

# 21 June 2016

# Open pit mining to recommence at Resolute's Ravenswood Gold Mine

### **Highlights**

- Open pit mining to recommence at the Nolans East open pit at the Ravenswood Gold Mine in July 2016.
- · Plant processing capacity to be increased from current 1.5Mtpa to 2.8Mtpa.
- Mine life extended at the Ravenswood Gold Mine until at least October 2017.
- Upfront capital cost of only \$5m.
- Mining at Nolans East expected to produce 2.7Mt @ 0.8g/t gold containing 71,000oz of gold.
- Gold hedging program implemented which has resulted in forward gold sales of 36,000oz at an average price of A\$1,800/oz. These forward gold sales of 3,000oz per month cover the period from November 2016 to October 2017 to match approximately 50% of the production from Nolans East.
- Nolans East open pit to be the first stage of a long term return to large scale open pit mining at Ravenswood focused on the Sarsfield and Buck Reef West deposits.

Resolute Mining ("Resolute" or "the Company") is pleased to announce open pit mining will recommence in July 2016 at its Ravenswood Gold Mine ("Ravenswood") in Queensland. The commencement of mining at Nolans East is an important first step in the anticipated redevelopment of a long life large scale open pit mining operation at Ravenswood.

Nolans East represents an extension of the historic Sarsfield-Nolans pit which was mined by Resolute until 2009 prior to the commissioning of the underground mine at Mt Wright. Resolute's current underground operations at Mt Wright are due to be completed in 2017.

The new mining operations at Nolans East will comprise:

- Extraction of 2.7Mt @ 0.8g/t;
- An average waste to ore ratio of 1.6:1;
- Mining over a 15-month period, finishing in October 2017;
- Processing at the adjacent Nolans processing plant, which will be reconfigured from its current 1.5Mtpa capacity to 2.8Mtpa;
- Modest additional upfront capital requirement of only A\$5m; and
- All required approvals and permits are in place.

Nolans East forms a small part of the 1.2Moz open pit Ore Reserve at the Sarsfield-Nolans pit. The recommencement of open pit mining at Nolans East will assist in maintaining continuity of production as the Mt Wright underground mine prepares for closure in 2017. Mining at Nolans East is expected to be the first stage of the Ravenswood Extension Project ("REP"). A Feasibility Study for the REP is currently nearing completion. This study is examining the potential for a large open pit development with mining of the Sarsfield and Buck Reef West deposits expected to follow completion of operations at Nolans East.



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The REP will utilise a number of innovative approaches to mine scheduling, tailings management, waste water treatment and open pit blasting practices in order to minimise initial capital costs and ensure best practice environmental and community outcomes are achieved. The Company is working closely with the Queensland Government and the Ravenswood community in developing its plans for the REP.

The decision to commence production from Nolans East has allowed the Company to implement a disciplined hedging program to manage gold price risk during the transition from underground to large scale open pit operations. Resolute has sold forward 36,000oz at an average price of A\$1,800/oz. These forward gold sales of 3,000oz per month cover the period from November 2016 to October 2017 to match approximately 50% of the production from Nolans East.

Resolute's Managing Director and CEO, Mr John Welborn, welcomed the decision to recommence open pit mining operations at Nolans East: "We are working hard to secure a long term future for Ravenswood beyond Mt Wright. Nolans East represents the start of the transition back to large scale open pit mining. The available open pit resources at Ravenswood constitute a major, and greatly underappreciated, asset of Resolute. The 1.2Moz Ore Reserve and 2.6Moz Mineral Resource are located immediately adjacent to our large operating mill and processing plant which requires only minor re-configuration to return to its former 5Mtpa capacity. In the current gold price environment these ounces offer a transformational opportunity for Resolute shareholders. The commencement of mining at Nolans East is the first step to realising that opportunity."

"The Mt Wright underground mine at Ravenswood has been a hugely successful project for Resolute. We are owner operators of a Sub-Level Caving operation that has mined a 2.75g/t orebody down to 900m underground at an average cash cost of approximately A\$830/oz. Prior to developing Mt Wright we operated Ravenswood at 5Mtpa mining the low grade Sarsfield orebody. We are hugely excited about the possibility of returning to the Sarsfield open pit operation with new vigour, innovation, and skillsets to create a further value boosting opportunity for our shareholders."

"Resolute aims to be a partner of choice for governments in extracting enduring value from gold deposits. In focusing on extending the mine life at Ravenswood we are acutely aware of the importance of the mine to the regional economy in North Queensland and particularly the town of Ravenswood. The Company appreciates the support and assistance we are receiving from the Queensland Government and the Ravenswood Community as we work through the environmental and mining permitting approvals process."



Figure 1: Sarsfield and Nolans pit looking South East with Buck Reef West deposit at bottom right

## **History of Mining at Ravenswood**

Gold was first discovered at Ravenswood in Queensland, Australia in 1868. Ravenswood has been in operation since 1987 and was acquired by Resolute in 2004. Operations consisted of an upgraded 5Mtpa processing plant and were based on mining activity at the Sarsfield-Nolans pit. Mining at Sarsfield was completed in 2009 when the nearby Mt Wright underground mine was developed. The Nolans processing plant treated both Mt Wright ore and stockpiled Sarsfield ore until 2012. Since 2012 the plant has operated at circa 1.5Mtpa exclusively on Mt Wright ore producing approximately 100,000oz of gold per annum. The Mt Wright operation is nearing completion with the underground mine expected to close in June 2017 quarter. To date Ravenswood has produced over 4Moz of gold.

### **Ravenswood Geology and Resources**

Nolans East is located at the eastern end of the Sarsfield-Nolans-Buck Reef West complex. Global Resources for this area are summarised below.

