



## Ballarat Gold Project - Mine Plan Revised

Castlemaine Goldfields Limited (ASX:CGT) provides an update on the Ballarat mine plan as a follow-up to the previous ASX Release dated 7 November 2011.

### SUMMARY

- The Ballarat Mine re-commenced gold production on schedule in September 2011, and embarked on a six to nine month ramp-up in activities. To date, over 1,700 metres of underground development has been completed, and 28,000 tonnes of ore mined.
- Mining of the higher grade Mako target remains the primary objective notwithstanding a shortfall in tonnes and grade from upper and smaller satellite targets mined while development continues.
- This shortfall has prompted a review of the mine plan and schedule which now focuses purely on accessing the Mako Fault Zone. Other areas of expenditure have been eliminated or cut back as appropriate.
- Snowden Mining Industry Consultants were engaged as part of this review. Their report endorses the Company's approach of drilling for preliminary evaluation and development to determine economic viability.
- Work conducted has resulted in a JORC Inferred Resource for the Mako Fault Zone of 100,000 tonnes at 10.5g/t Au for 33,100 ounces of gold<sup>1</sup>.
- The Snowden report also quantified Exploration Targets beyond the Mako Lode Resource in the range of 400,000t to 750,000t at a grade of between 4 g/t and 8 g/t, for between 70,000 and 165,000 ounces of gold<sup>2</sup>.
- Results to date suggest there is an 8,000 ounce shortfall in planned gold production while developing down to the primary Mako target. Discussions are occurring for a capital raising to replace the lost revenue from the shortfall in ounces. There has been no cost over-run in the operations, and the operations to date have been conducted safely and otherwise within budgeted parameters.

### BACKGROUND

The re-commencement of underground development at the Ballarat Mine started in March 2011, and processing plant re-commissioning commenced on time and budget during the September quarter, with first bullion production occurring on 26 September. In the September Quarter, the Company advised that it would take until mid 2012 to develop sufficient operating headings to achieve forecast steady state production. The Company is just 3 months into this ramp-up.

Re-commissioning of the gold processing plant was planned to be on low grade ore, however the small satellite ore sources being mined to date have not performed to expectations, resulting in an anticipated 8,000 ounce shortfall over the first 6 months of mine ramp-up.

A review of the mine plan and associated schedule was therefore timely to ensure that the original project objective of reaching the higher grade main Mako Fault Zone in the Llanberris Compartment was achieved in the shortest time possible. A review of the mine plan required that activities were prioritised accordingly, and a review of all expenditure conducted.

<sup>1</sup> Mineral Resources which are not Ore Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, operational cost, metal price, mining control, dilution or other relevant issues. There has been insufficient exploration to define these Inferred Mineral Resources as an Indicated or Measured Mineral Resource, as there are insufficient close-spaced drill hole data to adequately define grade and geological continuity for this structurally complex deposit. It is uncertain if further exploration will result in upgrading the Inferred Mineral Resource to an Indicated or Measured Mineral Resource category or to Ore Reserves.

<sup>2</sup> An Exploration Target is a hypothetical view of mineralised reef which is not necessarily economic. It is not a Mineral Resource or Ore Reserve. There is no guarantee that tonnages will be either realised or economic. Further study, including underground development and diamond drilling is required.



### COMPANY DETAILS

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#### ASX CODE: CGT

#### Corporate Information:

Shareholders	~2,000
Shares on Issue	152.8 million
Options (unlisted)	315,000

#### Directors:

##### Non-Executive Chairman:

Gary Scanlan

##### Managing Director:

Matthew Gill

##### Non-Executive Directors:

Drew Henry

Peter Lester

Peter McCarthy

## **MINE PLAN SUMMARY**

The primary objective of the original mine plan was to develop down to the large basal portion (Mako Lode) of the mineralisation known as the Mako Fault Zone identified in the Llanberris compartment and which has been identified further north into the Britannia compartment. In parallel, the plan allowed for the extension of the Woah Hawp Decline into the Britannia compartment to allow delineation drilling of the Mako Fault Zone there, ahead of any decision to commit funds to develop into and extract any identified mineralisation from the Britannia compartment.

### **The recent review of the mine plan re-confirms these two objectives.**

The revised mine plan gives priority to extending the Lower Llanberris Decline, now only 400 metres from the Mako target (see Figure 1), with this target being reached in March 2012.

One diamond drill rig will continue to in-fill the Mako target and other identified lodes within the Llanberris compartment to provide the necessary geological knowledge to support mine planning and scheduling.

It is to be noted that risks remain on the geology and grade estimation as detailed in the Independent Technical Review referred to in this update and a copy of which is available on the Company's website: [www.cgt.net.au](http://www.cgt.net.au)

Ore mining will continue as a secondary priority in those areas already developed for extraction. Over the next four to five months, this is expected to produce between 1,000 and 3,000 ounces of gold bullion<sup>3</sup>. The mine plan allows for several months of in-reef mining in the higher grade Mako Lode to demonstrate its geology and grade performance, prior to re-ramping up activities such that by the end of 2012 it is anticipated that the operation will reach its targeted 50,000 ounces annualised gold production run-rate. Accessing the Mako earlier than originally planned is a positive outcome as it brings forward higher grade tonnages.

It is expected that between 20,000 and 23,000 ounces of gold will be produced<sup>3</sup> in the second half of 2012. As with the original mine plan, gold production into 2013 is contingent on exploration success drilling into the Mako Fault Zone in the Britannia compartment.

Mine development to date has also established the planned Britannia drilling platform from the extended Woah Hawp Decline, and drilling from this platform into the Mako fault Zone in the Britannia compartment has been deferred until February next year. Four months of drilling is allowed for before any decision is made to re-commence mine development to access any identified mineralisation in the Britannia compartment. The revised mine plan assumes mine development into the Britannia compartment re-commences in mid 2012, allowing six months to access any new ore sources identified from that drilling.

Regional exploration activities will be curtailed during 2012 to allow focus on the Ballarat operations.

## **INDEPENDENT TECHNICAL REVIEW**

In support of the mine plan, the company engaged Snowden Mining Industry Consultants ("Snowden") to conduct an Independent Technical Review of the Ballarat Gold Project. The scope of work covered orebody knowledge, drilling and sampling, Mineral Resource estimation and comment on the Exploration Target potential of the Ballarat East goldfield. The report focused on the geological background, the reasonableness of processes, a Mineral Resource estimate on the Mako Lode (Llanberris Compartment), Exploration Targets on the Mako Fault Zone including the Tiger Lodes (Llanberris Compartment) and Britannia Compartment; and a view of geological risk on CGT's revised business model.

The report concluded that:-

- Snowden has undertaken a review of procedures, and geological and assay data quality at the Ballarat Gold Project. It finds no fatal flaws. Snowden believes that the database is a major asset to the company that will continue to help to drive exploration, resource definition and mining.

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<sup>3</sup> Gold production figures are estimates only. Production of gold is contingent on a number of factors including geology, gold grades, mining conditions and performance, operational issues and economic considerations.

