate (A$M)
Buck Reef West	2.9
Sarsfield	8.2
Nolans	18.9
Mt Wright	3.7
Sandy Creek	1.0
Community and Support Infrastructure	0.9
Monitoring and Management	12.7
Total	**48.3**

Note – the rehabilitation allowance in the LOM BCFM totals A$54M and the latest ERC estimate submitted to DES was A$59.5M, subsequently assessed by DES at A$116M

It is BDA's understanding that under the new Queensland financial provisioning requirements, the Estimated Rehabilitation Cost ("ERC") submitted by RGPL to DES was set at A$59.5M based on the categorisation of the site structures as low-medium risk. However, BDA understands that the DES re-assessed the Ravenswood mine structures as medium-high risk, which had the effect of approximately doubling the ERC amount to A$116M. The new provisioning scheme requirement is that a percentage of the estimated rehabilitation cost is contributed to a financial provisioning fund; this percentage ranges from 0.5% to 2.75% depending on the determined risk allocation of the project; a bank guarantee or insurance policy must be in place for the entire ERC value if the risk assessment is high. The RGPL rehabilitation risk was re-determined in September 2020 to be low risk, requiring a contribution of 1% of A$116M to be paid. The ERC value will remain valid for 5 years and the project's risk allocation will be reviewed every year.

BDA understands that there are transitional arrangements available to existing mines relating to the application of the new financial provisioning scheme, including Progressive Rehabilitation Cost ("PRC") requirements.

BDA is of the opinion that the high risk characterisation is neither realistic nor reasonable, given that the proposed structures have been designed and will be engineered by reputable professional engineering firms to minimise environmental and physical risk. The previous estimated rehabilitation costs were based on reasonable schedules of rates and proposed works but this estimate has now been escalated based on the State's view of residual risk. The increased risk characterisation does not appear to take account of engineering design, factors of safety or other design criteria.

BDA considers that the rehabilitation estimate under the previous PoO process, escalated to a current ERC estimate of A$116M, represents a more than adequate rehabilitation cost estimate for the Ravenswood Expansion Project, based on current schedules of rates and timeframes.

Rehabilitation of disturbed areas is planned to be carried out progressively throughout the life of the project. The objective of the rehabilitation strategy is to return areas affected by mining to a stable, non-eroding, and safe condition, having biologically sustainable ecosystems requiring minimum long-term management. The proposed post-mining land suitability is Class VIII - native ecosystem, which is the pre-mine land use. The final pit voids will act as water storage structures. A mine closure plan will be developed during the operational phase to identify the specifics of rehabilitation and decommissioning.

13.7 Occupational Health and Safety Management

The Ravenswood gold project is operating under a Health, Safety, Environment and Community (HSEC) Management System, which provides a major risk control framework that focuses on (amongst other things) action management and accountability for line management, hazard reporting and awareness, independent safety audits (including contractor safety management systems), continuous improvement, collaboration on implementing solutions to reduce at-risk behaviour, and training. Coronavirus COVID-19 procedures have been added in recent months.

The Total Recordable Injury Frequency Rate ("TRIFR")[1] for June 2020 was recorded at 11.05 which is slightly lower than the Industry TRIFR of 12.0. The site's key performance indicator ("KPI") TRIFR target value is set at 9.0. The site's monthly TRIFR has decreased from above 12.0 in April to below 12.0 in May and June 2020.

13.8 Greenhouse Gas Emissions

Greenhouse gas emissions have been estimated using published emission factors. For the BRW 5-year project the estimated greenhouse emissions are estimated at 333,216t CO2-eq (carbon dioxide equivalent)[2] , or an average of 66,643t CO2-eq on an annual basis for 5 years, totalling Scope 1 emission (diesel consumption) of 80,407t CO2-eq and Scope 2 (electricity consumption) of 252,809t CO2-eq.

13.9 Social and Community Issues

Mining is an accepted part of the Ravenswood and Charters Towers District's history and current activities, bringing employment opportunities to the local population and significant revenue to the government through state royalties and taxation.

Historic Heritage

A large area of historical significance exists in the northern section of the Ravenswood project area, including a number of sites listed on the State Heritage Register. Heritage Agreements are in place with the State Government to permit operations for the BRW and Sarsfield-Nolans projects, pending works to preserve the significance of the sites to an acceptable degree, including strengthening of three iconic chimney stacks. There are seven brick chimney stacks from historic mining activities that remain standing in Ravenswood.

As a part of the Site Conservation Management Plan, as set out in the Heritage Agreement for the Ravenswood Mining Landscape and Chinese Settlement Area, it is necessary to carry out strengthening of the three chimneys that will remain standing outside of the BRW pit footprint, and relocate other large artefacts from the planned area of impact and conduct additional conservation works. The three chimneys to be strengthened are the Mabel Mill, Grand Junction and Sunset No 2, being the three chimneys with the greatest visual impact on approach to Ravenswood.

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[1] The TRIFR is the number of injuries (excluding fatalities) requiring medical treatment per million hours worked.

[2] A carbon dioxide equivalent or CO2 equivalent, abbreviated as **CO2-eq** is a metric measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential.

These works will take approximately four months to complete and will need to be completed prior to any mining activities occurring at BRW at an estimated cost of A$0.6M.

Cultural Heritage

A Native Title Agreement was executed with the Birriah Aboriginal Corporation (as the Registered Native Title Body Corporate for the Birriah Native Title Holders) in March 2018. This document outlines the cultural heritage requirements for the Ravenswood gold project, including continuation of the existing Cultural Heritage Management Plan ("CHMP"), and development and implementation of an Indigenous Participation Plan.

Community Context

Mining in Ravenswood dates back to 1868. Once a bustling mining and rural community, the town is currently home to approximately 200 people. Most of the current residents in the township comprise elderly retired people, local graziers, employees of the mine (and their families), and local business operators (hotels and shops) and their families.

Noise Mitigation Bund

Given the closeness of the BRW open pit to the community residences and a number of nearby heritage-listed locations, a noise mitigation bund will be constructed north of the BRW pit. One gap in the Mining Lease coverage of the BRW area is likely to remain, where there is a Restricted Area (as defined by the Mineral Resources Act) for which RGPL is not able to acquire authorisation from the landowners to apply for a mining lease. The proposed noise bund traverses this area, but it is proposed that the bund construction activities will be undertaken under a Development Approval rather than via a Mining Lease; the Charters Towers Regional Council is supportive of this proposal.

State School Relocation

The Ravenswood State Primary School was previously located inside the proposed BRW pit shell design. Alternate pit designs were considered, aimed at retaining the school in its former location, but these were found to be uneconomic. To enable the BRW mine to proceed, it was agreed that the school would be relocated. This relocation has now been completed, and the newly constructed school currently has 21 students enrolled, ranging from Pre-School to Year 6.

Consultation Processes

Community consultation has been undertaken in relation to both the BRW and Sarsfield-Nolans expansion projects. Community feedback to date has generally been positive on both projects, however impacts to the historic heritage areas have been highlighted as areas of concern. As noted under the Historic Heritage Section above, Heritage Agreements are in place to preserve items of historic significance. Nevertheless, due to the proximity of the BRW project to the township and historic heritage sites, ongoing community consultation will remain an important part of project development and operations.

Grievance Procedure

RGPL has a Community and Stakeholder Policy, a Communication and Involvement Standard and a Community and Stakeholder Communication Procedure. These documents provide a framework for both disseminating information from RGPL to the community and facilitating feedback from the community to RGPL. A complaint process is included, that sets out requirements for action and response timeframes.

Community Management Plan

Community management and engagement is well advanced and is facilitated by a permanent staff Community Relations Advisor. Key aspects of community management that will require dedicated plans for the project include relocation of heritage buildings and sites, maintenance and restoration of in-situ heritage buildings and sites, dilapidation surveys and ongoing condition monitoring of buildings, including both heritage and non-heritage buildings owned by third parties.

The Community Relations Advisor works with local businesses, societies, media outlets and other stakeholders to facilitate relationships with RGPL and assist in implementation of the town's Tourism Directions Plan.

RGPL is currently preparing an updated Social Impact Management Plan to manage any social aspects of the project in accordance with current legislation.

Conclusions

RGPL has the required environmental approvals for current and planned future operations and will have adequate waste and tailing storage facilities necessary for its proposed Ravenswood Mine Expansion. The most recent EA amendment was approved 9 March 2020.

RGPL is substantially in compliance with its Environmental Authority (EA) conditions and regulations, however, managing the new compliance requirements, particularly for groundwater and surface water discharge conditions is a key compliance issue demanding ongoing attention, management plans and co-operation with authorities.

The cost to rehabilitate the currently disturbed areas of the Ravenswood mine site has been variously estimated at A$48.3M in the PoO, at approximately A$54M in the LOM BCFM, and A$116M in the latest ERC. The recent changes to the Queensland rehabilitation and financial assurance scheme are having an impact on the previous financial assurance arrangements for mine projects in Queensland. In particular, the ERC based on schedule of rates and works are being escalated, based upon the State's view on residual risk, and not necessarily on engineering design or factors of safety. Acknowledging the various environmental legacies associated with the Ravenswood site, BDA is of the opinion that the ERC estimate provides a more than adequate provision for the rehabilitation requirements.

Mining is an accepted and historic part of the Ravenswood and Charters Towers District's history, bringing employment opportunities to the local population and significant revenue to the government through state royalties and taxation.

14.0 PRODUCTION SCHEDULE

14.1 Overview

Table 14.1 sets out the forecast production data from 2021 in the LOM schedule, extending to 2035 based on the LOM plan in the Base Case Financial Model (BCFM). The low-grade stockpile reclamation rate is planned to ramp up to 5Mtpa in the second half of 2020, and the mining rate will progressively ramp-up to around 12Mtpa by 2026 to provide the beneficiation plant feed, resulting in around 7.2Mtpa mill feed after crushing and screening for the remainder of the LOM. The expansion includes a number of initiatives, including replacement of the current mining fleet with new 180t trucks matched to 260-360t hydraulic excavators, and the installation of new primary crushers ahead of the CIL plant. These measures should provide the front-end capacity to achieve the expanded project production rates.

Table 14.1

LOM Production Schedule - 2021-2034

Item	Unit	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031-34	Totals
Ore Mined	Mt	4.6	7.2	8.2	8.3	8.2	10.3	14.6	13.8	15.4	15.0	15.7	121.3
Mined Grade	g/t Au	0.87	0.89	0.78	0.80	0.67	0.60	0.68	0.61	0.60	0.67	0.76	0.70
Waste Mined	Mt	13.6	32.3	30.5	29.9	29.7	21.1	11.4	12.7	11.4	7.1	2.6	202.3
Strip Ratio	W:O	2.9	4.5	3.7	3.6	3.6	2.0	0.8	0.9	0.7	0.5	0.2	1.7
Ore Crushed	Mt	6.0	7.2	7.2	7.6	10.7	11.8	11.3	11.3	11.3	11.3	40.7	136.2
Crushed Grade	g/t Au	0.76	0.89	0.84	0.85	0.59	0.57	0.77	0.66	0.69	0.77	0.51	0.67
Ore Milled	Mt	5.0	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	25.0	94.8
Au grade	g/t Au	0.88	0.89	0.84	0.89	0.83	0.87	1.15	0.97	1.01	1.14	0.74	0.90
Au contained	koz	141	207	195	205	193	202	265	225	234	263	621	2,750
Au recovery	%	85.2	91.8	92.4	92.0	87.7	85.2	87.4	86.9	87.1	87.3	80.2	87.0
Payable Au	koz	125.4	189.7	180.7	189.7	178.4	186.1	245.2	208.0	216.3	243.2	572.2	2,534.8

Note: 2021-2034 based on LOM BCFM summary; Ore Mined is ore mined from open pits; Ore Crushed includes low grade material reclaimed from low grade stockpiles

Low-grade ore reclaimed from stockpile to 31 August 2020 totalled 1.5Mt at 0.5g/t Au to produce 23,700oz of gold; this was approximately 15% above budget plant feed tonnage for the period, and 104% above budget gold production, after experiencing slightly lower recoveries than forecast. The plant is forecast to ramp up to consistently achieve the 5Mtpa rate by Q4 2020.

14.2 Mining

The LOM production schedule is consistent with the AMDAD LOM plan and the BCFM "*RG Financing – Financial Model 20200924 RG (CW).xls*". The forecast production in the LOM schedule extends from 2021 to 2034, with low-grade stockpile reclamation currently ramping up to an annualised rate of around 5Mtpa. The low-grade stockpiles will then supplement ore production from the BRW pit through 2021-2024, with additional tonnes processed in the final two years of operation. Ore mining of the BRW pit is planned from 2021 to 2025, with production thereafter primarily from the Sarsfield-Nolans pit. Mine production will increase up to 12Mtpa from around 2026 to allow for the rejection of up to 40% of the coarser lower grade Sarsfield-Nolans material in the beneficiation plant, with mill feed from reclaimed low-grade stockpiles in the final two years.

The mine expansion includes replacement of the current mining fleet, commencing H2 2020, to a final fleet size of three hydraulic excavators, fifteen 180t rear-dump trucks and up to twelve drills by 2023. This equipment will be supported by an auxiliary fleet of earthworks and maintenance units, plus service equipment and light vehicles.

14.3 Processing

Re-introduction of grinding Mill 3 in May 2020 will allow the milling and gold processing capacity to increase to the plant design rate of 5.1Mtpa in 2021. Stage 1 of the expansion project installs three additional leach cells to increase recovery on the higher-grade BRW pit ore, which is forecast to commence in 2021. The new crushing plant installed in Stage 2 will be designed for 12Mtpa capacity. This capacity will not be fully utilised while processing BRW ore, which is not beneficiated. The new ball mill installation in Stage 3 is forecast to increase milling and gold processing capacity to 7.2Mtpa from January 2022, processing both non-beneficiated BRW ore and beneficiated Sarsfield-Nolans ore. BRW ore is exhausted from December 2025 and the mill will then treat only beneficiated Sarsfield-Nolans pit ore. Crushing throughput of around 11.3Mtpa will provide 7.2Mtpa for milling after beneficiation. Gold recovery is maintained at around 84-86% over the life of mine, with the mineralogical changes and higher throughput rate compensated by finer grind size, an extra gravity separator and increased leach residence time. The higher gold production of around 200koz per year is facilitated by higher operating time for elution and carbon regeneration, and a new expanded gold room with additional intensive cyanidation and electrowinning cells.