The geology of the region includes a number of different mineralisation styles hosted within a complex of predominantly felsic intrusive rocks. Deposit types include sulphide quartz shear lodes (Buck Reef West), narrow high grade veins (Buck Reef West and Sarsfield) large quartz stock-works (Sarsfield) and sheet vein complexes (Nolans and Nolans East).

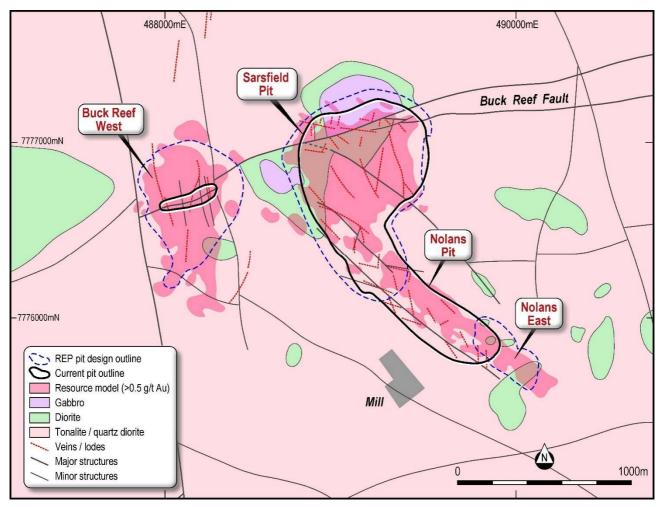


Figure 2: Ravenswood geology and open pits

The Ravenswood deposits, excluding Mt Wright, have produced over 3.4Moz of gold, from several phases of operation. Despite this, very little deep drilling has been undertaken, and a number of attractive exploration targets remain in the immediate vicinity of the current resources.



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Nolans East Pit reserves are as follows.

Nolans East Reserves (0.5g/t cut-off)			
Category	Mt	Au g/t	Koz
Proven	1.8	0.8	46
Probable	0.9	0.9	25
Total	2.7	0.8	71

**Table 1: Nolans East Reserves** 

### **Nolans East Open Pit Mining Operation**

Nolans East will be a small open pit extracting 2.7Mt of ore at a grade of 0.8g/t over 15 months at an average waste to ore ratio of 1.6:1. Mining will be carried out with a mining contractor utilising conventional truck and excavator operations. The majority of material will require drilling and blasting. The mining operation is located 300m from the Nolans processing plant. The key operating parameters for Nolans East are summarised below

Metric	Unit	Quantity
Ore	BCM	1.0M
Waste	BCM	1.7M
Strip Ratio	W:O	1.6:1
Ore	tonnes	2.7M
Grade	g/t	0.8
Contained gold	oz	71Koz
Processing rate	tpa	2.8M
Process Recovery	%	92.7
Expected Gold Production	oz	66Koz
Upfront Capital	A\$ million	\$5.1

 Table 2: Nolans East – key operating parameters

Ore from Nolans East will be treated at the adjacent Nolans processing plant. The plant is presently configured to treat 1.5Mtpa of Mt Wright ore. A minor reconfiguration of the plant, comprising the addition of secondary crushing plant will increase capacity to 2.8Mtpa. Incremental modifications to the crushing and leaching circuits will be required to further increase capacity to the 5Mpta rate previously in place and envisaged in the REP.

### **Forward Sales Program**

As part of the decision to commence production from Nolans East, Resolute has initiated a new disciplined hedging program. The Company has sold forward 36,000oz at an average price of A\$1,800/oz. These forward gold sales of 3,000oz per month cover the period November 2016 to October 2017 to match approximately 50% of the production from Nolans East.

## **Ravenswood Extension Project (REP)**

Resolute is currently completing a Feasibility Study focused on extending operations for Ravenswood. The target for the REP is to define a project with the following characteristics:

- · Establish a ten-year mine life extension;
- Maintain production in excess of 100,000oz of gold per annum;
- · Maintain robust cash margins; and

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Ensure moderate and staged capital requirement.

Following the decision to commence open pit mining activity at Nolans East, and the consequent extension of the mine life at Ravenswood to at least October 2017, the REP Feasibility Study is now expected to be completed during the September 2016 quarter. Work is currently focused on the environmental and heritage approvals process to enable mining activity to recommence at Sarsfield and Buck Reef West.

The REP will utilise a number of innovative approaches to mine scheduling, tailings management, waste water treatment and open pit blasting practices in order to minimise initial capital costs and ensure best practice environmental and community outcomes are achieved. The Company is working closely with the Queensland Government and the Ravenswood community in developing its plans for the REP.

For further information, contact:

## John Welborn

Managing Director and CEO **Resolute Mining Limited** Telephone: +61 8 9261 6100 Email: contact@rml.com.au Web: www.rml.com.au

### **ASX:RSG** Capital Summary

Fully Paid Ordinary Shares: 641,582,994 Current Share Price: A\$1.15 as at 20 June. 2016 Mr John Welborn Managing Director & CEO Market Capitalisation: A\$738m FY16 Guidance: 315,000oz @AISC A\$1,220/oz

### **Board of Directors**

Mr Peter Huston Non-Executive Chairman Mr Peter Sullivan Non-Executive Director Mr Martin Botha Non-Executive Director Mr Bill Price Non-Executive Director

### Contact

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### **About Resolute**

Resolute is a successful gold miner with more than 25 years of continuous production. The Company is an experienced explorer, developer, and operator having operated nine gold mines across Australia and Africa which have produced in excess of 7 million ounces of gold. The Company currently operates two mines, the Syama gold mine in Africa and the Ravenswood gold mine in Australia, and is one of the largest gold producers listed on the Australian Securities Exchange with FY16 guidance of 315,000 ounces of gold production at a cash cost of A\$915/oz and All-in-sustaining-costs of A\$1,220/oz.