- <sup>1</sup>An *Inferred Mineral Resource* totalling 100,000 t at 10.5 g/t Au for 33,100 oz Au is reported in accordance with the 2004 JORC Code for the Llanberris Mako Fault Zone (refer Appendix 1). Resource grade is reported within a range of 5 g/t Au to 12 g/t Au to indicate likely variability. The resource estimate is global in nature and reported at a 0 g/t Au cut-off. Based on a review of mining and cost parameters, Snowden considers that the resource has reasonable prospects for economic extraction.
- <sup>2</sup>An *Exploration Target* in the range 400,000 t to 750,000 t at a grade of between 4 g/t Au and 8 g/t Au for 70,000 oz Au to 165,000 oz Au has been determined for the Llanberris (Tiger) and Britannia (Mako) Compartments of the First Chance Line, and the Llanberris and Britannia Compartments on the Sulieman Line. The Victoria Compartment on both the First Chance and Sulieman Lines carries additional potential with no target set for this or other northern extents to the goldfield.
- Technical challenges at Ballarat relate to geological and grade risk. Key risks are:
  - the assumption that mineralised fault zones may continue and/or repeat at depth and/or along strike based on limited drilling and historically-based geological models;
  - the risk that each lode will not have the contained gold in the mineable bodies with the shapes, sizes, grades and distributions expected; and
  - that the boundaries and internal grade distribution of the extracted bodies will not be correctly assigned ahead of mining, resulting in either or both excessive dilution or misclassification of ore as waste.
- **Ballarat in common with many gold vein systems is challenging to evaluate and is a “drill for structure and drive for grade” proposition. Snowden therefore endorses CGT’s approach of drilling for preliminary evaluation and development to determine economic viability.**

A copy of the full report can be found on the company’s website ([www.cgt.net.au](http://www.cgt.net.au))

## **COMPANY COMMENT**

Castlemaine Goldfields Managing Director Matthew Gill said “Regular reviews of an operation’s mine plan and schedule is common and simply good business, allowing ongoing updates to occur as new information is gained and fed back into the planning assumptions. We have just completed one of those reviews, and it is re-assuring that the original fundamental objectives of reaching the higher grade Mako Lode in Llanberris, and the need to drill to delineate further mineralisation in Britannia remain. We continue to in-fill drill the priority Mako target and continue to get encouraging confirmatory results. As an example, our most recent drill hole into the southern end of the Mako (CBP037) intersected significant gold in quartz, and supports our geological model of this lode (refer Figure 2).

We conducted an Independent Technical Review to ensure our plan and assumptions were reasonable, and it is very pleasing that we have been able to report an Inferred Mineral Resource for the Mako Lode in accordance with the 2004 JORC Code, and further, express an opinion on the exploration potential of the Ballarat East goldfield – a long held view and the reason the company purchased the asset and re-commenced mining.

Importantly, the Review clearly defines that risks remain on the geology and grade, and that Ballarat, in common with many coarse gold-bearing vein systems is challenging to evaluate. Snowden opine that a “drill for structure and drive for grade” proposition is appropriate, and they endorse the company’s approach of drilling for preliminary evaluation and development to determine economic viability.

We remain confident of the potential for economic gold production from the Ballarat goldfield, and we believe that accessing and commencing mining the more prospective Mako Lode will provide a first demonstration of this potential.”

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<sup>2</sup> An Exploration Target is a hypothetical view of mineralised reef which is not necessarily economic. It is not a Mineral Resource or Ore Reserve. There is no guarantee that tonnages will be either realised or economic. Further study, including underground development and diamond drilling is required.

## COMMENTARY

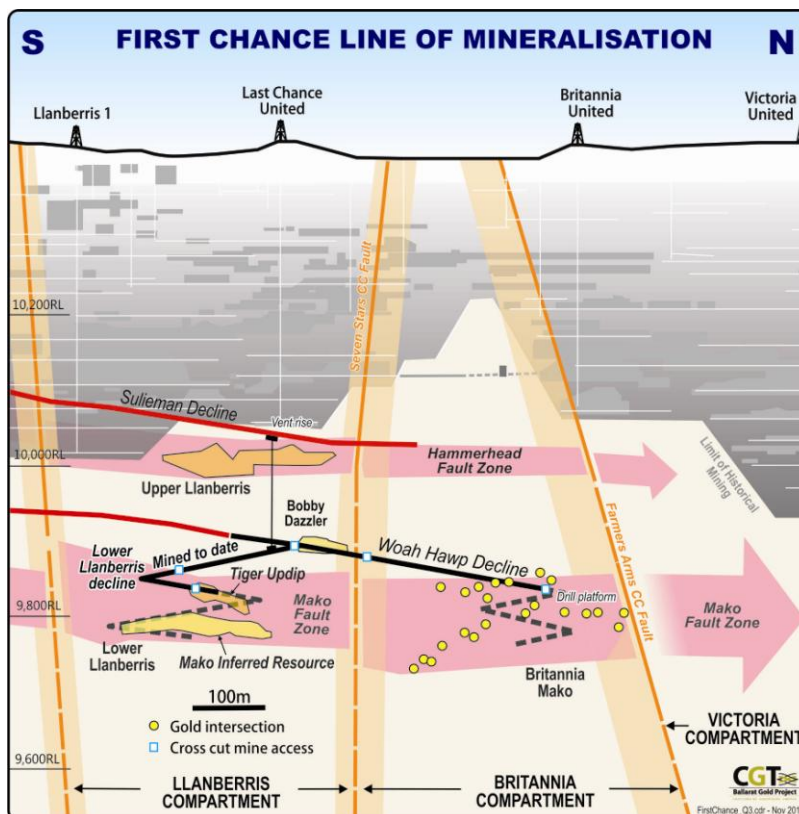
The mine re-commenced development to access the identified mineralisation in the Llanberris compartment in March of this year. To date, approximately 1,700 metres of waste development has been achieved, advancing the upper Woah Hawp Decline (WH Decline) north into the Britannia compartment, and advancing the Lower Llanberris Decline (LLB Decline) down towards the primary Mako Fault Zone (refer Figure 1). All development has occurred without any major ground condition issues, and the activities have been done safely and to schedule.

First gold was poured on schedule in September.

As at the end of October, the LLB Decline had advanced half way down the primary Mako Fault Zone, with approximately 400 metres remaining to intersect the primary Mako Lode target.

Certain hangingwall lodes within the Mako Fault Zone were identified in the original 2010 phase of drilling into the Llanberris compartment. Collectively these relate to a series of faults named Tiger, with the Tiger South Lode targeted for first mining in the Lower Llanberris compartment (Figure 2). Mining from these satellite lodes will now be deferred until after confirmatory in-reef mining of the main Mako Lode has been achieved and further in-fill drilling of the Tiger lodes has occurred.

In-reef mining of the main Mako Lode is intended to demonstrate whether or not there does exist at the northern end of the prospective Ballarat goldfield sufficient mineralisation to sustain a profitable modern mining operation. The recent under-performance of the smaller and lower grade satellite lodes has not diminished the main Mako target potential.