The proposed circuit changes support the step changes in the processing profile. The new equipment items are conventional, the project staging is logical and there appears adequate room for brownfields construction. The effect of disruptions from installation and commissioning ramp up delays should be less than many brownfield projects. The production profile in Table 14.1 relies on a project installation and commissioning schedule that needs to be confirmed when detailed design and construction plans are finalised.

Conclusions

BDA considers the proposed mining schedule is achievable and that the selected mining equipment fleet is fit for purpose and has the capacity to deliver the production schedule tonnages. Achieving the required mining rates and production grades as the BRW pit is developed will require close management and detailed grade control; the RGPL management team is considered qualified and competent to achieve the requirements. Short-term rates of stockpile reclamation are consistent with performance to date. The proposed ramp-up to full production shows a steadily increasing capacity with the progressive expansion of the mining fleet over approximately 12 months and is considered reasonable and achievable.

The forecast processing throughput rate and metallurgical performance are consistent with the testwork, operations and the proposed project upgrades. The combination of good process design, extensive processing history, good site layout and a logical staged installation plan reduces risk compared with many brownfield installations. The final plant should meet the design performance; the production profile depends on project execution achieving schedule.

15.0 CAPITAL COSTS

15.1 Summary

The LOM plan shows capital project expenditure for the mine life from July 2020 to be a total of A$729M with the breakdown by area shown in Table 15.1. Processing plant estimates are based on supplier quotations for the bulk of the major equipment items including a larger 12MW mill compared to a 9MW mill in prior estimates.

LOM costs include mine closure costs of A$54M. The mine closure costs are in line with statutory guidelines and are considered a reasonable basis for the LOM forecast.

Table 15.1

LOM Capital Summary – A$M

Capital Projects	2020 A$M	2021 A$M	2022 A$M	2023 A$M	2024 A$M	2025 A$M	2026-2038 A$M	Total A$M
Open Pit	32	70	37	0	0	12	0	151
Processing	78	222	38	30	42	13	18	441
Admin HSEC	7	13	1	0	0	0	0	21
Maintenance	3	11	0	0	0	0	0	14
Sustaining Capex	6	4	4	3	3	4	24	48
Subtotal	*126*	*320*	*80*	*33*	*45*	*29*	*42*	*675*
Mine Closure	0	0	0	0	0	0	54	54
Total	**126**	**320**	**80**	**33**	**45**	**29**	**96**	**729**

Note: 2020 figures are from July-December 2020

15.2 Open Pit Development Costs

Mine development has been estimated using Deswik software to plan the LOM requirements, scheduled in line with the production and development rates planned to be achieved. Table 15.2 shows total LOM capital costs of A$150.8M, comprising A$140.5M for the mining fleet, plus other mine capital costs of A$10.3M which include submersible dewatering pumps, pipes, public road intersection upgrades, mining office upgrades, mine planning software, Ravenswood town access bridge upgrades, a new site access road and fencing.

Table 15.2

LOM Mine Capital Summary

Capital Projects	2020 A$M	2021 A$M	2022 A$M	2023 A$M	2024 A$M	2025 A$M	26-34 A$M	Total A$M
Fleet	29.3	61.9	36.9	0	0	12.4	0.0	140.5
Other	2.5	7.8	0	0	0	0	0	10.3
Total	**31.8**	**69.7**	**36.9**	**0**	**0**	**12.4**	**0**	**150.8**

Note: 2020 figures are from July-December 2020

Table 15.3 shows the breakdown of the proposed LOM mining fleet procurement schedule and costs based on RGPL self-performing the mining works. This approach is considered the most economical, eliminating contractor mark ups and contingency allowances. The pricing is in line with current new fleet pricing.

Table 15.3

LOM Fleet Procurement Schedule - A$M

Item	2020 A$M	2021 A$M	2022 A$M	2023 A$M	2024 A$M	2025 A$M	26-34 A$M	Total A$M
Hitachi EX1200	2.0	0	0	0	0	0	0	2.0
Hitachi EX2600	6.5	0	0	0	0	0	0	6.5
Hitachi EX3600	8.5	0	8.5	0	0	0	0	17.0
Hitachi EH3500AC3	10.4	41.7	26.1	0	0	0	0	78.2
Cat 77G3 Service Truck	0	3.4	0	0	0	0	0	3.4
Cat 777G Water Cart	0	6.7	0	0	0	0	0	6.7
Cat D10T Dozer	0	8.0	0	0	0	0	0	8.0
Cat 16M Grader	0	1.7	0	0	0	0	0	1.7
Miscellaneous Equip	1.9	0.4	2.3	0	0	12.4	0	17.0
Total	**29.3**	**61.9**	**36.9**	**0**	**0**	**12.4**	**0**	**140.5**

Note: 2020 figures are from July-December 2020

Overall the mine capital budget is considered reasonable and is based on quotes from equipment suppliers for over 90% of the fleet. BDA notes that there is some potential for variation in the development plans as knowledge of the resources improves with infill drilling and designs are refined. No specific contingency has been added to the mine capital estimate and, given the percentage of the estimate based on firm quotes, BDA considers this reasonable.

15.3 Processing Development Costs

The process plant expansion costs in the LOM model are estimated at A$157.6M with a further A$60.6M for the new crushing facilities, as shown in Table 15.4. Construction of a new TSF extension (A$169.1M) and tailings removal from the Sarsfield pit to the new TSF (A$31.7M) make up the other major expenditure areas in the A$441.1M budget.

Table 15.4

LOM Processing Capital Summary – A$M

Capital Projects	2020 A$M	2021 A$M	2022 A$M	2023 A$M	2024 A$M	2025 A$M	26-34 A$M	Total A$M
Plant Expansion	32.8	121.5	3.3	0.0	0.0	0.0	0.0	157.6
New Crusher	18.3	42.3	0.0	0.0	0.0	0.0	0.0	60.6
TSF Construction	24.5	39.4	19.4	20.8	33.3	13.3	18.4	169.1
Tailings Dredging/Pumping	0.7	4.8	8.8	8.9	8.5	0.0	0.0	31.7
Contingency	2.0	13.7	6.3	0.0	0.0	0.0	0.0	22.0
Total	**78.3**	**221.7**	**37.8**	**29.7**	**41.8**	**13.3**	**18.4**	**441.1**

Note: 2020 figures are from July-December 2020

The process plant estimates are based firm quotes for all the major equipment with construction estimates based on a mix of firm quotations for early works plus rates based on using tier two contractors in the Townsville region. Ausenco has stated that the Process Plant estimate is to Feasibility Study level of accuracy (+15%, -9%) based on engineering being approximately 15% complete. The Plant Expansion and New Crusher estimates have a total contingency allowance of A$22M plus a further A$6.2M (included in the Plant Expansion costs) for power generation which equates to approximately 13% of the overall Plant and Crusher costs.

The EPCM price is based on a firm quotation by Ausenco on a cost reimbursable basis of A$19.6M and equates to approximately 9% of the total process plant and crushing facilities costs of A$218.2M. BDA considers this to be reasonable and slightly lower than normal industry pricing for similar works. Ausenco has indicated that quotes for initial tank and steel works by local tier two contractors have been considerably higher than expected despite the expected downturn as a result of COVID 19. BDA notes that the final mill sizing has been increased from 9MW to 12MW and that firm prices for a second-hand mill are included in the estimate.

RGPL has advised that, based on quotes for the tailings dam construction, there may be opportunities for some reductions in the estimated price, but these potential savings are yet to be confirmed; a contingency of A$10.8M (~7%) has been allowed.

RGPL has sought tenders from nine dredging companies for the removal of tailings from the Sarsfield-Nolans pit and pumping the tailings to the new TSF. The tender selected is based on a proposal from a contractor using submersible pumps on a floating pontoon combined with water cannons to sluice the material to the pumps. Drilling, testing and trial pumping has provided positive results, with design densities being achieved, but the trial operation has required that the pumps be regularly repositioned.

RGPL personnel have had experience with similar hydro-mining tailings operations and are confident the proposed approach will work. There is a risk, however, of unknown buried materials, material binding and not flowing efficiently to the pumps, resulting in lower densities being achieved, requiring additional water and extra pumping. It is possible that a small cutter-suction dredge may be required for some of the works. The current budget of A$31.7M is based on the proposed pumping arrangement and represents a significant saving on the probable costs of operating a cutter suction dredge, which could be in the order of A$60-70M. RGPL advises that no specific contingency has been allowed as it is expected that the actual material to be moved may be less than currently calculated.

While the bulk of the tailings removal should be straightforward, BDA considers that some issues can arise with the final removal of mud, slurry and rocks which could impact on schedule and costs, and suggests that appropriate contingencies should be allowed.

A total contingency allowance of A$39M (A$22.0M + A$6.2M + A$10.8M) is included in the LOM Processing Capital estimate, representing approximately 10% of the direct costs for the plant equipment expansion, TSF construction and tailings removal. BDA considers the overall contingency provision to be reasonable.

15.4 Administration/HSEC

Administration and HSEC costs in the LOM model total A$20.7M, as shown in Table 15.1, of which A$10.1M comprises an allowance to cover additional rooms and messing at the camp, new stores building, office space, camp fencing, insurances and property purchases. The remaining A$10.6M covers Environmental Approvals (A$4.0M), compliance and monitoring including sediment dams (A$3.6M) and relocation works (A$3.0M). BDA considers that further sustaining site support capital may be required over the LOM but any extra allowance is likely to be relatively minor compared with the overall capital budget.

15.5 Maintenance Capex

Maintenance Capex is estimated to be A$14.5M. The main items include a workshop, fuel bay, tyre and mine support facilities (A$10.0M), Mill 3 capital spares (A$2.8M), Burdekin River pipeline relocation (A$1.0M) and water and waste water upgrade (A$0.5M). BDA considers the overall Maintenance Capex estimates to be reasonable.

15.6 Sustaining Capex

Sustaining Capex costs in the LOM model total A$48M, as shown in Table 15.1. Process Plant sustaining capital is estimated to be A$5.1M with a further A$38.0M for non-specific Administration costs, A$1.5M for Environmental, Approvals and Compliance, A$0.6M for Exploration and A$2.4M for Maintenance, OHS and additional sustaining capital requirements. BDA considers the sustaining capital allowance to be generally adequate, though exploration activities are likely to require a far higher budget than the allowance; however, it is understood that exploration costs in general will be subject to separate annual budget programmes and approvals.

15.7 Mine Closure Capex

An allowance of A$1.1M per month from July 2034 through to June 2038 has been allowed in the LOM Mine Closure costs, totalling A$54.0M. BDA considers this generally a reasonable total allowance, though it is noted that the latest Estimated Rehabilitation Cost (ERC) submitted to the DES totalled A$60M, and has subsequently been assessed by DES at A$116M. In practice ongoing rehabilitation will be undertaken throughout the mine life, as appropriate, though the bulk of the expenditure will be at or towards the end of mine life.

Conclusions

The Ravenswood mining and processing operations are well established with a large amount of operational and historical costing information available. In BDA's opinion the LOM estimates of future capital expenditures are generally reasonable being based on historical costs and quotations from contractors and suppliers and form a reasonable basis for budgeting and financial analysis purposes.

16.0 OPERATING COSTS

16.1 Overview

The operating costs shown in Table 16.1 comprise the forecast costs from 2021 to 2034, based on the LOM plan prepared by RGPL and AMDAD. As further presented in Figure 8, production in the LOM plan in the Base Case Financial Model (BCFM) extends from 2021 to 2034. The low-grade stockpile reclamation rate is planned to ramp up to an annualised rate of around 5Mtpa in H2 2020, and will then supplement ore production from the BRW pit through 2021-2024 as required. Ore mining of the BRW pit is planned to commence in 2021 and to be completed around 2025. The process plant expansion programme will increase throughput to 7.2Mtpa ore milled from 2022. From 2026 ore production will be largely from the Sarsfield-Nolans pit, and the mine production rate will increase to around 12Mtpa to allow for the rejection of up to 40% of the coarser lower grade Sarsfield-Nolans material in the beneficiation plant.

The mine expansion includes replacement of the current mining fleet with new 180t trucks matched to 260-360t hydraulic excavators, and the installation of new primary crushers ahead of the CIL plant. These measures should provide the front-end capacity to achieve the expanded project production rates. Overall, BDA considers that the forecast mine production is realistic and achievable.

