Annual Qualified Persons Report
for the Charters Towers Gold Project,
Queensland, Australia
for the Year Ended 31 March 2014

Prepared for LionGold Corp Ltd

Singapore

Effective date 31 March 2014

Prepared in accordance with the requirements of Singapore Exchange Practice Note 6.3

Qualified Person:
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## CONTENTS

1 Executive Summary.................................................................1
  1.1 Report Scope and Basis ..................................................1
  1.2 Project Description ......................................................1
  1.3 Geology and Mineralisation ...........................................1
  1.4 Mine Production ..........................................................2
  1.5 Mineral Resources and Ore Reserves ..............................2
  1.6 Economic Analysis .......................................................3
  1.7 Risk Assessment ..........................................................3
  1.8 Conclusions ..................................................................3
  1.9 Recommendations .........................................................4

2 Introduction ...........................................................................5
  2.1 Aim and Scope of Report ...............................................5
  2.2 Use of Report ..................................................................5
  2.3 Reporting Standard .......................................................5
  2.4 Report Authors and Contributors ..................................5
  2.5 Qualified Persons Statement .........................................6
  2.6 Basis of the Report .......................................................6

3 Project Description ..................................................................8
  3.1 Project Overview ............................................................8
  3.2 Tenure ...........................................................................9
  3.3 Tenure Conditions ..........................................................12
    3.3.1 Environmental Liabilities .........................................12
    3.3.2 Permits that must be acquired to conduct the work proposed ....13
    3.3.3 Other significant factors and risks that may affect access, title or the right or ability to perform work on the property ..........13
  3.4 Access ...........................................................................13
  3.5 Climate ..........................................................................13
  3.6 Landforms and Soils .......................................................14
  3.7 Fauna and Flora ..............................................................14
  3.8 Hydrology ......................................................................14
  3.9 Cultural Environment ..................................................15

4 History ..................................................................................16
  4.1 Exploration ...................................................................16
    4.1.1 Exploration prior to 1993 .......................................16
    4.1.2 Exploration after 1993 .........................................16
  4.2 Mining ...........................................................................17
    4.2.1 Mining prior to 1993 ............................................17
    4.2.2 Mining after 1993 ...............................................18
    4.2.3 Production Statistics ...........................................20
      4.2.3.1 Production prior to 1993 ................................20
      4.2.3.2 Production after 1993 ................................20

5 Geological Setting ....................................................................21
  5.1 Regional Geological Setting ..........................................21
  5.2 Local Geological Setting ................................................21
  5.3 Mineralisation ...............................................................21

6 Exploration Activities ...........................................................23
  6.1 Exploration Overview .....................................................23
    6.1.1 The Geological Model ........................................23
  6.2 Exploration Methods ......................................................23
    6.2.1 Geology ..................................................................23
    6.2.2 Geophysics and Remote Sensing ............................23
    6.2.3 Geochemistry ..........................................................24
    6.2.4 Drilling .................................................................24
      6.2.4.1 Type and extent of Drilling ............................24
    6.2.5 Sampling ...............................................................25
6.2.6 Chemical Analysis ............................................................. 26
6.2.7 Quality Assurance and Quality Control ................................ 26
6.2.8 Sample Security .............................................................. 26
6.3 Exploration Results ............................................................ 26
6.4 QA/QC Results ................................................................. 26
  6.4.1 Blanks ............................................................................. 26
  6.4.2 Duplicates ........................................................................ 27
  6.4.3 Certified Reference Materials ............................................ 27
  6.4.4 Check Analyses ............................................................... 27
  6.4.5 Assay Precision ............................................................... 27
6.5 Data Entry and Validation ..................................................... 27
7 Mineral Processing and Metallurgical Testing............................. 28
  7.1 Overview ............................................................................. 28
  7.2 Metallurgical Testwork ....................................................... 28
  7.3 Mineral Processing Design .................................................. 28
8 Mineral Resources .................................................................... 29
  8.1 Summary of Mineral Resources ............................................ 30
  8.2 General Description of Mineral Resource Estimation Process .... 30
    8.2.1 Gold Resource .............................................................. 30
    8.3 Mineral Resource Estimate ............................................... 31
      8.3.1 Mineral Resource Input Data ........................................ 31
      8.3.2 Geological Interpretation ............................................ 31
        8.3.2.1 Continuity of Geological Structures ......................... 31
        8.3.2.2 Payabilities .......................................................... 32
      8.3.3 Data Analysis and Geostatistics .................................... 32
        8.3.3.1 Statistical Distribution of Drill Intersection ............... 32
        8.3.3.2 Relationship of Lead and Gold in defining ore shoots .. 33
      8.3.4 Domaining ................................................................ 35
        8.3.4.1 Central Area Grade Estimation ............................... 37
      8.3.5 Variography ................................................................. 38
      8.3.6 Estimation ................................................................ 38
        8.3.6.1 Cut-off Grades ....................................................... 38
        8.3.6.2 Top Cut for high-grade values .................................. 42
        8.3.6.3 Grade estimation .................................................... 42
        8.3.6.4 Volume and tonnage ................................................. 45
        8.3.6.5 Southern Area ......................................................... 47
        8.3.6.6 Silver resources ...................................................... 48
      8.3.7 Validation .................................................................. 49
      8.3.8 Classification ............................................................. 49
        8.3.8.1 Extrapolation and Interpolation Distances .................. 50
      8.3.9 Reported Mineral Resources ....................................... 51
      8.3.10 Production Reconciliation .......................................... 52
9 Ore Reserves ............................................................................. 53
  9.1 Summary of Ore Reserves .................................................. 53
  9.2 General Description of Ore Reserve Estimation Process .......... 53
  9.3 Ore Reserve Assumptions .................................................. 53
    9.3.1 Top Cut ...................................................................... 53
    9.3.2 Lower Cut-off Grade .................................................... 53
    9.3.3 Mining, Exchange Rate and Gold Price Factors ............... 54
    9.3.4 Metallurgical Recovery ............................................... 54
    9.3.5 Sale of Product ............................................................ 54
    9.3.6 Hedging Program ......................................................... 54
    9.3.7 Right to Mine .............................................................. 54
    9.3.8 Royalties ................................................................. 54
    9.3.9 Company Tax ............................................................. 55
    9.3.10 Staff, Plant and Equipment .......................................... 55
  9.4 Ore Reserve Estimate ......................................................... 56
    9.4.1 Ore Reserve Input Data ............................................... 56
    9.4.2 Estimation ................................................................. 56
10 Mining ........................................................................................................ 61
  10.1 Mining Overview .................................................................................. 61
  10.2 Mining Operations ................................................................................ 61
  10.3 Mine Schedule ..................................................................................... 61
  10.4 Geotechnical and Hydrological Inputs ................................................ 62
  10.5 Future Plans ......................................................................................... 62

11 Processing .................................................................................................. 65
  11.1 Processing Overview ........................................................................... 65
    11.1.1 Site ............................................................................................... 65
    11.1.2 Metallurgy ................................................................................... 65
    11.1.3 Process Design Features ............................................................... 65
    11.1.4 Ore Storage Area ......................................................................... 65
    11.1.5 Crushing Circuit ........................................................................... 65
    11.1.6 Fine Ore Bin ................................................................................. 65
    11.1.7 Grinding Circuit ........................................................................... 65
    11.1.8 Gravity Circuit ............................................................................. 66
    11.1.9 CIL Leaching / Adsorption Circuit ............................................. 66
    11.1.10 Elution Circuit ............................................................................ 66
    11.1.11 Gold Room ................................................................................ 66
    11.1.12 Security ...................................................................................... 66
    11.1.13 Carbon Regeneration ................................................................ 66
    11.1.14 Plant Water Supply Systems .................................................... 66
    11.1.15 Power Supply ............................................................................ 67
    11.1.16 Tailings Dam ............................................................................. 67
  11.2 Plant Operations ................................................................................... 67
  11.3 Performance ......................................................................................... 67
  11.4 Future Plans ......................................................................................... 67

12 Infrastructure ............................................................................................... 68
  12.1 Mine Infrastructure ............................................................................. 68
    12.1.1 Dumps and stockpiles .................................................................. 68
    12.2 Power ............................................................................................... 69
    12.3 Water ............................................................................................... 69
    12.4 Transport ......................................................................................... 69
      12.4.1 Air Services ............................................................................... 69
      12.4.2 Roads ....................................................................................... 69
      12.4.3 Rail .......................................................................................... 69
      12.4.4 Port facilities ............................................................................ 69
  12.5 Staffing ............................................................................................... 69
  12.6 Accommodation .................................................................................. 69

13 Social, Environmental, Heritage and Health and Safety Management .......... 70
  13.1 Social Management ............................................................................ 70
  13.2 Environmental Management ............................................................... 70
      13.2.1 Environmental Management Overview Strategy (EMOS) .......... 71
  13.3 Heritage Management ......................................................................... 71
  13.4 Health and Safety Management ........................................................... 71

14 Market Studies and Contracts ................................................................. 72
  14.1 Market Overview ............................................................................... 72
  14.2 Sales Contracts ................................................................................... 74

15 Financial Analysis ...................................................................................... 75
  15.1 Historical Financial Analysis ............................................................... 75
  15.2 Forecast Capital Costs ........................................................................ 75
Annual QPR for Charters Towers Gold Project Qld Australia for the Year Ended 31 March 2014
LionGold Corp Ltd

15.3 Forecast Operating Costs ................................................................. 75
15.4 Forecast Cash Flow Analysis ............................................................ 77
16 Risk Assessment .................................................................................. 79
  16.1 Risk Rating Definitions ................................................................. 79
  16.2 Risk Assessment .......................................................................... 79
    16.2.1 Geology .................................................................................. 79
    16.2.2 Mining ................................................................................... 80
    16.2.3 Processing and Metallurgical .................................................. 80
    16.2.4 Infrastructure ........................................................................ 80
    16.2.5 Economic and Marketing ....................................................... 80
    16.2.6 Legal ...................................................................................... 80
    16.2.7 Environmental ................................................................. 80
    16.2.8 Social and Governmental ......................................................... 81
17 Interpretation and Conclusions .............................................................. 82
  17.1 Interpretation ................................................................................. 82
  17.2 Conclusions .................................................................................. 82
18 Recommendations .................................................................................. 83
19 References ............................................................................................ 84
20 Date and Signature Pages ...................................................................... 87
21 Glossary of Terms .................................................................................. 89
TABLES

Table 1.1  Gold produced and sold since 1993. .................................................................2
Table 1.2  Mineral Resource and Ore Reserve summary, as of 31 March 2014 ..................2
Table 2.1  Staff who contributed to this QPR .................................................................5
Table 3.1  Tenure details .................................................................................................11
Table 4.1  Gold sales by the Company from 1996. ..........................................................20
Table 6-1  Summary of drilling – type, number of holes and metres ...............................24
Table 8.1  Mineral Resource summary, as of 31 March 2014 ........................................30
Table 8.2  Cut-off Grade estimator showing a 3 g/t cut-off at a gold price of US$1300 per ounce and an exchange rate of AUD$1.00 to US$0.91. The mining cost is AUD$576 per ounce. .................................................................39
Table 8.3  The cost of a 3m x 2.6m drive is covered by a one-metre wide vein carrying 6 g/t and dipping at 45 degrees across the face (the middle column). The average grade for the drive would be 2.75 g/t. ....................................................................................41
Table 8.4  Frequency and percentage of significant drill intersections above a range of cut-off grade values in metre-grams per tonne gold ............................................................42
Table 8.5  Inferred Mineral Resources for the Central Area, north of 7776000mN ............46
Table 8.6  Inferred Mineral Resources for the Southern Area south of 7776000mN AMG, and Total Inferred Mineral Resources .................................................................48
Table 8.7  Maximum extrapolation and interpolation distances for each mineralised body (reef) in the Inferred Mineral Resource. The total tonnage in each reef has been discounted by 70%, based on only 30% of the extrapolated area on each reef being economic to extract (payable) .................................................................50
Table 8.8  Reported Mineral Resources ..........................................................................51
Table 8.9  Indicated Mineral Resources .........................................................................51
Table 9.1  Ore Reserves summary, as of 31 March 2014 ...............................................53
Table 9.2  Probable Ore Reserves ..................................................................................58
Table 9.3  Average tonnes and grade milled for the years 2006 to 2001 ........................60
Table 15.1  Forecast Mine Development Capital Budget and Capital Schedule ............75
Table 15.2  Projected Mining and Processing costs per tonne ........................................77
Table 15.3  Projected Total Costs per tonne .................................................................77
Table 15.4  Forecast Cash Flow Schedule ....................................................................78
Table 16.1  Categories and definitions used to assess likelihood ....................................79
Table 16.2  Categories and definitions used to assess consequence ..............................79
Table 16.3  Risk rating ....................................................................................................79
FIGURES

Figure 3.1 Project location within Australia ..............................................................8
Figure 3.2 Project location within Queensland.........................................................9
Figure 3.3 Tenement locations.................................................................................10
Figure 3.4 Location of Mining Leases......................................................................12
Figure 3.4. Average Maximum Temperature for Charters Towers..........................14
Figure 3.5. Average Rainfall for Charters Towers .....................................................14
Figure 4.1. Gold production in Imperial tons and Troy ounces and the annual average
grade in grams of gold per metric tonne of ore from the Charters Towers
Goldfield 1871-1920.................................................................................................20
Figure 8.1. General relationship between Mineral Resources and Ore Reserves. From the
Joint Ore Reserves Committee Australasian Code for Reporting of Exploration
Results, Mineral Resources and Ore Reserves 2012 ('the JORC Code')...................29
Figure 8.2 Frequency Distribution of Significant Drill Intersections showing log normal
distribution..............................................................................................................32
Figure 8.3. Log-Probability Plot showing a background population of 1559 significant
assays up to 0.1 ppm (0.1 g/t) gold, a second population representing
mineralisation between 0.1 ppm and 1.0 ppm, and a third population above 1
ppm gold. On this basis it was decided to use 1 metre gram of gold per tonne as
the Resource cut-off, while maintaining 3 g/t as the Reserve cut-off grade..............33
Figure 8.4. Log plot of gold versus lead for over 1500 drill intersections used in the
Company’s mineral resource estimation...............................................................34
Figure 8.5. Log plot of gold versus lead and zinc for 19 drill intersections in diamond-core
hole CT647 on the Brilliant reef. ........................................................................34
Figure 8.6. Log plot of gold versus lead and zinc for 488 stope face samples from the No.2
Cross Reef (Maude St Leger reef)....................................................................35
Figure 8.7. Chart showing that there is no relationship between the width of an intersection
and its gold grade. Intersections less than the cut-off grade of 1m @ 3 g/t were
excluded from the ore reserve estimation. The factors that make the project
viable are the occasional very high grade intersections (>10 g/t) and the
occasional very wide intersections (wider than 4 metres, the normal drive
width).......................................................................................................................35
Figure 8.8 No significant change in width of the mineralisation with depth..............36
Figure 8.9. No significant change in gold grade of the mineralisation with depth........36
Figure 8.10 No significant change in lead (Pb) grade with depth.............................36
Figure 8.11. Plan view showing drill collars partitioned into the Central Area north of
7 776 000mN AMG and east of 420 500mE AMG, and the Southern area south
of 7 776 000mN.....................................................................................................37
Figure 8.12. Chart of the Gold Price in Australian and US dollars over the last five years. A
change of AUD$100 per ounce is 7% of the AUD$1400 per ounce price used in the
cut-off calculation.................................................................................................40
Figure 8.13. Chart showing the number of significant drill intersections above a range of cut-
off values in metre-grams per tonne. ..................................................................41
Figure 8.14. Underground reef illustrating rapid change in gold grades over short distances. ....43
Figure 8.15. Underground reef illustrating rapid change in thickness over short distances. ....43
Figure 8.16. Plan view of the Inferred Mineral resources of the Central Area. ............47
Figure 8.17. Plan View of the Inferred Mineral Resource mineralised bodies in the Southern
Area south of 7 776 000mN AMG....................................................................48
Figure 9.1 Change in Tonnage and Gold Grade with Change in Cut-off Grade.....................56
Figure 9.2. Change in Tonnage and Contained Ounces of Gold with Change in Cut-off
Grade ....................................................................................................................56
Figure 9.3 Sources of tonnes milled from 2006 to 2001 .............................................59
Figure 9.4  Relationship between average gold grade milled and tonnes milled 2006 to 2001. The average grade declined as more low-grade tonnes were milled...60
Figure 10.1.  Planned Production Schedule...........................................................................................................62
Figure 10.2.  Long section of the current forecast development of the Central Mine. The layout shows the planned access into the different major reefs in the Central area.................................................................63
Figure 12.1  Mine Infrastructure ..................................................................................................................................68
Figure 14.1.  Chart of the Gold Price in Australian and US dollars over the last five years. .........................72
Figure 14.2.  Chart of the Australian dollar exchange rate against the US dollar during 2014 year to date. .................................................................73
Figure 15.1.  Chart showing the decrease in underground Mining Cost per Ounce for the Charters Towers Project with increasing Head Grade.........................................................76

APPENDICES

Appendix A Checklist of assessment and reporting criteria, based on Table 1 of the 2012 JORC Code

DISTRIBUTION LIST

1 e-copy to  LionGold Corporation Limited
1 e-copy to  Citigold Corporation Limited
1 EXECUTIVE SUMMARY

1.1 Report Scope and Basis

This report on the Charters Towers Gold Project has been prepared by Citigold Corporation Limited (‘Citigold’ or ‘the Company’) at the request of LionGold Corporation Limited (‘LionGold’). LionGold is listed on the Singapore Exchange (SGX) Mainboard and is the largest shareholder of Citigold.

SGX Mainboard rules require the preparation of an annual qualified person’s report (QPR) prepared in accordance with Practice Note 6.3. The Mainboard rules also require that a QPR be prepared in accordance with one of three allowable international public reporting standards. For this report, Citigold has adopted the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (‘the JORC Code’) as the reporting standard.

The previous Mineral Resources and Ore Reserves report of 18 May 2012 is repeated here largely unchanged, as the gold and silver production since 18 May 2012 has not materially changed the Resources and Reserves previously reported. The historical data and geology has not changed. The 2012 report format has been changed to that required by SGX Practice Note 6.3. The sections on gold prices, currency exchange rates and the gold market (Sections 8.3.6, 9.3.3, 14 and 15) have been updated, but changing the US dollar gold price from US$1400 to US$1300 and the exchange rate from 0.95 to 0.91 only changes the Australian dollar gold price from A$1474 to A$1430, a change of just 3% which is not material to the success of the project.

The Charters Towers Gold Project has been in production since 2007 and this report is not part of any new fund-raising activity. It is an update on previous reports.

1.2 Project Description

The City of Charters Towers, at the centre of the Charters Towers goldfield, is located 1,000 kilometres north of Brisbane, and 128 kilometres south west of Townsville in far north Queensland, at latitude 20° 04' South, longitude 146° 15' East. The Company has an approved Plan of Operations for its Charters Towers Gold Project (including the Imperial Mine located at 20° 7' South, 147° 17' East) and holds a granted and approved Environmental Authority for its Charters Towers Gold Project and Gold Processing Plant (located at 20° 9' South, 147° 13' East). It has been mining and extracting gold intermittently from 1993, and continuously since 2007. It has sold over 100,000 ounces of gold and 45,000 ounces of silver since 1997.

1.3 Geology and Mineralisation

The mineralisation occurs within the Palaeozoic Ravenswood Batholith, and comprises mesothermal quartz reefs containing gold, pyrite, sphalerite and galena, hosted by the Ordovician age Towers Hill Granite. The mineralised system is very large, over 40km across. Mineralisation was isotope dated and found to be 404-408 million years (Late Silurian to Early Devonian geological age). The gold-bearing reefs at Charters Towers are typically 0.3 metres to 1.5 metres thick, comprising hydrothermal quartz reefs in granite, tonalite and granodiorite host rocks. There are some 80 major reefs in and around Charters Towers city, of which 22 are included to date in the Company’s resource estimate.
1.4 Mine Production

Gold sold since the commencement of operations in 1993 is tabled below:

<table>
<thead>
<tr>
<th>Financial Year ended 30 June</th>
<th>Gold Sold (ounces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996-2000</td>
<td>38,000</td>
</tr>
<tr>
<td>2007</td>
<td>3,319</td>
</tr>
<tr>
<td>2008</td>
<td>13,784</td>
</tr>
<tr>
<td>2009</td>
<td>10,906</td>
</tr>
<tr>
<td>2010</td>
<td>15,888</td>
</tr>
<tr>
<td>2011</td>
<td>8,451</td>
</tr>
<tr>
<td>2012</td>
<td>7,560</td>
</tr>
<tr>
<td>2013</td>
<td>2,270</td>
</tr>
<tr>
<td>2014 to 31 Mar</td>
<td>2,607</td>
</tr>
<tr>
<td>TOTAL</td>
<td>102,785</td>
</tr>
</tbody>
</table>

Table 1.1 Gold produced and sold since 1993.

Silver revenue is approximately 1% of gold revenue, and does not contribute materially to the Project.

1.5 Mineral Resources and Ore Reserves

Table 1.2 Mineral Resource and Ore Reserve summary, as of 31 March 2014

<table>
<thead>
<tr>
<th>Category</th>
<th>Mineral type</th>
<th>Gross attributable to licence</th>
<th>Net attributable to issuer</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tonnes (millions)</td>
<td>Grade (g/t)</td>
<td>Tonnes (millions)</td>
</tr>
<tr>
<td>Measured Resources</td>
<td>Gold Silver</td>
<td>Nil</td>
<td></td>
<td>Nil</td>
</tr>
<tr>
<td>Indicated Resources (inclusive of Probable Ore Reserves)</td>
<td>Gold Silver</td>
<td>3.2</td>
<td>7.6 g/t gold 5.1 g/t silver</td>
<td>0.52</td>
</tr>
<tr>
<td>Inferred Resources</td>
<td>Gold Silver</td>
<td>25</td>
<td>14 g/t gold 9 g/t silver</td>
<td>4.1</td>
</tr>
<tr>
<td>Total Resources</td>
<td>Gold Silver</td>
<td>28.2</td>
<td>13.3 g/t gold 8.6 g/t silver</td>
<td>4.62</td>
</tr>
<tr>
<td>Proved Ore Reserves</td>
<td>Gold Silver</td>
<td>Nil</td>
<td></td>
<td>Nil</td>
</tr>
<tr>
<td>Probable Ore Reserves (derived from and included in Indicated Mineral Resources)</td>
<td>Gold Silver</td>
<td>2.5</td>
<td>7.7 g/t gold 5.1 g/t silver</td>
<td>0.41</td>
</tr>
<tr>
<td>Total Ore Reserves</td>
<td>Gold Silver</td>
<td>2.5</td>
<td>7.7 g/t gold 5.1 g/t silver</td>
<td>0.41</td>
</tr>
</tbody>
</table>

Inferred Mineral Resources used a cut-off of 1 metre.gram per tonne to define sample intersections used to construct the outlines of mineralised bodies. A conservative break-even cut-off of 3 grams per tonne Au at a gold price of US$1300 per ounce and an exchange rate of A$1 = US$ 0.91, as shown in Table 8.2 below,
was used to estimate grades in Indicated and Inferred Mineral Resources. The mining cash cost was AUD$576 per ounce. A cut-off of 4 g/t gold was used to estimate grades in Ore Reserves. No top cut was used for the estimation of grade for Mineral Resources, but a top cut of 50 g/t was used for Ore Reserves. The confidence level is ±10 to 15% for the contained ounces in the Probable Ore Reserve. The confidence level is ±30% for the contained ounces in the Inferred Mineral Resource, because two mining factors have been included (a minimum mining width of one metre, and a substantial discount of the tonnes (70%) based on known mine payability on the reefs). Probable Ore Reserves are derived from, and included in, Indicated Mineral Resources. The Probable Reserves are not additional to Indicated Mineral Resources.

1.6 Economic Analysis

In assessing the value of the project, the Company’s resources contained within its development properties are used and they are derived using JORC guidelines, classified as being Inferred Mineral Resources. In the Central and Southern area some of the resource has been classified as an Indicated Mineral Resource. Given that the resources are JORC classified, therefore signalling that there is a degree of certainty associated with them, the Company’s believes that it is appropriate to use this data in calculating a potential value for the Project. The valuations derived from these resources have been obtained from calculations involving anticipated conversion ratios for generating mine inventory, and financial models that have utilised a range of assumptions. The Company has derived these assumptions and input through years of experience gained through actual development mining at the Imperial Mine site, various reference materials and consultants. An independent mining consulting firm has tested the inputs and assumptions of the model and found them to be realistic. Cash flows have in part used Inferred Mineral Resources, permissible under the JORC Code.

Based upon the Company’s financial model, the NPV of the project is estimated at A$734 million based on a discount rate of 15%.

All Australian companies are currently taxed at a flat rate of 30% on profits. Royalty is payable on the basis that the State generally has property in all minerals located on or below the surface of land and all petroleum produced to the surface of land or in a natural underground reservoir in Queensland. The current variable royalty rate is 5% on gold revenue and it is payable to the Queensland Office of State Revenue.

1.7 Risk Assessment

The relevant mining leases have been granted and the processing plant and tailings dam have been built and approved for operations. Over 100,000 ounces of gold have been already been produced from typical ore bodies with the existing plant facilities. The political risk factors of being able to obtain permission to mine are therefore regarded as zero.

Trial mining over a three-year period from 1997-2000 has indicated that metallurgical factors are known. Recoveries and reagent consumptions are not unusual and are within acceptable industry limits. Recent mining since 1996 and particularly in the period 2008 to present shows recoveries are consistently around 97% with low reagent consumption.

Marketing risk factors are also regarded as being close to zero. It is anticipated that all gold produced can be sold at prevailing market prices. Production is not hedged at present, but the Company's hedging policy is reviewed when market conditions warrant. Hedging is a prudent strategy if the gold price is perceived to be likely to drop over a sustained period, no more than 50% of planned annual production is hedged and the hedge contract contains a clause that prevents scheduled sales being brought forward by the buyer.

Gold price variation is outside the Company’s control, but the Company can control operating costs and volume of production to counteract adverse price variation to maintain or improve the profit margin per ounce.

1.8 Conclusions

The Company believes it has quantified the confidence levels to an acceptable level of commercial risk for its Charters Towers project. The Project is in gold production, with necessary infrastructure in place and has sold over 100,000 ounces of gold and 45,000 ounces of silver since 1997. It has been in continuous gold and silver production since 2007.
1.9 Recommendations

It is recommended that the Company vigorously proceed with the development of the Charters Towers Gold Project as stated in its public documents released to the market and set out in more detail in documents reviewed for this technical report. Infill drilling and driving in ore to convert more of the resource to the Reserve category is recommended.
2 INTRODUCTION

2.1 Aim and Scope of Report

This report on the Charters Towers Gold Project has been prepared by Citigold Corporation Limited (‘Citigold’ or ‘the Company’) at the request of LionGold Corporation Limited (‘LionGold’). LionGold is listed on the Singapore Exchange (SGX) Mainboard and is the largest shareholder of Citigold. SGX Mainboard rules require the preparation of an annual qualified person’s report (QPR) prepared in accordance with Practice Note 6.3.

This report has been prepared at the request of the LionGold Corporation Limited. The report is an update on the last public report issued on 18 May 2012. The report includes all data from the 2012 report that has not changed, and has been updated for production since 1 January 2012.