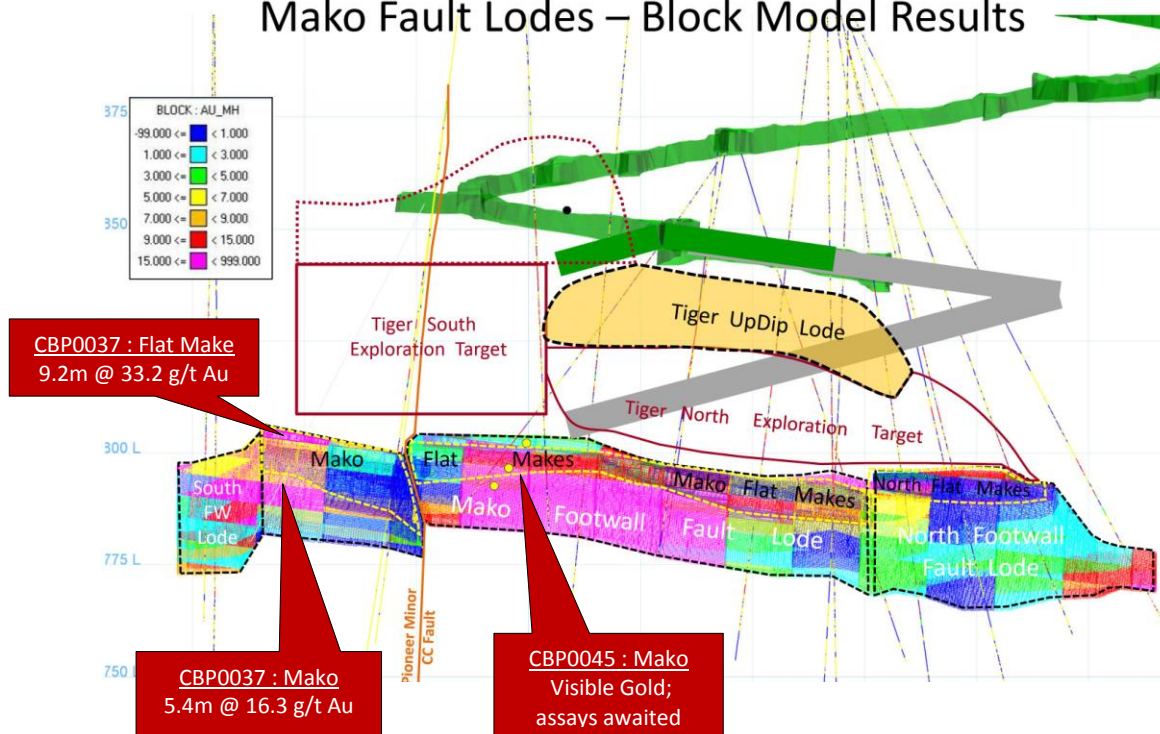
*Figure 1. First Chance Line of Mineralisation with mining and exploration areas discussed in text shown.*

In support of this revised plan, an Inferred Mineral Resource has been reported in accordance with the 2004 JORC Code for the Mako Lode (refer Appendix 1). An Independent Technical Review of the Ballarat Goldfield, and this Resource was also conducted (the Independent Technical Review report can be found on the company's website at [www.cqt.net.au](http://www.cqt.net.au)).

The Company is considering its funding requirements to execute the described mine plan and account for the short term revenue shortfall. Operational changes are being made on site, including the company's own mining team taking over the decline development to the Mako.

The Company will update the market regarding funding aspects in due course, and remains in a trading halt for the time being.

## Mako Fault Lodes – Block Model Results



**Figure 2. Long section showing the Llanberris Mako Resource Blocks and Tiger Exploration Target Zones. The red call-out boxes relate to new drill hole results not previously released but which are included in the Inferred Mineral Resource (refer Appendix 1). Only holes used within the Resource model are shown.**

### **IMPORTANT NOTE**

The project planning, mining schedule and any resources referred to in this release, other than those explicitly identified as Mineral Resources in accordance with the JORC Code, are **not** based on estimations of Ore Reserves or Mineral Resources made in accordance with the JORC Code for the Ballarat East goldfield and caution should be exercised in any external technical or economic evaluation. Considering the style of mineralisation, and particularly the uncertainty of gold grade continuity, Mineral Resource estimates of higher confidence than the Inferred Resource classification will only be possible once mining has accessed the Lower Llanberris and Britannia gold mineralisation to gain further geological and grade information. The wide spaced drilling in the Britannia mineralisation is not currently sufficient to produce a Mineral Resource estimation. CGT emphasises that no Ore Reserve currently exists and cannot be estimated until drilling results can be correlated with bulk tonnage mining outcomes.

It is also important to note that the Exploration Targets and mining assumptions described in this release are conceptual in nature and there is insufficient information to establish whether further exploration, either by drilling or mine access into the mineralisation will result in the determination of a Mineral Resource or Ore Reserve.

### **Competent Person's Statement**

#### ***Competent Person's Statement***

*Information in this document which relates to Exploration Results and Mineral Resources is based on information compiled by Mr Wesley Edgar and Dr Simon Dominy. Mr Edgar is a full time employee and Exploration Manager for Castlemaine Goldfields Limited, who is a Member of the Australasian Institute of Mining & Metallurgy. Dr Dominy is a full time employee and Executive Consultant with Snowden Mining Industry Consultants Pty Limited, who is a Fellow of both the Australasian Institute of Mining & Metallurgy and Australian Institute of Geoscientists. Mr Edgar and Dr Dominy have the relevant experience as Competent Persons, as defined in the 2004 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code)'. Mr Edgar and Dr Dominy have given and have not withdrawn prior to lodgement, their written consent to be named in this Announcement as the persons responsible for the Exploration Results and Mineral Resources statements and to the inclusion of these statements in the form and context in which they appear.*

***Appendix 1***

***JORC Code***

***Inferred Mineral Resource estimation***

***for the Mako Lode, Lower Llanberris Compartment, Ballarat East***

## **Resource Statement**

### **Mako Lode, Lower Llanberris Mineralisation**

### **Ballarat Gold Project, Victoria**

**Castlemaine Goldfields Limited ABN 63 106 760 025**

**18/11/2011**

A total *Inferred Mineral Resource* of 100,000 tonnes at 10.5 g/t gold for 33,100 ounces is estimated for the Mako Lode in the Llanberris compartment of the Ballarat Gold Project. Owing to the high nugget effect and uncertainty of geological continuity, a grade sensitivity range is estimated to be between 5 g/t Au and 12 g/t Au. Details of the resource classification are given in Table 1 with associated notes.

The Mako Lode is located 2 km south of the Ballarat central business district, Victoria, Australia. The mineralisation estimated is part of a 3 km long north-south corridor of high gold endowment known as the Ballarat East goldfield from which mining between 1856 and 1918 yielded some 1.5 million ounces of gold. The resource is within active Mining Licence MIN5396 which is fully permitted to conduct commercial mining operations. A 600,000 tonne per year gravity and cyanide leach gold processing plant is also fully operational. The licence is held by Balmaine Gold Pty Ltd which is a wholly owned subsidiary of Castlemaine Goldfields Limited who bought the project in May 2010.

There has been no JORC compliant updated Mineral Resource estimate for Ballarat East since the release by Lihir Gold Limited (LGL) in December 2007. A substantial amount of geological data has been obtained in the past 25 years of exploration and mining on the goldfield with all historical information compiled, digitised and incorporated with modern drilling logs and gold assays. This is the first resource estimate that Castlemaine Goldfields Ltd has conducted at the Ballarat Gold Project and replaces the previous estimates taking a conservative approach to the resource potential of the greater goldfield based on current knowledge and economic factors.

A total of 52 holes and 7,150 metres of diamond drilling has been completed by the Company into the Lower Llanberris mineralisation alone since May 2010. This additional information and understandings from ongoing underground mining has allowed estimation at this time.

The resource is a typical mesothermal, nuggetty gold, quartz reef type common to Central Victoria. The host rocks are Ordovician 'slate belt' type turbidite sediments. Mineralisation is hosted by sets of closely spaced, quartz veins associated with west-dipping faults ('Fault Reefs', 'Fissure Lodes', 'Leatherjackets' or 'Reef Lodes') in the east limb of the First Chance anticline.

Two separate mineralisation styles are modelled; the Fault Reef style associated with the Mako footwall fault, and the sub-horizontal Flat Make quartz veins which emanate away from the faults.