Table 16.1

LOM Operating Costs and Production Schedule - 2021-2034

Item	Unit	Calendar Years 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031-34	Total
Physicals													
Ore Mined (O/P)	Mt	4.6	7.2	8.2	8.3	8.2	10.3	14.6	13.8	15.4	14.96	15.7	121.3
Waste Mined	Mt	13.6	32.3	30.5	29.9	29.7	21.1	11.4	12.7	11.4	7.1	2.6	202.3
Mineralised Waste	Mt	2.5	4.1	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4
Low Grade Rehandle	Mt	0.0	0.0	0.0	1.5	1.8	0.9	0.0	0.0	0.0	0.7	19.6	24.5
Beneficiation Reject	Mt	1.2	1.8	2.2	1.1	2.8	4.0	4.1	4.1	4.1	4.1	10.6	40.0
Total Rehandle	*Mt*	*3.7*	*5.9*	*7.1*	*2.6*	*4.6*	*4.9*	*4.1*	*4.1*	*4.1*	*4.8*	*30.2*	*76.0*
Total Mined/Handled	*Mt*	*22.0*	*45.4*	*45.8*	*40.8*	*42.5*	*36.3*	*30.1*	*30.5*	*30.9*	*26.9*	*48.5*	*399.6*
Ore Crushed	Mt	6.0	7.2	7.2	7.6	10.7	11.8	11.3	11.3	11.3	11.3	40.7	136.2
Ore Milled	Mt	5.0	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	25.0	94.8
Payable Au	koz	125	190	181	190	178	186	245	208	216	243	572	2,535
Site Op Costs													
Mining	A$M	70.1	107.9	113.6	112.0	100.3	90.3	75.9	80.4	80.3	71.4	88.7	991.1
Rehandle	A$M	6.0	2.2	2.3	2.7	7.0	8.1	6.1	6.1	6.1	7.2	46.2	100.0
Crushing/Milling	A$M	95.2	103.4	97.4	94.8	99.0	100.8	99.8	99.7	99.7	99.8	346.2	1,335.8
G&A and Other	A$M	21.3	20.0	19.8	19.8	19.7	19.6	19.5	19.5	19.6	19.4	65.8	264.1
Royalty	A$M	15.5	21.6	19.2	18.6	17.1	17.8	23.5	19.9	20.7	23.3	54.9	252.1
Total C1 Costs	**A$M**	***208.1***	***255.0***	***252.3***	***247.9***	***243.1***	***236.7***	***224.9***	***225.7***	***226.5***	***221.1***	***601.8***	***2,943.0***
Unit Costs													
Mining	A$/t milled	15.2	15.3	16.1	15.9	14.9	13.7	11.4	12.0	12.0	10.9	5.4	11.5
Processing	A$/t milled	19.2	14.4	13.5	13.2	13.7	14.0	13.9	13.9	13.9	13.9	13.8	14.1
G&A and Other	A$/t milled	4.3	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.8
Royalty	A$/t milled	3.1	3.0	2.7	2.6	2.4	2.5	3.3	2.8	2.9	3.2	2.2	2.7
Total C1 Costs	***A$/t milled***	***41.9***	***35.4***	***35.0***	***34.4***	***33.8***	***32.9***	***31.2***	***31.4***	***31.5***	***30.7***	***24.0***	***31.1***
C1 Cash Costs	***A$/oz Au***	***1,659***	***1,344***	***1,396***	***1,306***	***1,363***	***1,272***	***915***	***1,085***	***1,047***	***909***	***1052***	***1,161***

Note: 2021-2034 based on LOM forecast; Ore Crushed includes Ore Mined plus material from low grade stockpiles (rehandle); Sarsfield-Nolans ore and low grade stockpiles are beneficiated through crushing and screening with, around 40% of material rejected between crushing and milling and trucked as beneficiation rejects (BR); ore from Buck Reef West is not beneficiated and mill throughput is the same as crushing throughput; Mining costs include tonnes mined, rehandle and BR; Processing unit costs are total crushing plus milling cost per tonne milled

The overall site operating costs are estimated at a C1 site cash cost of around A$1,414/oz Au over the next five years from 2021 to 2025, and A$1,161/oz for the LOM. The all-in sustaining cost (AISC) including both sustaining capital and exploration and is estimated at A$1,206/oz for the LOM from 2021 to 2034.

16.2 Mining Operating Costs

The unit mining cost figures in Table16.1 are shown in terms of $/t tonnes milled, which is a significantly higher figure than the mining cost per tonne of material moved. Mining quantities (Mined/Handled) include mining ore and waste from the open pits, rehandle of mineralised waste from the old Sarsfield low-grade dumps, stockpile and rehandle of low-grade ore from future mining of the BRW and Sarsfield-Nolans pits, and reclaim and haulage of both beneficiation rejects (BR) and mill scats from the processing plant.

Total mining costs include the cost of all material mined (ore and waste) and rehandled. Based on the quantities of all material mined/handled, the LOM mining unit cost averages A$3.06/t (ore and waste) ex-pit (including drill and blast), and A$1.31/t of rehandle, for total LOM average mining costs of A$2.73/t of all material moved. These are considered achievable costs and consistent with similar-scale operations elsewhere. The total ex-pit waste mined to 2034 amounts to 202Mt, for a LOM strip ratio of 1.7:1. The unit cost ex-pit for the 121.3Mt of ore mined over the LOM is A$8.10/t.

BDA notes that the mining unit costs are lower than the estimates used in the Whittle optimisation studies and notes that, since the AMDAD estimates, the costs of several components and/or activities (tyres, explosives, drilling and diesel prices) have been determined through tendered prices, with some material reductions to initial estimates.

Operating costs were developed from first principles, using truck loading and haulage cycle times, ramp and pit designs and haulage distances and bench elevations. The truck and excavator capacities, performances and estimated cycle times have been used to determine fleet requirements and annual capacities. BDA notes that, as an operating site, the actual costs of labour and many of the consumables are known, so there is a lower risk to the estimates than for a greenfields site. The mining operation itself is considered low risk, as there is a long mining history on the site and the ground conditions and geotechnical aspects are reasonably well known. The estimation methodology is considered appropriate and the estimates prepared for the BCFM appear reasonable. At this stage, BDA considers that the cost estimates would be accurate within ±10%, which should be tested as a sensitivity.

16.3 Process Operating Costs

Processing unit costs are quoted as total costs for crushing, milling and gold processing, divided by tonnes milled (not tonnes crushed). The beneficiation screening process rejects up to 40% of the material between crushing and milling. With the higher throughput rate and improved materials handling, the average unit processing cost drops to around A$14.10/t compared with approximately A$21/t year-to-date 2020. This is largely due to the higher throughput, offset by the finer grind size and more intensive gold processing which require more maintenance, energy and consumables. The additional processing components are justified by the increased gold recovery, resulting from the more intensive processing, and the lower unit costs. The cost estimation methodology allows for these factors and in BDA’s opinion the processing cost estimates in the BCFM appear reasonable.

The risks to process operating cost estimates are the same as those for all gold producers, in particular unit costs for energy, grinding media and reagents, activated carbon and other consumables which represent around 60% of processing cost. Ravenswood can justify finer grinding than most gold producers because of the ability to reject 40% of low-grade crushed ore before processing. The beneficiation rejection rate can be varied to suit ore supply and economic conditions. This gives Ravenswood some flexibility to adjust production and cost per ounce of gold.

Process Maintenance and Site Services Costs

Maintenance costs are included in the processing cost estimates. The maintenance cycles and equipment maintenance costs are well understood from 20 years’ operating history and the forward estimates appear reasonable.

16.4 General and Administration (“G&A”) and Other Costs

The assumptions for G&A Costs and Other Costs (including Occupational Health and Safety, Environmental and Corporate, appear reasonable and amount to around $1.70/t milled and A$1.0/t milled respectively over the LOM. Higher activity levels increase total overhead costs, but unit costs per tonne milled are maintained at relatively constant levels based on the increase in processing rate to 7.2Mtpa. The new mining operations will introduce new management complexity compared with current stockpile processing, but the processing flowsheet is largely unchanged other than employing larger and more equipment items.

The royalty applied is a Queensland Government charge of 5% on gross gold revenue; it is treated as a cash cost for the calculation of the C1 costs.

Conclusions

The mining costs for the project include mining ore and waste in the BRW and Sarsfield-Nolan pits, rehandle of mineralised waste from stockpile to the primary crushers, stockpile and rehandle of mined low-grade ore ex-pit, and handling of beneficiation rejects and mill scats. For the LOM, the ex-pit mining costs average A$3.06/t of ore and waste (including drill and blast), and A$1.31/t of rehandle, for total average LOM mining cost of A$2.73/t of all material moved. These costs are considered achievable and consistent with similar-scale operations elsewhere. The total ex-pit waste mined to 2034 amounts to 202Mt, for a LOM strip ratio of 1.7:1.

The forecast processing cost averages around A$14.10/t milled over the LOM, with the benefits of higher throughput rate and streamlined materials handling outweighing the additional costs of finer grinding and more intensive gold processing. The additional processing components are justified by higher gold recovery, *particularly from the moderately more difficult to process BRW ore. The processing cost estimates in the Ravenswood production model appear to appropriately account for the designed circuit additions.*

Site services costs are forecast to amount to around A$2.70/t milled, and are considered reasonable for an operation of the proposed size.

17.0 PROJECT IMPLEMENTATION

17.1 Project Management

The capital cost estimate is based on the process plant and facilities being constructed using an EPCM contracting model using tier two contractors with the EPCM contract administered and supervised by a small RGPL project team. Ausenco is the nominated EPCM provider with final contract negotiations currently in progress. Preliminary orders have been let with Ausenco to allow the progression of critical early works and finalisation of detailed scope.

The proposed RGPL project team comprises a General Manager Projects, a Project Manager, a cost project controller, together with appropriate support staff and specialist consultants to provide peer reviews as required. BDA considers the project team to be adequate for the project.

The mine development is proposed to be carried out directly by RGPL with a fleet of Hitachi trucks and shovels and associated mine support equipment.

Subject to satisfactory contracts being let to suitable contractors, BDA considers such a contracting strategy is reasonable and appropriate. BDA notes that it is important that the proposed Owner's project team has the capacity and expertise to ensure that the EPCM contractor meets its design and construction obligations.

Successfully implementing the project will rely to a large extent on the performance of the EPCM Contractor and its management team and the Owner's project team. A key aspect of the Owner's team is to freeze the project scope at an early stage and drive the EPCM contractor to aim for stretch targets. It will be important to ensure that the EPCM Contractor's key personnel have extensive experience and expertise in similar projects in similar locations.

17.2 Project Execution Plan

BDA notes that Ausenco, the nominated EPCM contractor, has submitted a detailed EPCM proposal for the process plant and associated services, but detailed Project Execution Plans ("PEPs") are yet to be developed. Prior to project commitment it will be necessary for Ausenco to prepare an overall PEP for the project, setting out in detail the project scope and including the management structure, with roles and responsibilities assigned, and descriptions of supporting functional plans proposed for health and safety, environmental management, quality management, plant management, human resources and administration, community management and project controls.

Project insurances will be an important aspect of obtaining bank debt finance.

17.3 Contracting Strategy

The overall contracting strategy is for the EPCM contractor to carry out the detailed design and let contracts for the crushing and processing facilities expansion primarily based on horizontal packaging. As noted above, an EPCM contract is currently being negotiated with Ausenco, a company with appropriate expertise and experience.

Ausenco will be responsible for detailed engineering and procurement for the process plant and associated infrastructure, letting supply contracts for the supply and fabrication of structural steel and piping spools, and letting subcontracts for the earthworks, civil, structural, mechanical, piping, electrical and instrumentation site construction activities.

Ausenco has provided a proposal based on a reimbursable schedule of rates (standard rates discounted by 7%) with a target estimate based on estimated labour manhours. Ausenco proposed its Standard Terms and Conditions with an incentive/penalty scheme whereby any underruns in the target EPCM fee are shared with RGPL on a 50:50 basis and any overruns incur a 15% discount to the Ausenco Standard charge out rates. After consideration, RGPL has advised that, at this stage, it has elected not to include any incentive/penalty terms as they are considered to commonly be counter-productive, and create significant additional paperwork and processes.

Given the fast track nature of the project, the brownfield nature of the works and changes to the work scope that are still being finalised as part of the current studies, an EPC contracting approach is not considered to be feasible without exposing RGPL to significant cost and schedule risks. The proposed EPCM approach allows RGPL to best manage the risks.

RGPL is planning to procure a mining fleet and self-manage the development of the mine. Given the variability of the mine and fast track nature of the development, this approach best allows RGPL to manage the risks and conduct the works without incurring contractor mark up and contingency allowances.

Contracts for the remaining surface infrastructure works are to be let and administered by the RGPL project team.

17.4 Health, Safety and Environmental Management

It will be necessary to establish detailed policies and procedures for implementation by RGPL, Ausenco and the contractors. Major contractors and subcontractors will be required to develop safety and environmental management plans for the regulation of the activities of their personnel on the site in line with RGPL's established safety systems and procedures.

17.5 Project Schedule

The dates in Ausenco's Baseline Schedule dated 20 August 2020 indicate that the Stage 1 additional leaching circuit could be completed in eight months, Stage 2 crushing and leaching works could be completed in 12 months and the Stage 3 milling upgrade from 5Mtpa to approximately 7.2Mtpa could be completed within 20 months. Ausenco indicates that the critical path for the various stages runs through engineering, major equipment deliveries, mechanical and electrical installation and final commissioning.

The Ausenco schedule is based on RGPL awarding the EPCM Contract in June 2020 and shows the process plant being complete and commissioned so that full operations can commence by January 2022. Ausenco has indicated the packaging structure will be horizontal, including earthworks, concrete, structural/mechanical/piping and electrical/instrumentation packages with all major equipment procured by Ausenco/RGPL and free issued to the respective contractors.

The mining schedule is based on development of the Bucks Reef West pit commencing when project go-ahead is given and producing ore for stockpiling around four months later. The mine development schedule is considered by BDA to be reasonable.

Milestone dates from Ausenco's Baseline Schedule are shown in Table 17.1.

Table 17.1

Project Schedule Milestone Dates

Item	Scheduled Date
EPCM Contract Award	June 2020
Site Works Commence	August 2020
Stage 1 Complete - Additional Leach Tanks	March 2021
Stage 2 Complete - Crushing, Additional Leaching and Gold Plant Upgrade	July 2021
Stage 3 Complete - Mill 4 and Associated Structures and Equipment	January 2022

In BDA's opinion, the total durations for the respective stages shown in the Baseline Project Schedule are realistic and achievable. If a second-hand mill can be procured there may be some opportunity to reduce the overall 20 months schedule. Key to achieving the dates will be freezing the scope associated with the fourth mill and a close and cooperative working relationship being maintained between the EPCM contractor and the RGPL project team.

Conclusions

BDA considers the RGPL plan for implementation of the project to be reasonable and appropriate and that the contracting strategy and the overall duration of the project schedule are also generally reasonable and appropriate. Meeting the schedule will depend on the successful finalising of project financing, permitting and the EPCM Contract as scheduled.

It should also be recognised that meeting the schedule and successfully completing the project will rely to a large extent on the performance of the EPCM Contractor, its management team and the Owner's project team. BDA considers that the EPCM Contractor has appropriate experience and expertise in similar projects; maintaining key personnel throughout the project will be an important factor for the successful and timely completion of the works.

18.0 VALUATION DISCUSSION

18.1 Overview

BDA has undertaken a technical assessment and valuation of the Ravenswood Gold Project in northeastern Queensland. BDA has visited the project site and reviewed the technical and financial data provided by RGPL.