2.2 Use of Report

This report fulfils LionGold’s requirement to prepare and release an annual QPR for its mineral assets, in accordance with Mainboard Rule 1207 (21) (a) and Practice Note 6.3.

2.3 Reporting Standard

SGX Mainboard rules require that a QPR be prepared in accordance with one of three allowable international public reporting standards. For this report, Citigold has adopted the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (‘the JORC Code’) as the reporting standard.

The JORC Code requires that a public report concerning a company’s exploration targets, exploration results, mineral resources, or ore reserves must be based on, and fairly reflect, the information and supporting documentation prepared by a Competent Person, as defined by the JORC Code. SGX Mainboard rules use the term qualified person, and provide a definition which is effectively equivalent to a Competent Person. In this report, whenever reference is made to a Competent Person as per the JORC Code, it is equivalent to a qualified person as per SGX Mainboard rules.

2.4 Report Authors and Contributors

Table 2.1 lists the staff who contributed to the estimation of mineral resources and ore reserves, together with the preparation of the QPR. In particular, Mr Christopher Towsey is nominated as the Competent Person responsible for estimation and reporting of the mineral resources and ore reserves for the project. Information acquired since the 2012 report has been supplied by employees of the Company on request.

A Competent Person statement for Mr Towsey is provided in Section 20 of this report.

Table 2.1 Staff who contributed to this QPR

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Employer</th>
<th>Independent of LionGold</th>
<th>Date of site visit</th>
<th>Professional designation</th>
<th>Contribution to QPR</th>
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<tr>
<td>Christopher Towsey</td>
<td>Consultant Geologist &amp; Managing Director</td>
<td>Pathfinder Exploration P/L</td>
<td>YES</td>
<td>19/1/2012</td>
<td>Chartered Professional (Geology)</td>
<td>Compiler and main author</td>
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<tr>
<td>Dr Simon Richards</td>
<td>Head of Geology, Exploration and Geophysics</td>
<td>Citigold Corporation Ltd</td>
<td>YES</td>
<td>Resident on site</td>
<td>Structural Geologist</td>
<td>Supplied exploration, drilling and resource/reserve data from Jan 2013.</td>
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</table>
2.5 Qualified Person Statement

The Competent Person responsible for this report, Mr Christopher Alan John Towsey MSc BSc(Hons), DipEd, FAusIMM, CPGeo, MMICA, MAIG, has been associated with the Project for 15 years from 1999 as a consultant geologist and employee. He joined the Company on full-time staff as General Manager Mining in July 2002, was promoted to Chief Operating Officer (‘COO’) in January 2004 and lived on-site at Charters Towers as COO and Site Senior Executive managing the day-to-day operations of the underground mining operations of the Imperial Mine from October 2009 to January 2011.

He has remained as a consultant geologist to the Company since January 2011. He is employed by Pathfinder Exploration Propriety Limited (‘Pathfinder’) as Managing Director, and Pathfinder invoices the Company on a per diem basis for work done for the Company. On 21 February 2014 he was appointed as a Non-Executive Director of Citigold Corporation Limited. He is independent of LionGold Corporation Limited.

He inspected the operations in April and September 2011, and again the 19th and 20th December 2011, inspecting the Central Decline underground down to the Brilliant Block Shaft 180m vertically below the city, and inspecting the 830 and 840 production levels in the Sons of Freedom ore body in the Imperial Mine 5 km southeast of the city. He last visited the site on 19 January 2012.

2.6 Basis of the Report

Information has been sourced primarily from the Company’s own sampling of drill core, drill chip data, underground mine workings, open pit mine benches and outcrops since the Company listed on the Australian Securities Exchange in 1993. Reliance has been placed on the work and reports of previous and current Company employees, research work by independent university researchers, Queensland State Government Geological Survey reports and maps, the Federal Government’s Geoscience Australia reports and maps, and reports from other exploration and mining company reports covering the Company’s ground prior to 1993 which are held on Open File by the Queensland Government. In some cases, original drill core drilled by other companies has been obtained by the Company, re-sampled, re-logged and stored in the Company’s Core Farm at Charters Towers. Details are given in other parts of this report.

This the first time since the field was discovered in 1871 that one company has controlled the whole goldfield. The team has been able to access and assess all available data going back 140 years to 1872 to evaluate the goldfield’s potential. The geological conclusions in this plan represent a synthesis of the observations, calculations and conclusions made by many geologists over the past 140 years, including the Company’s own work since 1994 and that of its now subsidiaries since the 1980’s.

Other work used included the 1930’s work of the renowned structural geologist Terence Conolly who developed the ‘Conolly Contour’ method of ore body evaluation for Gold Mines of Australia (‘GMA’; the precursor to Western Mining Corporation) at Norseman and Charters Towers. Other external work used included that of James Cook University researchers Associate Professor Dr Roger Taylor, Dr Oliver Kreuzer and Andrew Allibone; prominent consultant geologists Garry Arnold, Bill Laing and Andrew Vigar and others. The work of numerous other geologists, including Tanya Strate, Sara Warren, previous Exploration Managers Kevin Richter, Murray Flitcroft, Jim Morrison, General Manager Geology Nigel Storey and current Head of Geology, Exploration and Geophysics Dr Simon Richards was also used, together with that of geologists of other mining corporations which had undertaken substantial work on their sections of the goldfield in the past (including BHP, Homestake, WMC, CRA, and Mt Leyshon). Other past and present Company employees have contributed significantly to the current sampling programs and geological understanding.

Extensive use was made of historic mining records such as: original mine plans; sections; mine managers’ fortnightly reports; and production records from 206 mining leases covering 127 mines working 80 lines of reef and 95 crushing plants, grinding mills, cyanidation and chlorination plants. Other information sources include The Queensland Government Mining Journal (‘QGMJ’) from its inception in 1901 and onwards, Annual Reports from The Minister of Mines and The Mining Wardens, monthly reports from The Mining Wardens from 1872 onwards, mining company General Meetings minutes and reports, conference papers and The Northern Miner newspaper reports on the mine operations, from 1871 to 1920. The original mine level plans are all preserved in the Queensland Mines Department and Kevin Richter organised to have them digitised and modelled using proprietary computer packages, and these computer models were later cross-checked against survey pickups of the vertical shaft collars and inclined shaft portals. These records include
those of the famous Robert Logan Jack (Thomas, 1999) the first Queensland Government geologist, and J H Reid, also a government geologist, both of whom mapped the goldfield during the early mining days. The reports and updated maps of a number of other Queensland Geological Survey geologists have been used.

The drilling database includes drilling from previous companies:
- 1993 - Mt Leyshon Gold Mines Ltd extensions to CRA diamond drill holes in the Central 3 and Central 5 areas.
- 1991 - Diamond and RC drilling by PosGold in a joint venture with Charters Towers Mines NL that covered the Central 8 and Central 7 areas.
- 1981-84 - Diamond-drilling by the Homestake/BHP joint venture on the Central 1 area,

Much of the diamond-drill core from these programs is held by the company at the Company processing plant site and core yard in Charters Towers. This core is available for re-assaying and re-logging. A large library of RC drill hole cuttings is similarly available at the Company’s core yard.
3 PROJECT DESCRIPTION

3.1 Project Overview

The area of the property
The Company controls over 1,300 square kilometres of land in 58 granted mineral holdings, comprising six granted Exploration Permits Minerals (‘EPM’)(1191.45 km²), one EPM Application (35.207 km²), five Mineral Development Licences (‘MDL’)(61.02 km²) and 47 Mining Leases (‘ML’)(27.5 km²) in the Charters Towers goldfield, controlling 100% of the central goldfield. The 27.5 square kilometres of Mining Leases and 61.02 square kilometres of Mineral Development Licences are located within and generally surrounded by the 1191.45 square kilometres of granted exploration mineral holdings.

Location
The City of Charters Towers, at the centre of the Charters Towers goldfield, is located 1,000 kilometres north of Brisbane, and 128 kilometres south west of Townsville in far north Queensland, at latitude 20° 04’ South, longitude 146° 15’ East. The Company has an approved Plan of Operations for its Charters Towers Gold Project (including the Imperial Mine located at 20° 7’ South, 147° 17’ East) and holds a granted and approved Environmental Authority for its Charters Towers Gold Project and Gold Processing Plant (located at 20° 9’ South, 147° 13’ East). It has been mining and extracting gold intermittently from 1993, and continuously since 2007. It has sold over 100,000 ounces of gold and 45,000 ounces of silver since 1997.

Figure 3.1 Project location within Australia
3.2 Tenure

**Types of Mineral tenures and identifying numbers**

**Mining Leases (MLs)** for minerals grant the right to mine and extract specified minerals other than coal, uranium, gas or petroleum, subject to a Plan of Operations for the proposed mining operation being approved by the Queensland Department of Natural Resources and Mines (‘DNRM’). Leases are usually granted for a period up to 21 years, and can be applied for renewal at the end of the initial granted period. A Mining Licence is granted for mining operations and entitles the holder to machine-mine specified minerals and carry out activities associated with mining or promoting the activity of mining. It is not restricted to a maximum term - this is determined in accordance with the amount of reserves identified and the projected mine life. A ML can be granted for those minerals specified in either the prospecting permit, exploration permit or mineral development licence held prior to the grant of the lease. The Act does not specifically define the area or shape of land that can be granted under a lease although these must be justifiable. ML boundaries are surveyed and described by distance and azimuth from a defined datum post.

**Mineral Development Licences (MDLs)** are an intermediate stage between Exploration Permits and Mining Leases that allow the permit holder to retain the ground with minimal expenditure for five years. The period of tenure may be extended depending on circumstances subject to the approval of the State Government DNRM. An MDL allows the holder to undertake geoscientific programs (e.g. drilling, seismic surveys), mining feasibility studies, metallurgical testing and marketing, environmental, engineering and design studies to evaluate the development potential of the defined resource. The MDL can be granted to the holder of an exploration permit for a period of up to five years where there is a significant mineral occurrence of possible economic potential. The MDL can be renewed. MDL boundaries are described by distance and azimuth from a defined starting point, the ‘datum post’.

**Exploration Permits for Minerals (EPMs)** in Queensland give the right to explore but not to mine. EPMs may be granted for up to five years and can be extended if conditions such as expenditure and work programs are met. One other condition usually is that the area to be renewed must be reduced by 50% each year after the initial two years. An Exploration Permit is issued for the purpose of exploration, and allows the holder to take action to determine the existence, quality and quantity of minerals on, in or under land by methods which include prospecting, geophysical surveys, drilling, and sampling and testing of materials to determine mineral bearing capacity or properties of mineralization. An EPM may eventually lead to an application for a mineral development licence or mining lease. Exploration Permit boundaries do not need to be surveyed and are defined as sub-blocks, each sub-block comprising one minute of latitude by one minute of longitude. In the Charters Towers area, one minute of latitude is approximately 1.8 km long and one minute of longitude is approximately 1.7 km, making one sub-block approximately 3.1 square kilometres.
The Company has a 100% control of the following mineral holdings at Charters Towers:

Six *Exploration Permit Minerals*:
EPM15964, EPM15966, EPM16979, EPM18465, EPM18813, EPM18820 (1191.45 square kilometres)

Five *Mineral Development Licences*:
MDL 116, MDL 118, MDL 119, MDL 251 and MDL 252 (61.02 square kilometres)

Forty Seven *Mining Leases*:
(27.5 square kilometres)

**Figure 3.3**  Tenement locations
## Table 3.1 Tenure details

<table>
<thead>
<tr>
<th>Asset name/ Country</th>
<th>Issuer’s interest (%)</th>
<th>Development Status</th>
<th>Licence expiry date</th>
<th>Licence Area</th>
<th>Type of mineral, oil or gas deposit</th>
<th>Remarks</th>
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<td>16%</td>
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<td>77.362 sq km</td>
<td>All minerals excluding coal</td>
<td>Issuer’s interest of 16% reflects its shareholding in the Company. Not an assigned legal ownership of the tenure.</td>
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<td>EPM 18820</td>
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<td>MDL 116</td>
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<td>Mineral Development Licence – precursor to Mining Lease</td>
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<td>12.0205 sq km</td>
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<tr>
<td>ML1343</td>
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<td>Granted Mining Lease – mining permitted in accordance with Plan of Operation and Environmental Authority.</td>
<td>30/09/2017</td>
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Tenement renewal application lodged and awaiting formal notification of renewal. All tenements remain current and active during the renewal process. At no time since the commencement of the Project in 1993 has a tenement renewal been refused.

Figure 3.4 Location of Mining Leases.

3.3 Tenure Conditions

3.3.1 Environmental Liabilities.

All EPMs and MDLs are granted accompanied by an Environmental Authority, regulated by the Queensland Department of Environment and Resource Management (‘DERM’). Mining Leases usually require an Environmental Impact Statement (‘EIS’), an Environmental Management Plan and Plan of Operations prior to commencement. Long term liabilities for the Charters Towers project include the management of the Tailings Storage Facility, and obligations to rehabilitate mined areas post-mining. An environmental security deposit of A$553,204 has been lodged with the Queensland Government DNRM to cover any default on rehabilitation, and the Company has budgeted $2 per tonne of ore mined in its 15-year mining budget forecasts to cover ongoing and end of mine rehabilitation.
3.3.2 Permits that must be acquired to conduct the work proposed

The necessary permits are in place for the mining and processing proposed. Recent mining has been underway since 2006 and ore processing since 2007. As the project progresses through its operational life any amendment to the permits required for larger scale and expanded operations are expected to be obtained in the usual course of business. Further Mining Leases may be acquired dependent on exploration discoveries and any future requirements for additional tailings storage that may result from an expanded mining program.

3.3.3 Other significant factors and risks that may affect access, title or the right or ability to perform work on the property.

Mining and processing has been underway since 1997. There are no known factors that would prevent the implementation of the proposed next 15 years of mining and processing, provided the Company continues to meet its normal operational environmental and Mining Lease obligations.

In November 2011, the Company signed a joint venture agreement with Anhui Geology and Mining Investment Co. Ltd (Anhui), China, to explore and develop the large exploration area around and outside of the core Charters Towers mining area (Mining Area). The Mining Area of 148 square kilometres is excluded from the joint venture. Anhui is to invest over a period of 5 years in exploration works to earn up to a 50% interest in the exploration area. The Mining Area contains all of the current and planned mining operations and all of the defined Mineral Resources and Ore Reserves (JORC) referred to in this report. There are no Mineral Resources or Reserves within the exploration joint venture area. At the date of this report, the Company still controls 100% of the tenements.

3.4 Access

Charters Towers city is accessible by good bitumen highway (the Flinders Highway) from the international seaport of Townsville, 128 km to the northeast (see Figure 3.2 above). Townville has daily commercial jet flights from Brisbane and Cairns by several domestic airlines. State Government railways connect Townsville to Brisbane in the south, and to Mount Isa via Charters Towers in the west. The Bruce Highway runs from Townsville to Brisbane. There are no domestic airline flights to Charters towers, but charter aircraft flights operate from Townsville and Mount Isa to Charters Towers, as well as commercial passenger buses.

The Imperial Mine is located on the bitumen Bluff Road about 5 km southeast of the centre of Charters Towers, and the decline portal is in the base of the Washington open pit on the southeast wall. The processing plant is located on the bitumen Gregory Developmental Road South (the Clermont Highway) about 10 km southwest of Charters Towers. The main Central workings are located under the central business district of Charters Towers and accessed by the Central Decline at Nagle Street in the western part of Charters Towers. Previous open pit mining was conducted in 1998-2000 at the Washington open pit (Imperial mine), and at the Stockholm open pit and underground workings located 2.5 km north of the gold processing plant. The Project has sufficient surface rights on the Company’s Mining Leases to house the required processing plant, tailings storage, ventilation and access shafts and tunnels for the life of the Project. Additional Mining Leases may be applied for if existing drill targets prove up viable resources. The approval time for a new Mining Lease is usually 12 to 18 months for application to be processed by the regulators.

3.5 Climate

The climate is sub-tropical to semi-arid, with a distinct wet season (summer monsoon) from November to April bringing thunderstorms, cyclones and cyclonic rain depressions to the surrounding region. Winters are cool and dry and summers humid and hot. Mining operations are continuous through all seasons, although surface exploration, transport and access is occasionally impeded by the wet season, and crushing and screening in open-air facilities at the processing plant are hampered by wet weather. Weather conditions do not normally interrupt production. The processing plant is not yet running at full capacity and can run at higher rates from stockpiles to make up for any days of lost production when averaged over six months.
Annual QPR for Charters Towers Gold Project Qld Australia for the Year Ended 31 March 2014
LionGold Corp Ltd

Figure 3.4. Average Maximum Temperature for Charters Towers.

Figure 3.5. Average Rainfall for Charters Towers

3.6 Landforms and Soils
The area is on an inland plateau approximately 300 metres above sea level, with rolling hills and Plains. The soils are sandy loams and clay derived from the underlying granite and granodiorite.

3.7 Fauna and Flora
The vegetation comprises open dry sclerophyll forests comprising mainly eucalyptus and acacia trees with Flinders and Mitchell grasses. Native fauna comprises kangaroos, wallabies, wombats, emus and a variety of lizards and snakes, mostly venomous brown, tiger and taipan snakes. There is a wide variety of native birds including fork-tailed kites, magpies, peewees, apostle birds, wedge-tail eagles, sparrows, parrots, kookaburras, pigeons and water birds on dams and lakes. Feral and introduced animals include wild pigs, rabbits, foxes, wild dogs and camels. Local agriculture is cattle grazing, with large cattle sale-yards and holding pens at Charters Towers. Cattle are transported in three-tier road trailers, with up to three trailers hauled by a single prime mover truck (locally called ‘road trains’). Most road freight uses similar road trains.

3.8 Hydrology
There is a perched water table under Charters Towers city that supplies water to local residents’ water-bores for watering lawns and limited irrigation. Town water supply is drawn from a weir on the Burdekin River to the
north of the city. The underground water table varies in depth between the Wet and Dry seasons from around 30m depth down to 80m depth below surface.

3.9 Cultural Environment

Charters Towers is a typical Australian country inland city. Local infrastructure is excellent, with two secondary schools with boarding facilities, State Government electricity supply to the city, mine and plant, a weir on the Burdekin River supplying fresh water to the town of 8,000 people, a hospital, ambulance and fire fighting services. The mine is self-sufficient in water, with water stored in open pits connected to underground workings, and recycling water in the processing plant and Imperial (Warrior) Mine.

A Native Title land claim has been lodged by the Gudjala people for a large area extending well beyond Charters Towers. This claim has been determined by the Federal Court and it is not expected that this determination will have any material negative effect on the Project whatsoever.
4 HISTORY
The goldfield was first discovered in December 1871 and produced some 6.6 million ounces of gold from 6 million tons of ore from 1872 to 1920, with up to 40 companies operating many individual mining leases on the same ore bodies. Production ceased in 1920 and the field was only lightly explored until the Company started operations in 1993.

4.1 Exploration

4.1.1 Exploration prior to 1993.
After production ceased in the 1920s, and prior to 1980, exploration and stratigraphic drilling was undertaken by Towers Drilling Co (1932), and the Queensland Department of Mines in 1923 and 1969-70.

- A detailed project evaluation was conducted by Gold Mines of Australia (‘GMA’, later taken over by Western Mining Corporation Ltd in September 1957) in 1934-35, and The Company holds copies of much of their data.
- GMA was registered in Melbourne in April 1930, floated Mount Coolon Gold Mines NL in August 1931 and reached full production at the Mount Coolon gold mine by November 1932, yielding 79,000 ounces of gold by December 1934 worth more than £300,000 (300,000 pounds) (Hunt, 1996). The West Australian newspaper reported on 19 September 1934: ‘The Minister’ for Mines (Mr. J. Stopford) announced today that authority to prospect over approximately 3550 acres at Charters Towers had been granted to Gold Mines of Australia Ltd. Exclusive right to prospect and mine for gold and other minerals, subject to certain reservations, was being given to the company for six months, during which the company would be required to expend not less than £1,000 in the collation of geological and other data and in the preliminary investigation of mining possibilities. [The Gold Exploration and Finance Co. of Australia, Ltd., which was formed in London in July with a capital of £2,000,000, has a controlling interest in Gold Mines of Australia, Ltd.]
- The Townsville Daily Bulletin reported on 3 September 1935: ‘The statistical study by Gold Mines of Australia. Ltd. of the Charters Towers field was completed some time ago, but the geological examination is being continued. Should this last mentioned be satisfactory it is anticipated that the active exploration will be commenced at an early date. An unofficial report says that the prospects of activity at Charters Towers are good, and that final arrangements for work are in train. It is also said that Mount Coolon Gold Mines. NL, has been granted a 60 percent interest in the venture. The Melbourne ‘Argus,’ reviewing the interests held in the Commonwealth by Gold Exploration and Finance Co. of Australia, Ltd., includes a participation in Gold Mines of Australia and Mount Coolon Gold Mines. The point of interest in that regard is that should there be an organised exploration at Charters Towers the operators will be financially strong.’
- GMA suffered cash flow problems following a sustained drought in the summer of 1934-35, and the lack of water hampered ore processing from the Mt Coolon Mine. Union activity was rampant in NSW and Qld at the time, with the Communist Party of Australia attempting to push for a single mining union, and different unions were in conflict. There had been disputes at Mount Isa (lead-zinc-silver) in 1933, Collinsville (coal) in 1934 and in the northern sugar districts in August - September 1935. GMA’s decreased cash flow led to discussions about laying off workers, and the general unrest lead to protracted strike action at Mount Coolon for seven months from April to October 1935, and normal milling operations did not recommence until February 1936 (Hunt, 1996).
This was presumably due to a lack of cash flow caused by the strike at GMA’s Mount Coolon mine.

4.1.2 Exploration after 1993.
The Charters Towers goldfield remained closed from the 1920s until Charters Towers Gold Mines (later re-named Citigold Corporation Limited) listed on ASX in December 1993 and set about reopening this major
goldfield. Prior to this, The Company is not aware of any attempt to re-open the central goldfield since its closure in the 1920's, apart from GMA’s investigations in 1934-35.

- In 1994, consultant mining engineers Tennent, Isokangas Pty Ltd (subsequently merged with Coffey Mining Ltd) were engaged to design the Brilliant East Decline (now called the Central Decline). The excavation of the portal commenced and contract mining of Stage 1 of the Central Decline by Peabody Resources Pty Ltd was commenced in 1994.
- Digitising of old mine plans and stope outlines, which had commenced in 1987 by previous owners, was accelerated in 1994.
- Cross reefs containing high-grade gold were intersected in the decline and exploration drilling of shallow targets commenced.

4.2 Mining

4.2.1 Mining prior to 1993.

During active mining in the years leading up to 1920, there were 206 mining leases covering 127 mines working 80 lines of reef and 95 mills, cyaniding and chlorination plants. The field produced over 200,000 ounces per year for 20 consecutive years, and its largest production year was 1899 when it produced some 320,000 ounces. This was a Queensland record for annual gold production that remained unbeaten for over 100 years.

The goldfield closed due to a series of events that reduced the profitability of the operations:

- The mines paid monthly dividends to shareholders, rather than retaining profits for capital works. When capital was required to sink a shaft or develop a new level, a call was made on shares, or the company reconstructed if all shares were fully issued and fully paid. From about 1905, overseas capital (mainly from London) began to be directed away from Australia to Africa and South America, particularly Argentina. In 1907, capital was being directed into copper, lead and tin mines rather than gold. The amount of capital available for investment in Charters Towers dropped off. Companies ceased paying monthly dividends, retaining profits for capital works and exploration, and going to quarterly or half-yearly payments, making them less attractive for investors seeking monthly income from dividends. In November 1906, no monthly dividends were paid at all by any mine for the first time, although two mines were paying quarterly. Investors started drifting away from investing in mining, and in 1914 when the First World War broke out, the Australian government issued war bonds to fund the war effort, and investment went out of mining into the war bonds.
- Increases in costs reduced profitability particularly wood (both as fuel and ground support) and wages. As mines closed, their water load passed to the operating mines, increasing their bailing and pumping costs. In some areas where the ore bodies thickened to the full width of the drives (2.4m), there was no waste mullock to backfill stopes, and fill had to be mined on surface and taken underground (QGMJ June 15 1909 p.311 Mills United company Half-Yearly report. ‘Stope filling has again been unavoidably heavy in cost, a large proportion of the necessary material being sent from the surface down the Day Dawn School Reserve shaft and thence distributed as required.’)
- The First World War reduced availability of skilled labour, increased wages for miners and reduced capital for investment in gold mines. In 1914 wages, which had been fixed for some 40 years, jumped from 8 shillings a shift to 16 shillings.
- The impact of inflation is not recorded in the QGMJ records, but Dawes (1996) has an excellent summary of the effects of inflation over the period the mines were operating. His summary showed that the real gold price in Australian currency declined by 60% from 1898 to 1920, bottoming out in 1930.
- The mines succeeded in lowering their operating costs, and successfully worked lower grade ores, increasing the tonnage produced. The Brilliant Extended in 1904 was payable at 8 pennyweights per tonne (12 grams per tonne), and record tonnages were produced in 1904-1906. This apparent decrease in ore grade based on annual tons and ounces produced is a result of more exploration development ore being processed and decreased tonnages of sands being cyanided (QGMJ April 1907), rather than a major decrease in grade of ore mined. These annualized figures are partly
responsible for the incorrect comments that "grade declined with depth". Annualized grade declined over time, and the mines were working deeper ground over time, but they were also doing more exploration development, much of which was unsorted and milled, because there were no stopes to dump waste into, and the development ore contained gold-bearing quartz. Compressed air rock drills were in use in 1913 in Charters Towers, improving face advance, once the dust problem had been overcome. Hand air drills are mentioned in the 1904 Journal (p.68 with illustrations, and p.485) and dust prevention in Cornish mines is mentioned on p.505. Rock drills were in use at Ravenswood in 1904 (p.31), so presumably were available to the Charters Towers mines as well. Another cost-cutting measure was the introduction of mechanical stokers for the boiler fires, which reduced fuel consumption by 12% to 15% by ensuring more complete combustion, and reduced the number of boiler attendants. The Water Board completed the building of the Burdekin River weir in 1903 just prior to the floods, creating a pondage of 400 million gallons extending for four miles upriver, ensuring a good water supply for the mills.

- The mines did not own their own mills, paying contract rates to commercial millers. The milling companies were often owned by the same owners or directors as the mining companies. From 1909, the mines started buying up the mills as they came on the market after exhausting sands and tailings resources, further lowering the mines' overall costs.