A mineralisation interpretation has been completed on nominally 25-30m spaced sections between 37875mN to 38150mN in the local mine grid coordinate system. The information on the sections was solid modeled, loaded into a block model and grade estimates were made using Inverse Distance techniques. The in situ Mineral Resource was estimated using an inverse distance power of 2 upon 0.75m assay composites with a 55 g/t Au top cut. From a range of inverse distance powers and different top cut off grades this was selected as the most appropriate gold grade estimator with results for each lode reported below in Table 1.

Hole location, geological drill logs, surveys, sampling techniques and analytical performance are to appropriate standards. Sampling, geological and estimation results have been validated by both CGT and the Competent Person. Diamond core recovery can be poor in faulted zones associated with gold mineralisation. Sample recovery is recorded and has been appropriately incorporated into this estimation. Core loss is ascribed a grade of zero.

Assay information used for estimation is either screen fire assay (-180um and later-150um screens using 50g charges) or 2000g accelerated cyanide leach (LeachWELL© 24 hour bottle roll) with AAS determination. Some intervals not containing high quartz veining or visible gold have been assayed using 50g fire assay, with any result over 0.5g/t Au being re-assayed using 1000g screen fire assay method.

The grade estimation methodology was externally reviewed by Snowden Mining Industry Consultants and deemed suitable for the style and classification of resource.

**Table 1. JORC<sup>[A]</sup> Inferred Mineral Resource for the Llanberris Mako Fault Lodes - November 2011.**

Ore zone	Class <sup>[1]</sup>	Tonnes <sup>[2,6]</sup>	Grade <sup>[3,6]</sup>	Grade range <sup>[4,6]</sup>	Ounces <sup>[5,6]</sup>
<b>Inferred Mineral Resource<sup>[7,8]</sup></b>					
Central Lode	1	37,000	12.5	6 – 14	14,900
Central Make Zone	1	33,000	9.0	4 – 10	9,500
North Lode	2	14,000	3.5	2 – 4	1,600
North Make Zone	2	8,000	15.5	8 – 15	4,000
South Lode	2	8,000	12.0	6 – 14	3,100
<b>Total</b>	<b>-</b>	<b>100,000</b>	<b>10.5</b>	<b>5 – 12</b>	<b>33,100</b>

<sup>[A]</sup> Australasian Code for Reporting of Mineral Resources and Ore Reserves, Prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC), 2004.

<sup>[1]</sup> Class 1: Central Zone dominantly interpolation. Class 2: Extremities of the mineralisation wireframes and dominantly extrapolation, which can be based on a single section or single hole on section level of drill support.

<sup>[2]</sup> Tonnage figures are rounded to the nearest 1000 t.

<sup>[3]</sup> Grades are rounded to the nearest 0.5 g/t Au. Current resources are effectively reported at a zero cut-off grade where it is assumed that most 'mineralised material' will be mined and processed. The estimate is global in nature.

<sup>[4]</sup> In an attempt to be more transparent about grade uncertainty a *grade range* can be used. CGT has defined a range for each ore zone based on an opinion of likely expectation. A range of -50% to +15% has been applied. The low case of -50% is based on experience and the general expectation for the Inferred category. The up-side of +15% is based on recognition that high grade pockets may locally increase grade at Ballarat. Range grades are rounded to the nearest whole grade.

<sup>[5]</sup> Total ounces are rounded to the nearest 100 oz Au.

<sup>[6]</sup> Figures may not compute exactly due to rounding.

<sup>[7]</sup> Mineral Resources which are not Ore Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, operational cost, metal price, mining control, dilution or other relevant issues. There has been insufficient exploration to define these Inferred Mineral Resources as an Indicated or Measured Mineral Resource, as there are insufficient close-spaced drill hole data to adequately define grade and geological continuity for this structurally complex deposit. It is uncertain if further exploration will result in upgrading the Inferred Mineral Resource to an Indicated or Measured Mineral Resource category.

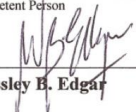
<sup>[8]</sup> Note that global grades include internal low-grade diluting material (within resource wireframe), but do not include mining dilution. As a result, grades may be considerably lower due to mining dilution.

Bulk Density: 2.65 g/cm<sup>3</sup>

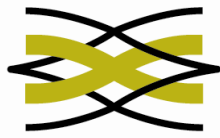
*Information in this Resource Statement which relates to Exploration Results and Mineral Resource of the Mako Lode within the Lower Llanberris mineralisation, Ballarat East Goldfield, Central Victoria, is based on information compiled by W. B. Edgar. Mr W. B. Edgar, with 21 years industry experience, is a Member of the Australasian Institute of Mining and Metallurgy and Society of Economic Geologists and a full time employee of Castlemaine Goldfields Limited as Exploration Manager.*

*Mr Edgar has given, and has not withdrawn prior to lodgment, his written consent to be named in this Resource Statement and to the inclusion of this statement in the Resource Statement, in the form and context in which it appears. He has more than 5 years relevant experience as a competent person, as defined in the Australasian Code for reporting of Exploration Results, identified Mineral Resources and Ore Reserves in relation to the mineralisation being reported on.*

*Mr Edgar has read and understood the requirements of the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("2004 JORC Code"), plus relevant Australian Stock Exchange (ASX) Companies Updates.*

Competent Person  Wessley B. Edgar
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**CASTLEMAINE  
GOLDFIELDS  
L I M I T E D**

***MINERAL RESOURCE REPORT***  
***BALLARAT GOLD PROJECT***  
***MAKO LODGE***  
***(within the Lower Llanberris Deposit)***

Vol 1 of 1

*CGT REPORT NUMBER: 11/001R*

**HELD BY: Balmaine Gold Pty Ltd**

**MANAGER & OPERATOR: Castlemaine Goldfields Limited**

**COMPETENT PERSON / AUTHOR:**  
Wessley B. Edgar

**CONTRIBUTING AUTHORS / PRACTITIONERS:**  
Robert Stevenson  
Matthew Hernan  
Cameron Klutke  
Luke Olson

November, 2011

**PROSPECT: Lower Llanberris Deposit**

**MAP SHEETS: 1:250,000: BALLARAT; SJ 54-08, 1:100,000: 7622; BALLARAT**

**GEOGRAPHIC COORDS**                      **Min East: 253,000mE**                      **Max East: 253,140mE**  
**Min North: 5,837,200mN**                      **Max North: 5,838,300mN**

**COMMODITY: Au**

**KEY WORDS: Mako Fault, Mako Lode, Mako Fault Zone, Lower Llanberris, Tiger Faults, Mineral Resource, Inferred Resource, Ballarat Gold Project, MIN5396, Gold**

**Distribution:**

- o Castlemaine Goldfields Limited, Ballarat Office Library:**
- o Snowden Mining Industry Consultants**
- o Matthew Gill**
- o Wessley B Edgar**

## Executive Summary

The Ballarat Gold Project is being re-developed at the northern end of the goldfield by Castlemaine Goldfields Ltd to access two primary targets, Lower Llanberris and Britannia for gold production. The Company has begun mine development to the Lower Llanberris and is now some 400m short of accessing the lower high grade lodes. It is now in a position in the Britannia compartment to drill the Mako exploration target there which is sought to be the second area of gold mining.

A Resource estimate has been performed to quantify the degree of gold mineralisation within the Mako Lode which is the largest and most continuous mineralised zone within the Lower Llanberris deposit. The Lower Llanberris Exploration Target comprises a strongly defined basal fault known as the Mako Fault and a series of west dipping similar faults associated with lesser quartz veining and gold mineralisation within its hangingwall to distances of approximately 50m across. The strongest of these hangingwall faults is the Tiger about which recent high grade gold intersections received from drilling suggest good exploration potential for additional resources.