The valuation principles outlined in Section 3 have been applied to the Ravenswood project. As a fundamental principle, BDA considers that the fair market value of a property, as stated in the VALMIN Code, is the amount a willing buyer would pay a willing seller in an arm's length transaction, wherein each party acted knowledgeably, prudently and without compulsion.

Valuation has been considered as of the Valuation Date of 1 October 2020.

BDA has derived a valuation for the Ravenswood project based on a number of considerations:

- BDA has primarily considered the discounted cash flow net present value of the project in assessing value; the project has a long operating history and a well-defined future LOM plan backed up by a detailed Feasibility Study and subsequent detailed designs, contract proposals and cost quotes; in these circumstances the project NPV is generally accepted as a primary guide to value.
- BDA has also considered alternative methodologies, including other comparable transactions as providing a guide to value, and has considered yardstick factors based on ounces of gold in resources and ounces of gold in reserves.

BDA notes that the recent transaction between GEAR, EMR and Resolute relating to the acquisition of the Ravenswood project represents an actual recent purchase transaction on the property. Given that this was a competitive, arms-length transaction between unrelated parties, the purchase price paid is certainly indicative of the considered market value at the time.

In relation to the valuation of the Ravenswood exploration tenements, BDA has considered:

- exploration expenditure, with a prospectivity enhancement multiplier ("PEM")
- relevant comparable transactions, and yardstick methods based on dollars per square kilometre of tenement and ounces of gold in resources.

All values are estimated in terms of Australian dollars (A$). Where some primary data is in US$, these have been converted to Australian dollars at an exchange rate of 1A$ = 0.71US$.

18.2 Discounted Cash Flow – Net Present Value Assessment

BDA has prepared a financial model for valuation purposes, with the inputs based on the Ravenswood LOM plan as presented in the RGPL Base Case Financial Model *RG Financing - Financial Model 20200924 RG (JK) v9.xlsm*. This financial model is based on a Mining Inventory comprising primarily the project Ore Reserves supplemented with low grade stockpile material; the production schedule as described in the technical sections of this report. The Base Case valuation assumes no exploration upside; the impact of potential exploration success in extending the mine life and adding value to the project is considered as a component of the assessment of the value of the exploration potential.

The BDA valuation model incorporates the estimated production, revenue and capital and operating costs over the LOM to 2034, and also includes an exploration budget and RGPL corporate costs. The key technical assumptions are summarised in Table 18.1.

Table 18.1

Summary of Key Technical Assumptions and Costs - LOM

Technical Assumptions	Parameter	Costs	Parameter
LOM (Years)	14	Initial Capital 2020-2022 (A$M)	526
Ore Mined (Mt)	121	LOM Capital (A$M)	729
Ore Grade (g/t Au)	0.7	Mining Cost (A$/t milled)	11.5
Waste Mined (Mt)	202	Processing Cost (A$/t milled)	14.1
Ore Milled (Mt)	95	Other Costs + Royalty (A$/t milled)	5.5
Milled Grade (g/t Au)	0.9	Unit Cost (A$/t milled)	31.1
Gold Produced (Moz)	2.5	AISC (A$/oz)	1,161

Economic Assumptions

A critical parameter in the valuation of a gold project relates to the assumptions regarding the future gold price. BDA has reviewed a number of 2019-2020 broker and bank specialist forecasts to obtain a consensus gold price to adopt for the project valuation. As gold price forecasts are nominated in US$/oz, BDA has also reviewed forecasts of A$:US$ exchange rates to determine a consensus A$ gold price. These forecasts are summarised in Table 18.2.

Table 18.2

Gold Price and Exchange Rate Assumptions

Parameter/Broker-Bank	Unit	2020	2021	2022	2023	2024	Long Term
Gold Price Forecasts							
Bell Potter	US$/oz	1,570	1,905	1,763			
UBS	US$/oz	1,567	2,035	2,050	1,838		
Credit Suisse	US$/oz	1,809	2,500	2,200	1,400	1,400	1,400
Macquarie	US$/oz	1,562	2,015	1,875	1,750	1,638	1,600
JP Morgan	US$/oz	1,563	1,954	1,899	1,822		
Consensus Average	*US$/oz*	*1,614*	*2,082*	*1,957*	*1,708*	*1,519*	*1,500*
Exchange Rate Forecasts							
Bell Potter	A$:US$	0.67	0.70	0.71	0.73		
UBS	A$:US$	0.67	0.71	0.71	0.72		
Credit Suisse	A$:US$	0.69	0.75	0.75	0.75	0.75	0.75
Macquarie	A$:US$	0.67	0.74	0.75	0.75	0.74	0.73
JP Morgan	A$:US$	0.67	0.72	0.72	0.72		
Consensus Average	*A$:US$*	*0.67*	*0.72*	*0.73*	*0.73*	*0.75*	*0.74*
Gold Price A$							
Consensus Average	*A$/oz*	*2,394*	*2,872*	*2,688*	*2,330*	*2,040*	*2,029*

Note: 2019-2020 reports

BDA has adopted the consensus gold price and exchange rate estimates as the basis for its discounted cashflow valuation. BDA considers that the forecasts cover a reasonable range and that the averages provide estimates which would be considered a reasonable basis for valuation by a willing and knowledgeable buyer.

Discount Rate

BDA has considered a range of discount rates in the NPV assessment based on weighted average cost of capital (“WACC”) considerations for RGPL and consideration of industry-accepted ranges of discount rates for gold projects such as Ravenswood. BDA’s WACC estimate for RGPL is based on an estimated cost of equity of around 10% and cost of debt of 6.0% and typical gearing ratio of comparable companies of 10% giving a nominal WACC of 8.5%. Assuming a medium-term inflation rate of 0.5-1.2%, a real WACC in the range of 7.3-8.0% seems reasonable.

BDA has reviewed a range of pre-deal broker WACC estimates in the range of 5-13%, but notes that Ravenswood was only one of Resolute’s projects, with the company’s focus more on its African projects.

BDA notes that recent broker-estimated WACC’s for six of the larger Australian gold producers average around 7.7%. Arguably, the RGPL WACC would be higher than for these large, generally multi-project producers. BDA considers a real, post tax discount factor of 8.0% per annum to be reasonable; BDA has also reviewed the sensitivity of impact of a range of discount rates from 6% to 10%.

Net Present Value

Based on the production parameters, cost estimates, and consensus gold prices and exchange rates discussed above, BDA calculates a discounted cashflow NPV at A$531M on a real, after tax basis using an 8.0% discount rate.

Sensitivity

Figure 10 shows the sensitivity of the calculated NPV to a range of key project variables. The variables that have a direct impact on revenue, such as mined grade, leach recovery, US$ gold price and US$:A$ exchange rate have the greatest effect on NPV. Beneficiation recovery, capital costs and mining and processing operating costs have a relatively minor impact.

Table 18.3 demonstrates the sensitivity of the NPV to discount rate.

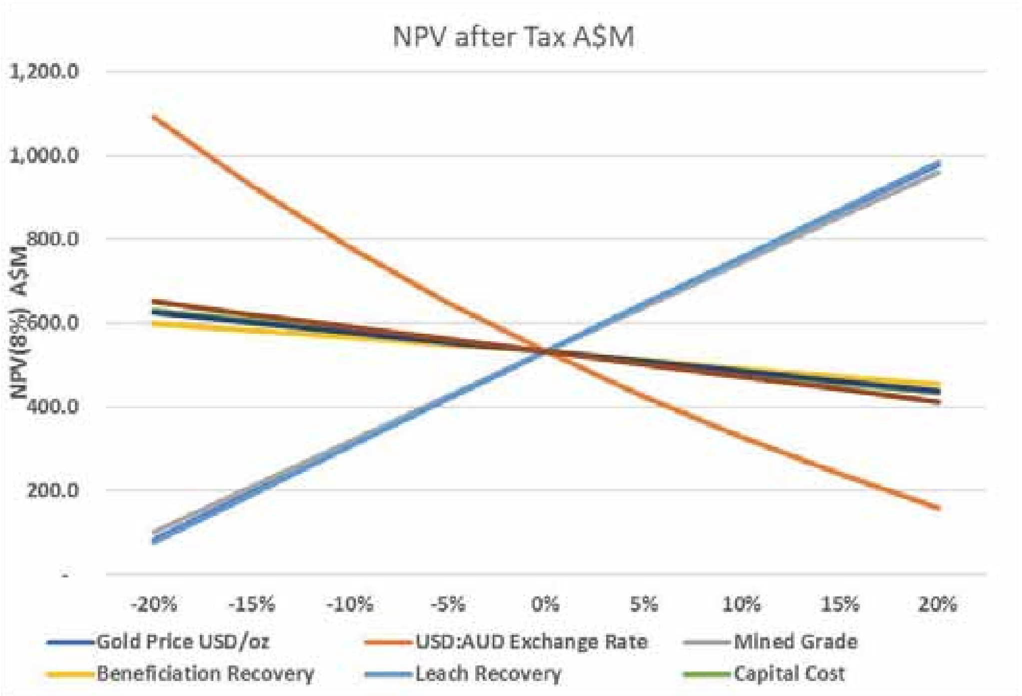
Table 18.3

Sensitivity of NPV to Discount Rate

Discount Rate	6.0%	8.0%	10.0%
Net Present Value	A$643M	**A$531M**	A$438M

Figure 10

NPV Sensitivity Analysis



Given the potential variations in value deriving from a relatively modest change in some of the project assumptions, BDA considers it appropriate to define a project range of ±20%, or A$425M to A$637M around the preferred value of A$531M.

18.3 Comparable Transactions and Yardstick Values

BDA has considered a number of comparable transactions relating to gold projects in Australia or comparable jurisdictions over the last five years. A useful form of comparison is to consider the transactions in terms of the size of the resource or the reserve being purchased. For gold projects, yardsticks based on ounces of gold in resources and ounces of gold in reserves are commonly used as a measure of value. These yardsticks are commonly referred to by brokers and other valuers in discussions of gold project transactions.

The yardstick values can vary significantly, based on the perceived quality of the deposit. Thus a high grade open pit deposit with a low stripping ratio is likely to have a higher value per ounce than a lower grade deposit. A well-mineralised high grade relatively-shallow underground deposit is likely to have a higher value per ounce than a deep narrow vein deposit. A free-milling deposit is likely to have a higher value per ounce than a refractory ore. A project in a favourable location is likely to have a higher value per ounce than one in a jurisdiction perceived to have a high sovereign risk. Thus, a number of factors can influence the yardstick value, but within these constraints, yardstick measures can provide a useful guide to value.

These yardsticks can be derived from Company share prices, however commonly a Company has a number of assets and projects and determination of individual project enterprise values can be subjective. Enterprise values based on share prices also commonly include a significant 'market expectation' factor, particularly at a time of high gold prices and market optimism.

Alternatively, determining a yardstick based on a specific transaction can provide a more direct assessment of the value being ascribed to specific projects, without market expectation bias. In Table 18.4, BDA has tabulated a range of yardstick values based primarily on recent transactions of gold projects and gold mining companies in Australia or comparable jurisdictions. These values have been collated from BDA's database and from various published sources as acknowledged in the table footnote.

Table 18.4

Yardstick Values based on Gold Ounces in Resource and Reserve

Date	Company/Target	Interest Acquired %	Implied Enterprise Value A$M	Resource Yardstick Value A$/Resource Oz	Reserve Yardstick Value A$/Reserve Oz
Dec 2019	Northern Star Resources/Kalgoorlie Super Pit	50	1,125	96.2	154.1
Nov 2019	Saracen Mineral Resources/Kalgoorlie Super Pit	50	1,125	96.2	154.1
Aug 2019	Northern Star Resources/Echo Resources	78	269	149.5	330.2
July 2019	Silver Lake Resources//Egan Street Resources	100	77	192.9	386.7
June 2019	Saracen Mineral Resources/BlighResources	100	39	58.8	na
May 2019	Royal Nickel Corp/Higginsville Operations	100	56	29.3	152.0
Nov 2018	Silver Lake Resources/Doray Minerals	100	153	191.3	510.1
Sept 2018	Great Panther/Beadell Resources	100	232	115.8	178.2
Mar 2018	Northern Star Resources/South Kalgoorlie Operations	100	83	20.8	332.6
Aug 2017	Red 5/Darlot Mine	100	31	34.4	235.0
Aug 2017	Red 5/King of the Hills Mine	100	28	70.8	na
Nov 2016	Gold Road Resources/Gruyere Project	50	1,200	193.6	342.9
Aug 2015	Evolution Mining/La Mancha Operations	100	299	113.4	384.0
May 2015	Evolution Mining/Cowal Mine	100	550	108.1	252.3
Average	**Simple average of all Yardsticks**			**105.1**	**284.4**
Range A	**Average of 'low range' and 'high range' values**			**58-152**	**188-381**
Range B	***MinesOnline* 1 - 5 year average range**			**99-155**	**165-401**

Note: derived from published information, ASX announcements, Brokers reports, MinesOnline, Deloitte, Morgans

BDA has calculated a simple average of the dollars paid per resource ounce and per reserve ounce based on these transactions. BDA has also calculated a low and high range, based on the average of the lower values versus the average of the higher values.

Also included in Table 18.4 is the average value quoted by *MinesOnline*, a Minerals and Mining Data Consultancy Group, which publishes an assessment and commentary on most material transactions relating to Australian projects or companies. *MinesOnline* publishes its 1 Year, 3 Year and 5 Year average Yardstick values per resource ounce and per reserve ounce for Exploration, Development and Operations transactions. The Ravenswood project, with an existing operating plant producing gold would be classed as an Operation.

As the *MinesOnline* average values vary over time, BDA has selected the 1, 3 and 5 year averages quoted by *MinesOnline* around January 2020 for consistency with the timing of the Ravenswood transaction, and has tabulated the lower and higher values within these timeframes to provide a potential range of values. *MinesOnline* publishes values in US$; BDA has converted to A$ at a rate of 0.71.