Resolute's flagship Syama gold mine in Mali is a robust long life asset benefitting from fully operational parallel sulphide and oxide processing plants. The move to underground mining will continue the asset's history of strong cash generation and extend the mine life to out beyond 2028. The Ravenswood gold mine in Queensland demonstrates Resolute's significant underground expertise in the ongoing success in mining the Mt Wright ore body. In Ghana, the Company is completing a feasibility study on the Bibiani gold project focused on the development of an underground operation requiring very low capital and using existing plant infrastructure. Resolute also controls an extensive exploration footprint along the highly prospective Syama Shear and greenstone belts in Mali and Cote d'Ivoire and is active in reviewing new opportunities to build shareholder value.

### **Competent Persons Statement**

The information in this report that relates to the Exploration Results, Mineral Resources and Ore Reserves is based on information compiled by Mr Richard Bray who is a Registered Professional Geologist with the Australian Institute of Geoscientists and Mr Andrew Goode, a member of The Australasian Institute of Mining and Metallurgy. Mr Richard Bray and Mr Andrew Goode both have more than 5 years' experience relevant to the styles of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person, as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Richard Bray and Mr Andrew Goode are full time employees of Resolute Mining Limited Group and each hold equity securities in the Company. They have consented to the inclusion of the matters in this report based on their information in the form and context in which it appears. This information was prepared and disclosed under the JORC code 2012 except where otherwise noted. Particular Reserves and Resources remain 2004 JORC compliant and not updated to JORC code 2012 on the basis that information has not materially changed since it was last reported.



## **Ravenswood Gold Mine Queensland – Nolans East Deposit.**

JORC Code, 2012 Edition – Table 1 report

## Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialized industry standard</li> </ul>	The mineral resource estimate was based on a combination of recent data (Carpentaria Gold 2003-2015) collected from reverse circulation (RC) and diamond core (DD) drill holes, and historic data (MIM Exploration 1980-1999) RC, DD, open hole percussion (OHP) and air core (AC) drill holes.
	measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld	Historic DD holes that had AC, OHP or RC precollars were classified as air core diamond (ACD), open percussion diamond (OPD) or reverse circulation diamond (RCD) respectively.
	XRF instruments, etc). These examples should not be taken as limiting the broad	For recent data each 1m RC interval was riffle split to obtain a 2-3.5 kg sample, which was sent to the laboratory for pulverisation to produce a 200g sub-sample for analysis.
	<ul> <li>meaning of sampling.</li> <li>Include reference to measures taken to</li> </ul>	Historical RC holes were sampled at either 1m or 2m intervals to obtain a sample whose weight was not recorded.
	ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Recent diamond core were sampled at 1m intervals and cut in half to provide a 2-4kg sample which was sent to the laboratory for crushing to 10mm, splitting and pulverising to 85% passing 75 microns, to provide a 30g charge for analysis.
	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> </ul>	Historic diamond core was sampled at 1 or 2m intervals and halved and sent to the laboratory. Historic OHP and AC cuttings were sampled at 1m or 2m riffle split intervals providing samples whose weight was not recorded.
	In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling	Sampling and sample preparation protocols for recent drilling are industry standard and are deemed appropriate by the Competent Person.
	was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such	Historical sampling preparation protocols were deemed appropriate at the time.
	as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g.	



Criteria	JORC Code explanation	Commentary
	submarine nodules) may warrant disclosure of detailed information.	
Drilling techniques	<ul> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	Drill types used include RC and diamond core of PQ, HQ and NQ sizes for recent data, historic drill types include BQ, HQ, NQ and some unspecified sizes. Drill core for recent data is oriented at 30m down hole intervals using spear method. It is unknown what method was used for historic data.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	Diamond core interval recoveries are measured and logged for recent data; they are rarely logged for historical data. RC, OHP and AC recoveries are not collected. Appropriate measures are taken to maximise sample recovery and ensure the representative nature of the samples.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> </ul>	<ul> <li>Recent and historic RC, AC, OHP and DD drill holes are geologically logged for colour, grainsize, lithology, minerals and alteration. RC drill holes are logged on 1m intervals and DD drill holes are logged on geologically domained intervals.</li> <li>Historic RC, AC and OHP holes were logged to match the sampling interval of 1 or 2m.</li> <li>Geotechnical, structure orientation, recovery and magnetic susceptibility data are measured and logged for diamond core intervals.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	Diamond core is photographed (wet and dry) for recent data but there are few photographs available for historic core; RC chips are occasionally photographed for recent data, RC, AC and OHP chips are not photographed for historic data.
		Recent Diamond core and RC chips are logged on a laptop computer either at the drill site (RC) or the core shed (DD) into Excel, validated and imported into the drillhole database.
		Historic logging was completed on paper templates at the core shed or drill rig and occasionally entered into the computer database from an excel template.
		Holes are logged in their entirety (100%).
Sub-sampling techniques and	If core, whether cut or sawn and whether quarter, half or all core taken.	Each 1m RC interval is riffle split (dry) to obtain a 2-3.5 kg sample, which is sent to the laboratory for pulverisation.
sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet	A similar protocol was followed for historical RC, OHP and AC samples for either 1m or 2m intervals; however the sampling details are not recorded.
	or dry. <ul> <li>For all sample types, the nature, quality</li> </ul>	Diamond core are sampled at 1m intervals and cut into half core to provide a 2-4kg sample which is sent to the laboratory for crushing to 10mm, splitting and pulverising to 85% passing 75 microns.
	and appropriateness of the sample preparation technique.	A similar protocol was followed for historical DD samples and core was cut and halved for sampling at either 1m or 2m intervals; however details of the sampling were not clearly recorded for induvial samples.
	<ul> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	Field duplicates (RC) for recent data are collected every 1:30 samples at the same time using the same method (riffle split) as the parent sample.
	Measures taken to ensure that the	QC data is not available for the historical RC, AC or OHP type drilling.
	sampling is representative of the in situ material collected, including for instance	Diamond core coarse duplicates were sampled and collected after crushing, by the laboratory, at a rate of 1:15 samples for recent drilling.
	results for field duplicate/second-half	QC data is not available for the historical DD drilling.
	sampling. <ul> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	Sampling, sample preparation and quality control protocols are industry standard and are deemed appropriate by the Competent Person.



Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	RC and DD samples are assayed for gold by ALS Global Townsville Au-AA25 method which is a 30gram fire assay fusion with AAS instrument finish; the analytical method is appropriate for this style of mineralisation. Methods for historic RC, AC, OHP and DD drilling included Au-AA25, FA50_Pb_AA, UN_UN and unknown methods for gold by ALS_TNV and a number of unspecified laboratories in the Townsville region. No geophysical tools were used to determine elemental concentrations used in resource estimations. Quality control (QC) procedures for recent data include the use of certified standards (at a rate of 1:20 samples), certified blanks (1:20), non-certified coarse blanks (1:15), field duplicates (RC) (1:30) and coarse crush duplicates (DD) (1:15). QC samples are included in all dispatches to the laboratory and the results are routinely analysed for accuracy and precision. Quality control (QC) procedures for historic RC, AC, OHP, and DD drilling are assumed to have been carried out to industry standard regarding QAQC procedures however the documentation is incomplete. Umpire pulp analysis of selected pulps is performed by a second external laboratory in Townsville for recent data There is no evidence of historic umpire sampling for any drill type. Laboratory quality control data, including laboratory standards, blanks, duplicates, repeats and grind size results are also captured into the database and analysed for accuracy and precision for recent data. Analysis of the available QC sample assay results indicates that an acceptable level of accuracy and precision has been achieved. The level of accuracy and precision for historic data is unknown.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	The verification of significant intersections has been completed by company personnel and the competent persons. No drill holes within the resource were twinned. Recent drill holes are logged digitally into Excel templates with lookup codes, validated and then compiled into relational SQL2008 database using DataShed data management software. The database is backed up on a daily basis to the head office server.



Criteria	JORC Code explanation	Commentary
		Historic drill holes were logged onto paper templates and partially transcribed onto an excel spreadsheet and logged into the database as described above. Some historic drill logs are only partially loaded onto the database with existing geotechnical and geological logs available as paper copies only.
		Recent Assay files are reported by the laboratory in CSV format and are imported into the SQL database without adjustment or modification.
		Historic assay files were reported by the laboratory in CSV, SIF, text, paper and unknown formats and either transcribed into appropriate electronic formats, or directly imported into the SQL database. It appears that no adjustment was made to the assay data.
		There were no adjustments to assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole	Collar coordinates for recent drill holes are picked up in UTM by contract and staff surveyors using Leica 1203 DGPS (up to 10cm accuracy).
	surveys), trenches, mine workings and other locations used in Mineral Resource	The survey pickup method is unknown for a large number of historic holes.
	estimation.	Down hole surveys are collected at 30m intervals using instruments including Gyro, Devi flex, single shot and multi shot.
	Specification of the grid system used.	Coordinates and azimuth are reported in UTM AMG84 Zone 55
	<ul> <li>Quality and adequacy of topographic control.</li> </ul>	Coordinates are translated to local mine grid where appropriate.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> </ul>	The drill hole spacing is sufficient to demonstrate geological and grade continuity appropriate for the Mineral Resource and the classifications applied under the 2012 JORC Code.
	• Whether the data spacing and distribution	The appropriateness of the drill spacing is reviewed by the geological team and Competent Person.
	is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	No sample compositing is applied during the sampling process.
	<ul> <li>Whether sample compositing has been applied.</li> </ul>	



Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	Drill holes were drilled predominantly perpendicular to mineralised domains where possible. No orientation based sampling bias has been identified in the data.
Sample security	<ul> <li>The measures taken to ensure sample security.</li> </ul>	RC and diamond core samples are initially stored on site and then securely despatched to ALS Townsville laboratory. It is assumed that appropriate security protocols were taken for historical drill hole samples to be despatched to the Laboratory.
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	External audits of procedures indicate protocols are within industry standards for recent drilling. No evidence of external reviews has been supplied for historical drilling data.

# Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> </ul>	<ul> <li>Exploration activity is conducted within QLD Government authorised tenure including exploration permits and mining leases which are held by Carpentaria Gold Pty Ltd.</li> <li>Formal individual agreements are negotiated with the traditional landowners and property owners for each of the exploration prospects before carrying out exploration activities.</li> <li>Exploration activities conducted within these leases are highly regulated and reports are routinely submitted to the QLD government containing details of work conducted in the area and expenditure.</li> </ul>