A mineralisation interpretation has been completed on nominally 25m spaced sections between 37875mN to 38150mN in the local mine grid coordinate system. The information on the sections was solid modeled, loaded into a block model, tonnage calculated and a grade estimate was made using various Inverse Distance techniques at a range of top cut off grade levels. The in situ mineral resource was grade estimated for the 5 lodes using an inverse distance to power of 2 and 55 g/t Au top cut using 0.75m composite assays with results for each reported below in Table 1.

**Total Inferred Resources are 100,000 tonnes at gold grades of between 5 g/t and 12 g/t,  
for between 16,100 oz and 38,600 oz of gold.**

**At the expected gold grade of 10.5 g/t the Resource contains 33,100 ozs.**

The Resource is reported within a grade range to indicate likely variability. The resource estimate is global in nature and reported at a 0 g/t Au cut-off.

The resource estimate was undertaken by CGT staff and subsequently reviewed by independent consultants Snowden Mining Industry Consultants Limited ("Snowden") to be compliant with the 2004 version of the JORC Code for reporting Mineral Resources. Based on a review of mining and cost parameters, Snowden considers that **the resource has reasonable prospects for economic extraction.**

### Geology and Mineralisation

Mineralisation at Ballarat East occurs within Lower Ordovician sandstones, siltstones and mudstones that have been weakly metamorphosed and tightly folded about north-trending axes. The western limbs of the anticlines dip approximately 70°W, eastern limbs 85°W to 85°E and fold axial planes dip approximately 80°W. The regional strike of the bedding is northerly.

The quartz veins are located predominantly within the eastern limbs of folds in structurally controlled bodies known as Fault Reefs (historically called leatherjackets, or fissure reefs), Verticals and Flat Makes. Fault lodes and flat makes are pertinent to the current discussions, though the importance of vertical structural controls for locating small very highly concentrated areas of gold is also recognised.

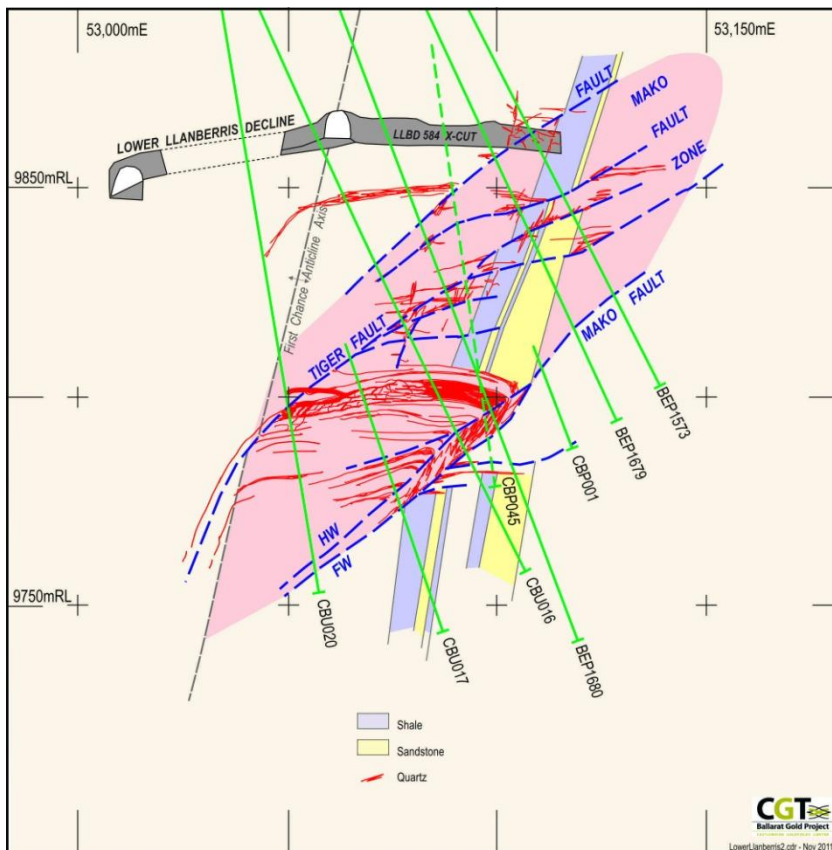
- Fault Reef lodes are quartz vein systems developed on 45°W dipping faults within the near vertical eastern limbs of anticlines. These lodes were the major gold producers within the goldfield and consist of envelopes or networks of irregular quartz veining developed close to the fault structures. This quartz mineralisation style is equivalent to the reef quartz associated with faults and gold mineralisation in the Wattle Gully mine at Castlemaine. Shallow to sub-horizontal east dipping faults which are associated with high-grade gold typically form stacked vein systems abutting the quartz lode. These envelopes attain widths over 20 m, dip dimensions up to 100 m and strike lengths of up to several hundred metres. Lode dimensions are variable with rapid pinches and swells in all directions. Individual veins within the envelopes range in thickness up to several metres. Generally, the veins have a crosscutting relationship with both bedding and cleavage and combine to form a network or stockwork of quartz veining.
- Flat Makes – a series of relatively straight, sharp edged, sub-horizontal ( $\pm 20^\circ$ ) quartz veins. The veins crosscut both stratigraphy and cleavage, and range up to several metres in thickness with lengths of up to 50 m. They have developed in response to dilatant tension gash-type features and commonly emanate from the leatherjacket and vertical structures.

- Verticals are fault and vein structures which are parallel to the sedimentary bedding or fold cleavage planes. Historically at times called “Indicators” these can often be found at major lithological contacts or within larger slate units. At times these are no more than subtle shear kinks, and are expanded to include steeply east dipping structural vein arrays. None of this specific style of structural control has been modeled as part of the resource estimation.

Gold distribution at Ballarat East is classic coarse-gold style with a high nugget effect. Gold grades over a few metres may reach 100 g/t Au or higher, but reduce to a few g/t Au out of the high grade. Ballarat East is reported to bear localised high grade pockets or jewellery shops. By example the central Mako Lode contains a drill interval of faulted quartz containing visible gold that reports an average gold grade of 1400 g/t across a 3m section of core. This extremely high grade area has recently been verified by new drilling with positive correlation of high grades based on the degree of coarse visible gold seen in hole CBP0045 (assays awaited, see Figure 1).

The Mako Fault Zone comprises a significant set of major west-dipping structures with strike continuity of at least 300m in the Llanberris compartment. It is a stacked set of irregularly spaced mineralised faults in the east limb of the First Chance anticline with common shallow fault splays off the major Mako and Tiger faults. Sub vertical quartz veining and alteration corridors are developed along fold cleavage and bedding planes which are steeply inclined to the west with the eastern fold limb being found slightly overturned (see Figure 1).

The Mako fault is interpreted as a moderately west dipping fault with parallel hangingwall faults and fault splays which host multiply fractured and annealed quartz veining commonly termed either “Fault Reef” or “Fissure Style” in the Victorian goldfields. This quartz is very stylonitic within the faulted areas although can be both cross-cutting, and cross cut by more massive “Bucky” tensile quartz veins and chaotic orientated spur veins (large and small). The tensile quartz veins occur typically as sub-horizontal sets of veins, with planar vein contacts, and are herein referred to as “Flat Makes” that occur up to 2-3m thick (larger veins were historically called “King Makes”).



**Figure 1** Cross-section interpretation of the quartz veins and faulting associated with gold mineralisation in the Lower Llanberris mineralisation.