### 4.2.2 Mining after 1993.

- The old Victoria Main Underlie shaft (Ventilation Shaft No.1, an inclined shaft) was reopened by the Company to the surface for ventilation.
- Underground diamond drilling commenced on the cross reefs.
- The Central Decline connected to the old Brilliant workings at 845 metres in (120 metres vertical depth) in 1995.
- Trial underground mining of stope fill commenced in the December quarter of 1995 on 868 Level (the old Victoria Mine) and fines in the stopes averaged 5 grams per tonne Au.
- Trial underground mining was undertaken on the No.2 Cross Reef north and south of the Central Decline on the 909 Level (the surface is at 950 RL).
- An exploration model was developed in 1996 based on five repetitions of the Brilliant-Day Dawn reef to the south, striking E-W, dipping shallowly to the north and spaced at various intervals south from the Brilliant-Day Dawn reef:
  - The 500 metre structure, which includes Golden Surprise reefs,
  - The 1000 metre structure, includes Identity and Ruby reefs,
  - The 4000 metre structure, equivalent to the Warrior West and Warrior East reef, the cross reef is equivalent to Washington,
  - The 4800 metre structure is the Imperial reef,
  - The 6000 metre structure is Mt Cenis, also termed Monarch North, and
  - The 6600 metre structure is the Merrie Monarch, also termed Monarch South.
- In 1996 a gold processing plant was acquired, refurbished, upgraded and installed 10 km south of Charters Towers.
- Drilling was undertaken at Mt Cenis and Warrior.
- Stripping of overburden commenced at Stockholm, 2 km north of the processing plant, in January 1996 for the commencement of trial open pit mining.
- In 1997 the plant was running seven days per week.
- The 500 metre structure was intersected by drilling at 424 metres below the Brilliant-Day Dawn reef, 200 metres south of the Central Decline confirming the exploration model in this area.
- The average grade of ore from No.2 Cross Reef was 7.15 grams per tonne for a 2,125 tonne parcel.
- Drilling Stockholm and the 4000 metre Cross Reef Structure at Washington.
- Stage 2 of the Central Decline was developed by mining contractors Farnsway Faminco Pty Ltd, extending to 1.6 km length and 238 metres vertical depth.
- Brilliant Block Shaft (Ventilation Shaft No.2) was re-opened for ventilation and connected to the 180
metre vertical depth position on the Central Decline.

- In 1999 pre-stripping commenced at the Washington open cut for trial mining.
- Underground operations commenced off the Stockholm open pit.
- Gold production commenced in May 1999 from Washington open cut, and in the May quarter milled 10,232 tonne at 11.9 grams per tonne at 96% mill recovery for 3,747 ounces for the quarter.
- Stockholm old underground workings stope fill averaged 13 grams per tonne Au.
- Total gold production in trial mining from 1997 to 2000 exceeded 38,000 ounces at an average cash cost of A$475 per ounce. Investment in the project totalled A$43 million in 2002, including:
  - 95 square kilometres of mineral holdings;
  - excavation of two declines;
  - acquisition of mining fleet;
  - purchase, upgrade and commissioning of 340,000 tonnes per annum CIL plant; and
  - opening and trial mining of two open pit mines and three underground mines.

Total Mineral Resources in 1999 were 2 million tonnes at 4.8 grams per tonne Au containing 300,000 ounces.

During 2000, four key Mining Leases in the centre of the project were acquired from the Normandy Mt Leyshon Mining group. The total Mineral Resource increased to 2.7 million tonnes at 9.6 grams per tonne Au containing 850,000 ounces.

The Company had drilled 1,076 holes totalling 85,702 metres, comprising 76,393 metres of reverse circulation (RC) and 9,319 metres of diamond-core. The database, including data from other companies, totalled 141,539 metres of drilling in 1,811 holes. Cash cost of decline development averaged A$1,400 per metre.

Following further work in 2001, the Total Mineral Resource increased to 3.3 million tonnes at 9.4 grams per tonne Au containing 1 million ounces gold and the Brilliant Gold Reef Project Prospectus (Brilliant Mine) was issued. In September 2001, the Brilliant Gold Reef Project commenced diamond-drilling with the first phase successfully completed in August 2002, further proving the continuity of the deep gold-bearing structures.

From 2002 to 2005, following additional deep drilling on the Brilliant Reef, there was a complete review of the drilling database, including the assigning of ore body codes to several hundred drill intersections that were previously unclassified. From this, a complete reinterpretation of the ore body structures was undertaken with the new intersection data, and the computer ore body solid models revised. Results from deep drilling and the completion of a PhD thesis by Oliver Kreuzer in 2003 proved that gold mineralisation at economic grades persisted to 1,200 metres vertical depth from diamond-drilling, and that research data indicated the mineralisation could persist to 3 km to 5 km depth.

In 2004 the Company acquired two companies, Great Mines Ltd and Charters Towers Mines Pty Ltd, that held certain Mining Leases and rights over parts of the goldfield. This gave the Company ownership control of all of the central goldfield mineral holdings such that for the first time ever an overall resource and reserve assessment could be undertaken.

Consequently, the Inferred Mineral Resources were extended to 1,200 metres depth, increasing the Inferred Mineral Resource to 23 million tonnes at 14 grams per tonne Au containing 10 million ounces. This information was released to the Australian Securities Exchange in a 100 page report conforming to the JORC standards in May 2005, and followed by a 64 page report on the JORC classification Indicated Mineral Resources and Probable Ore Reserves in August 2005. Mining re-commenced in 2004 with the driving of an access decline at the Imperial Mine into the Warrior ore body, about 5 km southeast of the centre of Charters Towers. The first gold from Warrior was poured in November 2006 and production continued until the end of 2013.

In May 2012, the cut-off grade was reviewed in the light of a sustained higher gold price and the Imperial ore body added into the Mineral Resource. The total Inferred Mineral Resource increased slightly to 25 million tonnes at 14 g/t gold and 9 g/t silver. The Probable Ore Reserve increased to 2.5 million tonnes at 7.7 g/t gold and 5.1 g/t silver.
4.2.3 Production Statistics

4.2.3.1 Production prior to 1993.

From 1871 to 1920, the field produced 6.6 million ounces of gold from 6 million tonnes of ore.

Historical Production Charters Towers Gold Field

Figure 4.1. Gold production in Imperial tons and Troy ounces and the annual average grade in grams of gold per metric tonne of ore from the Charters Towers Goldfield 1871-1920.

4.2.3.2 Production after 1993.

the Company commenced operations in 1993, and produced 38,000 ounces in trial mining from 1996 to 2000. There was then a hiatus in production while resources and reserves were re-evaluated, and mining commenced at the Imperial Mine, five kilometres south of Charters Towers city, producing from the Washington (E01), Warrior(E03) and Sons of Freedom (E05) ore bodies in the Imperial Mine area. Gold production resumed in 2007 from the Imperial, producing some 64,843 ounces to 31 March 2014. Total production from 1996 to 31 March 2014 was 102,843 ounces. Gold Production (as ounces sold) by individual Australian financial years (1 July to 30 June) is tabled below in Table 4.1:

<table>
<thead>
<tr>
<th>Financial Year ended 30 June</th>
<th>Gold Sold (ounces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996-2000</td>
<td>38,000</td>
</tr>
<tr>
<td>2007</td>
<td>3,319</td>
</tr>
<tr>
<td>2008</td>
<td>13,784</td>
</tr>
<tr>
<td>2009</td>
<td>10,906</td>
</tr>
<tr>
<td>2010</td>
<td>15,888</td>
</tr>
<tr>
<td>2011</td>
<td>8,451</td>
</tr>
<tr>
<td>2012</td>
<td>7,560</td>
</tr>
<tr>
<td>2013</td>
<td>2,270</td>
</tr>
<tr>
<td>2014 to 31 Mar</td>
<td>2,665</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>102,843</strong></td>
</tr>
</tbody>
</table>

Table 4.1. Gold sales by the Company from 1996.
5 GEOLOGICAL SETTING

5.1 Regional Geological Setting

The mineralisation occurs within the Palaeozoic Ravenswood Batholith, and comprises mesothermal (medium temperature of formation of 300 to 350 degrees Centigrade) quartz reefs containing gold, pyrite, sphalerite and galena, hosted mainly by the Ordovician age Towers Hill Granite.

5.2 Local Geological Setting

Host rock units for the mineralisation within the Ravenswood Batholith are the Towers Hill Granite, the Hogsflesh Creek Granodiorite, the Alabama Diorite and the Millchester Creek Tonalite of Ordovician and Devonian ages. Minor mineralisation also occurs in the Neo-Proterozoic Charters Towers Metamorphics. Mapping and petrological research shows the mineralised system is very large, over 40km across. Mineralisation at the Charters Towers and the Rishton-Hadleigh Castle mines (about 40 km east of Charters Towers) was isotope dated and found to be the same age within an indistinguishable range, indicating synchronous formation of auriferous reefs dated at 404-408 million years (Late Silurian to Early Devonian geological age) and spread across a significant segment of the Ravenswood Batholith host (Kreuzer 2003, p.B-41, D-32, D-45).

The Charters Towers granite/granodiorites, that are the predominant country rock of the Charters Towers project, in relation to physical properties can be best described as consistent very hard rock. This very strong country rock has a relatively shallow base of weathering at 10 metres to 15 metres depth from surface. Independent tests conducted by Sandvik AB on diamond drill cores of fresh rock gave rock hardness Uniaxial Compressive Strength (UCS) of 250 to 350 megapascals (MPa). By way of a simple comparison with concrete used in heavy commercial and special structures (high rise buildings, long span bridges, slabs exposed to heavy abrasion, etc.) they typically require concrete strengths of 28 MPa or more. Concrete of 41 MPa is considered high strength. Therefore the Charters Towers country rock is 6 to 8.5 times stronger than high strength commercial grade concrete.

5.3 Mineralisation

The mineralisation is of the ‘orogenic lode gold’ type, comprising mesothermal reefs of quartz containing gold and sulphide minerals including galena, sphalerite and pyrite, hosted by granitic bodies. The reefs are usually one to two metres thick, but have strike lengths of from several hundred metres and up to two kilometres in the Central area.

The gold-bearing reefs at Charters Towers are typically 0.3 metres to 1.5 metres thick, comprising hydrothermal quartz reefs in granite, tonalite and granodiorite host rocks. There are some 80 major reefs in and around Charters Towers city, of which 22 are included to date in the Company’s resource estimate. The main east-west reef systems are the Brilliant, the Day Dawn, the Mexican, the Queen and the Sunburst, extending over a strike length of five kilometres and cut by NNW trending cross reefs. There is a second E-W system 800 metres to the south comprising the Golden Sunrise, Mary and Clark’s Moonstone line of reefs, and a third system 500 metres further south, comprising the Ruby and Gladstone line of reefs. They are found in extensive sheet-like alteration zones (reefs). The most productive gold-bearing reefs (the Day Dawn, Brilliant and Queen) dip to the north beneath the city of Charters Towers.

The majority of the ore mined in the past was concentrated within a set of fractures over 5 km long East-West, and 500 metres to 1600 metres down dip in a North-South direction. The mineralised reefs lie in two predominant directions dipping at moderate to shallow angles to the north (main production), and the cross-reefs, which dip to the ENE. The E-W and NNW trends seen at the regional scale are repeated at local scale on the Company’s mineral holdings. The reefs are hydrothermal quartz-gold systems with a gangue of pyrite, galena, sphalerite, carbonate, chlorite and clays. The reefs occur within sericitic hydrothermal alteration, historically known as ‘Formation’.

While the reefs are typically 0.3 to 1.5 metre wide, they range locally up to 6 metres thick, and in isolated cases up to 15 metres. Blatchford (1953) suggested an average width of less than 0.9 metres over most of the field, and this was confirmed by the Company’s modelling of stope volumes. The ore shoots occur with a periodicity typically in the order of 120 to 300 metres within the reefs, and extend from 200 to 700 metres in the down plunge direction, and are 70 metres to 300 metres wide. The deepest drilling used in the Reserve
and Resource estimate was by BHP-Homestake in 1980-4 and the Company in 2002-03 has demonstrated that the gold mineralised reefs persist to at least 1,300 metres vertically and remain open at depth.

Charters Towers gold is typically associated with galena and sphalerite in the pyritic sections of the quartz reefs and with associated shearing. Significant gold is not normally present in the disseminated pyrite which occurs in the proximal zone sericitic alteration. For more detailed descriptions of the geology refer to Kreuzer (2003). The ore was deposited at ~400 Ma at depths of between 5 and 14 km, mostly in Palaeozoic granitic rocks (Kreuzer et al, 2007, p16). This mesothermal, orogenic style gold mineralisation characteristically has great lateral and vertical extent. The ore is typically very high-grade, with past production averaging over 1 ounce per tonne. The Goldfield clearly has excellent potential for high-grade ore beyond the currently identified resources. At a district scale Kreuzer et al (2007) used fractal dimensions to predict that new deposits will be found either at depth or outside the boundaries of the Charters Towers known gold field.

Deep drilling by BHP in the 1980s, and more recently in 2008 by the Company under the Queensland Government sponsored Collaborative Drilling Initiative (CDI) program, has demonstrated that the gold mineralised reefs persist to at least 2 km vertically and remains open at depth. At Parcoy-Pataz in Peru (Schreiber et al, 1990) similar quartz-pyrite reefs outcrop and extend to a vertical distance of 1,700 metres.

Most past production was from ore shoots within quartz reefs in remarkably persistent, kilometre scale sheet-like reef structures (faults). In the central area the main producers were the easterly trending reefs, plus subordinate production from the NNW trending cross reefs. The reefs are gently to moderately dipping and are typically 0.1 to 1.2 metres wide, but locally range up to 6 metres thick. The ore shoots occur with a periodicity typically in the order of 200 to 300 metres on the reef structures, and in the city are mostly 200 to 700 m long in the down plunge direction, and 70 to 300 m wide normal to plunge direction (Morrison et al, 2004). The mined reef structures have statistically hosted ore shoots over 20% to 50% of their area (‘payability’). These figures are currently being replicated at the Company’s Imperial Mine operations. Time and again new high-grade ore shoots have been found in areas previously discounted as barren. Recent examples of this include the Company’s Washington, Stockholm and Imperial (Warrior) mines. The structural control of the Charters Towers ore shoots is subtle, often at changes of dip and strike, with some reefs thickening and thinning over short distances with no obvious controlling feature. Shallow plunging ore shoots that do not outcrop at the surface are common. Typical examples of this are the Day Dawn and the recently delineated ore shoots at Warrior. The 1.4 million ounce Brilliant ore shoot in the city was mined to 1.6 km down plunge but did not outcrop.

Due to the heterogeneous distribution of sulphides within the quartz, and the often erratic nature of the gold concentrations within the pyrite, ore grades display an irregular and non-uniform distribution. It is common for poorly mineralised zones of the fissures to pass rapidly along strike into high-grade ore, and vice versa. The ore is locally very rich, with several ore shoots known to average over 2 ounce gold per tonne (e.g. New Queen Cross, Talisman, parts of Brilliant). Although usually coarse-grained, high-grade ore is also found in fine-grained sulphides in shear zones e.g. at Stockholm and Warrior. The continuity of the ore shoots is locally disrupted by minor post-ore faulting which sometimes results in enriched zones of spectacular grade, for example, Day Dawn crushings of 10 ounces of gold to the tonne of ore (Reid, 1917). Structural, petrological and geochemical work is ongoing with the objective of defining vectors to the high-grade ore shoots.

The irregular and non-uniform distribution of gold grades at normal drill spacing and short geostatistical range makes ore shoot definition by diamond drilling expensive and time consuming. Gold reef deposits like Charters Towers have historically been delineated by underground development and bulk sampling. Conventional drilling is used to define the position of the reef and a spot grade, but this may not be representative of the local grade.
6 EXPLORATION ACTIVITIES

The Company has been exploring the area since 1993, with extensive mapping, sampling of soils, stream sediments and rock outcrops, followed by an extensive drilling program.

6.1 Exploration Overview

6.1.1 The Geological Model

A key part of accurate Mineral Resource and Ore Reserve estimation is a clear understanding of the geological model or models of the mineralised body or system – the shape of the mineralised bodies, their orientation and location, the nature, chemistry and origin of the gold-bearing fluids, the fluid pathways, the control mechanisms on metal deposition and the continuity of the mineralised bodies. The model must be robust and proven by testing, as is the case at Charters Towers. This information can be also used to define future exploration targets.

6.2 Exploration Methods

Exploration has been largely by drilling and surface sampling, with more emphasis since about 2008 on electromagnetic geophysical exploration methods attempting to define the conductive zones of high-grade gold associated with metal sulphides. Sampling of underground drive faces and mapping of underground levels has also been conducted.

6.2.1 Geology

The geology of the Project area has been mapped at 1:250 000 and 1:100 000 scale by Geoscience Australia (Federal government department) and the Queensland Government Geological Survey. In addition, the Company has mapped prospects at 1:5 000 scale and mapped individual lodes and abandoned mines at appropriate scales. Aerial colour photographs at 1:25 000 scale were flown in 1999 and formed the base for much of the recent mapping. More recent photography from Google Earth has also been used, and the combination of scenes used to detect underlying geology from soil colours and seasonal or annual vegetation changes. Satellite images at various spectral bands were also used. Analysis if the stress regime and regional stress field to determine structural controls on mineralisation was undertaken in 2013 and 2014.

6.2.2 Geophysics and Remote Sensing

Regional aerial magnetic and radiometric surveys and ground gravity surveys were compiled by the Qld State Geological Survey and the Federal Government Geology Australia, and this data was used by the Company to define rock boundaries. Magnetic surveys detect difference in the content of magnetic minerals such as magnetite and ilmenite in the granitic rocks. Radiometric surveys detect variations in the distribution of radioactive minerals such as potassium, thorium and uranium. Gravity surveys detect variations in the density of underlying rocks.

Wall rock alteration studies indicate the fluid was slightly acidic to near neutral (pH 5-6) (Kreuzer 2003, pp. C-54, C-59; Corbett & Leach 1998). The oxidizing fluids have produced red hematite alteration, destroying magnetite where it is in contact with the fluids and creating local magnetic lows. This creates a geophysical signature for exploration, looking for de-magnetised areas adjacent to gravity lows.

At Charters Towers, gold grades are related to the galena (lead sulphide) and sphalerite (zinc sulphide). The higher the lead and zinc values, the higher the gold content. These metal sulphides have weak electrical properties, and an electric current pumped into the ground may generate eddy currents in the sulphides. These eddy currents generate magnetic fields which in turn induce more electrical currents. These currents may change the rate at which the injected electric current decays, and the length of time for the current to decay may indicate the concentration of sulphide minerals. Consequently, the Company has used a variety of electrical and electromagnetic methods to attempt to define the high sulphide areas on the assumption that these will also contain high grade gold. Geophysical techniques trialled include:

- Dielectric Resonance Spectroscopy,
- Customised Down-hole cross-hole tools,
- Surface and Down-hole Induced Polarisation, and
- Ground Transient Electromagnetic methods.
Dielectric Resonance Spectroscopy measures the dielectric properties of the rock as a function of frequency. It is based on the interaction of an external field with the electric dipole moment of the sample, often expressed by permittivity. It is also being used to measures the impedance of a system over a range of frequencies, and therefore the frequency response of the system, including the energy storage and dissipation properties, is revealed. The tests to date completed at Charters Towers have been able to show density highs at the exact location of the ore body confirmed by the previous drill hole. In the Charters Towers gold system, density is greater where gold is present, associated with lead and zinc. Research on these techniques is continuing.

6.2.3 Geochemistry

Wall rock alteration studies indicate the fluid was slightly acidic to near neutral (pH 5-6) (Kreuzer 2003, pp. C-54, C-59; Corbett & Leach 1998). The oxidizing fluids have produced red hematite alteration, destroying magnetite where it is in contact with the fluids.

Oxygen and hydrogen isotope fractionation data indicate a formation temperature ranging from 170 degrees C to 360 degrees C with a preferred value of 310 degrees C. This temperature range is supported by studies of fluid inclusions, textures and wall-rock alteration mineralogy (Peters & Golding, 1989; Kreuzer 2003, pp. C-1, C-51, D-30).

Individual reef splits and alteration zones were usually sampled separately.

There are some areas of hematite flooding, creating pink altered feldspars. This is often, but not always, associated with gold mineralisation.

6.2.4 Drilling

6.2.4.1 Type and extent of Drilling

The Company has a robust geological model that has been predicted and then tested by diamond-core drilling down to 2000 metre vertical depth. Intersections into known quartz reefs have hit the predicted position within one metre at depths of up to 1,500 metre downhole. Over 350,000 metres of drilling has been conducted in 3,200 holes on down-dip and strike extensions of known reef systems, with 1,559 significant drill intersections. Previous explorers that drilled, mapped and sampled the area from 1980 until the float of the Company in 1993 include BHP, Homestake, CRA, AOG, Orion, Mt Leyshon Gold Mines and Great Mines. Prior to 1980 drilling was undertaken by Towers Drilling Co (1932), and the Queensland Department of Mines in 1923 and 1969-70. A detailed project evaluation was conducted by Gold Mines of Australia (the precursor of WMC) in 1935, and the Company holds copies of much of their data.

As at 30 June 2011, total drilling was over 3,200 holes totalling some 350,000 metres, comprising 847 diamond-core holes, 1,479 Reverse Circulation (RC) holes and 135 RC holes with diamond-core tails, as tabulated below:

<table>
<thead>
<tr>
<th>Drill Hole Type</th>
<th>No. Of Holes</th>
<th>Total Metres Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Track</td>
<td>481</td>
<td>8,246.10</td>
</tr>
<tr>
<td>Diamond Drill Hole (DDH)</td>
<td>847</td>
<td>194,591.71</td>
</tr>
<tr>
<td>Open Hole Percussion (OHP)</td>
<td>123</td>
<td>6,640.20</td>
</tr>
<tr>
<td>Rotary Air Blast Percussion (RAB)</td>
<td>207</td>
<td>2,910.00</td>
</tr>
<tr>
<td>Reverse Circulation Percussion (RC)</td>
<td>1,479</td>
<td>112,380.70</td>
</tr>
<tr>
<td>RC with Diamond-core tail (RC-DDH)</td>
<td>135</td>
<td>33,756.59</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3,272</strong></td>
<td><strong>358,525.30</strong></td>
</tr>
</tbody>
</table>

**Table 6-1. Summary of drilling – type, number of holes and metres.**

The Company owned four diamond-drill rigs in 2011, and core drilling increased each Quarter from 2006, to around 10,000 metres and over 30 holes drilled per Quarter, then declined. Drilling was suspended at the end of 2011.

Drilling resumed again in 2013 and 67 drill holes were completed, mainly in-fill drilling in the Imperial Mine area. Highlights of the 2013 drilling included:
Drilling was completed in four main areas for the purpose of down-hole geophysics and for upgrading of Mineral Resources to Ore Reserves.

- Targeted drilling resulted in approximately 80% of holes intersecting significant mineralisation (i.e., above 1 gram per tonne) and 16 intercepts in 13 holes at or above the production cut-off of 3 g/t.
- The highest grade intersected was 0.62 metres down-hole at 90.3 grams per tonne (equivalent to 56 metre-grams per tonne) in hole CT8022 at the Imperial Mine.
- Drill hole results have demonstrated that mineralisation exists on all structures drilled in 2013, and confirms continuity of mineralisation within structures.

The full results of this 2013 drilling were released by the Company to the Australian Securities Exchange on 24 March 2014.

Surface drilling was carried out by independent drilling contractors. From 2000 to 2004 the company used a number of different surface rigs for both Reverse Circulation (RC) and Diamond drilling. Diamond core tails were drilled from some RC holes to test mineralised zones. Drilling within the Central (Central) urban area was undertaken using a quiet electro-hydraulic LM110 drill rig drilling HQ (64 millimetre diameter) and NQ (48 millimetre) size core. Drilling since 2006 focused mainly on mine planning, grade control & stope drilling at the Warrior Mine and using the Company's own drill rigs (up to three Atlas Copco U8 rigs and two U6 rigs) drilling predominantly NQ size core with lesser amounts of BQ (34 millimetre diameter core).

### 6.2.5 Sampling

All drill core and RC chips were logged on site by university degree-qualified geologists, (most with two or more years’ experience). Drill core is photographed and geotechnically and structurally logged. Base of oxidation and, where possible, depth to water was recorded for all holes, and Rock Quality Designation (RQD) recorded for engineering information.

Reverse circulation sample recoveries were estimated by bag volumes, and recoveries generally exceeded 90% in the mineralised zones of most holes. Diamond-drill core recovery was measured by tape from drillers’ blocks and usually exceeded 95% through the mineralised zones. Reverse circulation (RC) drill holes were sampled every metre by collection of the sample in a dust suppressed cyclone. RC drilling samples were normally 3 to 5 kg sub-sampled either by riffle splitting, or systematic spear sampling. Riffle split ratios were normally 25:75. This procedure splits the sample down to sub samples of 5 kg or less. Normal RC drilling procedure was for the drilling bit to be lifted off the bottom of the hole and the hole blown clear between adjacent sample runs at the end of each 6 metre rod. As a general rule 5 metre spear samples were composited from the bulk bags and sent for assay. Individual 1m samples for any anomalous composite assay zones, and any specific intervals chosen by the geologists were also sent for assay.

Diamond-drill core samples were cut by diamond-saw with half-core samples assayed of discreet geological intervals. These typically produce 0.6 kg of sample per 0.1 metre of NQ size half core. Alteration zones were sampled separately from reef material. Diamond drill core sizes were usually NQ (48 millimetre diameter core).

In 2013, most diamond drilling has been 63.5mm diameter HQ core, although some NQ2 core has been drilled. RC pre-collars have been used for some drill holes where drilling was aimed at defining the location for the fracture. NQ2 drill core was typically used for the diamond tails on RC pre-collars. Downhole surveys were taken at a minimum of every 50m down hole. Drill-hole casing was 80mm PN12 PVC piping and was inserted into many holes to accommodate the down-hole geophysics tools and to maintain the internal integrity of the holes in case of further surveying requirements. Contractors used for drilling in 2013 include Eagle Drilling, Dominion Drilling, WAR NQ and Weller Drilling. All drilling was completed under contract to the Company. Core orientation was only carried out on drilling taking place in the central area (CT9000).

The core is marked up and measured by senior field assistants and geologists under the guidance of the senior geologist. Core recovered (CR) is compared with the meters drilled (MD, recorded by the drillers in their daily log-sheets) and a ‘core recovery’ percentage is calculated; CR/MD x 100 = % recovered. All data is recorded within the Company database where it is checked by senior geologists. Drilling is mostly within competent granites where core loss is minimal, however, in areas where high degrees of alteration and associated mineralisation occur, some core loss is expected and subsequently recorded. Accordingly, it is possible that some fine gold within clay could have been lost during drilling.
6.2.6 Chemical Analysis

Commercial laboratories are used for all sample work. Grade control and some check sampling assaying is done in the Company's on-site laboratory.

Core is sawn in half and one half (50%) is submitted for analysis at NATA accredited labs in Townsville (QLD, AUSTRALIA). Selected core is cut as quarter-core (25%) and submitted for analysis at NATA accredited labs in Townsville (QLD, AUSTRALIA). The 25%-50% sampling of the HQ core is considered appropriate for the mineralisation type. HQ core is sampled for 50% only. Samples are couriered to the laboratory where they are dried at 105°C; weighed; crushed to – 6mm; and pulverised to 90% passing 75μm where a 200 g sub-sample is taken. 5% of samples are dual sub-sampled (second split) for sizing and analytical quality control purposes. Gold content is assayed by Fire assay. A 50 g sub-sample is added to a combustion flux and fired at 1000 C; the resultant lead button is separated from the slag and fired in a muffle-furnace at 950°C to produce a gold/silver prill; the prill is digested in aqua regia and read on an Atomic Absorption Spectrophotometer- Inductively-Coupled Plasma (AAS/ICP) machine (Model 40Q): A 0.2g sub-sample is digested using nitric/hydrochloric/ perchloric/hydrofluoric acids; the diluted digestion product is then presented to a Perkin Elmer 7300 ICP Atomic Emission Spectrophotometer for analysis.