In Table 18.5, BDA has applied these yardstick ranges to the Ravenswood project, based on the published Ravenswood Mineral Resource and Ore Reserve contained ounces of gold. BDA has tabulated a low and high value range, based on the ranges calculated in Table 18.4 above. In considering a most likely value, BDA notes that the Ravenswood average grade is the lowest of all the projects considered in deriving the above yardstick values. *MinesOnline* also commented that the Ravenswood project sale was one of the lowest grade operating project sales in recent times. On this basis, BDA considers that the most likely Ravenswood value would be towards the lower end of the yardstick ranges. BDA is therefore of the view that the most likely value for the Ravenswood project is around the lower quartile range of the resource and reserve yardsticks, rather than a mean value of the low and high ranges.

Table 18.5

Ravenswood Value based on Resource/Reserve Ounces Yardstick

Methodology	Valuation (A$M)			Comments
	Low	Most Likely	High	
Resource Ounces (3.9Moz)				
Range A	226	318	593	Based on Yardstick Range A$58-152 per resource ounce
Range B	385	440	603	Based on Yardstick Range A$99-155 per resource ounce
Average	**306**	**379**	**598**	
Reserve Ounces (2.6Moz)				
Range A	489	615	991	Based on Yardstick Range A$188-381 per reserve ounce
Range B	428	582	1,043	Based on Yardstick Range A$165-401 per reserve ounce
Average	**459**	**599**	**1,017**	

Note: due to the low grade of the Ravenswood resource and reserve, BDA considers the Most Likely value is best represented by the lower quartile range of Yardstick values.

18.4 Other Expert Valuations

Where other independent experts or analysts have made recent valuations of the project, these opinions clearly need to be taken into consideration. We have inquired of RGPL and GEAR whether any recent valuations of the Ravenswood project have been undertaken, and we have been provided with nine brokers reports through 2019 and 2020, each of which ascribed a value to the Ravenswood project as shown in Table 18.6.

Table 18.6

Ravenswood Value based on Broker Assessments

Date	Broker	Value A$M
August 2019	Goldman Sachs	252
October 2019	Hartleys	218
October 2019	Cannacord Genuity	532
October 2019	EL & C Baillieu	88
October 2019	Citi	105
November 2019	Numis	579
November 2019	RBC	82
January 2020	Macquarie	46
January 2020	Berenberg	480
Average		**265**

The valuations cover a wide range, with varying assumptions on metal prices, production profile and discount rates, with an average value of A$265M. BDA notes that the prevailing gold price at the time of the broker valuations was significantly lower than recent and current ranges. For the sake of transparency, BDA considers it relevant to document these valuations, but does not consider it appropriate to incorporate these wide-ranging numbers in the overall assessment.

18.5 Summary of Ravenswood Project Valuations

Table 18.7 summarises the valuations derived from a consideration of net present value and resource and reserve yardsticks based on comparable transactions. Taking a simple average of the values, BDA assesses the Ravenswood Project value in a range of A$309-696M, with a most likely value of A$385M. This value does not include any upside from exploration success, which is considered in Section 18.6 below.

Table 18.7

Summary of Ravenswood Project Valuations

Methodology	Valuation (A$M)			Comments
	Low	Most Likely	High	
NPV	425	531	637	Discount rate 8% and consensus gold price and exchange rate
Resource Ounces Yardstick	306	379	598	Based on Ounces of Gold in Mineral Resources
Reserve ounces Yardstick	459	599	1,017	Based on Ounces of Gold in Ore Reserves
Average	**397**	**503**	**751**	

18.6 Valuation of Exploration Properties

Past Expenditure

Past expenditure, or the amount spent on exploration of a tenement is commonly used as a guide in determining the value of exploration tenements, and 'deemed expenditure' is frequently the basis of joint venture agreements. The assumption is that well directed exploration has added value to the property. This is not always the case and exploration can also downgrade a property and therefore a 'prospectivity enhancement multiplier' (PEM), which commonly ranges from 0.5-3.5, is applied to the effective expenditure. The selection of the appropriate multiplier is a matter of experience and judgement. To eliminate some of the subjectivity with respect to this method, BDA applies a scale of PEM ranges to the exploration expenditure as follows:

- PEM 0.5 - 0.9 Previous exploration indicates the area has limited potential
- PEM 1.0 - 1.4 The existing (historical and/or current) data consists of pre-drilling exploration and the results are sufficiently encouraging to warrant further exploration.
- PEM 1.5 - 1.9 The prospect contains one or more defined significant targets warranting additional exploration.
- PEM 2.0 - 2.4 The prospect has one or more targets with significant drill hole or sample intersections.
- PEM 2.5 - 2.9 Exploration is well advanced and infill drilling or sampling is required to define a resource.
- PEM 3.0 - 3.5 A resource has been defined but a (recent) pre-feasibility study has not yet been completed.

An over-riding consideration in terms of valuation of exploration ground is a recognition of prospectivity and potential, which is of fundamental value in relation to exploration properties.

BDA considers that exploration of the Ravenswood project tenements is well advanced, with regional airborne surveys having been undertaken and extensive sampling, drilling and follow up metallurgical processing testwork, with significant mineral intersections obtained at a number of prospects and resources defined. Several prospects have been mined historically and have potential for definition of extensions to mineralisation, and could provide future ore feed to the existing Ravenswood plant. However, no pre-feasibility or feasibility studies have yet been undertaken.

BDA considers that the exploration to date has demonstrated significant potential, and has defined several prospects warranting detailed follow-up work; in BDA's opinion a PEM of 2.5-3.5 is appropriate for valuation purposes.

RGPL has advised that past exploration expenditure on the project tenements since 2015 totals A$1.9M. This total includes exploration expenditure by RGPL and expenditure by Resolute in the last five years of its tenure; it does not include historical expenditure by MIM or earlier expenditure by Resolute in its 10 years of ownership pre 2015; RGPL has advised that no detailed records are available covering earlier exploration expenditure. As shown in Table 18.8, BDA has estimated a valuation range from a low of 2.5 x exploration expenditure to a high of 3.5 x exploration expenditure based on the exploration expenditure advised by RGPL, with a most likely mid-point value.

Table 18.8

Valuation of Exploration Tenements based on Multiple of Exploration Expenditure

Methodology	Valuation (A$M) Low	Most Likely	High	Comments
Exploration Expenditure/PEM	4.8	5.8	6.7	Available historical expenditure x PEM of 2.5-3.5

Based on the significant area under licence (1,180km^2), the number of prospects with mineralised drill intersections, and the demonstrated ability for surrounding prospects to provide a source of mill feed for the Ravenswood plant (for example, Mt Wright), BDA considers the value indicated by recent (post 2015) exploration expenditure to be towards the lower end of the range of likely exploration values.

Comparable Transactions

Recent comparable transactions on other gold exploration properties in the region can be relevant to the valuation of the Ravenswood exploration tenements. While it is acknowledged that it can be difficult to determine to what extent the properties and transactions are indeed comparable, this method can provide a useful benchmark for valuation purposes, and provides some guide as to what the market in general is paying for gold exploration tenements and prospects.

A number of factors need to be considered when reviewing other transactions:

- the timing of the transaction - as there can be substantial change in value with time
- the quality and grade of the underlying resource - those with high grade potential are likely to be more highly valued than lower grade resources
- the nature and occurrence of the mineralisation - deposits at some depth which may incur significant mining and processing costs are likely to be less highly valued than those in weathered, near surface material where the gold mineralisation may be more readily recoverable.

BDA has considered three recent transactions on gold exploration properties within the general Charters Towers-Townsville region that may provide some guide to possible value:

- AMD Resources acquisition of a 50% interest in the Burdekin Project, 30km west of Ravenswood, which includes the Hadleigh Castle, Disraeli and Joe's Delight prospects, for A$1.5M in cash and A$2.5M in convertible notes. The project includes three EPMs and one ML and covers an area of 261km^2. The Hadleigh Castle prospect was worked as an open pit in the late 1980s and underground from 1993-2005, with approximately 2.1Mt of ore mined at an average grade of 3.7g/t Au producing around 250koz of gold. An Inferred resource has been reported totalling 1.3Mt at 5.2g/t Au containing 220koz Au. Joe's Delight, Disraeli and Hadleigh Castle prospects all lie along a well-defined, mineralised structural corridor (the Rishton Mine structural corridor) with good potential for definition of additional mineralisation. Combined historical production from the area totals 350koz Au.

- Great Northern Minerals ("GNM") acquisition of the Camel Creek, Golden Cup and Big Rush prospects in August 2019 for A$0.9M covering 11 MLs and two EPMs covering a total area of 695km². The Camel Creek and Golden Cup prospects are located 200km northwest of Townsville, with Big Rush a further 100km to the southwest. Shallow open pit mining and heap leach operations in the mid-90s produced around 2.3Mt of ore at 2g/t Au containing around 150koz of gold. Significant potential exists for continuation of mineralisation at depth below and along strike of the existing pits.
- Minotaur Exploration's ("Minotaur") acquisition of the Pyramid Project in August 2020, approximately 90km south of Ravenswood in the Drummond Basin, for A$0.3M with a further A$0.15M due on confirming a JORC resource of 25koz or otherwise within 24 months of completion. A 1.5% NSR will apply to the first 50,000oz of gold production. The area comprises three EPMs covering 150km² of the East Pyramid and West Pyramid Ranges, with several historic drill intercepts over an 8km fault corridor with strong soil and rock chip gold anomalies. The area is considered to have potential for Intrusion Related Gold Deposits.

The most relevant transaction is that of AMD Resources, given the proximity of the Burdekin Project to Ravenswood, and the similarity of the mineralisation, within the Ravenswood block. If the convertible notes are ascribed their nominal cash value, the transaction implies a value of A$8M for 100% of the project, or approximately A$30,000 per square kilometre of exploration tenement. The project area covers a well-defined mineralisation corridor with four historical producers over a 10km strike, with Inferred resources. While the RGPL EPMs also include historical producers and drilled prospects, BDA considers that only around 20-30% of the RGPL tenement area of 1,180km² would be considered of comparable prospectivity, with the remaining 70-80% of a more grassroots exploration nature.

The GNM and Minotaur prospects are more akin to grassroots exploration areas, though each has demonstrated mineralisation potential. The GNM transaction equates to a value of approximately A$1,300 per square kilometre. The Minotaur transaction, incorporating the 24 month completion payment but discounting the NSR value equates to around A$3,000 per square kilometre. BDA considers that a mean value of A$2,200 per square kilometre provides a reasonable guide to prospective, but more grass roots exploration tenements in the northeast Queensland region.

RGPL's EPMs cover an area of 1,180km²; ascribing 20% of the area a value based on the AMD transaction and 80% a value based on the GNM/Minotaur transactions gives a value of A$9.2M (Table 18.9); using a 30:70 ratio gives a value of A$12.4M; BDA has selected a mid-point of A$10.8M as a reasonable comparable transaction valuation of the RGPL exploration properties.

Table 18.9

Valuation of the Exploration Tenements based on Recent Comparable Transactions

Methodology	Valuation (A$M) Low	Most Likely	High	Comments
Comparable Transactions	9.2	10.8	12.4	Low based on 20% x AMD ratio, 80% x GNM/Minotaur High based on 30% x AMD ratio, 70% x GNM/Minotaur

Yardstick Based on Resource Ounces

While a number of the exploration prospects have resource potential, the only currently published resource data relates to the Welcome Breccia project at Mingela. In it December 2019 Mineral Resource Statement, Resolute reported an Inferred Mineral Resource of 2Mt grading 3.2g/t Au and containing 210koz of gold. *MinesOnline* publishes one, three and five year averages of transaction yardstick multiples paid for ounces of gold in resources for exploration prospects, ranging from A$70-110/oz. The valuation of the Ravenswood exploration tenements based on the reported resource ounces is shown in Table 18.10.

Table 18.10

Valuation of the Exploration Tenements based on Resource Ounces Yardstick

Methodology	Valuation (A$M) Low	Most Likely	High	Comments
Yardstick Resource Ounces	14.7	18.9	23.1	Based on Ounces of Gold in Mineral Resources

Potential Impact on Production NPV

The principal value of the RGPL exploration tenements is their potential to add to the Ravenswood mine life through discovery of additional resources which could be mined and transported to the Ravenswood mill. In BDA's opinion, this is the principal basis on which a willing and knowledgeable buyer of the Ravenswood project would ascribe value to the exploration tenements. Mt Wright is an example of a satellite deposit, where trucked ore supported the Ravenswood operation for a number of years. None of the known prospects currently have the potential of a second Mt Wright, but in BDA's opinion, with systematic exploration, there is good potential to establish resources or reserves at one or more of the exploration prospects warranting trucking to Ravenswood, and BDA considers that a willing and knowledgeable buyer, considering the significant exploration potential of the area, would ascribe value to the exploration tenements on the basis of achieving at least one or two additional years of production at Ravenswood from satellite deposits. However, the short-term priorities for RGPL are focussed around the planned expansion and development of the BRW and Sarsfield-Nolans operations and the impact of any additional discoveries may not be mined or processed until 2034 and beyond, based on the current mine life. On this basis, BDA considers the current value of the exploration potential is reasonably assessed by the exploration valuation methodologies discussed above.

18.7 Summary of Exploration Valuation

A summary of the additional value likely to be ascribed to the exploration potential by a willing and knowledgeable buyer is shown in Table 18.11. Taking a simple average of the values assessed considering Past Expenditure, Comparable Transactions and Impact on NPV, BDA assesses the Exploration tenement value in a range of A$10-14M with a most likely value of A$12M. However, BDA notes that any significant exploration success, and the estimation of resources and reserves, has the potential to substantially increase this value.

Table 18.11

Ravenswood Exploration Tenement Valuation Summary

Methodology	Valuation (A$M) Low	Most Likely	High	Comments
PEM Multiple of Past Expenditure	5	6	7	Available historical expenditure x PEM of 2.5-3.5
Comparable Transactions	9	11	12	Based on A$/km^2 for comparable transactions
Yardstick Resource Ounces	15	19	23	Based on Ounces of Gold in Mineral Resources
Average	**10**	**12**	**14**	

Note – values rounded

18.7 Overall Valuation Summary

BDA has derived a valuation for the Ravenswood project based on a number of considerations:

- net present value of the project discounted cashflows
- yardstick values based on comparable transactions and resource ounces
- yardstick values based on comparable transactions and reserve ounces.