Interpretation is that where the Flat Makes emanate into the hangingwall (and lesser footwall splays) of the Mako Fault the fault contains higher quartz veining and potential for higher gold contents. This is evidenced by the observation of the coarsest gold and highest gold intervals being located between the Mako Footwall (FW) fault and the first portions of flat massive quartz veins. Elsewhere in the goldfield flat makes are known to be more predominantly occurring on the footwall areas of major faults.

Gold mineralisation occurs as free grains in massive or laminated quartz reefs on west dipping faults, or as bedding discordant spur quartz veins and flat makes. Mineralised quartz exhibits stylonitic banded or stringer textures with pyrite, arsenopyrite, base metal sulphides and numerous incidents of visible gold.

Sampling confirms the Mako Fault Zone is a typical Central Victorian coarse gold bearing reef system which is well described for the Ballarat goldfields. The distribution of gold particles is likely to be erratic and leads to a high “Nugget Effect” in drill core samples. This is similar to the Wattle Gully mine where profitable mining included small tonnages of extremely high gold grades.

## Mako Lode Drilling Data

The resource estimate is based on information from diamond drilling completed over a 20 year period, although the data from only 2 diamond holes drilled from surface prior to 2009 is used to estimate tonnages and gold grades in the model. The core from these holes, BDD008 and wedge BDD008A (drilled 1991), is of the smaller diameter NQ and BQ sizes and gold analysis was by -3mm fire assay (between quartz zones, and not expected to contain high grade gold) or -180um screen fire assay using 50g charges and AAS determination.

The majority of the holes used in the estimate are from underground drill campaigns in early 2009 (LGL), mid 2010 (CGT) and very recently (CGT September to present 2011). Samples in this period were by half cut core with analysis for gold using 1000g screen fire assay (SFA), 50g fire assay or 2000g Leachwell accelerated cyanide leach methods. A small number of full core samples are included in the data used. All >0.5g/t 50g Fire assay results were re-assayed using the 1000g SFA method.

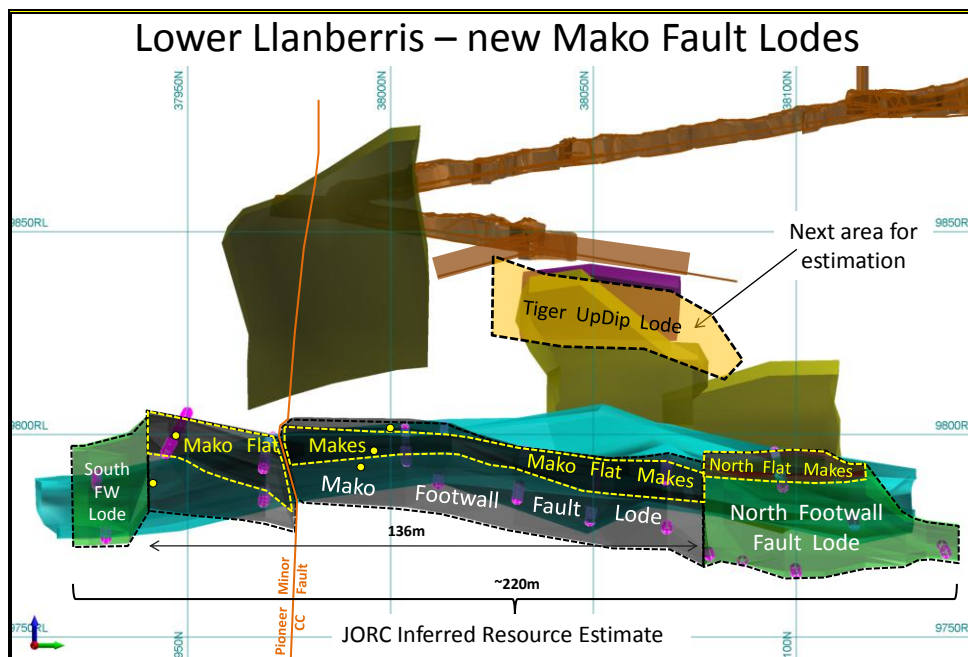
All assay techniques, quality control assurances and sample collection methods are of suitable standard for estimation purposes. Quality control standard and blank samples were used to assess laboratory performance with exception of holes BDD008 and BDD008A.

All diamond core was consistently logged to industry standards with core recovery and RQD geotechnical information also routinely obtained. Drill collar location was surveyed by qualified mine surveyors and downhole survey data is of high quality and accurate to within acceptable limits.

Spacing between drill sections is nominally 25-30m with between 4m and 30m on plane of the Mako Fault lodes and 13m to 35m horizontally across the Flat Make lodes. A bulk rock density (specific gravity or 'SG') of 2.65 g/cm<sup>3</sup> was used for tonnage calculation based on existing core measurement data which is consistent with that of other Central Victorian gold deposits in Ordovician sediments.

## Resource Estimation

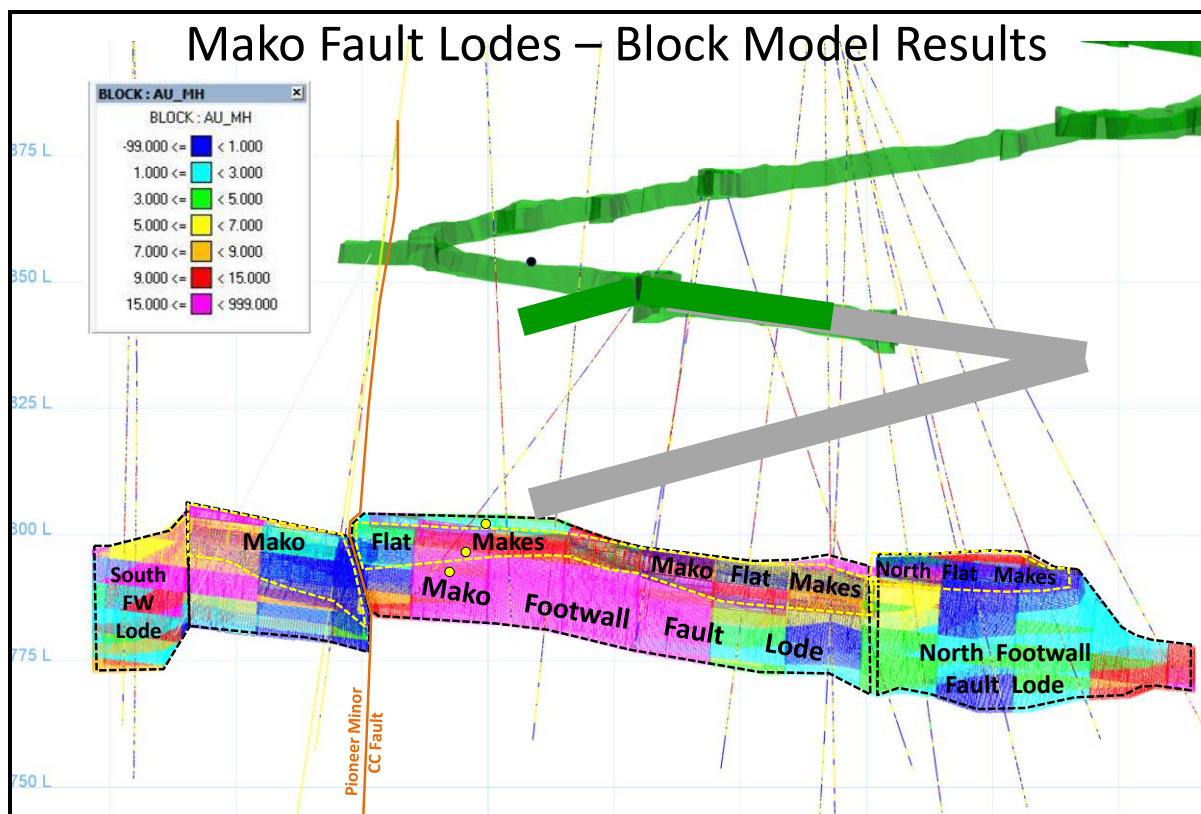
The in situ mineral resource was estimated using a Vulcan block model with wireframes based on section interpretations which separate the Mako Footwall Fault from the Flat Make mineralisation. Separate volumes were also modeled at the south and north ends of the mineralisation where less interpolation was possible. This includes a Northern Flat Make which develops at a higher level than the more continuous Flat Make in the central Mako Lode area. For the grade estimation the 5 mineralisation model shapes were treated separately. All material outside these models was ignored with the block model constrained to within the model volumes.