6.2.7 Quality Assurance and Quality Control

Second splits (5% of total); two in 45 sample repeats; and 2 CRM standards for each rack of 50 samples are analysed in all methods. The Company uses standards sourced from Gannett Holdings Pty Ltd, Perth, Australia. Certificate number 13U20C-22-04-13. A blank sample and/or a standard sample and/or a duplicate sample are randomly inserted approximately every 30 samples that are submitted. NATA accredited laboratories in Townsville have their own rigorous ‘in lab’ QAQC procedures and are accredited for precious metal and base metal analyses. A complete discussion on assay techniques, sample sizes, assay variance and sample bias can be found in the Company 2012 Mineral Resources and Reserves report. Selected samples are submitted to other labs, including the Company's on-site lab) to check for consistency, accuracy and as a second means of obtaining a result. Some strongly anomalous holes have been resubmitted for assay. No twinned holes were completed by the Company in 2013, however, prior exploration has engaged diamond drilling as a means of checking anomalous RC drilling and to confirm the precise depth of the mineralised structure. All drill holes are logged into laptop computers and checked before entering into database. Criteria have been established so that erroneous or incorrect characters within a given field are rejected thereby reducing the potential for transfer error. All logs are reviewed by the senior geologist. All samples logs are recorded onto paper and assigned a unique sample number once cut. The sample and other details are entered into the Company database. All significant intercepts are checked against the remaining core, checked for corresponding base metal grades and assessed for geological consistency.

6.2.8 Sample Security

All drill core is stored within locked yard guarded by contracted security. Samples are delivered by the Company staff to the NATA accredited Laboratory in Townsville (130 km away) and/or by registered courier. Standards are retained within the office of the chief geologist and only released under strict control. The chain of sample custody is managed and closely monitored by the Company (management and senior staff).

6.3 Exploration Results

Exploration results are reported Quarterly by the Company to the Australian Securities Exchange.

6.4 QA/QC Results

A full discussion of the QA/QC results and an analysis of any potential sample bias was given in the Company 2012 Mineral Resources and Ore Reserves Report, available on the Company’s web site at http://www.citigold.com/mining/technical-reports .

6.4.1 Blanks

A blank sample is randomly inserted approximately every 30 samples that are submitted. NATA accredited laboratories in Townsville have their own rigorous ‘in lab’ QAQC procedures and are accredited for precious metal and base metal analyses.
6.4.2 Duplicates
Second splits (5% of total); two in 45 sample repeats; and 2 CRM standards for each rack of 50 samples are analysed in all methods. The Company uses standards sourced from Gannett Holdings Pty Ltd, Perth, Australia. Certificate number 13U20C-22-04-13. Duplicate samples are randomly inserted approximately one in every 30 samples that are submitted. NATA accredited laboratories in Townsville have their own rigorous ‘in lab’ QAQC procedures and are accredited for precious metal and base metal analyses.

6.4.3 Certified Reference Materials

6.4.4 Check Analyses
Selected samples are submitted to other labs, including the Company’s on-site lab) to check for consistency, accuracy and as a second means of obtaining a result. Some strongly anomalous holes have been resubmitted for assay. No twinned holes were completed by the Company in 2013, however, prior exploration has engaged diamond drilling as a means of checking anomalous RC drilling and to confirm the precise depth of the mineralised structure.

Assay duplicate precision has been audited and found to be within ±10% of the mean value, which is within acceptable limits for commercial assays. Selective re-assay of samples was undertaken following inspection of results where particularly high or anomalous assays were noted. Assay results were reviewed statistically, by cumulative frequency plots and histograms, and log normality of data sets was established for the mineralised zones. See the the Company 2012 Mineral Resources and Ore Reserves Report, available on the Company's web site at http://www.citigold.com/mining/technical-reports, pages 45 to 64.

6.4.5 Assay Precision
The normal range of precision from commercial laboratories (as used by the Company) is 10% to 15% (Bumstead, 1984), meaning that repeat samples vary from the average of the samples by up to 10% to 15%. The significant assay range of interest to the Company’s underground operations are those results above 3 grams per tonne Au. The precision of 180 repeat samples above 4 grams per tonne Au was examined to see how the precision varied. The majority (85%) of the Company’s samples have a precision of better than 20% and 57% of samples have a precision of better than 10%. Some 38% of samples have a precision of better than 5%. As the majority of samples have a precision of better than 10%, which is within the documented precision of commercial laboratories (Bumstead, 1984), the results are regarded as acceptable. Assay variation is not regarded as a significant risk in the project. The variation is regarded as within acceptable limits of risk.

6.5 Data Entry and Validation
The database has been audited by several independent consultants since 1998 and most recently by Snowden in 2011.

All drill hole assay data received from the laboratories by e-mail was loaded directly into spreadsheets without any retyping. These files were then uploaded to the database via Surpac, while the original e-mailed assay file was retained. Surpac runs an automatic validation procedure to ensure there are no double entries for sample numbers or overlapping of downhole intervals and prints an error report for any problems found. For drill holes, a hole path was plotted with assay data and visually scanned. The first assay received was normally accepted and subsequent repeat and check assays were used for QA/QC evaluation. However if a major discrepancy was noted between the first and subsequent assays a decision was made whether the original assay was used for resource estimation, or whether the first duplicate assay or an arithmetic average of all duplicate results was used.

Drill hole collar coordinates and downhole surveys were entered manually by one geologist and then cross-checked by another, then a hole path was plotted and examined. Assay data was validated by plotting and checking against assay sheets if data was manually entered, and hole collars and paths were validated by plotting in plan and section to ensure coordinates have been accurately entered. Data used in current resource estimation is all regarded as accurate. Validation of earlier data is continuing as required.
7 MINERAL PROCESSING AND METALLURGICAL TESTING

7.1 Overview

The Charters Towers Gold Project gold is relatively fine-grained, mostly less than one millimetre, and mineragraphic microscopy shows gold is primarily late-stage. Gold particles are located along grain boundaries, with minor amounts contained within sulphide grains, predominantly pyrite, making it amenable to gold extraction by cyanidation, as the sulphide grains break along grain boundaries and fractures during milling, exposing thin wide gold surfaces to the cyanide solution. The ore is not regarded as refractory, with recoveries usually of 97% to 98%.

Gangue minerals are quartz, calcite, and a variety of clay minerals derived from alteration of feldspars in crushed granitic rock ('formation') along reef margins.

Mineral processing is conducted at the Company’s mill and processing plant at the Black Jack site about 12 kilometres southwest of Charters Towers. Ore for processing is crushed and milled and then extracted by cyanidation by the Carbon-In-Leach (‘CIL’) method. Gold is electroplated from the strip solution onto steel-wool, which is then roasted with fluxes to produce raw gold/silver doré bars.

7.2 Metallurgical Testwork

Metallurgical testwork was first conducted in 1993, and indicated that the CIL process was applicable. The Company has been operating its CIL processing plant since 1996 and achieving gold recoveries of 95% to 98%. Metallurgical testwork is no longer relevant as the Company has been in production since 1996.

7.3 Mineral Processing Design

Mineral processing is by conventional Carbon-In-Leach (CIL) solvent extraction, comprising crushing in jaw and cone crushers, screening, milling in a ball mill, dissolving of the gold and silver in a chemical solution and electroplating from solution onto steel wool. The steel wool is roasted and the gold and silver melted in a furnace and poured as doré bars which are about 60% gold and 35% silver. The plant has a current capacity of 960 tonnes per day (340,000 tonnes per year) and is designed to allow doubling of the throughput at minimum cost or disturbance to current processing when production warrants the upgrade. The plant in 2013 was running at half capacity, milling around 150,000 dry tonnes per year.

The plant has operated continuously since late 2006. Metallurgical recoveries have been routinely reported each Quarter in the Company’s Quarterly Activities Report to the ASX, and have averaged 97% to 98%. At head grades of 5 grams per tonne Au to 15 grams per tonne Au, less than 0.2 grams per tonne is lost in tails. Silver is recovered in the CIL process along with the gold, recovering about one ounce of silver for every 1.5 ounces of gold.
8 MINERAL RESOURCES

Mineral Resources are reported in accordance with the JORC Code.

Under the JORC Code, Mineral Resources are a lower category of confidence than Ore Reserves. Inferred Mineral Resources are the lowest confidence level, and cannot convert directly to Ore Reserves. Additional sampling information is required to progress Inferred Mineral Resources to the higher category of Indicated Mineral Resources. Further information, usually more closely spaced, is required to progress to the highest category of mineral resources, which is Measured Mineral Resources.

By the application of Modifying Factors such as mining, legal financial, social and metallurgical factors, Indicated Mineral Resources may be converted to Probable Ore Reserves (the lower confidence category of Ore Reserves) and Measured Mineral Resources may convert to Proved Ore Reserves, the higher confidence category of Ore Reserves. The relationship of the various categories is illustrated below in Figure 8.1.

![Diagram showing the relationship between Mineral Resources and Ore Reserves]

Figure 8.1. General relationship between Mineral Resources and Ore Reserves. From the Joint Ore Reserves Committee Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 ("the JORC Code").
8.1 Summary of Mineral Resources

Table 8.1 Mineral Resource summary, as of 31 March 2014

<table>
<thead>
<tr>
<th>Category</th>
<th>Mineral type</th>
<th>Gross attributable to licence</th>
<th>Net attributable to issuer</th>
<th>Change from previous update (%)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tonnes (millions)</td>
<td>Grade (g/t Au)</td>
<td>Tonnes (millions)</td>
<td>Grade (g/t Au)</td>
</tr>
<tr>
<td>Measured</td>
<td></td>
<td>Nil</td>
<td>7.6 g/t Au</td>
<td>0.52</td>
<td>7.6 g/t Au</td>
</tr>
<tr>
<td>Indicated</td>
<td>Gold (Au)</td>
<td>3.2</td>
<td>5.1 g/t Ag</td>
<td>0.52</td>
<td>5.1 g/t Ag</td>
</tr>
<tr>
<td></td>
<td>Silver (Ag)</td>
<td>7.6 g/t Au</td>
<td>5.1 g/t Ag</td>
<td>780,000 ounces Au</td>
<td>520,000 ounces Ag</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 g/t Ag</td>
<td>0.52</td>
<td>9 g/t Ag</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.6 g/t Au</td>
<td>5.1 g/t Ag</td>
<td>780,000 ounces Au</td>
<td>520,000 ounces Ag</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.1 g/t Ag</td>
<td>0.52</td>
<td>9 g/t Ag</td>
<td></td>
</tr>
<tr>
<td>Inferred</td>
<td>Gold (Au)</td>
<td>25</td>
<td>14 g/t Au</td>
<td>11 million ounces Au</td>
<td>7 million ounces Ag</td>
</tr>
<tr>
<td></td>
<td>Silver (Ag)</td>
<td>9 g/t Ag</td>
<td>0.52</td>
<td>9 g/t Ag</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>14 g/t Au</td>
<td>0.52</td>
<td>9 g/t Ag</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>13.3 g/t Au</td>
<td>4.62</td>
<td>13.3 g/t Au</td>
<td>8.6 g/t Ag</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.6 g/t Ag</td>
<td>4.62</td>
<td>8.6 g/t Ag</td>
<td></td>
</tr>
</tbody>
</table>

Note: Indicated Mineral resources are reported inclusive of ore reserves.

Inferred Mineral Resources used a cut-off of 1 metre, gram per tonne to define sample intersections used to construct the outlines of mineralised bodies. A conservative breakeven cut-off of 3 grams per tonne Au at a gold price of US$1300 per ounce and an exchange rate of A$1 = US$ 0.91, as shown in Table 8.2 below, was used to estimate grades in Indicated and Inferred Mineral Resources. The mining cash cost was AUD$576 per ounce. No top cut was used for the estimation of grade for Mineral Resources. The confidence level is ±30% for the contained ounces in the Inferred Mineral Resource, because two mining factors have been included (a minimum mining width of one metre, and a substantial discount of the tonnes (70%) based on known mine payability on the reefs). Probable Ore Reserves are derived from, and included in, Indicated Mineral Resources. The Probable Reserves are not additional to Indicated Mineral Resources.

8.2 General Description of Mineral Resource Estimation Process

8.2.1 Gold Resource

The mineral resource drilling database in 2005 comprised 147,053 metres of drilling from 1,809 drill holes, of which 44,259 metres is diamond-core (mainly HQ [63.5 mm] and NQ [47.6 mm] diameter) in 322 holes, 94,694 metres is reverse circulation (RC) percussion drilling in 1,240 holes and 8,100 metres of other non-core drilling (mainly open-hole percussion) in 247 holes. The holes intersected down-dip and along-strike extensions of known structures. Drilling from 2005 to 30 June 2011 increased the database to 3,272 holes totalling 358,525 metres, an increase of 1463 holes and 211,472 metres. Diamond drilling increased by 525 holes and 150,332 metres (average hole length 286 metres and averaging seven holes completed per month), including the single Deep Hole (CT 5000) of 2,001 metres. During 2013, a further 67 holes (diamond-core and RC with diamond-core tails) were drilled, primarily in and around the Imperial Mine area, with one hole in the Central area. The data from these 67 holes is still being evaluated and interpreted, and at the time of writing had not yet been incorporated into any new resource or reserve at the Imperial or Central Mines.

Most of this increased diamond drilling has been within the Mining Leases associated with the Imperial Mine, drilling the Warrior, Sons of Freedom and Imperial reefs, and including a small number of holes drilled parallel to the Warrior ore body for geophysical test work and research. The vast majority of this drilling has been in-fill drilling, within the previous Inferred Mineral Resource for the Imperial area, and has not changed the 2012 total Inferred Mineral Resource. The Imperial drilling was aimed at converting Indicated Mineral Resources to Probable Ore Reserves in the JORC classification, and grade control and stope definition drilling ahead of immediate mining.

From this database, there are 1,567 significant drill intersections for which a mineralised body code could be identified, in 645 drill holes. A significant drill intersection is one assaying 0.1 grams per tonne Au and/or over 100ppm lead, or sometimes an intersection with identifiable quartz reef or formation material indicating that the reef had been intersected even if assay values were low. Over 97% of the intersections are above 0.1
metre-gram per tonne Au and over 80% of intersections exceed 1 metre-gram per tonne Au. There are 30 significant drill intersections deeper than 1,000 metres, of which 27 are deeper than 1,100 metres and 18 deeper than 1,200 metres. The deepest significant intersection is 1,817.2 metres (0.4 grams per tonne Au), and the best gold grade deeper than 1,200 metres was 20.54 grams per tonne Au. This is positive proof that economic gold grades persist along strike and down dip from the previously mined areas down to at least 1,200 metres vertical depth, with identical mineralization in 18 intersections persisting to 1,800 metres depth.

The following sections examine:
- The statistical distribution of gold values in the drill intersections,
- The relationship between gold and lead in drill samples, and how this can be used to define ore shoots if drilling intersects an apparently barren section of the shoot,
- Lower cut-off grades to use in mineral resource estimation
- Whether or not a Top Cut should be applied to cut out outlying high-grade values.

8.3 Mineral Resource Estimate

8.3.1 Mineral Resource Input Data
Geological solid shapes representing the mineralised structures were constructed in Surpac by wire-framing from drill intersections below old underground mine workings, and these shapes extrapolated down to 1200 metres down dip where geological continuity of the mineralised structure was confident. The Day Dawn and Brilliant mine workings extended down to 823 metres and 910 metres vertical depth (1080 metres down dip) respectively. The thickness assigned to the shape was based on the true width from known drill intersections. Assay data was assessed from 3,272 drill holes totalling 358,525 metres. From these, there were 1,567 significant drill intersections for which a mineralised body code could be identified, in 645 drill holes. A significant drill intersection is one assaying 0.1 grams per tonne Au and/or over 100ppm lead, or sometimes an intersection with identifiable quartz reef or formation material indicating that the reef had been intersected even if assay values were low. Over 97% of the intersections are above 0.1 metre-gram per tonne Au and over 80% of intersections exceed 1 metre-gram per tonne Au. There are 30 significant drill intersections deeper than 1,000 metres, of which 27 are deeper than 1,100 metres and 18 deeper than 1,200 metres. The deepest significant intersection is at 1,817.2 metres (0.4 grams per tonne Au), and the best gold grade deeper than 1,200 metres was 20.54 grams per tonne Au.

8.3.2 Geological Interpretation

8.3.2.1 Continuity of Geological Structures
The strike length continuity of the Brilliant structure has been proven by underground mining for over 800 metre along strike and down dip for 1,080 metres length to a vertical depth of 910 metres. The strike extent has been proven by drilling to extend for a further 500 metres west and 700 metres east, giving a total strike length of 2 km. The Day Dawn has been proved by underground mining for 1,700 metres along strike and 823 metres vertically. The East Mexican reef is interpreted as an extension of the Day Dawn, which increases the strike length of the Day Dawn to 2,100 metres. Sunburst West (part of the Queen structure) has been proven by underground mining for 350 metres and down dip for 225 metres to a vertical depth of 125 metres. The Queen structure’s continuity has been proven by underground mining in the Bonnie Dundee and Golden Gate mines for a strike length of 1,360 metres and down-dip for 450 metres to a vertical depth of 400 metres. The continuity of the Cross Reefs (Columbia, and St Patrick reefs) has been proven by underground mining over a strike length of 270 metres and down-dip for 510 metres to a vertical depth of 340 metres. The Columbia and St Patrick reefs are interpreted as the same structure, which increases the strike length to 1,300 metres.

The Deep Hole project drilled in 2008 a diamond-core hole to 2,000 metres depth and intersected the Columbia-St Patrick reef at 560 metres downhole, the Brilliant at 1,320 metres and the Queen West at 1,583 metres. Un-named structures were intersected at 1,817 metres and 1,982 metres downhole and while the grade was low (0.1 metre at 0.4 grams per tonne Au) it confirmed the persistence of gold mineralization at depth with mineralization identical to higher levels.

Extensions of these structures have been interpreted by matching drill intersections with the proven geological models developed from the underground workings. Some 1,559 significant drill intersections were used. Because the reefs are relatively narrow (usually one to two metres thick) and widely spaced (50 metre to 400 metre), it is usually possible to clearly define the correct mineralised body to which a drill intersection
belongs. Some uncertainty existed where the cross-reefs approached or cut through the east-west structures, and core-to-reef angles were used in oriented core where possible to correctly assign drill intersections to mineralised bodies. Only those intersections which were assigned unequivocally to a known, previously-mined mineralised body have been used in published resource estimates.

8.3.2.2 Payabilities
The payability of the reefs when mined historically (1871-1920) was around 30% (that is, the high-grade ore shoots occupied about 30% of the total reef area). This has been measured by the Company from computer modelling of the previous workings and stope areas. The highest payability obtained was 51.8% on the Brilliant structure. Because of the variability of gold values and the 30% payability, there is a strong statistical chance (70%) that a random hole drilled into a reef will be more likely to intersect a barren part of the reef rather than the payable ore shoot. This payability factor is a mining factor usually introduced at the Reserve estimation stage, but is introduced here into both Inferred and Indicated Mineral Resources to account for the irregular and non-uniform grade distribution, and discount the tonnage back to what is reasonably expected to be economically extractable. The Company uses drilling to confirm the presence of the gold-bearing structures, and the presence of gold in those structures at the drill intersection point. The gold grade in the intersection may or may not be representative of the grade in the surrounding area. Continuity of the structure is confirmed if the intersection matches the known geometry of the structure, given that the width of the structures is generally less than one metre but the structures are spaced 50 metres to 400 metres apart. Grade continuity from historical mining records was around 200 metres to 500 metres along strike and up to 1,000 metres down the plunge of the shoot. Grade continuity is compensated for in the Company’s estimates by using payabilities to discount the tonnes estimated on a given structure.

8.3.3 Data Analysis and Geostatistics
8.3.3.1 Statistical Distribution of Drill Intersection
In common with many sets of geochemical data, the significant drill intersections at Charters Towers show a log normal distribution when standardised as grade-width accumulations in metre-grams per tonne (that is, the drill hole true width intersection in metres multiplied by the grade in grams of gold per tonne of rock). Figure 8.2 (below) shows a frequency distribution plot of the 1,559 drill intersections, and it shows a near-perfect log normal distribution. There is a slight negative skewness (-0.158), but the geometric mean is 2.42 metre-gram per tonne Au, close to the median value of 2.08 metre-gram per tonne Au. In a perfect normal distribution, the mean would equal the median. Therefore this normal distribution means that log normal statistics can be used when dealing with the whole population. However, care should be exercised when dealing with partitioned data, such as intersections above a particular cut-off, where the population of data points is no longer log normal.

The data showed a slight skew towards the high grade end, which is to be expected as the drilling was targeting mineralised areas, not just a random program. A cumulative log-probability analysis was conducted.
to identify any discreet populations in the data. Figure 8.3 (below) shows the log-probability plot for 1559 significant assays. The data showed a single normal population of gold values below 0.1 g/t gold, a second anomalous population of gold values between 0.1 g/t and 1.0 g/t, and a third population above 1 g/t, representing assays associated with significant mineralisation. On this basis it was decided to use 1 metre.gram of gold per tonne as the Resource cut-off, while maintaining 3 g/t as the Reserve cut-off grade.

Figure 8.3. Log-Probability Plot showing a background population of 1559 significant assays up to 0.1 ppm (0.1 g/t) gold, a second population representing mineralisation between 0.1 ppm and 1.0 ppm, and a third population above 1 ppm gold. On this basis it was decided to use 1 metre.gram of gold per tonne as the Resource cut-off, while maintaining 3 g/t as the Reserve cut-off grade.

8.3.3.2 Relationship of Lead and Gold in defining ore shoots

The gold distribution is not uniform within the reefs. Old mining records show that the gold was concentrated not in shoots but random areas or lenses within the reefs, and the previous miners used the presence of galena (lead sulphide) to define high-grade gold areas (Reid, 1917). Because of the variability of gold values and the 30% payability, there is a strong statistical chance (70%) that a random hole drilled into a reef will be more likely to intersect a barren part of the reef rather than the ore shoot. Averaging of all drill grades in a particular reef is therefore likely to grossly underestimate the average gold values, as an average would include all the barren 70% that would not be mined in practice. This would normally be countered by outlining the ore shoots and only using holes within the shoots, but historical records show that the shoots were not uniformly mineralised, with barren patches within shoots. Holes with low gold values may still be within a significant shoot, but this low-grade patch would be identified during mining and left behind as a pillar.

The Company examined the relationship between lead and gold to see if the lead values could be used to define the boundaries of shoots if gold values were low. Of the 1,559 intersections, 903 contain significant lead values. Initially, only samples that exceeded 1 grams per tonne Au were assayed for lead. More recent samples were assayed for lead regardless of gold values. Figure 8.4 (below) shows a log plot of gold versus lead for the 903 lead and gold intersections. It shows a denser clustering of values above 1 gram per tonne Au, which reflects the bias in assaying more samples above 1 grams per tonne Au. As gold and lead were assayed on the same sample, actual assay values were examined, in ppm (equal to grams per tonne) rather than grade-width accumulations, as the drill width is irrelevant when comparing gold to lead ratios in the same sample. The maximum lead value was 19,600 ppm (1.96%) lead. The maximum gold value was 117 grams per tonne Au. Lead is unlikely to pose a significant health risk or metallurgical penalty, and has not been an issue in underground mining at the Imperial Mine since 2006.
Figure 8.4. Log plot of gold versus lead for over 1500 drill intersections used in the Company’s mineral resource estimation.

A linear regression line was calculated by the method of least squares best fit, which returned the linear regression equation of:

\[ y = 102.45x \]

This indicates that a gold value of 1 ppm should be accompanied by a lead value of 102 ppm. The Coefficient of Determination (R^2 value) is 0.0448. The R-squared value (R^2) is a number from 0 to 1 that reveals how closely the estimated values for the trend-line correspond to the actual data. A trend-line is most reliable when its R-squared value is at or near 1. The ratio also holds for smaller samples, such as the Brilliant Reef drill holes, and also holds for zinc as well, as shown in Figure 8.5 below:

Figure 8.5. Log plot of gold versus lead and zinc for 19 drill intersections in diamond-core hole CT647 on the Brilliant reef.

Face samples were examined from 488 samples in the No.2 Cross Reef (Maude St. Leger reef) and a similar relationship between lead and gold was found (Figure 8.6 below).
Annual QPR for Charters Towers Gold Project Qld Australia for the Year Ended 31 March 2014
LionGold Corp Ltd

Figure 8.6. Log plot of gold versus lead and zinc for 488 stope face samples from the No.2 Cross Reef (Maude St Leger reef)

From this relationship, the Company has determined that ore shoots can be reliably defined by lead values where gold values are abnormally low due to the nuggety distribution. A contour of 100 ppm lead should enclose gold values of 1 ppm (1 grams per tonne) and above. The presence of galena can be used as a visual guide to high gold grade areas during mining. This method was used by the previous miners as the primary method of underground grade control, supplemented by rare assaying and more frequent trial crushings of bulk samples (10 to 100 tons). From 1900 onwards, visual control was the prime method (QGMJ 1901-1920). However, the Company uses conventional channel-sampling for grade control and blocking out reserves underground, sampling drive faces every cut. As the sample size using Gy's sampling theory would need to be of the order of 50 kg, creating a manual handling health risk underground, the Company uses smaller samples (3 kg to 5 kg each) but taken more frequently.

8.3.4 Domaining

There is remarkably little variation in the geology, alteration, geochemistry and grade statistics with depth or geographical position, as shown below in Figures 8.7 to 8.10.

Figure 8.7. Chart showing that there is no relationship between the width of an intersection and its gold grade. Intersections less than the cut-off grade of 1m @ 3 g/t were excluded from the ore reserve estimation. The factors that make the project viable are the occasional very high grade intersections (>10 g/t) and the occasional very wide intersections (wider than 4 metres, the normal drive width).
Figure 8.8  No significant change in width of the mineralisation with depth

Figure 8.9. No significant change in gold grade of the mineralisation with depth

Figure 8.10  No significant change in lead (Pb) grade with depth
Because the mineralisation is remarkably uniform in geochemistry and assay grades throughout the Resource area, no domaining was undertaken.

The area was partitioned in the Central and Southern areas as there was a slight variation in the average grade of drill intersections in these areas.

8.3.4.1 Central Area Grade Estimation

The 1,559 drill intersections were partitioned based on collar position northings and eastings to select holes within the Central area only (Figure 8.11 below). Holes included in the Central area are north of 7776000mN AMG and east of 420,500mE AMG. This easting excludes holes drilled on the Great Britain mine northwest of the Central, but includes all drilling on the Day Dawn, Brilliant, Queen Sunburst and Cross Reef structures that make up the majority of the previous production areas. The drilled extensions of these areas are planned for production by the Company. There are 455 significant drill intersections within this area. The metal grade-width accumulations in metre-grams per tonne display a log normal distribution. The plot has a slight negative skewness (-0.06) and a small number of outlying high values. However, the geometric mean of 1.213 almost equals the median (1.218), indicating that the outliers do not distort the average by any significant amount. This confirms and supports the decision not to cut high-grades.

![Drill Collar Locations](image)

Figure 8.11. Plan view showing drill collars partitioned into the Central Area north of 7 776 000mN AMG and east of 420 500mE AMG, and the Southern area south of 7 776 000mN.
8.3.5 Variography

Kriging is a mathematical statistical technique used in ore reserve estimation. It is used for interpolating sparse and clustered spatial data.

The continuity of grade within these structures is known to be highly variable and therefore grade continuity cannot be guaranteed without drilling of the structures at spacings that would be economically unviable, given that drilling would need to be up to 600 to 1200 metres depth and collar spacings of less than 25 metres to achieve a confidence level of 90% or better. Kriging analysis indicates a range of 6 to 8 metres for reliable statistical results, that is, the grade can only be confidently projected for 6 to 8 metres away from a sample point, implying that a drill spacing of 12 to 16 metres is required for 95% confidence levels.