In relation to the valuation of the exploration tenements, BDA has considered:

- exploration expenditure, with a prospectivity enhancement multiplier (PEM)
- comparable transactions whereby relevant yardstick measures can be derived
- yardsticks based on reported resource ounces within the exploration tenements.

The valuation ranges derived from these assessments, based on simple averages, are shown in Table 18.12.

Table 18.12

Initial Valuation of the Ravenswood Gold Project and Exploration Tenements – Simple Averages

Methodology	Valuation (A$M) Low	Most Likely	High	Comments
Ravenswood Project				
Net Present Value	425	531	637	Range of ±20% around preferred NPV
Comparable Transaction Yardsticks - $/Resource Oz	306	379	598	Range A$58-155/resource oz
Comparable Transaction Yardsticks - $/Reserve Oz	459	599	1,017	Range A$165-401/reserve oz
Average of Values	*397*	*503*	*751*	
Exploration Tenements				
Exploration Expenditure x PEM	5	6	7	Expenditure x PEM of 2.5-3.5
Comparable Transaction Yardsticks – A$/km^2	9	11	12	A$/km^2 from comparable transactions
Yardstick – Resource Ounces	15	19	23	Oz gold in reported resources
Average of Values	*10*	*12*	*14*	
BDA Assessed Valuation – Simple Averages	**407**	**515**	**765**	

BDA considers that taking a simple average of the low, high and most likely values provides a reasonable guide to the value of the project, however, BDA's preferred approach is to consider a weighting of each of the individual assessments, based on BDA's assessment of their reasonableness and validity.

As the primary indicator of value for an operating mine, BDA has applied a 60% weighting to the NPV, a 20% weighting to the Reserve Yardstick and a 20% weighting to the Resource Yardstick. BDA considers the Exploration Expenditure, limited to exploration over the last five years, is likely to undervalue the overall exploration potential and has ascribed a 20% weighting, with 40% each applied to Comparable Transactions and Resource Ounce yardsticks. On this basis BDA's preferred valuation is shown in Table 18.13, ranging from A$419-720M with a Most Likely value of A$527M.

Table 18.13

Final Valuation of the Ravenswood Gold Project and Exploration Tenements – Weighted Averages

Methodology	Valuation (A$M)			Comments
	Low	Most Likely	High	
Ravenswood Project				
Net Present Value	425	531	637	60% weighting
Comparable Transaction Yardsticks - $/Resource Oz	306	379	598	20% weighting
Comparable Transaction Yardsticks - $/Reserve Oz	459	599	1,017	20% weighting
Average of Values	*408*	*514*	*705*	
Exploration Tenements				
Exploration Expenditure x PEM	5	6	7	20% weighting
Comparable Transaction Yardsticks – A$/km^2	9	11	12	40% weighting
Yardstick – Resource Ounces	15	19	23	40% weighting
Average of Values	*11*	*13*	*15*	
BDA Assessed Valuation – Weighted Averages	**419**	**527**	**720**	

19.0 STATEMENT OF CAPABILITY

This report has been prepared by Mr Malcolm Hancock and Mr John McIntyre, Executive Directors of Behre Dolbear Australia Pty Limited, together with Mr Joe Pease, Mr Andrew Woolaston and Mr Adrian Brett, Senior Consultants and Associates of BDA. BDA made a site visit to the Ravenswood Gold mine site in August 2020 for the purpose of preparing this independent technical and environmental review.

Behre Dolbear has offices or agencies in Denver, New York, Toronto, Vancouver, London, Sydney, Guadalajara and Santiago. The parent company, Behre Dolbear & Company Inc., was founded in 1911 and is the oldest continuously operating mineral industry consulting firm in North America. The firm specialises in mineral evaluations, due diligence assessments, independent expert reports and strategic planning as well as technical geological, mining and process consulting.

The principal consultants engaged in the review on behalf of BDA are as follows:

Mr Malcolm Hancock (BA., MA., FGS, FAusIMM, MIMM, MMICA, CP (Geol), MAIMVA (CMV), MAIMA (CMA)) is a Principal and Executive Director of BDA. He is a geologist with more than 40 years of experience in the areas of resource/reserve estimation, reconciliation, project feasibility and development, mine geology and mining operations. Before joining BDA he held executive positions responsible for geological and mining aspects of project acquisitions, feasibility studies, mine development and operations. He has been involved in the feasibility, construction, and commissioning of several mining operations. He has worked in Australia, Africa and South-East Asia, on both open pit and underground operations, on gold, copper, base metal, iron ore and industrial mineral projects, and has been directly involved in the management and direction of the BDA Independent Engineer operations in recent years. Mr Hancock visited the mine site and reviewed the geology, resources and reserves, and exploration potential and contributed to the exploration tenement valuation and other components of the valuation assessment.

Mr John McIntyre (BEng. (Min) Hon., FAusIMM, CP (Min), MMICA, MAIMVA (CMV), MAIMA (CMA)) is the Managing Director of BDA. He is a qualified mining engineer, with over 40 years of experience in engineering, operations and management of mines and mining projects, in Australia, New Zealand, South East Asia and Africa. His principal fields of expertise include technical audit, project feasibility and development, mine and project evaluation, operating experience in open pit and underground mining of coal, base and precious metals, management review and operations optimisation. He has been a consultant for more than 30 years and has held positions, including General Manager Operations and CEO. Mr McIntyre visited the site and reviewed the mining and operating cost components of the report and the valuation assessment.

Mr Mark Faul (BE. (Min) Hon., MBA, MAppFin, FAusIMM, GAICD) is General Manager of BDA and is a mining engineer with extensive mining finance and investment experience with more than 30 years in the mining, resources investment banking and private equity investing in Australia, SE Asia, PNG, Africa, Europe and the Americas. His experience includes operations management, project feasibility and development, strategic planning, due diligence, cost assessment, financial modelling, project and corporate finance. He is experienced in a range of commodities, including gold, copper, nickel, base metals, platinum group metals, minor metals, diamonds and gemstones, rare earths, uranium, in both surface and underground mining, as well as coal seam gas and conventional oil & gas. He has extensive experience in mine management, economic analysis, project evaluation, valuation, risk management, project finance from a financier and investor prospective, and as a company director. Mr Faul undertook the discounted cash flow valuations and contributed to other components of the project valuation assessment.

Mr Joe Pease (BE.(Hon) Metall., B Econ, FAusIMM, MCIMM) is a Senior Associate of BDA with more than 35 years' experience in the Australian mining industry. He is a metallurgist and has held senior management positions with MIM, Cominco and Xstrata. He has been involved in plant design and optimisation, process design testwork, feasibility studies and plant commissioning and project valuation. He is experienced in a range of process technologies and has worked with a range of commodities including gold, copper, lead, zinc, coal, magnetite, potash and oil sands. He has worked as CEO of the Cooperative Research Centre, and is a Principal Consultant for Mineralis Pty Ltd. Mr Pease visited the site and conducted the review of the metallurgical testwork and processing components of the projects including plant design, plant expansion, mill throughput, production and operating cost forecasts.

Mr Andrew Woolaston (BE (Civil)) is a Senior Associate of BDA with 40 years' experience in mining, processing and infrastructure sectors within Australia and overseas, including PNG, Malaysia, China and Philippines. He has worked in project and operations roles on several major gold projects including Ok Tedi, Boddington, Lake Cowal, Syama (Mali) and was the project manager for a further five gold mines in the Philippines. His principal fields of expertise include study management, project management, estimating, cost control, schedule and construction management. Mr Woolaston visited the mine site and reviewed the project capital costs, implementation schedule and project infrastructure.

Mr Adrian Brett (BSc (Hon) Geol., MSc, MEnvir. Law, FAusIMM) is a Senior Associate of BDA with more than 40 years' experience in environmental and geo-science, including the fields of environmental planning and impact assessment, site contamination assessments, environmental audit, environmental law and policy analysis and the development of environmental guidelines and training manuals. He has worked in an advisory capacity with several United Nations, Australian and overseas government agencies. He has completed assignments in Australia, Indonesia, Thailand, Laos, Myanmar, the Philippines, the Middle East, Africa and South America. Mr Brett visited the site and reviewed the environmental regulatory and compliance aspects of the project.

All BDA Consultants have sufficient experience relevant to the Technical Assessment and Valuation of the Mineral Assets under consideration and to the activities which they have undertaken to qualify as Practitioners as defined in the 2015 edition of the VALMIN Code. All BDA Consultants consent to the inclusion in the report of the information and data in the form and context in which they appear. All BDA Consultants are Members or Fellows of the AusIMM or relevant professional associations and are bound by their Professional Societies to comply with the requirements of the VALMIN Code.

Both Mr Hancock, Mr McIntyre and Mr Faul are qualified as Competent Persons under the JORC Code, and each is qualified as a Certified Minerals Valuer (CMV) under the Australasian Institute of Minerals Valuers and Appraisers (AIMVA). Mr McIntyre is also a Certified Valuer as a Member of the International Institute of Mineral Appraisers ("IIMA"), formerly the American Institute of Mineral Appraisers ("AIMA").

Mr Hancock, Mr McIntyre and Mr Faul are qualified as Competent Persons under the JORC Code, and both Mr Hancock and Mr McIntyre are qualified as a Certified Minerals Valuers (CMV) under the Australasian Institute of Minerals Valuers and Appraisers (AIMVA). Mr McIntyre is also a Certified Valuer as a Member of the International Institute of Mineral Appraisers ("IIMA"), formerly the American Institute of Mineral Appraisers ("AIMA").

BDA confirms that the firm and the persons preparing this report:

- have not been found to be in breach of any relevant rule or law
- are not denied or disqualified from membership of any relevant regulatory authority or professional association
- are not subject to any sanction imposed by, or the subject of any disciplinary proceedings by, or the subject of any investigation which might lead to disciplinary action by, any relevant regulatory authority or professional association.

20.0 STATEMENT OF INDEPENDENCE

Neither the principals nor associates of BDA have any material interest or entitlement in the securities or assets of RGPL, EMR or GEAR. BDA will be paid a fee for this report comprising its normal professional rates and reimbursable expenses. The fee is not contingent on the conclusions of this report.

BDA confirms that it has not and will not receive benefits (direct or indirect) other than remuneration paid to BDA in connection with this report. BDA will be paid a fee for this report comprising its normal professional rates and reimbursable expenses. The consulting fees for this assignment, including travel and discussions with management and technical staff, total approximately A$75,000. The fee is not contingent on the conclusions of this report.

21.0 LIMITATIONS AND CONSENT

This assessment has been based on data, reports and other information made available to BDA by RGPL and referred to in this report.

BDA has reviewed the data, reports and information provided and has used consultants with appropriate experience and expertise relevant to the various properties. The opinions stated herein are given in good faith. BDA believes that the basic assumptions are factual and correct and the interpretations reasonable.

BDA does not accept any liability other than its statutory liability to any individual, organisation or company and takes no responsibility for any loss or damage arising from the use of this report, or information, data, or assumptions contained therein. With respect to the BDA report and use thereof by GEAR and any associated parties, GEAR agrees to indemnify and hold harmless BDA and its shareholders, directors, officers, and associates against any and all losses, claims, damages, liabilities or actions to which they or any of them may become subject under any securities act, statute or common law, except in the case of fraud or gross negligence, and will reimburse them on a current basis for any legal or other expenses incurred by them in connection with investigating any claims or defending any actions.

The sole purpose of this BDA report is for use by GEAR, its advisors and shareholders in connection with the Proposed Acquisition and the listing requirements of the SGX, and should not be used or relied upon for any other purpose. A draft copy of this report has been provided to GEAR and RGPL for correction of any material errors or omissions. Neither the whole nor any part of this report nor any reference thereto may be included in or with or attached to any document or used for any other purpose, without BDA's written consent to the form and context in which it appears, except as required by law or by the rules of the Listing Manual of the SGX and other requirements of the SGX.

In this regard, BDA acknowledges that this report is intended to be used for the purposes of the Proposed Acquisition (including reference to and/or inclusion in a shareholders' circular or other documents in connection with the Proposed Acquisition). The foregoing sentence constitutes BDA's approval and consent to the aforesaid use of BDA's report.

Report Prepared by Mr M Hancock, Mr John McIntyre and Mr Mark Faul

Yours faithfully

BEHRE DOLBEAR AUSTRALIA PTY LTD

Malcolm C Hancock	**John McIntyre**
Executive Director - BDA	**Managing Director - BDA**

Prepared by Behre Dolbear Australia Pty Limited

Level 9, 80 Mount Street

North Sydney, NSW 2060, Australia

Tel 612 9954 4988; Fax 612 9929 2549

APPENDIX I

GLOSSARY

Term/Abbreviation	Description
AAS	Atomic Absorption Spectrometry
A$	Australian Dollar
Ag	Silver
AEP	Annual Exceedance Probability
AISC	All-In Sustaining Cost
ALS	Australian Laboratory Services Pty Limited
AMDAD	Australia Mine Development and Design Pty Limited
ANCOLD	Australian National Committee on Large Dams
As	Arsenic
ASX	Australian Securities Exchange
ATC Williams	ATC Williams Pty Limited
Au	Gold
Ausenco	Ausenco Limited
BDA	Behre Dolbear Australia Pty Limited
BCFM	Base Case Financial Model
Behre Dolbear	Behre Dolbear & Company Inc.
BGM	Bituminous Geomembrane
BR	Beneficiation Rejects
BRF	Buck Reef Fault
BRW	Buck Reef West
C	Centigrade
CGPL	Carpentaria Gold Pty Limited
CHMP	Cultural Heritage Management Plan
CIL	Carbon in Leach
CIP	Carbon in Pulp
CRM	Certified Reference Material
Cu	Copper
D&S	Dempers and Seymore Pty Limited
DD	Diamond Drill
DES	Queensland Department of Environment and Science
DGPS	Digital Global Positioning System
EA	Environmental Authority
EMR	EMR Capital Management
EPCM	Engineering, Procurement and Construction Management
EPM	Exploration Permits - Minerals
ERC	Estimated Rehabilitation Cost
G&A	General and Administration
GEAR	Golden Energy and Resources Limited
Geostats	Geostats Pty Limited
GMP	Geotechnical Management Plan
g/t	Grams per tonne
ha	Hectare (10,000m^2)
Haoma	Haoma North West NL
HSEC	Health, Safety Environment and Community
ICP-AES	Induced Coupled Plasma-Atomic Emission Spectrometry
ID^3	Inverse Distance Cubed
IRGD	Intrusion Related Gold Deposit
ITE	Independent Technical Expert
ITR	Independent Technical Report
JORC Code	Joint Ore Reserve Committee (Australasian Resource/Reserve Code)
kg	Kilogram
km	Kilometre
km^2	Square Kilometre
KPI	Key Performance Indicators
kt	Thousand Tonnes
ktpa	Thousand Tonnes per Annum
kV	Kilovolts
kW	Kilowatt
L	Litres
LOM	Life of Mine
m	Metre
m^2	Square Metre