**Figure 2. Mako Lodes Resource shapes compared to the previous (2010) mineralisation lode shapes (Exploration Targets) for the Lower Llanberris mineralisation.**

A range of top cut off grades (none, 25 g/t, 55 g/t and 100 g/t) is used with an Inverse Distance (ID) grade estimator at different ID powers of zero, 2 and 4 to gain an understanding of short and long range variation. A top cut off of 55 g/t Au and ID<sup>2</sup> was considered the most suitable estimator given the data drill density and high nugget effect of samples. A 0.75m sample composite interval was used which is close to the mean of the sample

lengths in the local dataset, with a total of 162 composite sample assays used. A two pass ellipsoidal search was undertaken orientated to honour the two dominant elongation geometries of the mineralisation (fault & flat make). Ellipse strike dimensions were set to twice the drill spacing (60m), and Pass 2 three times (90m). Variography was not undertaken.



**Figure 3. Inferred Mineral Resource block model for the Mako Lodes coloured by block estimated gold grade. Also shown are the exploration targets within the hangingwall portions of the Mako Fault Zone in the Llanberis compartment of Ballarat East. Only holes used within the Resource model are shown.**

Most central resource sections contain 2 holes that are geologically constrained by others to the up dip (eastern) or western sides, although the south and north lodes can contain single hole sections. Geological gross continuity of controlling fault structures is established in those lodes.

The grade ranges used equate to -50% to +15% change to the base estimation outcome. These are reported to indicate likely variability of gold grades at the current level of information. No factoring to account for coarse gold or nugget effect has been used in this estimation.

The key sources of risk related to the Mako Lode Inferred Resource are those of gold grade, geological continuity and estimation risk. The grade risk is high owing to the high nugget effect making core sampling potentially unrepresentative, and large sample volumes required for reliable grade estimation. The faulted and clay character of the highest grade mineralised zones also prompts core recovery and sample loss issues which may under- or over-estimate local gold grades. Similarly the sample recovery can reduce geological information for detailed and accurate interpretation of the fault orientations, continuity of quartz vein structures and continuity of mineralisation. The broad range of lode styles across the goldfield increases complexity of interpretation and with a highly variable internal grade distribution can make grade control assignment prone to error or imprudent reactive decisions. The estimation risks by contrast appear lesser than for grade and geological continuity although the quality of data and use of applicable estimation techniques are important to reducing the overall resource risk.

### **Additional Exploration Potential**

With underground mine development now located near to the Lower Llanberis mineralisation, an infill diamond drill program is providing resolution to the Mako Fault lode and hangingwall Tiger lodes in planning for subsequent mine access. To date 22 holes for 1,850m have been completed to infill 3 target areas; the upper regions of the Tiger South, the central area around the UpDip lode and main Mako Fault mineralisation( 4 holes).

The UpDip Lode was previously associated with the up dip areas of the Mako fault; although reinterpretation of the geological data and information obtained from the single mine access into the Tiger South area now has this lode of strong faulting, quartz and gold mineralisation as part of the main Tiger fault.

The principle change to the geological interpretation is that the west-dipping fault located at the top of the Tiger South mineralised lode is shallower than previously modeled and in fact not part of the main Tiger fault which lies below this and is responsible for the high grade intersections in the newly named Tiger UpDip lode. Impact of this is that the top portion of Tiger South becomes a narrow exploration target which although containing high gold grades directly on the fault (un-named) is only practically mineable by handheld airleg or very narrow mechanised methods. Thus this area can be explored as a narrow fault target at a much later date.

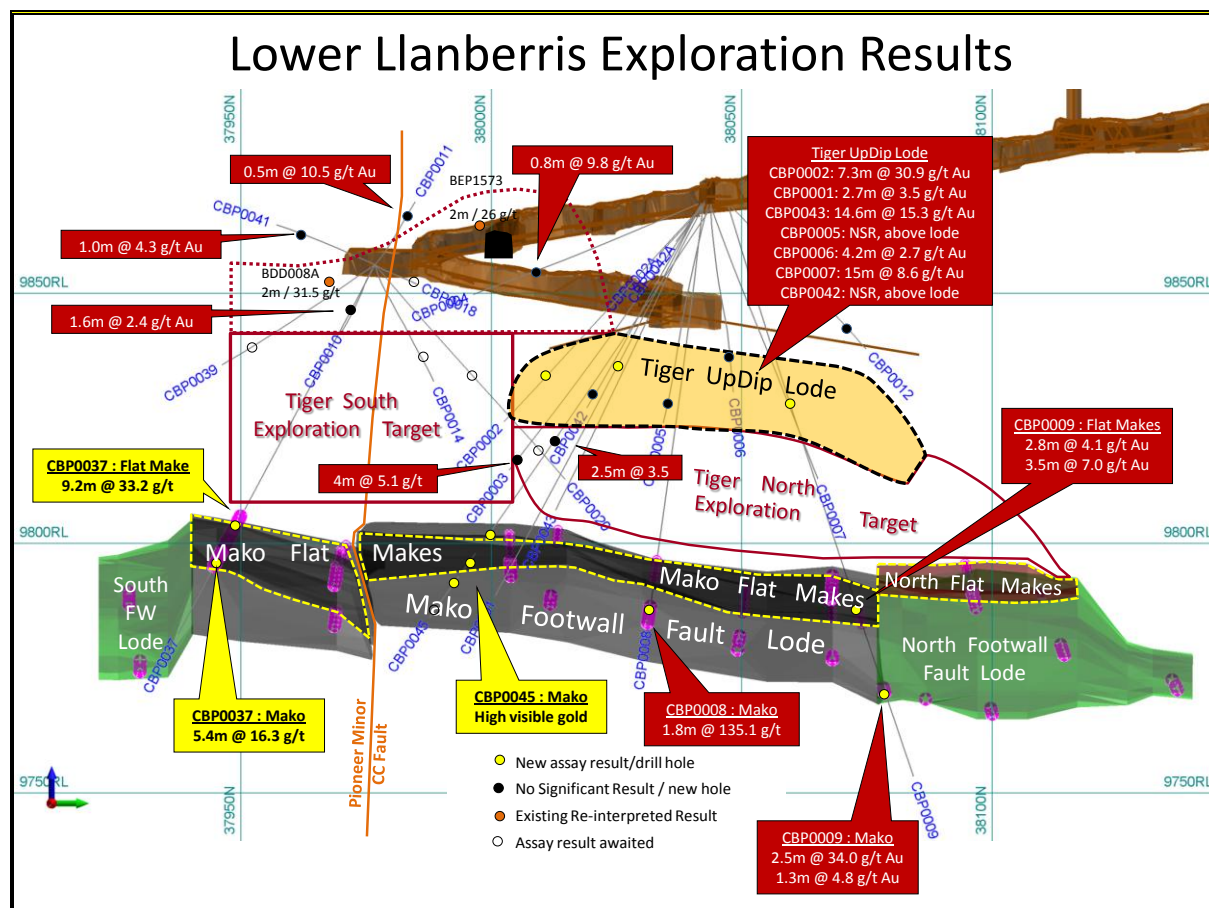


Figure 4. Exploration results for the Lower Llanberris mineralisation and Mako Lode (yellow callouts).