The Warrior reef has been extensively drilled in part on a nominal 25 metre x 25 metre pattern spacing. The majority of the drilling was RC with nine diamond-core holes into the deeper sections of the shoot. Resources were estimated at Warrior East in October 2002 by indicator kriging using a commercial computer program SURPAC 2000. The kriging parameters derived were judged to be sufficiently accurate to provide reliable grade estimates within an acceptable level of risk, and Warrior proceeded to the decision to mine stage.

8.3.6 Estimation

8.3.6.1 Cut-off Grades

The JORC Code 2012 defines Cut-off Grade (p. 36) as:

"The lowest grade, or quality, of mineralised material that qualifies as economically mineable and available in a given deposit. May be defined on the basis of economic evaluation, or on physical or chemical attributes that define an acceptable product specification."

Cut-off grades are usually the break-even grade – the grade at which the value of the gold content per tonne of rock equals to the cost to mine it, haul it and process it. A ‘top cut’ is the artificial cutting of high-grade assays back to some predetermined figure to avoid biasing averages by a small number of abnormally high-grades. Cut-off grades may be calculated to determine minimum gold values for a number of different purposes, such as a local stoping area cut-off, a larger shaft or level area cut-off, milling or haulage cut-offs, low-grade and high-grade cut-offs for sensitivity analyses and Net Present Value calculations, and charting of tonnage-grade curves. One variant of the cut-off grade is the operating break-even grade, which is the minimum amount of gold needed to cover administration, mining and processing costs but excluding capital costs, depreciation, royalties, taxation, interest, cost of capital and recovery of previous exploration expenditure. The break-even grade will vary with the gold price, and will vary according to what costs are included as mining costs. The Gold Institute Standard definitions of mining costs are used by the Company in defining its Cash Costs and its Total Mining Costs.

Table 8.2 (below) illustrates an example of how the Company has derived its break-even grade. It is derived from a spreadsheet where the constantly changing variables of US dollar gold price and the US-Australian dollar exchange rate can be entered to constantly update the break-even grade. It calculates the grade of gold necessary to meet the Company’s Cash Cost without allowing for depreciation, amortization, cost of capital etc. used in total mining cost. In 2005, the Company used a US gold price of US$434.75 and an exchange rate of A$1.00 = US$0.7751, which were valid on 21 April 2005. At these variables, the operating break-even grade was 5.5 grams per tonne Au in ore delivered to the mill. In 2011, the gold price had risen dramatically to over $1800 per ounce and the Australian dollar had moved to parity with the US dollar and beyond. In September 2011 it was AUD$1 = USD$1.03, down from highs earlier in 2011 of around US $1.10. In March 2012, the gold price was around US$1300 per ounce and the exchange rate varied from A$1.00 = US$0.89 to US$0.92 (Reserve Bank of Australia). This gives an Australian gold price of around AUD$1400 per ounce, consistent with the Australian price over the last 18 months, as shown in Figure (8.12 below).
Table 8.2. Cut-off Grade estimator showing a 3 g/t cut-off at a gold price of US$1300 per ounce and an exchange rate of AUD$1.00 to US$0.91. The mining cost is AUD$576 per ounce.

A conservative breakeven cut-off, as per Table 8.2 above, was 3 grams per tonne Au at a gold price of US$1300 per ounce and an exchange rate of A$1 = US$ 0.91. The mining cash cost was AUD$576 per ounce.
Gold-bearing ore at Charters Towers will be mined under a variety of circumstances, following successful mining at the Imperial Mine. The mining method used is long-hole open stoping on sub-levels 10 metres to 15 metres apart vertically, strike drives in ore whenever possible and decline access between sub-levels. The main Central area is likely to be mined by vertical shaft haulage with 4 metre x 4 metre decline access for men and supplies. Exploration and much of the mine development will be mined along the strike of the mineralised body, mining through both high-grade shoots and more barren parts of the reef. Exploration and bulk sampling costs will be largely covered by ore won from the development drives. The reef width will vary along the drive. Using the factors in Table 8.3 below a 3 metre high x 2.6 metre wide production or exploration drive can be mined at breakeven if it carries a reef dipping at 45 degrees and 1.0 metre wide at 6 grams per tonne Au within the reef (2.8 grams per tonne Au average development grade).
Table 8.3. The cost of a 3m x 2.6m drive is covered by a one-metre wide vein carrying 6 g/t and dipping at 45 degrees across the face (the middle column). The average grade for the drive would be 2.75 g/t. Because the operation may process rock at various grades below the break-even grade, a lower mineral resource cut-off grade-width accumulation of 3 metre-gram per tonne Au (3 grams per tonne Au over a one-metre width) has been selected for drill intersections. This includes material within, or marginal to, the shoots likely to be mined. Figure 8.13 (below) shows a range of cut-off values and the percentage of the 1,559 drill intersections above cut-off. About 40% of the intersections are above 3 metre-gram Au, and 32% above 4 metre-gram per tonne Au.
A polynomial regression line was calculated by the least squares best fit method that returned the polynomial regression equation of:

\[ y = 1.0114x^2 - 12.803x + 62.367 \]

The Coefficient of Determination ($R^2$ value) is 0.9956. Given the high value of $R^2$ (high confidence) in Figure 14-5, the equation can be used to calculate the percentage of significant drill intersections (the ‘y’ value) at any cut-off value (the ‘x’ value).

<table>
<thead>
<tr>
<th>Cut-off</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 0.1 metre-grams per tonne</td>
<td>1517</td>
<td>97.3</td>
</tr>
<tr>
<td>Above 1 metre-grams per tonne</td>
<td>1274</td>
<td>81.7</td>
</tr>
<tr>
<td>Above 2 metre-grams per tonne</td>
<td>798</td>
<td>51.2</td>
</tr>
<tr>
<td>Above 3 metre-grams per tonne</td>
<td>623</td>
<td>40.0</td>
</tr>
<tr>
<td>Above 4 metre-grams per tonne</td>
<td>507</td>
<td>32.5</td>
</tr>
<tr>
<td>Above 5 metre-grams per tonne</td>
<td>435</td>
<td>27.9</td>
</tr>
<tr>
<td>Above 6 metre-grams per tonne</td>
<td>381</td>
<td>24.4</td>
</tr>
</tbody>
</table>

Table 8.4 Frequency and percentage of significant drill intersections above a range of cut-off grade values in metre-grams per tonne gold.

### 8.3.6.2 Top Cut for high-grade values

There is considerable evidence from Reid (1917) and the fortnightly mine managers’ reports that recovered grades on parcels of several thousand tons frequently exceeded two to five ounces per ton. Section 4.1.2 of the 2005 report previously showed that the in situ grade used to assess the gold resource would be 10% to 20% higher than the various mines historical recovered grades. The Victory, Queen Cross and Victoria mines averaged over two ounces to the ton (62 grams per tonne) and eight mines exceeded 40 grams per tonne recovered. In situ stope grades in individual stopes would have exceeded the averages.

Geologists often cut high-grade values in ore reserve estimation to avoid biasing any averaging techniques by a small number of unusually high gold values. Given that the distribution of log-normalised values in the Company drill intersections approximates a normal distribution (Figure 8.2, above) with no significant outlying high values, no top cut of drill grades has been used in the estimation of Mineral Resource grades. Cutting high-grades would artificially lower the average grade but there is no valid statistical basis in this data set for cutting high-grades. The high-grades (up to 117 grams per tonne and 151 metre-grams per tonne Au) are part of the normal data set in Figure 8.3 above. This is supported by current mining in the Imperial Mine which often showed face grades of hundreds of grams per tonne that were not detected in pre-mining drilling.

### 8.3.6.3 Grade estimation

Grade estimates are essentially polygonal averages of drill hole intersections above 3 metre,grams of gold per tonne. Because the mineralisation is disseminated unevenly through the mineralised bodies, there are no well-defined shoots of mineralisation within the structures, and it is not possible to designate an area of influence around each drill hole. Grades and ore body widths can change dramatically over short distances, as shown in Figures 8.14 and 8.15 below:
Figure 8.14. Underground reef illustrating rapid change in gold grades over short distances.

Figure 8.15. Underground reef illustrating rapid change in thickness over short distances.
Attempting to “join the dots” of drill intersections on a long section to create an outline of an economic shoot at 3 metre-gram per tonne, even at 25 metre centres, is subject to high levels of uncertainty. Even at a 5 metre spacing, there is such a high variability that determining a shoot outline as a grade contour with 100% certainty is impossible. Drilling out the Charters Towers project on 5 metre spacings to depths of 500 metres to 1,000 metres is not economically viable. It would incur a cost that would be similar to or higher than the cost of actually developing the access decline and drives required to mine the deposit. Knowledge gained from mining since 1996 proves that the structures consistently behave the same way and are well understood. It is also very significant that the new drill database and the past in situ ore grade averages, when normalized to the same width and cut-off grades, are the same at 27 g/t (see section 14.15 of this Report). This gives high confidence when extrapolating assumptions on geological continuity and expected recovered grades.

Two mining factors were used in the Inferred Mineral Resource to account for the lack of defined ore shoots – a minimum mining width, and an estimate of what percentage of the Inferred structure could be economically extracted (“payability”). The minimum mining width used was one metre, meaning that assay intervals of less than one metre true width were diluted out to one metre by multiplying the assay grade by the ore body true width, assuming the balance of the one-metre interval had zero grade. The payability, based on previous mining, was that 30% of the area defined as Inferred Mineral Resource could be economically extracted. This effectively discounts the tonnage of the defined structure by 70%. Exactly what parts of the structures that will be left behind will be determined by sampling each drive face while driving along the ore bodies to block out stopping levels. This has proved very effective in mining by the Company in the No. 2 Cross Vein (also called the Maude St Leger or C15 reef) in the Central area, and the Warrior (E03) and Sons of Freedom (E05) reefs in the Company’s Imperial Mine 5 km south of Charters Towers – both these areas are part of the Charters Towers Gold Project.

Central Area

The 1,559 drill intersections were partitioned based on collar position northings and eastings to select holes within the Central area only (Figure 8.11, above). Holes included in the Central area are north of 777600mN AMG and east of 420.500mE AMG. This easting excludes holes drilled on the Great Britain mine northwest of the Central, but includes all drilling on the Day Dawn, Brilliant, Queen Sunburst and Cross Reef structures that make up the majority of the previous production areas. The drilled extensions of these areas are planned for production by the Company. There are 455 significant drill intersections within this area. The metal grade-width accumulations in metre-grams per tonne display a log normal distribution. The plot has a slight negative skewness (-0.06) and a small number of outlying high values. However, the geometric mean of 1.213 almost equals the median (1.218), indicating that the outliers do not distort the average by any significant amount. This confirms and supports the decision not to cut high-grades.

There are 83 significant drill intersections above 4 metre-grams per tonne Au (18.2%) and 112 intersections above 3 metre-grams per tonne Au (24.6%). A lower cut-off of 3 metre-grams per tonne Au was selected to include all significant drill intersections within and immediately adjacent to the ore shoots or mineable patches within barren areas. This partitioned data set did not display any particular distribution, so the arithmetic mean was used. The average of the 112 significant drill intersections above 3 metre-grams per tonne is 13.5 metre-grams per tonne Au. There are only five values above 50 metre-gram per tonne (the 95% percentile), of which only one exceeds 100 metre-grams per tonne. No outliers have been excluded or an arbitrary top cut used, and the average accumulated grade of 13.5 metre-grams per tonne Au has been used for the estimation of Inferred Mineral Resources at a 3 metre-grams per tonne Au cut-off. As the minimum ore body width used is one metre, the grade in grams per tonne is also 13.5 grams per tonne Au. This grade is seen as the minimum expected mining grade. However, there is no evidence that these extensions of known shoots and reefs would not average close to the previously-mined grades of 38 grams per tonne Au in situ or 27 metre-gram per tonne diluted, implying that the grades could be much higher than the 13.5 grams per tonne used. At a 6 metre-gram per tonne Au cut-off, the average grade would be 24 grams per tonne Au, and at 9 metre-gram per tonne Au the average grade would be 27 grams per tonne Au.

Current mining of the Imperial area reefs indicates that the mineralization is identical and the grades are similar to historical values. However, the Company expects that the 3 metre-gram per tonne Au cut-off more realistically reflects the likely operating cut-off, given that marginal grade material will often be adjacent to higher grade mineralisation, and/or contained in development rock that may be extracted anyway. Modern mechanized mines seek to optimize the value of the deposit and profits by extracting maximum ounces to offset fixed overheads through efficiencies of scale. Therefore the marginal grade material only needs to cover the incremental costs of transport and milling, which are less than the revenue generated from 3 grams per tonne material.
### 8.3.6.4 Volume and tonnage

Mineralised body solids were modelled as triangulated surfaces called Digital Terrain Models (DTMs) in Surpac down to 1,200 metres vertical depth, and allocated a thickness based on the true widths from drill intersections and the lowest levels of the old workings, to create three-dimensional solids. Previous mining on the Brilliant and Day Dawn structures extended down to near 1,000m vertical depth at times. There are five significant drill intersections in the +3 metre-transparent per tonne Central area data set deeper than 1,000 metres and two deeper than 1,200 metres. The deepest intersection is 1,243 metres. There are 22 drill intersections in the total significant intersection data set deeper than 1,000 metres of which 10 are deeper than 1,200 metres.

The solids were based on the strike extent of the previous workings to define the reef strike extent, and then extended down to 1,200 metres vertical depth with the digital terrain model (DTM) adjusted to fit drill intersections. The DTMs were clipped where they intersected other cross-cutting structures, or where they passed out of the main rock type within which they were mined. The rock type is considered important as it may influence the gold distribution and payability depending on the rheology of the rock (rheology refers to a rock’s ability to deform plastically, flow or stretch under stress rather than fail by brittle fracture) and the rock type’s reaction to the stress regime. There is some evidence from the Company’s drilling at the westerly outlying Great Britain mine (not currently held by the Company – it was drilled under a joint venture) that the reefs may split up or horsetail within the Charters Towers Metamorphics, whereas within the Millchester Creek Tonalite that hosts the majority of the Central reefs, the reefs remain fairly tight and coherent apart from major football or hanging-wall splits. The splits were frequently economic and mined previously. Areas of the DTMs were calculated in Surpac and given a minimum mining width of one metre. The total tonnage contained within the clipped DTM was calculated from this volume at a density of 2.7 tonnes per cubic metre. The tonnage for a particular DTM assigned to Inferred Mineral Resource was then discounted by 70% to take into account the average payability of 30%, apart from the Brilliant where 50% was used, based on previous mining records. The payability was estimated from the DTMs of the areas defined by underground driving in the previously mined area and the DTMs of the areas previously stoped out. A grade of 13.5 grams per tonne Au, derived from average of the 112 significant drill intersections above the 3 metre-transparent Au cut-off, was assigned to the discounted tonnage.

This payability produces a minimum tonnage. This payability factor is a mining factor usually introduced at the Reserve estimation stage, but is introduced here into both Inferred and Indicated Mineral Resources to account for the irregular and non-uniform grade distribution, and discount the tonnage back to what is reasonably expected to be economically extractable. The previous historical mining used a cut-off of 9 metre-transparent per tonne. This is the applicable cut-off grade that was used to determine the 30% payability of the past explored reef area that produced the earlier mining grades of more than one ounce per tonne. The 30% payability is therefore a factual figure based on actual mining. At the Company’s cut-off of 3 metre-transparent per tonne Au, the Company will mine a higher percentage of each structure, resulting in a higher tonnage extracted from the same areas.

Tonnages are estimated by defining a geological structure in three dimensions, from which a volume in cubic metres can be estimated. This volume is converted to tonnes by using a defined density. The main structures (reefs) were modelled in SURPAC. Variations in density will produce variations in tonnage estimates. The minimum density expected in the Company’s underground mines is 2.65 tonnes per cubic metre (t/m3), which is the density of pure quartz. The density of a quartz reef will be lower than this if the reef has void spaces in it or is porous. Mineral Resources in the Company’s underground projects under the city of Charters Towers are limited to deeper than 50 metres below surface, as the Company believes that there is little probability of mining the top 50 metres in the near future (5 to 15 years). A minimum 50 metre crown pillar would be required to be left under any surface infrastructure for safety reasons, and to ensure that the perched water table is not disturbed by mining. The depth of weathering varies from a few metres to about 40 metres, averaging 25 to 30 metres. It is unlikely that underground resources will extend into the weathered zone to any material extent, and therefore the rock densities will be those of fresh rock. A bulk density of 2.7 t/m3 was used by the Company for tonnage estimation of hard rock mineralisation in order to estimate the minimum tonnage (i.e. to avoid over-estimation of tonnages which would result from a fixed volume at a higher density), even though a more realistic figure is in the range of 2.8 t/m3 to 3.2 t/m3 based on the Company measurements summarized in Tables 14-10 and 14-11 in the 2012 report.

The figure of 2.7 t/m3 was based partly on mining experience at the Stockholm and Washington open pits and the Imperial underground mine, using surveyed mined volumes and mill weightometer tonnes, and partly on measured densities of rock cores. Laboratory measurements of densities of granodiorite drill core by James Cook University returned values from 2.69 t/m3 to 2.74 t/m3 with an average of 2.72 t/m3.
gravity (‘S.G.’, here synonymous with density) measurements were conducted by a NATA accredited laboratory on six hard rock, low-sulphide ore returning values from 2.64 to 2.75, and averaging 2.69 t/m³. Where pyrite (S.G. 5.02, 46.5% Fe), galena (S.G. 7.4-7.6, 86.6% Pb), or sphalerite (S.G. 3.9-4.1, 38%-67% Zn) occur in abundance in high-grade ore the density of the ore increases substantially. A quartz reef carrying 30% sulphides (10% each of galena, sphalerite and pyrite) will have an S.G. of 3.5, compared to the 2.7 currently used. If the S.G. is not corrected, this will underestimate reef tonnage (and therefore contained ounces) by up to 30%. Where reef widths are less than one metre, the impact of sulphides on SG is reduced as the ore body boundary is diluted to one metre. The maximum density recorded for 32 diamond-drill core samples taken from eight diamond-drill core holes at Warrior Mine was 3.05 t/m³. The average density was 2.83 t/m³ (see Table 14-9 in the 2012 report). The maximum density recorded for 102 ore samples weighing between half and one kilogram taken from the No.2 Cross Reef (Maude St Leger Reef) was 4.6 t/m³. The average density was 3.1 t/m³ (see Table 14-11 in the 2012 report). However, historical records of the 6 million tons of ore produced over 40 years indicate that sulphide levels are likely to be less than 10%.

The tonnages were also discounted by the historical payability that was usually 30% apart from the Brilliant, which was around 50%. The historical payability was based on a high cut-off of 9 metre-gram per tonne Au. The Company has used 3 metre-graam per tonne Au as the lower cut-off of drill intersections to examine for grade estimation, and for the marginal grade that may be taken to surface and milled if the material will be blasted in the normal course of mining. At the lower cut-off grades, substantially larger proportions of the structure will be mined, giving modern Company operations a higher payability, and therefore extracting more tonnes from a similar area as the historical mining operations. Consequently, the Company’s tonnages are conservative, and a deliberate under-estimation of tonnages in order to produce a prudently conservative estimate of ounces for mine planning purposes. Reserve tonnages estimated by the Company at 2.7 t/m³ without correcting for SG will always be the minimum tonnage expected. A variation of 0.1 t/m³ in the S.G. will vary the estimated tonnage by about 4%. The variation in densities from 2.7 t/m³ to 3.2 t/m³ will vary the tonnages by 20%. Payabilities used are the historical figures at a high cut-off grade of 9 metre-graam per tonne Au. The Company is likely to produce up to 20% more tonnage from a similar area by using a lower cut-off grade. The Company states that resource and reserve tonnages used in its planning are conservative and may be 20% to 40% higher. This variation is an acceptable level of commercial risk for mine planning.

The individual mineralised bodies modelled are tabulated in Table 8.5 and Figure 8.13 below. For this report, the total 44 million tonnes in the Central area is discounted by 70%, and rounded to two significant figures to give a total Inferred Mineral Resource for the Central area of 14 million tonnes at 14 grams per tonne Au containing 6 million ounces.

<table>
<thead>
<tr>
<th>Structure</th>
<th>Structure Name</th>
<th>Area/sq.m</th>
<th>Density t/m³</th>
<th>Tonnage</th>
<th>Payability</th>
<th>Payable tonnes</th>
<th>Grade/grams per tonne Au</th>
<th>Ounces</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01</td>
<td>Brilliant West</td>
<td>316,123</td>
<td>2.7</td>
<td>853,532</td>
<td>0.5</td>
<td>426,766</td>
<td>13.5</td>
<td>185,232</td>
</tr>
<tr>
<td>C05</td>
<td>Brilliant East (within Tonalite)</td>
<td>748,807</td>
<td>2.7</td>
<td>2,021,779</td>
<td>0.5</td>
<td>1,010,889</td>
<td>13.5</td>
<td>438,763</td>
</tr>
<tr>
<td>C17</td>
<td>Day Dawn</td>
<td>476,408</td>
<td>2.7</td>
<td>1,286,302</td>
<td>0.3</td>
<td>385,890</td>
<td>13.5</td>
<td>167,490</td>
</tr>
<tr>
<td>C03</td>
<td>Queen &amp; Sunburst</td>
<td>2,073,794</td>
<td>2.7</td>
<td>5,599,244</td>
<td>0.3</td>
<td>1,679,773</td>
<td>13.5</td>
<td>729,082</td>
</tr>
<tr>
<td></td>
<td>4x Towers Hill Cross Reefs, 600m strike each</td>
<td>2,580,000</td>
<td>2.7</td>
<td>7,776,000</td>
<td>0.3</td>
<td>2,332,800</td>
<td>13.5</td>
<td>1,012,520</td>
</tr>
<tr>
<td>C28</td>
<td>No.1 Cross Reef</td>
<td>720,000</td>
<td>2.7</td>
<td>1,944,000</td>
<td>0.3</td>
<td>583,200</td>
<td>13.5</td>
<td>253,130</td>
</tr>
<tr>
<td>C06, C25</td>
<td>St Patrick &amp; Columbia Cross Reefs</td>
<td>4,447,019</td>
<td>2.7</td>
<td>12,006,951</td>
<td>0.3</td>
<td>3,602,085</td>
<td>13.5</td>
<td>1,563,435</td>
</tr>
<tr>
<td>C09</td>
<td>Wellington</td>
<td>1,200,000</td>
<td>2.7</td>
<td>3,240,000</td>
<td>0.3</td>
<td>972,000</td>
<td>13.5</td>
<td>421,883</td>
</tr>
<tr>
<td>C08, C11, C12</td>
<td>Identity, Ruby, Lady Florence</td>
<td>3,600,000</td>
<td>2.7</td>
<td>9,720,000</td>
<td>0.3</td>
<td>2,916,000</td>
<td>13.5</td>
<td>1,265,649</td>
</tr>
<tr>
<td>TOTAL Central Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13,909,405</td>
</tr>
<tr>
<td>ROUNDED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gold 14 million</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silver 9</td>
<td></td>
</tr>
</tbody>
</table>

Table 8.5. Inferred Mineral Resources for the Central Area, north of 7 776 000mN.
8.3.6.5 Southern Area

The 1,559 drill intersections were partitioned based on collar position northings and eastings to select holes south of the Central area. Holes included in the Southern area are south of 7776000mN AMG. There was no partitioning based on eastings (see Figure 8.11, above). This drilling includes all drilling prior to 2006 on the Warrior, Washington, Golden Alexandra, Sons of Freedom, Imperial, Black Jack, Stockholm, Silent Friend and Merrie Monarch areas, all which hold significant potential for production by the Company. There are 905 significant drill intersections within this area, of which 418 are above 3 metre-gram per tonne Au and 328 above 4 metre-gram per tonne. The metal grade accumulations in metre grams per tonne display a log normal distribution. The plot has a slight positive skewness (+0.178) with a number of higher values above 1 metre-gram per tonne. The geometric mean is 3.21 metre-gram per tonne, slightly above the median (2.50 metre-gram per tonne), indicating a slight distortion towards the higher values. A lower cut-off of 3 metre-gram per tonne Au was selected to include all significant drill intersections within and immediately adjacent to the ore shoots or mineable patches within barren areas. This partitioned data set does not display any particular distribution, so the arithmetic mean was used. The average of the 418 significant drill intersections above 3 metre-gram per tonne is 15.5 metre-gram per tonne Au. There are 24 values above 50 metre-gram per tonne (the 94.5% percentile), but no indication that the high values form a discrete second population.

Mineralised bodies were modelled as planar structures based on their mapped and drilled strike length and extended down dip for 1,200m. The bodies dip at angles between 30° and 50°, giving vertical extents of 600m at 30° and 920m at 50°. The individual mineralised bodies modelled are tabulated in Table 8.6 below.

Mineralised bodies were modelled as planar structures based on their mapped and drilled strike length and extended down dip for 1,200m. The bodies dip at angles between 30° and 50°, giving vertical extents of 600m at 30° and 920m at 50°. The individual mineralised bodies modelled are tabulated in Table 8.6 below.

The difference of 2 g/t is 13% of 15.5 g/t, within the existing 15% variance in assay data.
for the Southern area, rounded to two significant figures, is 11 million tonnes at 14 grams per tonne containing 5 million ounces.

<table>
<thead>
<tr>
<th>Strike</th>
<th>Structure Name</th>
<th>Down-dip Area m²</th>
<th>Density t/m³</th>
<th>Tonnes (t)</th>
<th>Payability</th>
<th>Payable tonnes</th>
<th>Grade grams per tonne Au</th>
<th>Ounces</th>
</tr>
</thead>
<tbody>
<tr>
<td>S01</td>
<td>Black Jack</td>
<td>1,200,000</td>
<td>2.7</td>
<td>3,240,000</td>
<td>0.3</td>
<td>972,000</td>
<td>13.5</td>
<td>421,883</td>
</tr>
<tr>
<td>C30</td>
<td>Clark's Moonstone</td>
<td>720,000</td>
<td>2.7</td>
<td>1,944,000</td>
<td>0.3</td>
<td>583,200</td>
<td>13.5</td>
<td>253,130</td>
</tr>
<tr>
<td>E06</td>
<td>Hidden Secret</td>
<td>1,800,000</td>
<td>2.7</td>
<td>4,860,000</td>
<td>0.3</td>
<td>1,456,000</td>
<td>13.5</td>
<td>632,825</td>
</tr>
<tr>
<td>E07</td>
<td>Imperial</td>
<td>2,800,000</td>
<td>2.7</td>
<td>6,480,000</td>
<td>0.3</td>
<td>1,944,000</td>
<td>13.5</td>
<td>843,766</td>
</tr>
<tr>
<td>S03</td>
<td>Merrie Monarch</td>
<td>1,200,000</td>
<td>2.7</td>
<td>3,240,000</td>
<td>0.3</td>
<td>972,000</td>
<td>13.5</td>
<td>421,883</td>
</tr>
<tr>
<td>S04</td>
<td>Mc Henri</td>
<td>600,000</td>
<td>2.7</td>
<td>1,620,000</td>
<td>0.3</td>
<td>486,000</td>
<td>13.5</td>
<td>210,942</td>
</tr>
<tr>
<td>E06</td>
<td>Silent Friend</td>
<td>1,200,000</td>
<td>2.7</td>
<td>3,240,000</td>
<td>0.3</td>
<td>972,000</td>
<td>13.5</td>
<td>421,883</td>
</tr>
<tr>
<td>E03</td>
<td>Warrior</td>
<td>2,400,000</td>
<td>2.7</td>
<td>6,480,000</td>
<td>0.3</td>
<td>1,944,000</td>
<td>13.5</td>
<td>843,766</td>
</tr>
<tr>
<td>E01 &amp; E05</td>
<td>Washington (E01) &amp; Sons of Freedom (E05)</td>
<td>1,800,000</td>
<td>2.7</td>
<td>4,860,000</td>
<td>0.3</td>
<td>1,456,000</td>
<td>13.5</td>
<td>632,825</td>
</tr>
</tbody>
</table>

TOTAL Southern Area | 10,789,200   | 13.5 | 4,682,903 |
Rounded | Gold | 11 million | 14 | 5 million |
Silver | 11 million | 9 | 3 million |

| TOTAL INFERRED MINERAL RESOURCES | Central + Southern | 24,698,605 | 13.5 | 10,720,887 |
| ROUNDED | Gold | 25 million | 14 grams per tonne | 11 million |
Silver | 25 million | 9 grams per tonne | 7 million |

Table 8.6 Inferred Mineral Resources for the Southern Area south of 7776000mN AMG, and Total Inferred Mineral Resources.