GLOSSARY CONTINUED

Term/Abbreviation	Description
m^3	Cubic Metre
µm	Micron
M	Million
Ma	Million Years Ago
MGA	Australian Mapping Grid
MHG	Manna Hill GeoConsulting Pty Limited
MII	Measured, Indicated and Inferred (Mineral Resources)
MIK	Multi Indicator Kriging
MIM	MIM Holdings Limited
ML	Mining Leases
mL	Millilitre
ML/day	Megalitres per Day
mm	Millimetre
Mm^3	Million Cubic Metres
Moz	Million Ounces
MPR	MPR Geological Consultants
MRE	Mineral Resource Estimate
m/s	Metres per Second
Mt	Million Tonnes
Mtpa	Million Tonnes Per Annum
MW	Megawatt
MWD	Mineralised Waste Dump
NAF	Non Acid Forming
NTSF	Nolans Tailings Storage Facility
OK	Ordinary Kriging
OREAS	Ore Research and Exploration Pty Limited
Oz	Ounce
P80	80% Passing
PAF	Partially Acid Forming
PAL	Partial Leach
PMF	Probable Maximum Flood
PMS	Proactive Mining Solutions Pty Limited
PoO	Plan of Operations
PRC	Progressive Rehabilitation Cost
Proposed Acquisition	The investment by GEAR (by way of shares or shareholder loans) of up to A$60M in Ravenswood Gold Group Pty Ltd
PSM	Pells Sullivan and Meynick Pty Limited
Q	Quarter
QA/QC	Quality Assurance /Quality Control
RAB	Rotary Airblast Drilling
RC	Reverse Circulation
REP	Ravenswood Expansion Project
Resolute	Resolute Limited
RFDS	Royal Flying Doctor Service
RGPL	Ravenswood Gold Pty Limited
RO	Reverse Osmosis
ROM	Run-of-Mine
RQD	Rock Quality Designation
S	Sulphur
SD2	SD2 Pty Limited
SGX	Singapore Stock Exchange
SoW	Scope of Work
SRK	SRK Consulting (Australia) Pty Limited
t	Tonne (1,000 Kilograms)
tpa	Tonnes per Annum
TRIFR	Total Recordable Injury Frequency Rate
TSF	Tailings Storage Facility
UCS	Uniaxial Compressive Strength
US$	US Dollar
WRD	Waste Rock Dump
VALMIN	Code for the Technical Assessment and Valuation of Mineral Assets and Securities for Independent Expert Reports
Xstrata	Xstrata Limited
YTD	Year-to-Date

APPENDIX II

REFERENCES – SOURCES OF INFORMATION

For the purposes of this report, BDA undertook a site visit to the Ravenswood Gold mine in August 2020. Discussions were also held with technical and management staff and consultants in RGPL's Brisbane office. Resource and reserve estimates, mining schedules, processing and operations reports and forecasts, tailings storage plans and environmental and social issues have been reviewed. The principal technical reports and documents reviewed are listed below:

Project Reference Material

- Review of the Nolans-Sarsfield Mineralisation, Ravenswood, Queensland – NM Tate, February 1997
- Ravenswood Processing Review - Carpentaria Gold, July 2003
- Sarsfield Expansion DFS Geotechnical Assessment - Pells Sullivan Meynick, September 2012
- Sarsfield Expansion Environmental Impact Assessment Report – Queensland Department of Environment and Heritage Protection, 2014
- Geological Characteristics and Ore Genesis of the Buck Reef West Gold Deposit, Ravenswood, Queensland – Derham, November 2014
- Carpentaria Gold Buck Reef Project, Pit Slope Design - Dempers & Seymore, June 2016
- Buck Reef West Environmental Authority Amendment Supporting Information – SLR Consultants, August 2017
- Carpentaria Gold Mine, Letter of Confirmation of the BRW Design - Dempers & Seymore, January 2018
- Carpentaria Gold Pty Ltd and Birriah Aboriginal Corporation Native Title Agreement - McCullough Robertson Lawyers, March 2018
- Carpentaria Gold Plan of Operations (2018-2019) - Carpentaria Gold, April 2018
- Ravenswood Expansion Project Feasibility Study Report - Resolute, November 2018
- Ravenswood Exploration Prospectivity Assessment – Resolute, November 2018
- Buck Reef West Ravenswood – Model Earth, November 2018
- Nolans TSF Expansion Environmental Authority Amendment Supporting Information – EPIC Consultants, December 2018
- Ravenswood 200koz Expansion Project Concept Study - Resolute Mining Ltd, May 2019
- Environmental Authority EPML00979013 Amendments - Queensland Department of Environment and Science, 2017, 2018, 2019, 2020
- Project Crow Due Diligence Report – Ausenco, October 2019
- Project Pelican Due Diligence Report – Stage 2, December 2019
- Resolute Annual Report and Resource/Reserve Statement - Resolute Mining Limited, December 2019
- Carpentaria Gold, Photogrammetry Structural Mapping of the BRW Pit - Dempers & Seymore, May 2020
- Geotechnical Data from Optical and Acoustic Televiewer Surveys - Dempers & Seymore, undated
- Ravenswood Expansion Project Execution Part 1 – Ausenco, May 2020
- Equipment Quotations - Hitachi, Caterpillar, May/June 2020
- Ravenswood Gold Pty Limited, Valuation for Stamp Duty Purposes - Deloitte, May 2020
- Proposal for Ravenswood Gold Expansion Project EPCM Services – Ausenco, June 2020
- Nolans TSF Expansion Project Design Criteria and Basis of Design - ATC Williams Consultants, June 2020
- Nolans TSF Expansion Project Works Method Statement Stage 1A - ATC Williams Consultants, July 2020
- Nolans TSF Expansion Project Presentation - ATC Williams Consultants, July 2020
- Buck Reef West Mineral Resource Estimate - SD2, April 2020
- Ravenswood Mining Information Valuation – SRK Consulting, April 2020
- Review of the Buck Reef West Resource Estimate – Manna Hill GeoConsulting, April 2020
- Exploration Update – RGPL, May 2020
- Ravenswood Gold Weekly Reports - April to July 2020
- Monthly Operations Reports - Ravenswood Gold, April to July 2020
- Ravenswood Purchase Price Allocation Report - Deloitte Financial Advisort Pty Ltd, June 2020
- Sarsfield-Nolans Mineral Resource Estimate - SD2, July 2020
- Review of Sarsfield-Nolans July 2020 Resource Estimate - Manna Hill GeoConsulting, August 2020
- Exploration Budget - RGPL, August 2020
- Carpentaria Gold Pty Ltd Tenement (Mining Leases) Obligations Report - Hetherington Exploration & Mining Title Services, August 2020

- Carpentaria Gold Pty Ltd Tenement (Exploration Permits) Obligations Report - Hetherington Exploration & Mining Title Services, August 2020
- Ravenswood Gold Pty Ltd, Carpentaria Gold Pty Ltd and Birriah Aboriginal Corporation Native Title Agreement - McCullough Robertson Lawyers, August 2020
- Geology and Exploration Presentation - RGPL, August 2020
- Ravenswood Gold Monthly Environmental Reports - RGPL, 2020
- Ravenswood EPCM Schedule, Baseline Rev 1 - Ausenco, August 2020
- Ravenswood Gold Financial Model, *02.01 RG Financing xlsx,* August 2020
- Ravenswood Gold Mine Open Cut Mine Plan - AMDAD, September 2020
- Ravenswood Gold Process Plant Capex Report - Ausenco, September 2020
- RG Financing Financial Model *20200924 RG (CW).xlsx* Base Case Financial Model - September 2020
- Ore Reserve Statement Ravenswood Gold Mine - AMDAD, September 2020
- Resource Statement Memo including Mineralised Waste Dumps - RGPL, September 2020
- Mineralised Waste Dump Resource Estimate Memo - RGPL, October 2020
- *Mining Loss Dilution Check.xlsx* - AMDAD, October 2020
- AMDAD Recovery and Dilution Memo - AMDAD, October 2020

General Reference Material

- Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves - Report of the Joint Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia, December 2012
- Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets - The VALMIN Code - Report of the VALMIN Committee of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists - 2015 Edition
- CSA, 2011: National Instrument 43-101 Standards of Disclosure for Mineral Projects, Form 43-101f1 Technical Report, and Companion Policy 43-101cp.
- SGX Listing Rules and Practice Notes - Disclosure Requirements for Mineral, Oil and Gas Companies

APPENDIX III

GEAR-EMR PURCHASE OF RAVENSWOOD PROJECT FROM RESOLUTE

The following section is included for background information.

On 15 January 2020 Resolute announced that it had signed definitive agreements for the sale of the Ravenswood mine and associated tenements to a consortium comprising GEAR and EMR. Under the terms of the transaction Resolute would receive:

- A$100M in upfront payments consisting of A$50M cash and A$50M in promissory notes
- up to an additional A$50M payable from four years following transaction close (ie from March 2024) if the cumulative gold production over the four-year period exceeds 500koz and the four year average gold price exceeds specified hurdles:
    - A$0M if average gold price is below US$1,900/oz
    - A$10M if average gold price is greater than US$1,900/oz
    - A$20M if average gold price is greater than US$1,975/oz
    - A$30M if average gold price is greater than US$2,050/oz
    - A$40M if average gold price is greater than US$2,075/oz
    - A$50M if average gold price is greater than US$2,100/oz
- up to A$150M linked to the return achieved by EMR upon a liquidity/exit event.

Total potential payment is therefore A$300M, but only A$100M of this is payable on the initial purchase. The subsequent payments effectively comprise some sharing of potential future upside, based on gold price, production milestones and investment outcomes.

GOLDEN ENERGY AND RESOURCES LIMITED

(Incorporated in the Republic of Singapore)
(Company Registration No. 199508589E)

NOTICE OF EXTRAORDINARY GENERAL MEETING

NOTICE IS HEREBY GIVEN that an Extraordinary General Meeting of **GOLDEN ENERGY AND RESOURCES LIMITED** (the "**Company**") will be convened and held by way of electronic means on 24 March 2021 at 3.00 p.m. for the purpose of considering and, if thought fit, passing with or without amendment, the following resolutions:

Unless otherwise defined, all capitalised terms used herein shall bear the same meaning ascribed thereto in the Company's Circular to Shareholders dated 8 March 2021 in respect of the resolutions herein.

Ordinary Resolutions

(I) RESOLUTION 1: PROPOSED RATIFICATION OF THE A$70 MILLION INVESTMENT INTO RAVENSWOOD GOLD GROUP PTY LTD AND JOINT VENTURE WITH RAVEN GOLD NOMINEE PTY LTD (AS TRUSTEE ON BEHALF OF INVESTORS MANAGED OR ADVISED BY EMR CAPITAL MANAGEMENT LIMITED)

That:

(a) the Ravenswood Acquisition, the GEAR Initial Investment and the entry into the Joint Venture be and are hereby approved, confirmed and ratified;

(b) the execution by the Company of the Subscription Agreement, GEAR Commitment Letters and Shareholders' Deed are hereby ratified, confirmed and approved;

(c) the drag along right under the Shareholders' Deed, pursuant to which a shareholder ("**Drag Seller**") has the right to require the other shareholders to transfer a proportion of such shareholder's securities in Topco on substantially the same terms on which the Drag Seller is proposing to transfer its securities in Topco in the transaction, be and is hereby ratified, confirmed and approved;

(d) the default call option under the Shareholders' Deed, which the non-defaulting shareholder has a right to exercise on the occurrence of certain default events, in the event that the defaulting shareholder is GEAR SPV, be and is hereby ratified, confirmed and approved; and

(e) the Directors be and are hereby authorised to complete and do all such acts and things (including, without limitation, executing all such documents as may be required) as they may consider expedient or necessary or in the interests of the Company to give effect to the Ravenswood Acquisition, the GEAR Initial Investment, the Joint Venture and/or this Ordinary Resolution.

(II) RESOLUTION 2: PROPOSED INVESTMENT OF UP TO AN ADDITIONAL A$75 MILLION INTO RAVENSWOOD GOLD GROUP PTY LTD

That:

(a) the GEAR Additional Investment and the Development Plan be and are hereby approved and confirmed; and

(b) the Directors be and are hereby authorised to complete and do all such acts and things (including, without limitation, executing all such documents as may be required) as they may consider expedient or necessary or in the interests of the Company to give effect to the GEAR Additional Investment, the Development Plan and/or this Ordinary Resolution.

(III) RESOLUTION 3: PROPOSED DIVERSIFICATION OF THE COMPANY'S EXISTING BUSINESS

That:

(a) the Proposed Diversification in the form of extending the Group's core business beyond a principal focus on the mining of natural resources such as coal to include the mining of precious metals, base metals and minerals be and is hereby approved and confirmed;

(b) subject to compliance with the Listing Manual requiring approval from shareholders in certain circumstances, the Company (directly and/or through its subsidiaries) be and is hereby authorised to invest in, purchase or otherwise acquire or dispose of from time to time, any such assets, businesses, investments and shares/interests in any entity that is in the Proposed New Business for the purpose of or in connection with the Proposed Diversification on such terms and conditions as the Directors deem fit, and such Directors be and are hereby authorised to take such steps and exercise such discretion and do all such acts and things as they deem desirable, necessary or expedient to give effect to any such investment, purchase, acquisition or disposal or to effect the Proposed Diversification; and

(c) the Directors be and are hereby authorised to complete and do all such acts and things (including, without limitation, executing all such documents as may be required) as they may consider expedient or necessary or in the interests of the Company to give effect to the GEAR Additional Investment, the Development Plan and/or this Ordinary Resolution.