Criteria	JORC Code explanation	Commentary
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	The Ravenswood area has a long history of mining and exploration. Gold was discovered in 1868 and alluvial and shallow oxidised quartz-sulphide veins were worked in the initial gold rush. Carpentaria Gold Pty Ltd has been exploring in the area since 1978.
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	Mineralisation occurs in variably orientated tabular sulphide – quartz veins and mineralised shear zones and in a number of vein stock works. Areas of weak veining separate the more strongly stock-worked areas into discrete zones. Individual veins vary in width from hairline fractures up to im locally. Mineralisation extends from the surface level and is essentially tested by drilling depth. The mineralisation remains open at depth.
		The Jessop Creek Tonalite, an Early to Middle Devonian age unit of the Ravenswood Batholith, hosts the mineralisation. In the project area the Jessop Creel Tonalite can be divided into diorite, quartz diorite and minor gabbro. Boundaries between these units vary from sharp to indistinct and often show complex relationships including stoping xenoliths and irregular dykes. No association between the host lithology and the gold mineralisation has been established other than it is a suitable competent host that allowed the cross cutting sulphide veins to develop.
		The major commodity being sought is gold.
Drill hole Information	A summary of all information material to the understanding of the exploration	All information including easting, northing, elevation, dip, azimuth, coordinate system, drill hole length, intercept length and depth are documented in the tabulated intercepts in the body of the report.
	results including a tabulation of the following information for all Material drill holes:	Detailed information in relation to the results from drilling used to calculate the Resource and Reserve is not included in this release.
	<ul> <li>easting and northing of the drill hole collar</li> </ul>	<ul> <li>For completeness the following information is provided about the drill holes used in the resource calculation:</li> <li>1. Easting, Northing and RL of the drill hole collars are measured and recorded in UTM AMG84 (Zone 55).</li> </ul>
	<ul> <li>elevation or RL (Reduced Level         <ul> <li>elevation above sea level in             metres) of the drill hole collar</li> </ul> </li> </ul>	2. Dip is the inclination of the drill hole from horizontal. For example a drill hole drilled at -60° is 60° from the horizontal.



Criteria	JORC Code explanation	Commentary
Data aggregation	<ul> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> <li>In reporting Exploration Results,</li> </ul>	<ol> <li>Down hole length is the distance down the inclination of the hole and is measured as the distance from the horizontal to end of hole.</li> <li>Intercept depth is the distance from the start of the hole down the inclination of the hole to the depth of interest or assayed interval of interest.</li> <li>The Competent Persons do not believe the listing of the entire drill hole data base used to calculate the resources is relevant for this release.</li> <li>Reported intercepts quoted in the report are length weighted to the nearest metre.</li> </ol>
methods	<ul> <li>weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	No top cuts are applied. Lower cut-off grade applied was 0.5g/t. Maximum consecutive 4m of internal dilution within a reported interval was used. Maximum intercept length of 3m down hole. Accuracy of the survey measurements is considered to meet acceptable industry standards. Metal equivalent values are not used in reporting.
Relationship between mineralization	These relationships are particularly important in the reporting of Exploration Results.	Reporting of mineralisation width and intercepts are deemed acceptable by Competent Person.



Criteria	JORC Code explanation	Commentary
widths and intercept lengths	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	As there was a combination of mineralised directions, drill holes were orientated to intersect this mineralisation perpendicular to the drill direction. Results are reported as down hole length.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Relevant maps, diagrams and tabulations of intercepts are included in the body of the report.
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	Significant intercepts of new drill holes have been reported in this release.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Geophysical and geochemical data and any additional exploration information are reported regularly in annual exploration tenement government reports, and monthly, quarterly and annual Resolute reporting.



Criteria	JORC Code explanation	Commentary
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Further work is planned to evaluate exploration opportunities that extend the known mineralisation at the Nolans East / Sarsfield deposit and improve the confidence of the model.

## Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> </ul>	Data have been compiled into a relational SQL database. The setup of this database precludes the loading of data which do not meet the required validation protocols. The data is managed using DataShed <sup>™</sup> drill hole management software (Maxwell Geoservices) using SQL database techniques. Validation checks are conducted using SQL and DataShed relational database standards. Data has also been checked against original hard copies for 75% of the data, and where possible, loaded from original data sources.
	<ul> <li>Data validation procedures used.</li> </ul>	<ul> <li>Carpentaria Gold Pty Ltd carried out the following basic validation checks on the data supplied prior to resource estimation:</li> <li>Drill holes with overlapping sample intervals.</li> <li>Sample intervals with no assay data. Duplicate records.</li> <li>Assay grade ranges.</li> <li>Collar coordinates ranges.</li> <li>Valid hole orientation data.</li> </ul>
		There are no significant issues with the data.



Criteria	JORC Code explanation	Commentary
Site visits Geological	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> <li>Confidence in (or conversely, the</li> </ul>	The Competent Persons have conducted numerous site visits to the Ravenswood Project Qld. All aspects of drilling, sampling and mining are considered by the Competent Persons to be of a high industry standard. Nolans East / Sarsfield Deposit lies within the northern part of the Thomson fold belt which form part of the
interpretation	<ul> <li>uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource</li> </ul>	Charters Towers province, in a tight cluster of calc-alkaline intrusives of Ordovician to Devonian age known as the Ravenswood Batholiths. Individual intrusive compositions vary from adamellites to diorite: - granite and granodiorite are the most common. The Nolans East / Sarsfield gold deposit is located within and around the junction of three prominent fault systems. The deposits outcrop over a 500 by 200 metre area with mineral resources defined to a depth of 300 metres. A weathered zone persists to an average of 15 metres below surface. Supergene effects are restricted to a discontinuous horizon within a partially oxidised zone less than 5 metres thick.
	<ul> <li>estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	At least 95% of gold is located within a network of flatly dipping sulphide-quartz veins. Movement on the faults has controlled dilation within the veins, and at least 17 different structural movements and alteration events have reactivated the vein. Veins (20mm to 250mm thick) are typically associated with a phyllic alteration selvedge up to 500mm wide. Vein mineralogy is sulphide dominant with quartz and calcite constituting the major gangue phases. Total sulphide content of the ore is less than 5% with the most common phases being pyrite, pyrrhotite, sphalerite and chalcopyrite. Gold occurs as mostly sub 50 micron free milling grains on fractures and sulphide mineral boundaries.
		<ul> <li>Historic production figures from 1870 to 1918 and then 1987 to 2005 indicate approximately 400 koz of gold was recovered from underground mining methods.</li> <li>Geologically, Nolans East / Sarsfield resource modelling was divided into several domains based on geological structures/ lithologies and gold distribution; named as Area 2, Area 4, Buckreef and Nolans zones. Nolans East is the remaining portion east of Nolans pit.</li> </ul>
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and	The Nolans East / Sarsfield study area covers a region of approximately 900 metres x 900 metres. The Mineral Resource is limited in depth to 600 metres from the surface.