With appreciation that the main Tiger fault becomes flatter mid way up the Lower Llanberris mineralisation two exploration targets south and north on the Tiger fault are highlighted as holding high potential for additional gold resources with further infill drilling and/or mine access. Assay results from most holes drilled into these areas are awaited (CBP0039, 014, 018, and 020).

The Tiger UpDip in particular has provided a number of strong quartz and gold intersections from recent drilling as shown in Figure 4 and Table 2. The high grade gold intersections in Tiger UpDip Lode are approximately 10-12m in vertical height and up to 30m in horizontal width up the faults. Further drilling of this target is in progress.

## Conclusions

The Competent Person believes that the Mako Lode (Lower Llanberris) Inferred Mineral Resource as outlined in this summary has *reasonable prospects for economic extraction*, but is unable to quantify the likely level of conversion to Ore Reserves. There is some risk that part or parts of the deposit may not ultimately be mineable.

**Appendix  
Tables of Assay Results**

- All new gold assays reported here are Leachwell<sup>®</sup> cyanide leach (24 hour) 2000g analysis. A series of external standards and blanks are used to assess laboratory assay quality control.
- Intervals are length weighted grade averages with <2m internal dilution although lower grades and greater internal dilution may be included only where the dilution is predominantly quartz veining (80-100% quartz). No top cut off grade is used. Minimum sample interval is 0.3m. Core loss or unsampled intervals are ascribed a gold grade of zero.
- Some gold bearing assay intersections which relate to individual spur veins which are unlikely to be mined as individual veins have been omitted from the list of assay results. Such results are not considered material to a future mining project.

**Table 1. Significant new assay results for the Mako Fault Zone in the Lower Llanberris compartment (November drilling)**

Drillhole	Collar					Depth From (m)	Gold Intersection	Lode	Intersection mid-point		
	North	East	RL	Azimuth	Dip				North	East	RL
CBP0008	53090.64	38042.27	9867.48	159.5	-83.2	82.8	1.8m @ 135.1 g/t Au	Mako FW	53094.0	38031.4	9784.6
CBP0009	53084.15	38047.37	9867.27	4.5	-72.9	72.1	8.7m @ 4.3 g/t Au	Flat Make	53086.1	38070.6	9794.5
						72.1	including 2.8m @ 4.1 g/t Au	"	53086.0	38069.6	9797.3
						77.3	and 3.5m @ 7.0 g/t Au	"	53086.2	38071.4	9792.0
						85.0	2.5m @ 34.0 g/t Au	Mako FW	53086.3	38073.6	9785.1
						101.0	1.3m @ 4.8 g/t Au	Mako FW	53086.7	38078.5	9770.5
CBP0037	53025.00	37976.80	9855.70	117.8	-38.4	81.4	17m @ 23.2 g/t Au	Mako+Makes	53090.1	37944.6	9802.8
						81.4	including 9.2m @ 33.2 g/t Au	Flat Make	53087.3	37946.0	9805.0
						93	and 5.4m @ 16.3 g/t Au	Mako FW	53094.4	37942.4	9799.6
CBP0045	53090.90	38043.90	9867.20	170.3	-56.0	53.0	Assays awaited	Flat Make	53096.1	38013.7	9822.2
						77.1	Assays awaited; Visible Gold	Mako+Makes	53099.0	37996.7	9797.8
CBP0049	53090.90	38043.90	9867.20	142.6	-78.0	75.0	Assays awaited; Visible Gold	Mako+Makes	53101.0	38030.6	9790.4

*Table 2. Exploration assay results for the Tiger hangingwall parts of the Mako Fault Zone in the Lower Llanberris compartment*

Drillhole	Collar					Depth From (m)	Gold Intersection	Lode	Intersection mid-point		
	North	East	RL	Azimuth	Dip				North	East	RL
CBP0001	53089.59	38041.71	9867.39	147.7	-58.7	38.3	2.7m @ 3.5 g/t Au	Tiger UpDip	53100.7	38024.2	9833.6
CBP0002	53090.65	38042.16	9867.43	128.4	-33.2	39.8	7.3m @ 30.9g/t Au	Tiger UpDip	53120.3	38020.7	9844.0
CBP0003	53088.58	38042.14	9867.37	176.6	-55.0	53.0	4.0 @ 5.1 g/t Au	Tiger	53092.0	38010.0	9822.9
CBP0004	53090.50	38041.36	9867.88	129.1	-15.0	30.7	0.8m @ 9.8 g/t Au	Tiger South	53114.2	38022.8	9860.0
CBP0005	53091.22	38043.29	9867.79	100.9	-37.0	32.0	2.8m @ 8.2 g/t Au	Spurs	53118.2	38038.9	9848.6
CBP0006	53091.31	38043.86	9867.83	89.3	-30.4	49.0	4.2m @ 2.7 g/t Au	Tiger UpDip	53136.0	38047.0	9843.3
CBP0007	53090.87	38043.77	9867.60	86.8	-25.9	41.9	15.0m @ 8.6 g/t Au	Tiger UpDip	53123.7	38057.2	9833.3
CBP0010	53025.00	37976.80	9855.70	97.5	-11.8	55.3	1.6m @ 2.4 g/t Au	Tiger South	53079.8	37971.6	9844.9
CBP0011	53025.00	37976.80	9855.70	84.1	7.2	90.5	0.5m @ 10.5 g/t Au	Tiger South	53114.6	37984.4	9867.6
CBP0012	53084.12	38048.01	9867.22	63.3	-24.7		No Significant Result	-			
CBP0014	53025.00	37976.80	9855.70	85	-15.8		Assays awaited	Tiger South			
CBP0018	53025.00	37976.80	9855.70	85.2	-3.0		Assays awaited	Tiger South			
CBP0020	53025.00	37976.80	9855.70	60.9	-30.0		Assays awaited; Visible Gold	Tiger			
CBP0039	53025.00	37976.80	9855.70	117.5	-17.1		Assays awaited	Tiger South			
CBP0041	53025.00	37976.80	9855.70	102.8	5.7	67.9	No Significant Result	Above Tiger	53091.5	37962.0	9862.0
CBP0042	53091.18	38042.58	9868.34	112.2	-31.5	51.4	No Significant Result	Above Tiger	53132.9	38027.4	9841.5
CBP0043	53091.10	38042.60	9867.90	123.9	-46.9	30.4	14.6m @ 15.3 g/t Au including 3.6m @ 23.9 g/t Au and 5.3m @ 24.1 g/t Au	Tiger UpDip	53113.2	38029.2	9840.5
						32.6		"	53111.2	38030.3	9842.8
						39.0		"	53115.5	38027.8	9837.6
CBP0045	53090.90	38043.90	9867.20	170.3	-56.0	29.5	Assays awaited	Above Tiger	53094.2	38024.9	9838.6
CBP0049	53090.90	38043.90	9867.20	142.6	-78.0	33.4	Assays awaited	Tiger UpDip	53096.4	38036.7	9824.8