BY ORDER OF THE BOARD

Pauline Lee
Group Company Secretary
Singapore, 8 March 2021

Notes:

1. The EGM is being convened, and will be held, by way of electronic means pursuant to the COVID-19 (Temporary Measures) (Alternative Arrangements for Meetings for Companies, Variable Capital Companies, Business Trusts, Unit Trusts and Debenture Holders) Order 2020. Printed copies of this Notice will **NOT** be sent to members. Instead, this Notice will be sent to members by electronic means via publication on SGXNet and the Company's Investor Relations ("**IR**") website at the URL: http://investor.gear.com.sg/circulars.html and also be made available on SGXNet at the URL: https://www.sgx.com/securities/company-announcements.

2. Members should refer to section 13 of the Circular dated 8 March 2021 relating to attendance at the EGM via electronic means (including arrangements by which the EGM can be electronically accessed via live audio-visual webcast or live audio-only stream), submission of questions to the Chairman of the EGM in advance of the EGM, addressing of substantial and relevant questions at the EGM and voting by appointing the Chairman of the EGM as proxy at the EGM. The Notice of EGM, Proxy Form and the Circular dated 8 March 2021 ("**Documents**") may be accessed at the Company's IR website at the URL: http://investor.gear.com.sg/circulars.html and will also be made available on SGXNet at the URL: https://www.sgx.com/securities/company-announcements.

3. Due to the current COVID-19 restriction orders in Singapore, a member will **NOT** be able to attend the EGM in person. A member (whether individual or corporate) MUST appoint the Chairman of the Extraordinary General Meeting as his/her/its proxy to attend, speak and vote on his/her/its behalf at the EGM if such member wishes to exercise his/her/its voting rights at the EGM. The accompanying Proxy Form for the EGM may be accessed at the Company's website at the URL: http://investor.gear.com.sg/circulars.html and on the SGX website at the URL: https://www.sgx.com/securities/company-announcements.

4. Where a member (whether individual or corporate) appoints the Chairman of the EGM as his/her/its proxy, he/she/it must give specific instructions as to voting, or abstentions from voting, in respect of a resolution in the form of proxy, failing which the appointment of the Chairman of the EGM as proxy for that resolution will be treated as invalid.

5. Persons who hold shares through relevant intermediaries (as defined in Section 181 of the Companies Act, Cap. 50) should contact their relevant intermediaries through which they hold such shares as soon as possible in order for the necessary arrangements to be made for their participation in the EGM. CPF or SRS investors who wish to appoint the Chairman of the EGM as proxy should approach their respective CPF Agent Banks or SRS Operators to submit their votes by 5.00 p.m. on 12 March 2021.

6. The Chairman of the EGM, as proxy, need not be a member of the Company. The instrument appointing the Chairman of the EGM as proxy must be submitted in the following manner:

   a. if submitted by post, be deposited at the office of the Company's appointed polling agent, Complete Corporate Services Pte Ltd, at 10 Anson Road, #29-07 International Plaza, Singapore 079903; or

   b. if submitted electronically, via email to the Company's appointed polling agent, Complete Corporate Services Pte Ltd, at gear-egm@complete-corp.com.

   in either case, by 3.00 p.m. on 21 March 2021 (being not less than seventy-two (72) hours before the time appointed for holding the EGM).

   A member who wishes to submit an instrument of proxy by using abovementioned (6)(a) or (6)(b) must first download, print, complete and sign the Proxy Form, before scanning and submitting it to the email address or posting to the office address provided above.

   In view of the current COVID-19 situation and the related safe distancing measures which may make it difficult for shareholders to submit completed Proxy Forms by post, the Company strongly encourages shareholders to submit completed Proxy Forms electronically via email.

7. Due to the current COVID-19 situation, further measures and/or changes to the EGM arrangements may be made on short notice. Members are advised to check our corporate website at the URL: http://investor.gear.com.sg/circulars.html for the latest updates on the status of the EGM.

8. The Company would like to thank all Members for their understanding and cooperation to hold the EGM in line with appropriate safe distancing measures amidst the COVID-19 pandemic.

9. **Personal data privacy:**

   By pre-registering for the live audio-visual webcast or live audio-only stream, submitting a proxy form appointing the Chairman of the EGM as proxy to vote at the EGM and/or any adjournment thereof, and/or submitting questions relating to the resolutions to be tabled for approval at the EGM or the Company's businesses and operations, a member of the Company consents to the collection, use and disclosure of the member's personal data by the Company (or its agents or service providers) for the following purposes:

   (i) processing and administration by the Company (or its agents) of proxy forms appointing the Chairman of the Meeting as a proxy for the Meeting (including any adjournment thereof) and the preparation and compilation of the attendance lists, proxy lists, minutes and other documents relating to the EGM (including any adjournment thereof);

   (ii) processing of the pre-registration for purpose of granting access to members (or their corporate representatives in the case of members which are legal entities) to the live audio-visual webcast or live audio-only stream to observe the proceedings of the EGM and providing them with any technical assistance where necessary;

   (iii) addressing relevant and substantial questions from members received before the Meeting and if necessary, following up with the relevant members in relation to such questions;

   (iv) preparation and compilation of the attendance list, proxy lists, minutes and other documents relating to the EGM (including any adjournment thereof); and

   (v) enabling the Company (or its agents or service providers) to comply with any applicable laws, listing rules, regulations and/or guidelines by the relevant authorities.

   Photographic, sound and/or video recordings of the EGM may be made by the Company for record keeping and to ensure the accuracy of the minutes prepared of the EGM. Accordingly, the personal data of a member of the Company (such as his/her name and his/her presence at the Meeting) may be recorded by the Company for such purpose.

PROXY FORM

GOLDEN ENERGY AND RESOURCES LIMITED

(Incorporated in the Republic of Singapore)
(Company Registration No. 199508589E)

PROXY FORM

(Please see notes overleaf before completing this Form)

IMPORTANT:

1. The Extraordinary General Meeting ("**EGM**") is being convened, and will be held, by way of electronic means pursuant to the COVID-19 (Temporary Measures) (Alternative Arrangements for Meetings for Companies, Variable Capital Companies, Business Trusts, Unit Trusts and Debenture Holders) Order 2020. Printed copies of the Notice of EGM, Proxy Form and Circular ("**Documents**") will **NOT** be sent to members. Instead, the Documents will be sent to members by electronic means via publication on our corporate website at the URL: http://investor.gear.com.sg/circulars.html and on the SGX website at the URL: https://www.sgx.com/securities/company-announcements.
2. Alternative arrangements relating to attendance at the EGM via electronic means (including arrangements by which the meeting can be electronically accessed via live audio-visual webcast or live audio-only stream), submission of questions to the Chairman of the EGM in advance of the EGM, addressing of substantial and relevant questions at the EGM and voting by appointing the Chairman of the EGM as proxy at the EGM, are set out in section 13 of the Circular dated 8 March 2021. The Circular dated 8 March 2021 may be accessed at the Company's website at http://investor.gear.com.sg/circulars.html and the SGX website at https://www.sgx.com/securities/company-announcements.
3. Due to the current COVID-19 restriction orders in Singapore, a member will **NOT** be able to attend the EGM in person. A member (whether individual or corporate) **MUST** appoint the Chairman of the EGM as his/her/its proxy to attend, speak and vote on his/her/its behalf at the EGM if such member wishes to exercise his/her/its voting rights at the EGM. A copy of the Proxy Form for the EGM may also be accessed at the Company's website at http://investor.gear.com.sg/circulars.html, and will also be made available on the SGX website at https://www.sgx.com/securities/company-announcements.
4. This Proxy Form is not valid for use by such CPF or SRS investors and shall be ineffective for all intents and purposes if used or purported to be used by them. CPF or SRS investors who wish to appoint the Chairman of the EGM as proxy should approach their respective CPF Agent Banks or SRS Operators to submit their votes by 5.00 p.m. on 12 March 2021.
5. By submitting this Proxy Form, the member accepts and agrees to the personal data privacy terms set out in the Notice of EGM dated 8 March 2021.
6. **Please read the notes overleaf which contain instructions on, inter alia, the appointment of the Chairman of the EGM as a member's proxy to attend, speak and vote on his/her/its behalf at the EGM.**

*I/We, ______________________ (Name) NRIC/Passport/Co. Reg. No. ______________________

of ____ (Address)

being a *member/members of **GOLDEN ENERGY AND RESOURCES LIMITED** (the "**Company**"), hereby appoint the **Chairman of the Extraordinary General Meeting** ("**EGM**") as *my/our proxy to attend, speak and vote or abstain for *me/us on *my/our behalf at the EGM of the Company to be convened and held by way of electronic means on 24 March 2021 at 3.00 p.m. and at any adjournment thereof in the following manner:

*(Please indicate with an "√" in the spaces provided whether you wish your vote(s) to be cast for or against or abstain from voting on the Resolutions as set out in the Notice of EGM. If no specific direction as to voting is given or in the event of any the matter arising at the EGM and at any adjournment thereof, the appointment of the Chairman of EGM as *my/our proxy will be treated as invalid)*

No.	Ordinary Resolution	For**	Against**	Abstain**
1.	Proposed ratification of the A$70 million investment into Ravenswood Gold Group Pty Ltd and proposed joint venture with Raven Gold Nominee Pty Ltd (as trustee on behalf of investors managed or advised by EMR Capital Management Limited)			
2.	Proposed investment of up to an additional A$75 million into Ravenswood Gold Group Pty Ltd			
3.	Proposed diversification of the Company's existing business.			

* Delete where inapplicable

** If you wish to exercise all your votes "**For**" or "**Against**", please tick (√) in the "**For**" or "**Against**" box. Alternatively, please indicate the number of votes "**For**" or "**Against**" as appropriate in each resolution. If you wish to "**Abstain**" from voting on a resolution, please tick (√) in the "**Abstain**" box. Alternatively, please indicate the number of shares which you wish to abstain from voting.

Dated this ________ day of ______________ 2021

	Total number of Shares in:
(a) CDP Register	
(b) Register of Members	

____

Signature of Shareholder(s) or
Common Seal of Corporate Shareholder

PROXY FORM

Notes:

(1) Please insert the total number of shares held by you. If you have shares entered against your name in the Depository Register (as defined in Section 81SF of the Securities and Futures Act, Chapter 289 of Singapore), you should insert that number of shares. If you have shares registered in your name in the Register of Members, you should insert that number of shares. If you have shares entered against your name in the Depository Register and shares registered in your name in the Register of Members, you should insert the aggregate number of shares entered against your name in the Depository Register and registered in your name in the Register of Members. If no number is inserted, the instrument appointing the chairman as proxy shall be deemed to relate to all the shares held by you.

(2) Due to the current COVID-19 restriction orders in Singapore, a member will **NOT** be able to attend the EGM in person. A member (whether individual or corporate) **MUST** appoint the Chairman of the EGM as his/her/its proxy to attend, speak and vote on his/her/its behalf at the EGM if such member wishes to exercise his/her/its voting rights at the EGM. The accompanying Proxy Form may be accessed at the Company's website at http://investor.gear.com.sg/circulars.html and the SGX website at https://www.sgx.com/securities/company-announcements.

Persons who hold shares through relevant intermediaries (as defined in Section 181 of the Companies Act, Cap. 50) should contact their relevant intermediaries through which they hold such shares as soon as possible in order for the necessary arrangements to be made for their participation in the EGM. CPF or SRS investors who wish to appoint the Chairman of the EGM as proxy should approach their respective CPF Agent Banks or SRS Operators to submit their votes by 5.00 p.m. on 12 March 2021.

(3) The Chairman of the EGM, as proxy, need not be a member of the Company.

(4) The instrument appointing the Chairman of the EGM as proxy must be submitted in the following manner:

(a) if submitted by post, be deposited at the office of the Company's appointed polling agent, Complete Corporate Services Pte Ltd, at 10 Anson Road, #29-07 International Plaza, Singapore 079903; or

(b) if submitted electronically, via email to the Company's appointed polling agent, Complete Corporate Services Pte Ltd, at gear-egm@complete-corp.com,

in either case by 3.00 p.m. on 21 March 2021 (being not less than seventy-two (72) hours before the time appointed for holding the EGM).

A member who wishes to submit an instrument of proxy by using the abovementioned (4)(a) or (4)(b) must first download, print, complete and sign the Proxy Form, before scanning and submitting it to the email address or posting it to the office address provided above.

In view of the current COVID-19 situation and the related safe distancing measures which may make it difficult for shareholders to submit completed Proxy Forms by post, the Company strongly encourages shareholders to submit their completed Proxy Forms electronically via email.

(5) The instrument appointing the Chairman of the EGM as proxy must be under the hand of the appointor or of his attorney duly authorised in writing. Where the instrument appointing the Chairman of the EGM as proxy is executed by a corporation, it must be executed either under its seal or under the hand of an officer or attorney duly authorised. Where an instrument appointing the Chairman of the EGM as proxy is signed on behalf of the appointor by an attorney, the letter or power of attorney or a duly certified copy thereof must (failing previous registration with the Company) be lodged with the instrument of proxy, failing which the instrument may be treated as invalid.

(6) A corporation which is a member may authorise by resolution of its directors or other governing body such person as it thinks fit to act as its representative at the EGM, in accordance with Section 179 of the Companies Act (Chapter 50) of Singapore.

(7) The Company shall be entitled to reject the instrument appointing a proxy or proxies if it is incomplete, improperly completed or illegible, or where the true intentions of the appointor are not ascertainable from the instructions of the appointor specified in the instrument appointing a proxy or proxies. In addition, in the case of shares entered in the Depository Register, the Company may reject any instrument appointing a proxy or proxies lodged if the member, being the appointor, is not shown to have shares entered against his name in the Depository Register as at seventy-two (72) hours before the time appointed for holding the EGM, as certified by The Central Depository (Pte) Limited to the Company.

PERSONAL DATA PRIVACY:

By submitting an instrument appointing a proxy(ies) and/or representative(s), the member accepts and agrees to the personal data privacy terms set out in the Notice of EGM dated 8 March 2021.