Criteria	JORC Code explanation	Commentary
	depth below surface to the upper and lower limits of the Mineral Resource.	
Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates,</li> </ul>	The method of Multiple Indicator Kriging (MIK) was used to estimate gold into model blocks. MIK modelling methods of gold grades, use indicator variography based on the resource composite sample grades within distinct mineralised populations, defined by wire-frames. Within each domain gold grade continuity was characterised by indicator variograms at 14 indicator thresholds spanning the global range of grades based on 2m down hole composites of the Nolans East / Sarsfield exploration drilling. Data viewing, compositing and wire-framing were performed using Micromine software. Exploratory data analysis, variogram calculation and modelling, and resource estimation have been performed using FSSI Consultant (Australia) Pty Ltd GS3M <sup>™</sup> software. GS3M <sup>™</sup> is designed specifically for estimation of recoverable resources using MIK.
	previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	MIK was used as the preferred method for estimation of gold at Nolans East / Sarsfield as the approach has been demonstrated to work well in a large number of deposits of diverse geological styles. The gold mineralisation seen at Nolans East / Sarsfield is typical of that seen in most structurally controlled gold deposits and where the MIK method has been found to be of most benefit. Open pit and underground mining has occurred at Nolans East / Sarsfield by previous owners of the project. The current resource estimate takes into account historic production using wireframes that represent the open cut pit and the stopes mined underground.
	<ul> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).</li> </ul>	No by-products or deleterious elements are modelled. Block dimensions used were 20mE by 20mN by 5mRL and chosen due to this dimension approximates the average drill spacing in the modelled resource areas. A three pass octant search strategy was used to define the local neighbourhood data used in the kriging to produce the three modelled resource confidence categories. The highest confidence blocks are estimated using search radii of 30mE by 30mN by 15mRL and a minimum of 8 data coming from a minimum of 4 octants. The second and third pass estimates were estimated using an expanded search of 50% with 16 and 8 minimum data and 4 and 2 minimum octants, respectively. All estimation passes use a maximum of 48 data.
	<ul> <li>In the case of block model interpolation, the block size in relation to the average</li> </ul>	



Criteria	JORC Code explanation	Commentary
	sample spacing and the search employed.	The selective mining unit at Nolans East / Sarsfield is expected to be at the scale of the model blocks so no further subdivision is required.
	Any assumptions behind modelling of	Gold is the only economic metal estimated in the current model.
	<ul> <li>selective mining units.</li> <li>Any assumptions about correlation between variables.</li> </ul>	Mineralised domain wire-frames developed at nominal 0.1 g/t Au cut-off and used to flag resource composites and code domain proportions to the block model. A further division of the model domains into oxide and fresh rock is applied by triangulated surfaces interpreted from the logging of the drill samples.
	<ul> <li>Description of how the geological interpretation was used to control the resource estimates.</li> </ul>	Statistical analysis showed the gold population in each domain to be highly skewed and generally having moderate to high coefficient of variation. Selection of the median as the average grade of the highest indicator threshold was used to reduce the influence of extreme composite grades on the model gold estimates.
		Visual validation of grade trends and gold distributions was carried out.
	<ul> <li>Discussion of basis for using or not using grade cutting or capping.</li> </ul>	
	<ul> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	All tonnages are estimated on a dry basis.
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	The mineral resources were reported at a 0.5 g/t Au grade cut-off for Nolans East / Sarsfield. This cut off was chosen as the insitu marginal cut- grade estimation, using current Ravenswood economic parameters, indicates that this is applicable for open cut mining methods.
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the</li> </ul>	Mining methods for the extraction of gold at Nolans East / Sarsfield has primarily been by open pit and underground methods. It is anticipated that large scale open pit mining methods will be applied for the remaining resources. Grade control of ore blocking will be based on sampling from high quality reverse circulation drilling spaced at approximately 5mE by 12.5mN with samples taken at 1.5 metre intervals down-hole.



Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	<ul> <li>process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	Nolans East / Sarsfield pit was mined historically using standard open pit mining methods with a backhoe type excavator to excavate benches. Below the open cut, underground open stope underground mining methods were used historically dating back to 1870. Historically, (1870-1918) + recent (1987-2005) production, totaled around 400koz of high grade gold. Crushing at Nolans East / Sarsfield will be either single stage or in three stages depending on the gold grade of the material to be crushed. Some minor adjustments to the current circuit used for Mt Wright ore will be required. Gold is recovered using single-stage crushing, milling (SAG + ball), gravity circuit (Knelson Concentrator), and a CIL circuit. Gold is recovered from loaded carbon in a four tonne capacity AARL elution plant. Gold is then deposited on to stainless steel cathodes in an electrolytic circuit. Gold will be poured into dore bars, containing approximately 80% gold and 20% silver.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the	The Nolans-Sarsfield operation at Ravenswood is centred on the Nolans plant site. Ore from the Mt Wright underground mine is currently trucked to the plant for extraction and refining of gold. The tailings from this mineral processing are discharged into the Sarsfield Open Pit. These tailings are potentially acid forming and subaqueous settlement beneath a pit lake (water cover) prevents the oxidation of the stored tailings. It is envisaged a future restart of mining at the Nolans East / Sarsfield will incorporate the Sarsfield Open Pit tailings storage facility currently being used.