Figure 8.17 Plan View of the Inferred Mineral Resource mineralised bodies in the Southern Area south of 7 776 000mN AMG.

8.3.6.6 Silver resources

The methodology for deriving the average silver grades was given in the 2012 report (pages 82 to 85) and will not be repeated here. The silver is not fully recovered in the chemical processing, and the silver content is around 35% of the raw doré bars. The ratio of silver to gold in recovered ounces sold was examined, and it was found that the chemical process recovers about 1 ounce of silver for every 1.5 ounces of gold recovered. The much lower price of silver per ounce means that the revenue from the silver sold is about 1% of the gold revenue. This means the contribution of silver revenue to the project is not material, as it constitutes only 1% of the gold revenue, well within the variance of 10% to 15% in assay values.
8.3.7 Validation

**Comparison of Averaged Grades with Historical Ore Grades** - As a generalization, overall average recoveries of gold through the historical processing of the ore was about 90% of the contained gold (Reid 1917). Reid also stated that the goldfield recovered a total of 6,600,000 ounces of gold at an average recovered grade of 34 g/t gold. Therefore, as we are reporting on in situ grades for Mineral Resources in this report, it is reasonable to add 11% to the recovered grades to estimate the in situ ore grades of the ore before it was actually mined. On this basis the 34 grams per tonne recovered + 11% means the in situ ore grade was on average 38 grams of gold per tonne of ore (38 g/t at 90% processing recovery = 34 g/t recovered into gold bars). The average reef width mined historically was 0.7 to 0.8 metres true width (Reid 1917). A similar width of 0.75 metres was estimated by the Company by using Surpac modelling of stope voids and relating the volume to the actual tonnage extracted historically. A density of in situ material of 2.7 t/m3 was used to derive the average thickness of 0.75 metres.

To compare the in situ grades in metre-grams we need to convert the historic grades to metre-grams per tonne. The historic estimated in situ grade was 38 g/t, at a conservative reef width of 0.7 metres, so the historic in situ accumulated grade in metre-grams will dilute by 30% to 27 metre-grams per tonne Au (38 g/t x 0.7 metres = 27 g/t over one metre). Therefore, any global Ore Reserve calculated at that time (1871-1916) at a one-metre mining width would have returned a global reserve grade of the order of 27 metre-grams per tonne Au. So for any modern global resource estimation this 27 metre-gram per tonne Au is the maximum grade that could be realistically expected at a one-metre reef width.

In the Company’s drilling database there are over 1,500 new drill intersections used in the Company’s mineral resource estimation (including both the Central and Southern areas). To correctly compare current and past ore grades we need to use the same historic mining cut-off grades. Applying the historic mining cut-off grade of 9 grams per tonne gold (6 pennyweights –Reid 1917) through the current database gives 272 intersections with an average grade of 27 metre-grams per tonne gold.

Therefore the modern drilling based, in situ, gold resource grades match the average in situ ore grades for the previously mined and recovered 6,600,000 ounces of gold. The remarkably similarity of the new areas, that are along strike and down dip from the previously-mined shoots in the same structures, indicates that the mineralisation is identical. This is positive proof that based on the Company's drilling, there is extensive economic grade gold mineralisation at grades in a similar range to those achieved by previous production, located along strike and down-dip from previous underground workings.

8.3.8 Classification

The irregular and non-uniform distribution of gold grades at normal drill spacing and short geostatistical range makes ore shoot definition by diamond drilling expensive and time consuming. Gold reef deposits like Charters Towers have historically been delineated by underground development and bulk sampling. Conventional drilling is used to define the position of the reef and a spot grade, but this may not be representative of the local grade.

Exploratory drilling during the last 2 years has mainly been on a prospect scale, with 2 or more holes at approximately 50 metre spacing on section lines approximately 200 metre apart. Earlier drilling targeted known reef systems outlined by surface outcrop mapping, previous mine plans, trenching and pickups of previous shafts and prospecting pits. Holes were spaced at intervals of 100m to 500m apart where the reef system was confidently expected. Underground drilling was on nominal 50m spacing from the Central Decline. The Warrior East Ore Reserve was estimated based on holes at nominal 25 metre centres.

The drill spacing is too wide to enable classification of Measured Mineral Resources. Indicated Mineral Resources are based on sampling and drilling at spacings of 25 to 80 metres. Inferred Mineral Resources are based on sampling and drilling at spacings greater than 80 metres, interpolating geological structures and grades between drill holes, and extrapolating resources beyond the last sample point.

‘Extrapolation’ is the distance from the last data point to the outside edge of the ore body. This is usually no more than 50 metres and limited to a maximum of 100 metres for Indicated Mineral Resources and Probable Ore Reserves. Extrapolation distances are higher for Inferred Mineral Resources. Extrapolation in triangular shapes may produce diagonal distances up to 200 or 300 metres. Plans and sections showing the extrapolated parts of the Inferred Mineral Resources are shown in the Appendix.
'Interpolation' is the distance between one data point and the next. For Indicated Mineral Resources and Probable Ore Reserves, interpolation distances are as close as 2.5 to 4 metres in drive faces which are rock-chip sampled across the face after each blast round of 2.5 to 4 metres apart, and extend out to 25 to a maximum of 80 metres between drill holes.

8.3.8.1 Extrapolation and Interpolation Distances

All Mineral Resources generally and the Inferred Mineral Resources in this report involve estimating the continuity of the geological structures and grades over nominated distances from the last data point and between data points. This distance varies greatly with the type of commodity being estimated, the complexity of the geology, the distribution of the commodity within its confining structures and the confidence the estimators have in their knowledge base. Obviously, this confidence is higher in an operating mine or a mine with a large amount of previous production than a project in which no mining has yet been undertaken. The Charters Towers Gold Project was mined for 40 years from 1871 to about 1920, producing a recorded 6.6 million ounces of gold from 6 million tons of ore processed. The area has been intensively explored by the Company from 1993, and underground mining development commenced in 1994. Trial mining and gold production was undertaken from 1997, and there has been five years of continuous gold production since 2007. The geological structures (reefs) are very continuous, geometrically simple, well-understood and predictable with no major folding and limited amounts of faulting. The gold grade within the reefs is highly variable, forming concentrations of fine gold particles clumped together to form areas of economic grades isolated by intervening areas of low grade mineralized material. The mineralized material is virtually continuous, but economic grades are not, with no clearly defined or mappable area of economic grade. The grade is therefore discontinuous.

Extrapolation and interpolation distances are set out below in Table 8.7 for mineralized bodies listed in the Inferred Mineral Resources:

<table>
<thead>
<tr>
<th>Interred Mineral Resources</th>
<th>Reef</th>
<th>Strike Extent</th>
<th>Dip Extent</th>
<th>Max Extrapulation Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>C01 Brilliant West</td>
<td>1050</td>
<td>2400</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td>C05 Brilliant East</td>
<td>1600</td>
<td>2400</td>
<td>530</td>
</tr>
<tr>
<td></td>
<td>C17 Day Dawn</td>
<td>800</td>
<td>1400</td>
<td>680</td>
</tr>
<tr>
<td></td>
<td>C03 Queen &amp; Sunburst</td>
<td>1800</td>
<td>1200</td>
<td>1,100</td>
</tr>
<tr>
<td></td>
<td>4x Towers hill cross reefs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C29 Welcome</td>
<td>610</td>
<td>1,420</td>
<td>1,120</td>
</tr>
<tr>
<td></td>
<td>C30 Clark’s Moonstone</td>
<td>245</td>
<td>1,450</td>
<td>1,150</td>
</tr>
<tr>
<td></td>
<td>C31 North Australian</td>
<td>150</td>
<td>1,600</td>
<td>1,300</td>
</tr>
<tr>
<td></td>
<td>C32 Lady Maria</td>
<td>250</td>
<td>1,000</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td>C28 No.1 Cross Reef</td>
<td>600</td>
<td>1,000</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td>C06 C23 St Patrick &amp; Columbia</td>
<td>2,450</td>
<td>2,733</td>
<td>1,434</td>
</tr>
<tr>
<td></td>
<td>C09 Wellington</td>
<td>1,000</td>
<td>1,550</td>
<td>1,250</td>
</tr>
<tr>
<td></td>
<td>Identity, Ruby, Lady Florence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C06 Ruby</td>
<td>1,000</td>
<td>1,560</td>
<td>1,260</td>
</tr>
<tr>
<td></td>
<td>C11 Lady Florence</td>
<td>995</td>
<td>1,375</td>
<td>1,075</td>
</tr>
<tr>
<td></td>
<td>C12 Identity</td>
<td>1,010</td>
<td>1,540</td>
<td>1,240</td>
</tr>
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<td>South</td>
<td>S01 Black Jack</td>
<td>990</td>
<td>1,200</td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>C30 Clark’s Moonstone</td>
<td>600</td>
<td>1,200</td>
<td>1,050</td>
</tr>
<tr>
<td></td>
<td>E06 Hidden Secret (2 parts)</td>
<td>430 &amp; 930</td>
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<td>900</td>
</tr>
<tr>
<td></td>
<td>E07 Imperial</td>
<td>1,350</td>
<td>1,200</td>
<td>900</td>
</tr>
<tr>
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<td>S03 Merrie Monarch</td>
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<td>800</td>
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<td>S04 Mt Cenis</td>
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<td>940</td>
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<td></td>
<td>E06 Silent Friend</td>
<td>1,005</td>
<td>1,200</td>
<td>1,100</td>
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<td></td>
<td>E03 Warrior</td>
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<td>350</td>
</tr>
<tr>
<td></td>
<td>E01 Washington &amp;</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>E05 Sons of Freedom</td>
<td>1,563</td>
<td>1,200</td>
<td>890</td>
</tr>
</tbody>
</table>

Table 8.7 Maximum extrapolation and interpolation distances for each mineralised body (reef) in the Inferred Mineral Resource. The total tonnage in each reef has been discounted by 70%, based on only 30% of the extrapolated area on each reef being economic to extract (payable).
### 8.3.9 Reported Mineral Resources

<table>
<thead>
<tr>
<th>Category</th>
<th>Mineral type</th>
<th>Gross attributable to licence</th>
<th>Net attributable to issuer</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tonnes (millions)</td>
<td>Grade (g/t)</td>
<td>Tonnes (millions)</td>
</tr>
<tr>
<td>Measured Resources</td>
<td>Gold Silver</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Indicated Resources</td>
<td>Gold Silver</td>
<td>3.2</td>
<td>7.6 g/t gold 5.1 silver</td>
<td>0.52</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inferred Resources</td>
<td>Gold Silver</td>
<td>25</td>
<td>14 g/t gold 9 g/t silver</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Resources</td>
<td>Gold Silver</td>
<td>28.2</td>
<td>13.3 g/t gold  8.6 g/t silver</td>
<td>4.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8.8. Reported Mineral Resources

<table>
<thead>
<tr>
<th>Ore Body</th>
<th>Tonnes</th>
<th>Grade grams per tonne Au</th>
<th>Gold Ounces</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Brilliant West a</td>
<td>298,043</td>
<td>6.45</td>
<td>61,809</td>
</tr>
<tr>
<td>C1 Brilliant West b</td>
<td>691,681</td>
<td>5.63</td>
<td>125,220</td>
</tr>
<tr>
<td>C2 (Sunburst)</td>
<td>213,476</td>
<td>11.16</td>
<td>76,605</td>
</tr>
<tr>
<td>C3 Queen West</td>
<td>103,015</td>
<td>32.37</td>
<td>107,203</td>
</tr>
<tr>
<td>C5 Brilliant East 3</td>
<td>111,930</td>
<td>5.35</td>
<td>19,238</td>
</tr>
<tr>
<td>C5 Brilliant East 4</td>
<td>122,685</td>
<td>23.27</td>
<td>91,774</td>
</tr>
<tr>
<td>C 6 (St Patrick)</td>
<td>704,047</td>
<td>3.74</td>
<td>84,649</td>
</tr>
<tr>
<td>C 7 Caledonia Extended</td>
<td>14,969</td>
<td>15.00</td>
<td>7,219</td>
</tr>
<tr>
<td>C8 (Ruby)</td>
<td>32,816</td>
<td>5.54</td>
<td>5,848</td>
</tr>
<tr>
<td>C13 Mountain Maid</td>
<td>247,881</td>
<td>5.81</td>
<td>46,288</td>
</tr>
<tr>
<td>C17 Day Dawn</td>
<td>117,983</td>
<td>5.00</td>
<td>18,974</td>
</tr>
<tr>
<td>C23 Columbia</td>
<td>184,582</td>
<td>7.16</td>
<td>42,511</td>
</tr>
<tr>
<td>C26 Queen East [Golden Gate]</td>
<td>67,455</td>
<td>13.93</td>
<td>30,211</td>
</tr>
<tr>
<td>E3 Warrior East</td>
<td>203,847</td>
<td>7.16</td>
<td>46,920</td>
</tr>
<tr>
<td>S3 Merrie Monarch</td>
<td>50,916</td>
<td>3.29</td>
<td>5,385</td>
</tr>
<tr>
<td>W1 Stockholm</td>
<td>14,968</td>
<td>12.26</td>
<td>5,898</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3,180,295</strong></td>
<td><strong>7.59</strong></td>
<td><strong>775,751</strong></td>
</tr>
</tbody>
</table>

Rounded

<table>
<thead>
<tr>
<th></th>
<th>3,200,000 7.6 grams per tonne gold</th>
<th>780,000 ozs gold</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>520,000 ozs silver</td>
<td></td>
</tr>
</tbody>
</table>

Table 8.9 Indicated Mineral Resources
8.3.10 Production Reconciliation

There has been no sustained production from the Mineral Resources from which to estimate any reconciliation. The majority of mining has been from Probable Reserves. Mining at the Imperial Mine from 2006 to 2011 has returned satisfactory reconciliations between face samples and gold produced. This is expanded in more detail in Section 9.4.6 Production Reconciliation for the Ore Reserves section.
9 ORE RESERVES

9.1 Summary of Ore Reserves

Table 9.1 Ore Reserves summary, as of 31 March 2014

<table>
<thead>
<tr>
<th>Category</th>
<th>Mineral type</th>
<th>Gross attributable to licence</th>
<th>Net attributable to issuer</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tonnes (millions)</td>
<td>Grade (g/t)</td>
<td>Tonnes (millions)</td>
</tr>
<tr>
<td>Proved</td>
<td>Nil</td>
<td>2,500,000</td>
<td>7.7 g/t gold</td>
<td>409,250</td>
</tr>
<tr>
<td>Probable</td>
<td>Gold Silver</td>
<td>2,500,000</td>
<td>7.7 g/t gold</td>
<td>409,250</td>
</tr>
<tr>
<td>Total</td>
<td>Gold Silver</td>
<td>2,500,000</td>
<td>7.7 g/t gold</td>
<td>409,250</td>
</tr>
</tbody>
</table>

Mineral Resources used a cut-off of 1 metre, gram per tonne to define sample intersections used to construct the outlines of mineralised bodies. A conservative breakeven cut-off of 3 grams per tonne Au at a gold price of US$1300 per ounce and an exchange rate of AU$ 1 = US$ 0.91, as shown in Table 8.2 above, was used to estimate grades in Indicated and Inferred Mineral Resources. The mining cash cost was AUD$576 per ounce. A lower cut-off of 4 g/t gold was used to estimate grades in Ore Reserves. A top cut of 50 g/t was used for Ore Reserves. The confidence level is ±10 to 15% for the contained ounces in the Probable Ore Reserve. Probable Ore Reserves are derived from, and included in, Indicated Mineral Resources. The Probable Reserves are not additional to Indicated Mineral Resources.

9.2 General Description of Ore Reserve Estimation Process

Probable Ore Reserves are derived from the Indicated Mineral Resources. Proved Ore Reserves would be obtained from Measured Mineral Resources, in accordance with the JORC Code (see Figure 8.1 above). No new geological data is used when converting Resources to Reserves, but Modifying Factors are applied. These are mining, engineering, metallurgical, financial, legal and social factors that may affect how much material is removed, what has to be left behind as pillars or ground support, what material is sterilised by shafts, drives and other underground openings, extra rock that may fall in during blasting but may mix with the ore and have to be brought to surface and/or processed (dilution) and physical losses during handling.

9.3 Ore Reserve Assumptions

9.3.1 Top Cut

An arbitrary top cut of 50 grams per tonne Au was applied to high assays to reduce any potential biasing effect of the high-grades. This is a conservative approach, as there is no statistical basis for cutting high grades, as discussed in the Inferred Mineral Resources section, and several of the Central ore bodies averaged recovered grades of over 50 grams per tonne for tens of years when mined previously.

9.3.2 Lower Cut-off Grade

The drill intersections above a resource estimation cut-off of 3 metre-gram per tonne Au were averaged to produce the grade applied to the tonnage calculated from the SURPAC geological model, after the tonnage was discounted by the payability factor for each structure. This payability factor is also a mining factor usually introduced at the Reserve estimation stage, but is introduced here into both Inferred and Indicated Mineral Resources to account for the irregular and non-uniform grade distribution, and discount the tonnage back to what is reasonably expected to be economically extractable. For conversion of Indicated Mineral Resources to Probable Reserves, a lower cut-off grade of 4 g/t gold was used to allow for physical losses and dilution during mining.
9.3.3 Mining, Exchange Rate and Gold Price Factors

The gold price and exchange rates are beyond the Company's control, and change by the hour. Average prices were examined over the last five years in order to make a judgement call on what rates to use for the next five years. A US dollar gold price of US$1300 per ounce was used together with an Australian dollar exchange rate of AUD$0.91 to US$1.00. This gives an Australian dollar gold price of AUD$1429 per ounce. The majority of the Company's revenue and costs are in Australian dollars. It has no US dollar contracts.

<table>
<thead>
<tr>
<th>FACTORS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining method</td>
<td>Longhole open stoping, 10m sub-levels</td>
</tr>
<tr>
<td>Minimum mining width</td>
<td>1 metre</td>
</tr>
<tr>
<td>Dilution</td>
<td>10% after ore sorting</td>
</tr>
<tr>
<td>Gold losses</td>
<td>5% after ore sorting</td>
</tr>
<tr>
<td>Payability</td>
<td>Variable - 30% to 52%</td>
</tr>
<tr>
<td>Pillars left</td>
<td>0% due to payability factor</td>
</tr>
<tr>
<td>US Gold Price USD</td>
<td>$1,300</td>
</tr>
<tr>
<td>Exchange Rate</td>
<td>0.91</td>
</tr>
<tr>
<td>Aus Gold Price AUD</td>
<td>$1,429</td>
</tr>
<tr>
<td>Driving cost AUD</td>
<td>$3,000 per metre, 3.5m square</td>
</tr>
<tr>
<td>Driving cost equivalent</td>
<td>2.1 Ounces</td>
</tr>
<tr>
<td>Top Cut</td>
<td>50 g/t Au</td>
</tr>
<tr>
<td>Metallurgical recovery</td>
<td>95%</td>
</tr>
</tbody>
</table>

The mining factors have been developed from trial mining since 2006 and the production and sale of some 100,000 ounces of gold since 1993. Just under 690,000 tonnes have been milled and processed since Nov 2006 at an average grade of 4.2 g/t to produce just under 59,000 ounces.

9.3.4 Metallurgical Recovery

A metallurgical recovery of 95% was used, based on actual mill recoveries of 95% to 98% achieved from milling from 2006 to 2013.

9.3.5 Sale of Product

Refined gold and silver are directly exchangeable for cash. There is no need for a marketing division to sell gold and silver. The Company produces raw doré bars that it sells to a gold refiner and the Company is paid on the refined weight of gold and silver by the refiner. It is assumed that all gold and silver produced will, and can, be sold at spot prices.

9.3.6 Hedging Program

No hedging is assumed.

9.3.7 Right to Mine

The Company has a current right to mine, with granted Mining Leases and has been in operation since 1993. It is assumed that these Mining Leases will be renewed as the renewal dates fall due. The Company has a current Plan of Operations under which it is operating, and a granted Environmental Authority. It is envisaged that these permissions will continue and not be revoked.

9.3.8 Royalties

It is assumed that the current royalty of 5% of the gross value of gold and silver sold, payable to the Queensland State Government will continue unchanged.
9.3.9  Company Tax

It is assumed that the current Australian Company Tax rate of 30% of net profit, payable to the Australian Federal Government will continue unchanged.

9.3.10  Staff, Plant and Equipment

It is assumed that all necessary staff, employees, consultants, contractors, plant and equipment can be engaged as and when required.
9.4 Ore Reserve Estimate

9.4.1 Ore Reserve Input Data

The starting data for the Probable Ore Reserves is the Indicated Mineral Resource – see Section 8.3.9 and Table 8.9 in that section. There are 16 separate mineralised bodies in Table 8.9, and of these 16, fourteen met the criteria to be classified as ore bodies in the Probable Ore Reserve. These 14 ore bodies are listed in Table 9.2 below.

9.4.2 Estimation

9.4.2.1 Tonnage – Grade Curves

The tonnage, grade and contained ounces vary according to the selected cut-off. As the cut-off increases, lower grade areas are dropped out. In the Company project, some of the large tonnage bodies are relatively low grade, so increasing the cut-off reduces the tonnage significantly, but as a result the average grade increases, which buffers the change in contained ounces. For the Probable Ore Reserves, doubling the cut-off grade from 3 grams per tonne to 6 grams per tonne reduces the tonnes by two-thirds, but only halves the ounces. It more than doubles the reserve grade. Increasing the cut-off above 6 grams per tonne does not change the ounces significantly until 10 grams per tonne cut-off grade (see Figures 9.1 and 9.2 below).

Figure 9.1 Change in Tonnage and Gold Grade with Change in Cut-off Grade.

Figure 9.2 Change in Tonnage and Contained Ounces of Gold with Change in Cut-off Grade.
9.4.2.2 Minimum Ounces

Each of 33 mineralised bodies in the project area was examined and its contained ounces estimated. If the contained ounces were less than 5,000 ounces, the bodies were excluded from the Probable Ore Reserve category, as it was considered unlikely at this time that the target would be worth the cost of driving an underground access to mine the body. A total of 16 mineralised bodies were included in the Indicated Mineral Resource category, and were modified by mining, legal and commercial factors to produce Probable Ore Reserves. Three smaller bodies (S1 Black Jack, Mount Cenis and Stockholm Cross Reef), with potential for open pit extraction, containing less than 5,000 ounces were dropped from the Resource as being too small to be likely to be mined in the short term. They are at open pit depths and located outside the Central area (i.e., not under the city of Charters Towers). Surface infrastructure does not impede likely development of these resources, and they will be mined at some time in the future.

Driving costs for underground access were estimated at $3,000 for a 3m x 3m access drive and $4,000 per metre for a 4 metre x 4 metre access drive, based on known operating costs from 1.6 km of driving on the Central Decline, the shorter Stockholm Decline, the current Warrior Decline and access levels, ramps, loading bays, stubs, cross-cuts and ventilation shafts underground at the Victory, Victoria, No.2 Cross Reef, Stockholm, Washington and Warrior workings. This cost per metre is equivalent to about 2.1 ounces of gold revenue at A$1430 per ounce (breakeven), or 4 ounces of gold at a profit margin of 50% of revenue, for every metre driven if paid for from profits (sustaining capital). The mineralised bodies are mostly within one and half kilometres at a gradient of one in seven from the planned Central Decline extension or are adjacent to other mineralized bodies that are to be mined. One and half kilometres of driving will absorb 4,000 ounces of gold revenue to break even. The Company considers that a minimum of 5,000 ounces is required in a given area before planning would be undertaken to access or mine that area.

9.4.3 Validation

Databases were manually audited and checked on three occasions by external consultants. The SURPAC computer program has an automatic error checking procedure that checks for duplication and column errors. Wire-frame models were checked by rotation in three dimensions to check that all drill intersections had been included and that the final geometric shapes looked sensible without odd angles or segments. Tonnages were validated by checking formulae and then performing manual calculations of areas and thicknesses. Contained ounces for ore reserves were validated in those areas where mining had occurred post-estimation, and this is covered in section 9.4.6 Production Reconciliation.

9.4.4 Classification

The reported figures are for Probable Ore Reserves only, as the drill spacing is too wide to provide the level of confidence necessary for the Proved Ore Reserve category. The Probable Ore Reserves are derived from, contained within, and NOT additional to, the Indicated Mineral Resources.
9.4.5 Reported Ore Reserves

<table>
<thead>
<tr>
<th>Ore Body</th>
<th>Tonnes</th>
<th>Gold Grade</th>
<th>Gold Ounces</th>
<th>Gold Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01 Brilliant West a</td>
<td>327,848</td>
<td>5.57</td>
<td>58,719</td>
<td>1,826</td>
</tr>
<tr>
<td>C01 Brilliant West b</td>
<td>760,849</td>
<td>4.86</td>
<td>118,959</td>
<td>3,700</td>
</tr>
<tr>
<td>C02 Sunburst</td>
<td>234,824</td>
<td>9.64</td>
<td>72,775</td>
<td>2,264</td>
</tr>
<tr>
<td>C03 Queen West</td>
<td>113,316</td>
<td>27.95</td>
<td>101,843</td>
<td>3,168</td>
</tr>
<tr>
<td>C05 Brilliant East 3</td>
<td>123,123</td>
<td>4.62</td>
<td>18,276</td>
<td>568</td>
</tr>
<tr>
<td>C05 Brilliant East 4</td>
<td>134,954</td>
<td>20.09</td>
<td>87,185</td>
<td>2,712</td>
</tr>
<tr>
<td>C07 Caledonia Extended</td>
<td>16,466</td>
<td>12.95</td>
<td>6,858</td>
<td>213</td>
</tr>
<tr>
<td>C08 Ruby</td>
<td>36,098</td>
<td>4.79</td>
<td>5,555</td>
<td>173</td>
</tr>
<tr>
<td>C13 Mountain Maid</td>
<td>272,669</td>
<td>5.02</td>
<td>43,974</td>
<td>1,368</td>
</tr>
<tr>
<td>C17 Day Dawn</td>
<td>129,781</td>
<td>4.32</td>
<td>18,026</td>
<td>561</td>
</tr>
<tr>
<td>C23 Columbia</td>
<td>203,040</td>
<td>6.19</td>
<td>40,385</td>
<td>1,256</td>
</tr>
<tr>
<td>C26 Queen East [Golden Gate]</td>
<td>74,201</td>
<td>12.03</td>
<td>28,700</td>
<td>893</td>
</tr>
<tr>
<td>E03 Warrior East</td>
<td>50,000</td>
<td>6.3</td>
<td>10,128</td>
<td>315</td>
</tr>
<tr>
<td>W01 Stockholm</td>
<td>16,465</td>
<td>10.58</td>
<td>5,603</td>
<td>174</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2,493,634</td>
<td>7.696</td>
<td>616,986</td>
<td>19,190</td>
</tr>
<tr>
<td>ROUNDED</td>
<td>2,500,000</td>
<td>7.7 grams per tonne gold</td>
<td>620,000 oz gold</td>
<td>19,000 kg gold</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.1 grams per tonne silver</td>
<td>410,000 oz silver</td>
<td>13,000 kg silver</td>
</tr>
</tbody>
</table>

Table 9.2 Probable Ore Reserves

9.4.6 Production Reconciliation

The test of the accuracy of Ore Reserve estimates is whether or not the actual production matches the predicted production. Actual mine production of gold is a function of gold sterilised during mining (made inaccessible by mining methods or ground conditions), gold deliberately left behind in supporting pillars, and metal physically lost as dust or fines during production and stockpiling. There are then further losses in the metallurgical process to extract gold from the ore in the processing plant. However, losses in processing, while affecting gold available for sale, are independent of errors and losses in converting gold ounces estimated in the reserve to gold ounces mined and brought to surface ready for processing. Recovery at the Charters Towers Gold Project in the processing plant have consistently been above 97%, as reported publicly in many Quarterly and Annual Reports by the Company to the ASX. Reconciliations will vary with ground conditions and locations within the Project area.