Criteria	JORC Code explanation	Commentary
	mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfield project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Some waste rock from future mining of a cut-back at Nolans East / Sarsfield may be potentially-acid forming while the majority of waste rock will be non-acid forming. Waste rock dumping has been scheduled, along with encapsulation designs and optimization determined to minimize the risk of acid forming conditions from the waste rock dumping landform. The rehabilitation plan of that landform is also a key control. Tailings generated from the overall life of mining from a Nolans East / Sarsfield cutback would not have a net acid forming potential and will be placed in the current regulated storage facility.
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation</li> </ul>	<ul> <li>A substantial body of rock density (SG) measurements for the Nolans East / Sarsfield deposits were collected by BPB Slimline Services in 2 campaigns during 1995-1996. Gamma-gamma density logging was collected from a total of 14 drill holes with samples taken at 10cm intervals over a combined total length of 2,900 metres.</li> <li>A total of 2,551 readings were made of fresh rock from which an average value of 2.781 was calculated.</li> <li>Minimum Value 2.365</li> <li>Maximum Value 3.002</li> <li>Average Value 2.781</li> <li>Median Value 2.78</li> <li>Std. Deviation 0.05019</li> <li>A Bulk Density of 2.78 has been used for this study.</li> </ul>
Classification	<ul> <li>process of the different materials.</li> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> </ul>	The gold estimates within each block have been classified according to the distribution of sampling in the kriging neighbourhood. This classification scheme takes into account the uncertainty in the estimates related to the proximity and distribution of the informing composites.



Criteria	JORC Code explanation	Commentary
	• Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	A progressively less stringent three pass search strategy produces the three categories of confidence. The highest confident estimate uses a search ellipse of approximately the same dimension of the block dimension and a significant number of resource composites selected from within an octant constraint. The search radii are expanded and sample criteria relaxed for the second and third categories.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No audits or independent reviews have been undertaken on the current Mineral Resource estimates.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of	The relative accuracy of the Mineral Resource estimate is reflected in the reporting of Measured, Indicated and Inferred. The resource's relative accuracy is based on data quality, data quantity, geological confidence and the estimation accuracy. The precision of the estimation is globally acceptable with the assumption that at a mining level more detailed
	statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	grade control drilling will be undertaken. The geostatistical techniques applied to estimate the Nolans East / Sarsfield deposit are deemed appropriate for the anticipated bulk mining method proposed.
	<ul> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation.</li> </ul>	



Criteria	JORC Code explanation	Commentary
	Documentation should include assumptions made and the procedures used.	
	<ul> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	

## Section 4 Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	Resources and Reserves at Nolans East / Sarsfield are reported above a 0.5 g/t cut-off. This was calculated as a marginal cut off utilising open pit mining methods.
conversion to Ore Reserves	Clear statement as to whether the Mineral	Material below this cut-off is not considered in the resource.
	Resources are reported additional to, or inclusive of, the Ore Reserves.	Ore Reserves are the material reported as a sub-set of the resource, that which can be extracted from the mine and processed with an economically acceptable outcome.
		Reported Ore Reserves are exclusive to the Resources.
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.	Mr Richard Bray who is a Registered Professional Geologist with the Australian Institute of Geoscientists and Mr Andrew Goode, a member of The Australasian Institute of Mining and Metallurgy are the Competent Persons. Both have conducted regular site visits to the Ravenswood Project location.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Pit optimisations were completed using the Lerchs-Grossman (LG) algorithm to calculate the optimal pit at specified input parameters that were determined prior to the study. A wireframe pit shell for each gold price considered was the resultant output. One of these was selected as the base for the new pit design.
	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	



Criteria	JORC Code explanation	Commentary
	material Modifying Factors have been considered.	
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Cut-off grades for the mine design were calculated using current budget cost models, including contractor estimates and actual cost data. Processing recovery and other factors were determined from actual current performance, or historic/estimated data. The mine design was completed using the output from the LG algorithm.
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	The open pit mine design is based on normal sequential bench mining methods. The orebody comprises quartz veins and some disseminated mineralisation hosted within a granodiorite batholith. Mining incorporates a single access ramp into the pit, 10m bench height mined as a series of four flitches.
	by application of appropriate factors by optimization or by preliminary or detailed design).	Orebody cut offs are applied during the pit optimisation process. Only Measured and Indicated ore has been used to compile the pit shell and associated 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.	A minimum mining width of 40m has been applied. Ramp widths are set at 26m (double lane – 777 haulage truck) for the upper sections and then narrowed to single lane
		Mining dilution and recovery are addressed in the model method (MIK) and the utilisation of flitch mining.
		There are currently no Inferred Resources included in the life of mine plan or Ore Reserves.
	The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling. The major assumptions made and Mineral Resource model used for pit and stope optimization (if appropriate).	Grade control will be based on sampling from high quality reverse circulation drilling spaced at approximately 5mE by 12.5mN with samples taken at 1.5 metre intervals down-hole.
		All Grade Control sampling assays are determined on a PAL system on the mine site. Standard QAQC protocols will be applied which comprise of 1 in every 10 samples.
		Existing geotechnical parameters, used in previous mining and validated through external consultant studies, have been applied;
	The mining dilution factors used.	Oxide – Single 10m bench height with a batter face angle of 60° and berm width of 8m
	The mining recovery factors used.	
	Any minimum mining widths used.	Fresh - Double stacked 10m high benches (20m overall height) with a batter face angle of 80° and 7m berm width.
		Inferred resources are not considered within the pit design process.
	The manner in which Inferred Mineral Resources are utilized in mining studies and the sensitivity of the outcome to their inclusion.	Minimal infrastructure is required for the selected mining method with the exception of new ramp access into the existing void. Other required infrastructure is already in place. The waste dump will require expansion but sufficient space exists within the lease to do this.
	The infrastructure requirements of the selected mining methods.	



Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	<ul> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralization.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the ore body as a whole.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	Gold is recovered using single-stage crushing, milling (SAG + ball), gravity circuit (Knelson Concentrator), and a CIL circuit. The metallurgical process is well-tested technology. The processing plant has been operating in its current configuration for several years and no significant changes to the circuit are anticipated. No deleterious elements have been experienced to date and are not expected. No bulk samples were deemed necessary due to the current successful metallurgical performance of the extraction methods applied.
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization 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.	The Ravenswood Project is in the mature phase of its operating life. Its environmental management is permitted by an Environmental Authority and supported by an Environmental Management Plan. The rock formations have a very low permeability and the mine is a net user of water for operational purposes. An acid base accounting study was conducted on the Nolans East / Sarsfield open pit mine's ore and waste, determining the waste to be non-acid forming and the ore to be potentially acid forming. Process plant tailings is stored in an approved storage facility.
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 site is currently serviced by mains power, a water supply line from the Burdekin River and accessed by sealed roads. There are two mains power feeds available in the event that one becomes unserviceable. The site is located approximately 120km from Townsville and 90km from Charters Towers. A bus service operates twice a day to and from Charters Towers and serviced camp style accommodation is available to all employees in Ravenswood.



Criteria	JORC Code explanation	Commentary
		Being close to major centres, one of which with an International Airport ensures easy and quick supply of parts and materials.
		Carpentaria Gold has sufficient area on its leases to cater for its planned land requirements.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	The operating history of the mine has validated the capital requirements. Projected capital costs are made up of forecast capital spend for the known capital expenditure requirements. The capital estimate is determined by the needs of the site as required to continue to produce in a safe and efficient manner and comply with all environmental requirements.
	The methodology used to estimate operating costs.	Operating costs have been calculated from first-principles using both fixed and variable components. Recent operating history and performance against budget costs has validated the cost assumptions.
	Allowances made for the content of deleterious elements.	
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Assumed gold prices have been derived by reference to recent AUD spot gold prices.
		All revenue and cost estimates have been made in AUD, so exchange rate assumptions have not been necessary.
	The source of exchange rates used in the study.	Transportation charges have been derived from existing contractual arrangements.
	Derivation of transportation charges.	Refining charges have been derived from existing contractual arrangements.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Current Queensland Government royalties equal to 5% of sales proceeds are included in the cost model. There are no other royalties or Joint Venture agreements.
	The allowances made for royalties payable, both Government and private.	
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.	It has been assumed that gold will be sold at the prevailing spot gold price. All revenue and cost estimates have been made in AUD, so exchange rate assumptions have not been necessary. Transportation charges have been derived from existing contractual arrangements. Refining charges have been derived from existing contractual arrangements. Assumed gold prices have been derived by reference to recent AUD spot gold prices.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	
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.	There is a transparent quoted market for the sale of gold.



Criteria	JORC Code explanation	Commentary
	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.	
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.	A variety of gold price points and discount rates were used to assess the robustness of the project, likely payback periods, the breakeven point and the projected internal rate of return. In the estimate, a discount rate of 10% was used and a gold price of A\$1,575 per oz.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	
Social	The status of agreements with key stakeholders and matters leading to social license to operate.	The Resolute group has a good relationship with neighbouring stakeholders, including engagement with the local pastoralists. Part of the tenure held by the Company is located on leasehold pastoral land with compensation agreements in place with the local pastoralist. Granted mining leases cover all of the proposed mining and processing assets and there are no Native title claims pending.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	Events such as cyclones and fires present a risk, although due to risk mitigants, these naturally occurring risks, have not impacted the estimation or 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	



Criteria	JORC Code explanation	Commentary
	contingent.	
Classification	The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the	Only Measured Resources are converted to Proved Reserves
		Only Indicated Resources are converted to Probable Reserves
	Competent Person's view of the deposit.	Inferred Resources are not included in the Ore Reserves
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	The Resource to Reserve conversions was deemed appropriate for the Nolans East Ore Reserve estimates by the Competent Persons.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	No external audits of resources / reserves were undertaken. Due to the success and maturity of the processes applied, the company has deemed this unnecessary. However, periodic reviews of the mining methods have been undertaken and reported as very successful.
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.	Recent historic operational performance against the mine plan for tonnage produced and production head grade, indicate the assumptions used to generate the Ore Reserves, are valid.
		There has been over the life of the Sarsfield / Nolans Project strong mine to mill reconciliations. The updated Ore Reserves, are the same mineralisation being mined with similar sized mining equipment being used.
		The same mining and grade control methods will be applied and the ore will continue to be processed through the existing facility.
		Assuming all QA/QC standards are applied in the drilling, mining and processing, then it is reasonable to expect similar levels of operating margins, experienced in previous years.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	All the parameters assumed and adopted along with financial modelling and analysis have been subject to internal peer review.
	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 recognized that this may not be possible or	



Criteria	JORC Code explanation	Commentary
	appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	