In the 2010 Annual Report, the Company reported that of a parcel of 19,308 ounces outlined within the Probable Ore Reserve that was mined from the Warrior reef in the Imperial Mine, the refinery paid the Company for 19,210 ounces. At 98% recovery in the Mill, it was expected that 18,921 ounces would be sold, indicating the Company produced 288 ounces more than the Probable Ore Reserve estimate, or 101.5% of the metal estimated in the Reserve. A more recent reconciliation in the December Quarter of 2011 for a Probable Reserve parcel of 3,315 ounces (8,761 tonnes at 11.8 grams per tonne) in the Sons of Freedom ore body in the Imperial Mine from the 840 and 850 Levels and the South Decline, the Company mined 2,421 ounces to truck to the processing plant, with 439 ounces left behind. This total of 2,860 ounces was 86.2% of the ounces estimated in the Reserve.

The Company draws mill feed from a number of sources, including old tailings and low-grade surface stockpiles from previous mining, to supplement feed into the mill from the Imperial Mine. For example, in the 2011 calendar year, the Company milled 124,048 tonnes averaging 0.62 g/t Au from material stockpiled at the Stockholm open pit operation. The addition of low-grade tonnes dilutes the overall grade of tonnes milled, but increases efficiencies by allowing the mill to run continuously even at half of its design capacity of 30,000 tonnes per day. Continuous operations at constant tonnage enables more efficient use of the crusher and chemical balance in the mill solutions.
Reconciliations are made more difficult when significant tonnages of mineralised material comes from outside the Ore Reserve at Imperial. Because of the irregular distribution of gold within the mineralised structure or reef, areas previously thought to be barren based on drilling may contain gold when a drive is driven through this area. All waste at Imperial is planned and scheduled to be brought to surface, so the cost of waste haulage is already a sunk cost. If material planned to be waste contains 0.8 g/t gold or more, then it pays the recovery cost of milling and processing, producing an ounce of gold at breakeven cost. In this way, gold is produced from the mill from rock that was previously thought to be barren and planned to be hauled as waste. Day-to-day decisions are made based on the grade of each face which is sampled after firing and cleaning the face. It is common in narrow vein mines such as the Charters Towers Project for up to 30% of gold produced to come from outside the Ore Reserve and up to 30% may come from outside the defined Mineral Resource (see for example the Annual Reports of Emperor Mines Limited (formerly ASX:EMP, delisted 2008) from 1994 to 1998 for the Emperor Mine at Vatukoula in Fiji, currently operated by Vatukoula Gold Mines PLC).

The amount of strike driving (horizontal mining in ore along the length of the ore body) also produces diluted ore compared to stoping (vertical extraction of the ore body between two horizontal strike drives). Stope widths are controlled to be only as wide as the ore body, usually one to 1.5 metres wide, whereas strike drives have to be wide enough to accommodate mine trucks and loaders. The strike drives may be up to four metres wide but the ore body within the drive may be only one metre wide, producing 300% dilution. Lower average grades will therefore occur in the mill when strike-drive tonnages milled exceed stope tonnages milled.

![Sources of Tonnes Milled 2006 to 2011](image)

Figure 9.3 Sources of tonnes milled from 2006 to 2001
The average grade and tonnes milled for the years 2006 to 2011 are tabled below in Table 9. As shown in Figure 9.3 above, from 2008 increasing tonnes milled came from low grade stockpiles and tailings.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Total Tonnes</th>
<th>Average Grade</th>
<th>Ounces Milled</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>2,610</td>
<td>2.1</td>
<td>174</td>
</tr>
<tr>
<td>2007</td>
<td>48,429</td>
<td>7.0</td>
<td>10,868</td>
</tr>
<tr>
<td>2008</td>
<td>111,222</td>
<td>3.6</td>
<td>12,780</td>
</tr>
<tr>
<td>2009</td>
<td>160,052</td>
<td>2.3</td>
<td>11,977</td>
</tr>
<tr>
<td>2010</td>
<td>188,475</td>
<td>2.2</td>
<td>13,627</td>
</tr>
<tr>
<td>2011</td>
<td>177,966</td>
<td>1.6</td>
<td>9,417</td>
</tr>
<tr>
<td>TOTAL</td>
<td>688,754</td>
<td>2.7</td>
<td>58,844</td>
</tr>
</tbody>
</table>

Table 9.3. Average tonnes and grade milled for the years 2006 to 2001.

The reconciliation results of production against in situ estimates indicate that the reconciliations are within the range of errors expected, as routine chemical assaying of the gold grade may vary by 10% to 15%. A result where the recovered ounces are within ±15% of the estimate is regarded as acceptable for planning purposes.
10 MINING

10.1 Mining Overview

The mining method selected is long-hole open stoping, which is being used in the Imperial Mine (Warrior and Sons of Freedom reefs) and planned to be used in the Central Mine in its Sunburst, Brilliant and Day Dawn reefs in the future. This is a fully mechanised open stoping method that uses 10 metre to 15 metre vertical spacings for sublevels (depending on the dip) for drilling blastholes inclined in the plane of the ore body to ensure accurate and controlled breaking of the gold bearing quartz reefs. Broken ore in the both mines will be transported from the stopes to a transportable underground crushing, screening and auto sorting plant for initial pre-processing to remove barren waste. The planned auto sorting of ore will involve crushing to a 100 millimetre size and screened at 50mm with all the less than 50 millimetre reporting to ore and the 50-100 millimetre fraction being auto sorted to select and remove unwanted waste material which can be left underground in previously mined areas. The sorted gold ore together with the fines (below 50 millimetre) will be transported to the surface. Test work indicates that approximately 60% of the total volume of material can be removed using automated sorting equipment. This removes the bulk waste and will result in significant savings in transportation, downstream processing and handling, as well as upgrading the head grade. This auto sorting plant will also allow the recovery of gold in low-grade development headings (currently below grade and sent to waste), which adds to the total ounces produced from the resource.

Sunburst is the second of the four reefs planned to take annual gold production to 220,000 ounces from the Central area over a four (4) year growth period. Sunburst will require a 2,000 metre extension of the existing 1,600 metre long Central decline underneath the Charters Towers city. This will enable access to the promising Brilliant and Queen reef systems at approximately 500 metres vertical depth within the Sunburst areas. The Sunburst system extends for approximately two (2) kilometres eastwards from the centre of Charters Towers, and includes the old Queen, Sunburst and Golden Gate reefs, and will access cross reefs such as the Queen Cross which together have already produced over one million ounces of gold. Mining levels will be opened up in the western part of the Sunburst area over a distance of 300 metres as part of the initial development. An additional 300 metres will be exposed on the Eastern section after production starts in the western zone. Early planning is underway to establish an ore hoisting facility in the Central Mine utilising one of the old vertical shafts. This will represent a considerable saving in operating costs as well as enhancing mine ventilation by the reduction in use of diesel underground.

10.2 Mining Operations

Access to the ore will be via a Central decline tunnel and horizontal crosscut drives, 4 metres x 4 metres off the access decline at a 10 to 20 metre vertical spacing depending on the ore body dip. Horizontal drives 2.8 metres x 2.8 metres will follow the ore, and will be intensively sampled. At approximately 50 metre spacings, 1.1 metre x 1.5 metre vertical rises will connect to the level above for ventilation, ore passes or escape-ways. The sampling on two horizontal drives and two rises will allow the accurate estimation of the gold within each reef panel. Vertical blast-holes will be drilled from the lower level to break though into the floor of the drive above, ensuring the holes are accurately placed within the stope. These holes are will be charged with explosives and the blasted ore dropped down the stope into the drive below. Underground rubber tyred LHD (Load-Haul-Dump vehicles) collect the ore in the drive and transport it to the underground crushing station located next to the main access decline.

Ore in the Central Mine will be hoisted to surface using existing deep shafts that will be re-opened and fitted with high-speed ore hoisting skips. Ore will be trucked 12 km from the Central Mine to the Black Jack processing plant.

10.3 Mine Schedule

The planned mine production schedule for the Central Area involves capital raising and initial development during 2014, with gold production starting in 2015, together with the resumption of gold production from the Imperial Mine. In 2015, 44 000 ounces per year are scheduled, followed by 197 000 ounces in 2016, 288 000 ounces in 2017 and 335 000 ounces per year in 2018 and beyond. This is illustrated below in Figure 10.1.
10.4 Geotechnical and Hydrological Inputs

Hydrological and geotechnical work was completed for the Plan of Operations and Environmental Authority prior to the opening of the Brilliant East Decline (now called the Central Decline) which commenced in 1994. This Central Decline is being refurbished, replacing the supporting rock bolts and mesh as required, and this work is almost completed at the time of this report. Rock stress problems are not expected down to 1,000 metres depth, as the old historic working extended to this depth and the detailed reports available at two-week intervals from 1874 to 1920 did not detail significant stress or rock-burst issues. The Companies trial mining at the Central, Stockholm and Imperial underground mines has established significant knowledge of the engineering properties of the rock. More detailed hydrological studies are being undertaken at present to ensure the old workings are de-watered to a safe level below the lowest point at which the Company is expected to be mining over the next few years.

10.5 Future Plans

On 31 March 2014 the Company provided an update of the Central Mining Area Plan to the Australian Securities Exchange. Over the previous 6 months the Company had been focused on the re-commissioning of the Central Mine. The works program involved the refurbishment of the existing Central decline access tunnel that was used for exploration in the late 1990’s. The refurbishment included installation of new ground support and all services. The fresh air ventilation system was also upgraded. This followed the earlier works to upgrade the main high voltage electric grid power for the site to two megawatts.

This work in the Central Decline is the initial stage of developing the Central Mine into a major mine producing over 200,000 ounces of gold per annum. The focus initially will be the early production rate of circa 50,000 ounces of gold yearly from the initial shallow zones. This rate is planned to ramp up in stages over a 4 year development program as further areas are accessed allowing for faster ore development and extraction rates. The commencement and rate of gold production growth is dependent on the continuity of the major capital funding.

Figure 10.2 below is a long section of the current forecast development of the Central Mine. The layout shows the planned access into the different major reefs in the Central area.
Figure 10.2. Long section of the current forecast development of the Central Mine. The layout shows the planned access into the different major reefs in the Central area.
From the access decline the in-ore strike drives can be developed to enable the extraction of gold ore from the reefs. This ore will be processed in the existing centralised process plant. At the completion of the current refurbishment program the Central decline excavation will initially target a deeper connection to the existing Brilliant Block Shaft where additional services will be installed enabling extra power and ventilation for the long decline run to the east. The next stage will see the Central decline developed to the King Shaft where a return air raise will provide further power and necessary ventilation. This will enable the development of the C03 (Queen- Sunburst) ore body. This is where the early production is forecast to be extracted from. The Central access decline will continue to be developed toward the Brilliant ore body where two additional shafts will be connected, again into the Block shaft and the Brilliant Deeps, allowing for further services to be installed and the ore extraction to commence from the C01 (Brilliant) ore body.

Development will continue to the West enabling the C17 (Day Dawn) ore body to be accessed and developed. The production growth will come initially from the Probable Reserves on each ore body. Resource conversion work, currently underway, will continue during all development stages to enable the planned increased gold production rate. The aim of this Resource conversion work is to ensure at least two years of Reserves are in front of mining at all times.

The mining undertaken at the Imperial area has enabled the Company to determine the optimum mining method and understand the gold distribution in the reefs. Extensive research and work on the gold distribution using geophysics technology over the last several years is anticipated to give the Company the key to rapid mapping and extraction of the high grade zones that are required to make a step change in production. On completion of the resource conversion program currently underway at the Central area, the Company aims to promptly move back into gold production, initially in the Central Mine.
11 PROCESSING

11.1 Processing Overview

In 1995 the Company determined that a gold processing plant with an annual capacity of about 100 000 ounces of gold was suitable for the project in the medium term. The plant design criteria are based on an average head grade of 12g/t Au and 7g/t Ag. Of this, approximately 7g/t Au would report as gravity concentrate suitable for smelting and 5g/t Au would report to the leach with ultimate recovery by electrowinning. Based on metallurgical analysis of the ore, a suitable existing plant was purchased from Eltin Mining in 1996 and relocated from near Kidston to Charters Towers. The plant layout was rearranged and improved with respect to operational efficiencies and provision for easy future expansion. The gold treatment plant, installed for the Company through Resource Engineers Pty Ltd, is suitable to treat 340 000 tonne per annum of quartz vein ore. The plant layout was designed with provision for a second ball mill, expansion of the gold room and additional leach tanks in case of a future requirement to increase ore throughput. The plant is currently operational.

11.1.1 Site

The site is 12km from the mine and “run-of-mine” ore is transported by truck from Charters Towers to the process plant which is located at the Black Jack mine site. Mine water is pumped from Charters Towers to existing water storage dams on site. The site is located 500 metres off the sealed Clermont Highway and has a wide access road for vehicles and ore haulage trucks. Several freshwater dams exist as well as stores and workshop buildings. Queensland electricity grid power lines pass through the site and provide a permanent supply at 66kV.

11.1.2 Metallurgy

The gold in the ore is simple “free-milling” and is liberated at a 106 microns grind size. A large proportion of the high-grade gold is recoverable by gravity-separation techniques. A gravity circuit has been installed in the plant with further recovery by cyanidation, yielding total gold recoveries better than 95%.

11.1.3 Process Design Features

The significant factors in the process design to ensure high recovery were grind size and separation of gravity gold. The plant operates at a relatively course grind of 80% <106 micron and a gravity circuit was included with recovery anticipated to be 60% of the total gold in the plant feed. The concentrate produced by the gravity circuit is smelted to gold bullion. The leach feed is combined gravity tails and cyclone overflow yielding an average gold head grade entering the leach at 4.8 g/tonne.

11.1.4 Ore Storage Area

Ore will be trucked on existing roads by Type 2 (dual trailer) road trains from the Central Decline, and other sites, to the process plant site. The ore storage area is 10 000m² and has three vehicle access points and adequate provision for separate stockpiles and rock breakage. The primary crusher feed bin is 6m wide and can be loaded by a CAT 966 or equivalent size loader. The feed bin has a nominal capacity of 50 tonnes.

11.1.5 Crushing Circuit

The crushing and screening plant and associated conveyors have a capacity of 150 t/h. Ore enters the primary crusher (KUE KEN 120 double toggle roller bearing jaw, 42-inch width x 30-inch gape) by a Hydraplant apron track feeder. Ore is crushed in closed circuit with a cone crusher (Cederapids, El-Jay Rollercone 54 inch crusher, [standard head]) and Allis Chalmers 3m x 6m double deck vibrating screen. Product to the fine ore bin is 80% of 10mm-12mm.

11.1.6 Fine Ore Bin

The fine ore bin is 10 metres diameter x 20 metres high and has a capacity of 1500 tonnes, providing 36 hours of fine ore storage. The fine ore is automatically sampled by a full stream sample cut method for metallurgical balance calculations. Fine ore discharge is controlled by variable speed belt feeder located under the bin. This loads onto the mill feed conveyor. A weightometer measures tonnage to the mill.

11.1.7 Grinding Circuit

Grinding is closed circuit ball mill and cyclones. The mill is an Allis Chalmers (3 metre diameter x 4 metres long [10 ft x 13 ft]), overflow discharge ball mill, rubber lined, 600 kW. The mill capacity is 340 000 tonnes per year (41 t/h) at 95% availability based on an average feed Bond Work Index of 15 kWh/t. The mill cyclones are three Warman Cavex 230 VCX10 cyclones operated with two duty, one standby. The design criteria for the cyclones is to produce an overflow with 42% w/w solids P80 = 106 microns.
11.1.8 Gravity Circuit

The main features of the gravity circuit are the Knelson Concentrator, which produces a heavy mineral concentrate from the cyclone underflow, and a Gemini Table which recovers gold from the concentrate. Approximately 30% of the cyclone underflow is diverted to a 20-inch Knelson Concentrator with capacity for 14 t/t solids. It is proposed to upgrade the Knelson Concentrator to a capacity to take 100% of the mill feed to cater for the very high grade >20 g/t expected to be provided by the GoldTec Mining System’s photometric ore sorting.

11.1.9 CIL Leaching / Adsorption Circuit

The required leach residence time for the Company ore is 20 hours for feed with 80% <106 microns. There are six draft tube leach/adsorption tanks each 6m diameter x 11 m high, total volume of 300m³ and working volume 280m³. They are fitted with Lightnin agitators and draft tubes. The tanks are arranged in a single line. Slurry pH in the first leach tank is controlled by hydrated lime addition to the mill feed. Typically, each CIL tank has a carbon concentration of 10 g/L to 15 g/L. Regenerated carbon and make-up carbon are added to CIL tank 6 and transferred to each successive tank, upstream to tank 1. The CIL circuit is designed for a head grade to CIL of 5 g/t Au at 95% recovery yielding 4.7 kg/day of gold. The processing plant, with the gravity circuit upgrade, will nominally produce 100 000 ounces gold per year.

11.1.10 Elution Circuit

The elution process has been designed for one strip per day. The quantity of carbon is nominally two tonnes per batch. The Zadra process is used. The loaded carbon batch is allowed to drain and is then washed with dilute hydrochloric acid (3% w/w), then water flushed. This is followed by "stripping" the gold and silver from the carbon by recirculating hot "strip" solution (110°C) through the column for 10 hours.

11.1.11 Gold Room

The gold room consists of two levels. The top level holds the electrowinning cells and power rectifiers and the ground floor contains Gemini gravity table, furnace, safe and other equipment. Two processes operate in the gold room, one recovering gold by electrowinning from eluate and the other processing gravity concentrates. Product from each process is smelted to bullion. The electrowinning circuit plates 5kg of gold and 5kg of silver over a 10-hour period. The gold room has three electrowinning cells, two duty, one standby. There are two rectifiers usually operating at 3.5V and 60-80 amps. A Gemini table is used to upgrade concentrate from the Knelson Concentrator. It is proposed to upgrade the concentrate refining section as part of the overall gravity circuit upgrade. Cathodes and concentrate is dried, weighed and transferred to the furnace crucible with quantities of fluxing agents. The furnace, manufactured by Combustion and Chemical Engineering, is a gas-fired automatic tilting furnace. The concentrate is heated to nearly 1100°C and poured into graphite or cast-iron bullion moulds.

11.1.12 Security

In gold processing plants security becomes a prime concern with gold room activities. Well established industry procedures have been adopted. The gold room is a high security building with internal and external 24 hour video surveillance. Access is restricted. The gravity circuit has been designed as a high-security area, using a mesh enclosure around the Knelson, accessible from the gold room, and with restricted access to concentrate streams. When gold pours take place, specific personnel must be present and gold bars are immediately placed in a large, dual combination safe. Gold bars are removed from site on the day poured by a guarded armoured vehicle for transport to a local or international refinery.

11.1.13 Carbon Regeneration

At the end of the elution cycle, the carbon is regenerated by a gas-fired heating system that has an operating temperature in the regeneration zone of 700°C. It takes approximately 8 hours to regenerate a batch of carbon after the pre-dry period.

11.1.14 Plant Water Supply Systems

The plant has five separate water systems:

(a) Raw Water - A pipe line carries mine water from Brilliant Central mine to the processing plant site. The pipe line is approximately 12km long. Pumps capable of 30 litres/second supply the water to the pipeline. Water is used in sprays, reagent mixing, hose-down, water makeup in reagent water tank. The underground historic mines dewatering and natural inflow should supply at least the first five years of raw water. After this time additional supply is planned from the city weir.
(b) Process Water - Tailings dam return water is used in the ball mill, Knelson, screen sprays and heap leach.

(c) Reagent Water - Water collected from the elution circuit after rinsing and carbon transfer.

(d) De-ionised Water - Dedicated de-ionisation unit. De-ionised water stored in a dedicated tank and transferred by pump. It is used in the elution circuit for making the strip solution.

(e) Potable Water - Used for drinking, safety showers and amenities is delivered to site by truck. Stored in a dedicated potable water storage tank and reticulated by pump at constant pressure.

11.1.15 Power Supply

Power to the plant is supplied from the Queensland state grid at 66 kV. It is transformed on the site to 11 kV by a 5 MVA transformer owned by the Company and is metered at 11 kV. Power at 11 kV is reticulated to the crusher, plant and other substations where it is transformed to 415 V. Supply is on a "time-of-use, low voltage tariff" which provides all of the plant's power requirements.

11.1.16 Tailings Dam

The tailings dam has been designed as a rock-fill dam with an upstream clay blanket. It is to be constructed in three stages, in progress with the mine life. The second stage would be raised on the downstream side of the embankment and the third stage on the upstream side, being founded on dried and consolidated tailings.

11.2 Plant Operations

The plant has design capacity of 800 to 1000 tonnes per day or 340,000 tonnes per year. It is a standard Carbon-In-Leach plant using proven technology and has been in operation since its construction in 1994. Apart from routine maintenance, the plant was built with an expansion plan to process 660,000 tonnes per year, sufficient for the current mine plan. This expansion will produce 300,000 ounces per year from 660,000 tonnes at 14 g/t Au.

11.3 Performance

From 2006 to 2012, the Company's Quarterly Reports to the Australian Securities Exchange listed the gold recovery from the plant. Recoveries were in the range of 95% to 98% recovery of gold entering the plant. A recovery of 95% has been used in the mining factors for estimating Ore Reserves and estimating mining and processing costs.

11.4 Future Plans

The plant layout was designed with provision for a second ball mill, expansion of the gravity circuit, gold room and additional leach tanks in case of a future requirement to increase ore throughput. The plant will be expanded in year 3 to meet the increased annual throughput of 660,000 tonnes milled after that time. A tailings dam with the necessary initial capacity has been constructed, approved and operated. If current tailings production methods are unchanged, the tailings dam will be extended as required every 2 million tonnes of processed ore, or approximately every three years. The Company plans to investigate dewatering the tailings and adding a cyanide destruction circuit with a view to producing dry tailings that can be stacked above ground, eliminating the need for a dam-type construction.
12 INFRASTRUCTURE

12.1 Mine Infrastructure

The Project has been producing gold since 1996 and has sold over 100,000 ounces of gold and 45,000 ounces of silver. All permits and infrastructure are already in place, and the project benefits from the availability of extensive Charters Towers community infrastructure including local industry, housing, skilled labour, sealed roads and community services. The Company has two previously-mined open pit mines, Stockholm and Washington open pits, and two underground mines, the Central Mine at the eastern edge of the city, and the Imperial Mine, five kilometres south of the city.

12.1.1 Dumps and stockpiles

Run-of-Mine (ROM) stockpiles are established at the Imperial Mine and at the gold processing plant to ensure surge capacity from variable underground production is stored awaiting haulage to the processing plant or crushing at the plant. Waste material from the Imperial Mine is dumped on an above-ground stockpile at the mine. The material is non-acid-forming granite and granodiorite, which is crushed as required for gravel for mine roads and backfill.

![Figure 12.1 Mine Infrastructure](image-url)
12.2 Power
The plant and mine are electric powered, supplied by Ergon Energy from the 66,000 volt (66 kV) Queensland State electricity grid. It is transformed on the processing plant site at the High Voltage Substation to 11 kV by a 5 MVA transformer owned by the Company and is metered at 11 kV. Power at 11 kV is reticulated to the crusher, plant and other sub-stations where it is transformed to 415 V. Supply is on a "time-of-use, low voltage tariff" which provides all of the plant’s power requirements. The Imperial Mine draws 3 Megawatts, supplied at 11,000 volts and transformed to 1000 volts for use underground.

12.3 Water
The Project is generally self-sufficient in water, pumping from underground at the Central area in Charters Towers to two freshwater holding dams at the processing plant. The water meets stock water drinking quality. Potable water is supplied by a Charters Towers treated water supply by tanker to tanks at the processing plant and the Imperial Mine. Process water is recycled from the tailings storage facility back into the plant, and mine water at the Imperial Mine is recycled through sediment ponds into the bottom of the Washington open pit from which it is re-used underground. Should water be required in the future, there is a weir on the Burdekin River that supplies Charters Towers, and a 12-inch raw water pipeline runs adjacent to the Company’s pipeline.

12.4 Transport
Charters Towers city is accessible by good bitumen highway (the Flinders Highway) from the international seaport of Townsville, 128 km to the northeast.

12.4.1 Air Services
Townville has daily commercial jet flights from Brisbane and Cairns by several domestic airlines. There are no domestic airline flights to Charters towers, but charter aircraft flights operate from Townsville and Mount Isa to Charters Towers, as well as commercial passenger buses.

12.4.2 Roads
State Government railways connect Townsville to Brisbane in the south, and to Mount Isa via Charters Towers in the west. The Bruce Highway runs from Townsville to Brisbane. Bitumen-surfaced roads run from the main Flinders Highway at Charters Towers to service both the gold processing plant (on the Gregory Developmental Road South) and the Imperial Mine (on Bluff Road, Charters Towers). Ore is hauled by road-registered side-tipping road trains about 12 km from the Imperial Mine north through the outskirts of Charters Towers and then southwest to the processing plant.

12.4.3 Rail
Charters Towers is on the main rail link from the sea port of Townsville, 130 km to the northeast, and to Mount Isa some 900 km to the west. This east-west link joins the main rail system at Townsville that runs some 1,200 km south to Brisbane. The line from Charters Towers to Townsville is open all year round, even in the Wet Season.

12.4.4 Port facilities
There is a major export/import port facility at Townsville, exporting cattle, sugar, copper, nickel and zinc, and importing nickel ore, raw materials and manufactured goods. The port operates all year round with occasional closures once or twice each year due to cyclone activity.

12.5 Staffing
The Company currently employs around 30 professional staff, support staff and regular consultants and contractors. It is confident, given recent downturns in the Australian mining industry, that all necessary underground mining personnel can be hired or contracted as and when required.

12.6 Accommodation
As the mine is located directly under Charters Towers city, no accommodation needs to be constructed by the Company. Temporary and permanent accommodation is readily available in the city.
13 SOCIAL, ENVIRONMENTAL, HERITAGE AND HEALTH AND SAFETY MANAGEMENT

13.1 Social Management

The Company operates in a unique and rare mining environment with its mining operations located directly under and around a township. This relationship produces benefits for all parties. The Company supports local communities with personnel, labour and donations to a wide range of community activities, having included local rodeo associations and entrants, All Soul’s School, Lions Club, St John Ambulance, National Aborigines and Islanders Day Observance Committee week parade, Country Music Festival, National Trust, Outback Celebration and the Combined Mines Charity Ball. As operations expand the Company will continue to support and work in harmony with the local community. Today there are two main sectors of environmental considerations – the natural environment and the people environment. Permitting to mine under a City with approximately 3,000 landholders and 8,500 residents presents a unique challenge. Much is to be learned from the success of the Company’s Charters Towers operations and the need to inform people and treat each person as an important stakeholder.

When the Company conducted its initial exploration work on the mineral holdings under Charters Towers, as part of its gold project, none of nearly 8,500 residents of the town objected. Despite the Company’s plan to drill and blast beneath the town, the only comment directed towards the Company by a resident was a positive one, aimed at applauding the Company’s ongoing good work. Earning the respect and trust of the community was an important part of ensuring the project’s long term success.

After the successful exploration beneath the town in accordance with regulatory requirements, the Company proceeded with the finalisation of Mining Leases and environmental permits. These were granted by the then Department of Mines and Energy (DME) and Environmental Protection Authority (EPA). the Company acquired the last external mineral holdings in the Charters Towers area in early 2004, when it took control of Great Mines Limited. This enabled the Company to achieve 100 per cent ownership of the goldfield. The lengthy and complex process of negotiating, pegging and acquiring all the mineral holdings initially began in 1969, the Company’s late founder, Mr Jim Lynch, began the process by buying a small group of mineral holdings from their original owners and so began the complex process of amalgamation. The 35 year period it took to eventually obtain all the mineral rights that now belong to the Company, required dedication and the expenditure of substantial sums of money. This experience, however, has given the Company a detailed understanding of mineral holdings management in Queensland. All the Company’s mineral rights are on the high-grade Charters Towers goldfield, which has the potential to build the Company. The 11 million ounce gold deposit confirms the large value of the Company’s mineral holdings.

13.2 Environmental Management

The Company has a formal environmental policy that is supported by the staff and board of directors. The Policy approved by the Company and signed off on by the Chairman, Mr Mark Lynch, is –

„Citigold Corporation Limited explores for and produces gold profitably and sustainably without harming its employees, the community or the environment. “

Reporting of environmental monitoring and compliance assessment continues. Rehabilitation and routine groundwater analysis of mining areas is well advanced, in compliance with approved environmental plans. The Company took the initiative early on to established a sound background in environmental management and community relations. The then Department of Mines & Energy (now Department of Natural Resources and Mines, DNRM) has recognised the efforts of the Company at Charters Towers -

"Your proactive attitude… is commendable. This attitude has been evident throughout the past 10 months in the progressive rehabilitation, community consultation programs and maintained communications with this office. In relation to environmental management you should be congratulated for a consistent approach that has led to significant improvement at your sites." - 16 December, 1999.

"As you may be aware, I have monitored the results of your public consultation and the noise minimisation measures for night operations at the Brilliant shaft. … It is very clear that the care and consideration was much welcomed by the surrounding residents. Your company’s staff and contractors have earned their respect and this continuing public support will prove to be an important factor in the future success of your project." - 26 March, 1997.
13.2.1 Environmental Management Overview Strategy (EMOS)

A Environmental Management Overview Strategy (EMOS) for the Charters Towers Gold Project has been approved by the Queensland Government then Environmental Protection Agency (EPA) now Department of Natural Resources and Mines (DNRM). In addition a Plan of Operations, in compliance with the EMOS, has also been approved by the DRNM. These operating documents are in compliance with Queensland’s stringent Environmental Protection Act and Regulation. These combined environmental operating documents are a major achievement for the management team at Charters Towers. The Company has always endorsed Queensland’s high environmental standards.

13.3 Heritage Management

The Company and the Project are subject to the Queensland Aboriginal Cultural Heritage Act 2003 and Queensland Heritage Act 1992. It has a Cultural Heritage Management Plan and Standard Operating procedures to assess and handle cultural heritage matters.

Mineral Resources in the Company’s underground projects under the city of Charters Towers are limited to deeper than 50 metres below surface, as the Company believes that there is little probability of mining the top 50 metres in the near future (5 to 15 years). A minimum 50 metre crown pillar would be required to be left under any surface infrastructure for safety reasons, and to ensure that the perched water table is not disturbed by mining. The depth of weathering varies from a few metres to about 40 metres, averaging 25 to 30 metres. It is unlikely that underground resources will extend into the weathered zone to any material extent.

13.4 Health and Safety Management

There have been no fatalities in the Company’s operations since it started in 1993.

There were no Lost Time Injuries, significant health issues or reportable environmental incidents during the half year ended 31 December 2013, as reported in the Company’s Half Year Report to the Australian Securities Exchange. Ongoing safety training was conducted with many of the employees undergoing refresher courses and several staff members trained to be specialist in handling emergency situations. These training continue to improve the employee’s knowledge in general and underground safety and enhances the Company’s capability and readiness in responding to events of emergency. A number of the health and safety policies, procedure and equipment have also been updated, upgraded or maintained to ensure the Company’s safety record continues.

As at 31 March 2014, the Lost Time Injury Frequency Rate remained at zero.
14 MARKET STUDIES AND CONTRACTS

Marketing risk factors are regarded as being close to zero. It is anticipated that all gold produced can be sold at prevailing market prices. The Company has no control over the price of its gold and silver products and must accept the offered prices. However, the Company is not forced to sell at any particular time, and can withhold sales to await a better price, or enter into a hedging program if it sees fit.

14.1 Market Overview

A gold price of US$1300 per ounce was used in the Reserve estimation, based on the gold price trend over the last five years shown in Figure 14.1 below. An Australian dollar price of $1430 was used based on an exchange rate of AUD$1.00 = USD$0.91. While past performance is no guarantee of future prices, the chart indicates the cyclical nature of gold prices and all cycles move around an average. Gold and silver do not require marketing – they are directly exchangeable for cash.

![Comparison of Gold Prices in US and Australian Dollars](chart.png)

Figure 14.1. Chart of the Gold Price in Australian and US dollars over the last five years.

The Australian dollar gold price is a result of the US dollar gold price and the exchange rate between Australian and US dollars. The Australian dollar gold price has been within a band of A$1200 to A$1600 for about five years.
The gold price fluctuates by the minute, so making predictions for future prices are impossible to guarantee that they will be accurate or even reasonable. The Company has chosen US$1300 per ounce and an exchange rate of A$1.00 = US$0.91 for its predictions over the next five years, assuming a weak US dollar and a low-performing world economy that will see gold prices in Australian dollars remain high and probably rise faster than inflation. It has been assumed all gold and silver produced can be sold at prevailing market prices, and that there will be no government intervention in the private ownership or sale of precious metals or company shares.

The future demand for gold is perceived to be strong, both as a safe haven for investors, and as emerging countries strive for economic prominence. For an emerging currency to be strong and to become a world staple currency, it must be backed by gold. The comment below on China’s emergence by Dr Yingbin He, Chairman of Vatukoula Gold Mines PLC, lends weight to this.

Dr He is also currently a director of Zhongrun Resources Investment Corp, which is listed on the Shenzhen Stock Exchange and China Gold International Resources,

“Another major factor influencing the gold price is China’s strategy is to make its Renminbi (“RMB”) freely exchangeable and as an international reserve currency. The Chinese government has been preparing for this since 1996 when China made RMB exchangeable under current account. To achieve its goal, China would have to substantially increase its current gold holding of 1,054 tonnes, which represents 1.2% of China’s total foreign reserve of US$3.662 trillion in September 2013. In comparison, gold holding accounts for 50% to 70% of foreign reserves for the US and most of the European Union countries. In order to increase its gold holding to the global average of 10% of foreign reserves, China needs to acquire an additional 7,706 tonnes of gold, in par with the US gold holding of 8,133 tonnes.” – Vatukoula Gold Mines PLC Annual Report 2013, page 4.

The World Gold Council released the following analysis of supply and demand trends for 2013, published in February 2014.

“Global consumer demand for gold at unprecedented levels in 2013

China the world’s largest gold market in 2013

Consumers around the world bought gold in record amounts in 2013, led by demand in China and India, with China becoming the world’s biggest gold market, according to the latest World Gold Council Gold Demand Trends report. In Western markets consumer demand also remained strong with the US, in particular, having a robust year in the jewellery, bar and coin sectors.
In 2013 the gold market saw 21% growth in demand from consumers which contrasted with outflows of 881t from ETFs. The net result was that global gold demand in 2013 was 15% lower than in 2012, with a full year total of 3,756t. Annual global investment in bars and coins reached 1,654t, up from 1,289t in 2012, a rise of 28%, and the highest figure since the World Gold Council’s data series began in 1992.

For the full year, Chinese and Indian investment in gold bars and coins was up 38% and 16%, respectively. Although much smaller markets in terms of volume, in the US, bar and coin demand was up 26% to 68t, and in Turkey it was up 113% to 102t, demonstrating solid support on a global basis. Meanwhile demand for jewellery, the other component of consumer demand, increased by 29% from 519t to 669t in China, and by 11% from 552t to 613t in India, reaching 2,209t globally, the highest figure seen since the onset of the financial crisis in 2008.

The key findings of the report are as follows:

- **Consumers remain key drivers in the demand for gold.** Globally, consumers bought 3,864t of gold last year, 21% higher than in 2012. Jewellery demand for the year rose 17% to 2,209t, while investment in bars and coins was up 28% to 1,654t.
- **China and India both recorded increased demand in 2013.** Consumer demand in China rose 32% in 2013 to a record level of 1,066t, while in India demand rose 13% to 975t.
- **Global consumer demand strengthens.** Across the world there were large increases in consumer appetite for gold in both emerging and developed markets. Demand in Turkey was up 60%, Thailand up 73% and the US up 18%.
- **Indian demand remained strong.** Despite several import related curbs during 2013, gold demand remained buoyant, with a full-year total of 975t compared to 864t in 2012. We estimate that unofficial imports almost doubled compared with 2012, to compensate for the decline in official imports.
- **Central banks.** Although down 32% on 2012 they continued to be strong buyers of gold, a trend which began in 2009. 2013 saw net purchases in all four quarters, totalling 369t, meaning 12 consecutive quarters of net inflows.
- **ETFs.** There was a net outflow from ETFs of 180t in Q4 as investors continued to re-evaluate their portfolios in response to market conditions. In total, investors redeemed 881t from ETFs in the full year.
- **Technology** demand reached 405t in 2013, virtually unchanged from the figure of 407t in 2012.

**Gold demand and supply statistics for Full Year 2013**

- Gold demand for 2013 was 3,756t, 15% lower than for 2012.
- Average price of gold for the year was US$1,411/oz, down 15% on 2012.
- Global demand for jewellery was 2,209t for the year, up 17% on 2012.
- Globally, there was record bar and coin demand for the year, which was up 28% on 2012, to 1,654t.
- Demand in the technology sector was 405t, virtually unchanged from the 407t seen in 2012.
- There was a net outflow from ETFs of 881t, as investors continued to reassess their portfolios.
- Net central bank purchases totalled 369t, 32% down on 2012.
- Total supply for the year was 4,340t, down 2% compared to 2012."

### 14.2 Sales Contracts

There are no sale contracts, hedging contracts, forward sales or royalty contracts currently in place that lock the Company into any fixed sales arrangements. The Company has an agreement to refine its doré bullion at the Perth Mint precious metals refinery in Western Australia at market refining prices. There is an opportunity, but no obligation, for the Perth Mint to sell the gold and silver on the Company’s behalf if instructed by the Company. The Company retains full flexibility to choose if, when and where it sells its gold and silver, and whether or not to enter into hedging or royalty agreements.
15 FINANCIAL ANALYSIS

In assessing the value of the project, the Company’s resources contained within its development properties are used and they are derived using JORC guidelines, classified as being Inferred Mineral Resources. In the Central and Southern area some of the resource has been classified as an Indicated Mineral Resource. Given that the resources are JORC classified, therefore signalling that there is a degree of certainty associated with them, the Company believes that it is appropriate to use this data in calculating a potential value for the Project. The valuations derived from these resources have been obtained from calculations involving anticipated conversion ratios for generating mine inventory, and financial models that have utilised a range of assumptions. The Company has derived these assumptions and input through years of experience gained through actual development mining at the Imperial Mine site, various reference materials and consultants. Moreover, as mentioned previously above, an independent mining consulting firm has tested the inputs and assumptions of the model and found them to be realistic.

15.1 Historical Financial Analysis

The Charters Towers Project has been running since 1993, and there have been a number of financial analysis and forward plans, projections and schedules. All have been based on ramping up production over a five-year period to over 300,000 ounces per year. This limit was selected as it mirrors the maximum sustained output from the gold-field during its peak period – the maximum annual production from the field was 320,000 ounces in 1899, but the field sustained over 200,000 ounces per year for 20 consecutive years from 1890. The annual output of 320,000 ounces was a Queensland record that was unbeaten for 100 years.

The last published financial analysis was contained in the 2012 Mineral Resources and Ore Reserves report (available on the Company’s web site at: http://www.citigold.com/mining/technical-reports).

15.2 Forecast Capital Costs

The current forecast capital costs are $197.5 million spread over four years, with A$14 million required in Year 1, A$74 million in Year 2, A$79 million in Year 3 and A$30 million in Year 4. As positive cash flow starts in Year 2, it is expected that half the overall development capital can be supplied from internally generated cash. The Mine Development Capital Budget and Schedule are tabled below in Table 15.1.

Table 15.1. Forecast Mine Development Capital Budget and Capital Schedule.

<table>
<thead>
<tr>
<th>Mine Development</th>
<th>DEVELOPMENT BUDGET</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Access</td>
<td>61,176,025</td>
<td>4,060,000</td>
<td>21,285,925</td>
<td>26,894,490</td>
<td>14,809,700</td>
</tr>
<tr>
<td>Ore Drive</td>
<td>33,726,000</td>
<td>-</td>
<td>8,709,000</td>
<td>14,820,000</td>
<td>10,509,000</td>
</tr>
<tr>
<td>Diamond Drilling</td>
<td>41,634,956</td>
<td>6,365,561</td>
<td>19,075,756</td>
<td>16,022,747</td>
<td></td>
</tr>
<tr>
<td>Ventilation</td>
<td>13,852,000</td>
<td>-</td>
<td>4,956,000</td>
<td>7,495,333</td>
<td>1,359,667</td>
</tr>
<tr>
<td>Dewatering</td>
<td>1,696,000</td>
<td>890,000</td>
<td>580,000</td>
<td>220,000</td>
<td>-</td>
</tr>
<tr>
<td>UG Services</td>
<td>6,117,350</td>
<td>303,967</td>
<td>2,480,257</td>
<td>2,146,271</td>
<td>1,186,655</td>
</tr>
<tr>
<td>Underground Processing</td>
<td>27,006,000</td>
<td>2,000,000</td>
<td>12,500,000</td>
<td>12,500,000</td>
<td>-</td>
</tr>
<tr>
<td>Technical Services</td>
<td>12,356,000</td>
<td>484,000</td>
<td>4,632,622</td>
<td>5,027,022</td>
<td>2,195,556</td>
</tr>
<tr>
<td>Total</td>
<td>197,533,429</td>
<td>14,123,517</td>
<td>74,250,561</td>
<td>79,406,574</td>
<td>28,752,777</td>
</tr>
</tbody>
</table>

15.3 Forecast Operating Costs

The forecast operating costs have been derived from historic development mining at the Imperial Mine site and preliminary discussions with mining contractors and consultants. Moreover in May 2011, an independent mining consulting firm evaluated and assessed capital and operating costs of the Charters Towers project. They did not independently verify these cost expectations but they accepted them based on their knowledge of other underground mining operations and gold processing plants, and considered that the estimates are realistic. The assumption is taken that the operating costs for the Central Area mine will be consistent with the operating costs for the Imperial Mine.
Operating costs are usually quoted as a cost in dollars per tonne, as the cost to mine a tonne of rock is independent of the amount of gold contained within that tonne. The contained gold for an underground operation will vary from 3 to 15 grams of gold per tonne of rock, and the contained gold is insignificant in changing the weight or density in tonnes per cubic metre. The amount of contained gold, however, dramatically changes the dollar value of that tonne, so if operating costs are quoted in dollars per ounce produced, then the cost per ounce varies dramatically with the head grade of material through the mill. Analysts often quote mining cost per ounce as it makes for an easy comparison with revenue in dollars per ounce sold. Any reference to “cost per ounce” is meaningless unless the head grade is known. This is illustrated in Figure 15.1 below:

![Chart showing the decrease in underground Mining Cost per Ounce for the Charters Towers Project with increasing Head Grade.](image)

For this reason, the Company prefers to analyse its future predictions based on mining cost per tonne as this is independent of head grade, and the head grade may change quickly, changing downwards if there is unexpected dilution or low grade material, or changing upwards if high grade sections are intersected. The head grade through the mill is very dependent on the ratio of strike drive ore to stoping ore being processed at any time. Strike drive ore is highly diluted – a one metre-wide vein in a three metre-wide drive will produce rock diluted by 200%, whereas the same vein stoped carefully at the minimum mining width of one metre will be undiluted. A detailed analysis of the mining cost per tonne is given in the breakeven analysis in section 8.3.6 Mineral Resource Estimation dealing with cut-off grades and breakeven analysis, and the accompanying Table 8.2. A breakdown of costs per tonne are given below in Tables 15.2 and 15.3. These are equivalent to a mining cost per ounce of AUD$576 per ounce at a head grade of 7 g/t Au.
## Annual QPR for Charters Towers Gold Project Qld Australia for the Year Ended 31 March 2014

### LionGold Corp Ltd

**Table 15.2** Projected Mining and Processing costs per tonne

<table>
<thead>
<tr>
<th>Costs expressed as grams of gold</th>
<th>Mining Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drill &amp; Blast $12 A$/tonne</td>
</tr>
<tr>
<td></td>
<td>Stope Production $10 A$/tonne</td>
</tr>
<tr>
<td></td>
<td>UG Processing $4 A$/tonne</td>
</tr>
<tr>
<td></td>
<td>UG Transport $5 A$/tonne</td>
</tr>
<tr>
<td></td>
<td>UG Services $5 A$/tonne</td>
</tr>
<tr>
<td></td>
<td>UG General $3 A$/tonne</td>
</tr>
<tr>
<td></td>
<td>Sub-total $38.68 A$/tonne</td>
</tr>
<tr>
<td></td>
<td>Mine Development $40 A$/tonne</td>
</tr>
<tr>
<td></td>
<td>TOTAL MINING $78.68 A$/tonne</td>
</tr>
</tbody>
</table>

**Ore Processing**

<table>
<thead>
<tr>
<th>Costs</th>
<th>Aus$/t</th>
<th>Cost equivalent g/t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining Cost (Aus$/t)</td>
<td>$78.68</td>
<td>1.71</td>
</tr>
<tr>
<td>Surface Transport (Aus$/t)</td>
<td>$5.00</td>
<td>0.11</td>
</tr>
<tr>
<td>Ore Processing (Aus$/t)</td>
<td>$35.00</td>
<td>0.76</td>
</tr>
<tr>
<td>Rehabilitation &amp; shutdown (Aus$/t)</td>
<td>$1.00</td>
<td>0.02</td>
</tr>
<tr>
<td>Site Administration (Aus$/t)</td>
<td>$10.00</td>
<td>0.22</td>
</tr>
<tr>
<td>Total Cash Cost (Aus$/t)</td>
<td>$129.68</td>
<td>2.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.0</td>
</tr>
<tr>
<td>Gold Price (US$/oz)</td>
<td>$1,300.00</td>
<td></td>
</tr>
<tr>
<td>Exchange rate Aus$1.00=US$</td>
<td>0.9100</td>
<td></td>
</tr>
<tr>
<td>Gold Price (Aus$)</td>
<td>$1,428.57</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$45.93</td>
</tr>
</tbody>
</table>

**Table 15.3.** Projected Total Costs per tonne.

### 15.4 Forecast Cash Flow Analysis

The Forecast Cash Flow is shown below in Table 15.4. It shows a positive cash flow after Year 1 and the injection of A$14 million in start-up capital. The Project shows a Net Present Value (NPV) of $734 million at a Discount Rate of 15%.
Table 15.4 Forecast Cash Flow Schedule in Australian dollars

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
<th>Year 13</th>
<th>Year 14</th>
<th>Year 15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EBITDA</td>
<td>(4)</td>
<td>24</td>
<td>157</td>
<td>222</td>
<td>283</td>
<td>266</td>
<td>252</td>
<td>235</td>
<td>218</td>
<td>205</td>
<td>165</td>
<td>165</td>
<td>164</td>
<td>162</td>
<td>164</td>
</tr>
<tr>
<td>Change in working capital</td>
<td>1</td>
<td>1</td>
<td>(29)</td>
<td>(5)</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Interest income</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>14</td>
<td>26</td>
<td>39</td>
<td>51</td>
<td>64</td>
<td>76</td>
<td>89</td>
<td>109</td>
<td>111</td>
<td>123</td>
<td>136</td>
</tr>
<tr>
<td>Interest expense</td>
<td>(6)</td>
<td>(6)</td>
<td>(6)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
<td>(1)</td>
</tr>
<tr>
<td>Taxation</td>
<td>-</td>
<td>-</td>
<td>(20)</td>
<td>(83)</td>
<td>(82)</td>
<td>(81)</td>
<td>(79)</td>
<td>(78)</td>
<td>(77)</td>
<td>(72)</td>
<td>(74)</td>
<td>(79)</td>
<td>(78)</td>
<td>(75)</td>
<td>(75)</td>
</tr>
<tr>
<td><strong>Investing activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Financing activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convertible Bond</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Repayment of financing</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bond</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dividend Payment</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Net cash flows</strong></td>
<td>76</td>
<td>70</td>
<td>129</td>
<td>203</td>
<td>263</td>
<td>199</td>
<td>199</td>
<td>198</td>
<td>198</td>
<td>180</td>
<td>189</td>
<td>192</td>
<td>200</td>
<td>215</td>
<td></td>
</tr>
<tr>
<td>Cash at beginning</td>
<td>1</td>
<td>78</td>
<td>19</td>
<td>89</td>
<td>218</td>
<td>421</td>
<td>624</td>
<td>823</td>
<td>823</td>
<td>1,022</td>
<td>1,219</td>
<td>1,418</td>
<td>1,598</td>
<td>1,778</td>
<td>1,970</td>
</tr>
<tr>
<td>Cash at end</td>
<td>78</td>
<td>19</td>
<td>89</td>
<td>218</td>
<td>421</td>
<td>624</td>
<td>823</td>
<td>1,022</td>
<td>1,219</td>
<td>1,418</td>
<td>1,598</td>
<td>1,778</td>
<td>1,970</td>
<td>2,179</td>
<td>2,383</td>
</tr>
<tr>
<td><strong>Discounted Cash Flows</strong></td>
<td>15%</td>
<td>66</td>
<td>(44)</td>
<td>46</td>
<td>74</td>
<td>101</td>
<td>88</td>
<td>75</td>
<td>65</td>
<td>49</td>
<td>39</td>
<td>34</td>
<td>31</td>
<td>28</td>
<td>26</td>
</tr>
<tr>
<td><strong>NPV</strong></td>
<td>734</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in cash before tax and interest</td>
<td>80</td>
<td>(57)</td>
<td>75</td>
<td>145</td>
<td>274</td>
<td>260</td>
<td>242</td>
<td>229</td>
<td>211</td>
<td>201</td>
<td>161</td>
<td>153</td>
<td>156</td>
<td>154</td>
<td>159</td>
</tr>
</tbody>
</table>
16 RISK ASSESSMENT

16.1 Risk Rating Definitions

Project risks have been assessed on the basis of likelihood of occurrence, and on the consequence of an event occurring, resulting in a risk matrix which is used to define the level of management responsibility. The tables below define the categories used in this report to assess likelihood, consequence, and risk rating within the context of the Group.

Table 16.1 Categories and definitions used to assess likelihood

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost Certain</td>
<td>Event is expected to occur in most circumstances (easily); more than 1 event every year</td>
</tr>
<tr>
<td>Likely</td>
<td>Event will probably occur in most circumstances (should); about or less than 1 event per year but more than 1 event per 5 years</td>
</tr>
<tr>
<td>Possible</td>
<td>Event might occur at some time (conceivably); less than 1 event per 5 years but more than 1 event per 10 years</td>
</tr>
<tr>
<td>Unlikely</td>
<td>Event could occur at some time (conceivable but rare); about or less than 1 event every 10 years</td>
</tr>
<tr>
<td>Remote</td>
<td>Event might occur only in exceptional circumstances (theoretical) or is unlikely to occur</td>
</tr>
</tbody>
</table>

Table 16.2 Categories and definitions used to assess consequence

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe</td>
<td>Very large financial loss (&gt;SGD100m) of total assets; death or serious injury to multiple persons; major loss of plant resulting in &gt;6 months loss of production capability; toxic environmental release off-site with serious detrimental effect</td>
</tr>
<tr>
<td>Major</td>
<td>Major financial loss (SGD75m – SGD100m) of total assets; death or serious injury to multiple persons; extensive loss of plant resulting in 3–6 months loss of production capability; off-site environmental release with detrimental effect or on-site release with detrimental effect</td>
</tr>
<tr>
<td>Moderate</td>
<td>High financial loss (SGD40m – SGD75m) of total assets; serious injury to multiple persons; moderate loss of plant resulting in 1 week to 3 month loss of production capability; on-site environmental release contained with assistance without causing long-term detrimental effect</td>
</tr>
<tr>
<td>Minor</td>
<td>Medium financial loss (SGD10m – SGD40m) of total assets; minor injury to one or two persons; minor loss of plant resulting in 1 day to 1 week loss of production capability; on-site environmental release immediately contained without long-term detrimental effect</td>
</tr>
<tr>
<td>Insignificant</td>
<td>Low financial loss (&lt;SGD10m) of total assets; no injuries; less than one day loss of production capability; no environmental impact</td>
</tr>
</tbody>
</table>

Table 16.3 Risk rating

<table>
<thead>
<tr>
<th></th>
<th>Severe</th>
<th>Major</th>
<th>Moderate</th>
<th>Minor</th>
<th>Insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost Certain</td>
<td>High Risk</td>
<td>High Risk</td>
<td>High Risk</td>
<td>Medium Risk</td>
<td>Medium Risk</td>
</tr>
<tr>
<td>Likely</td>
<td>High Risk</td>
<td>High Risk</td>
<td>Medium Risk</td>
<td>Medium Risk</td>
<td>Low Risk</td>
</tr>
<tr>
<td>Possible</td>
<td>High Risk</td>
<td>High Risk</td>
<td>Medium Risk</td>
<td>Low Risk</td>
<td>Low Risk</td>
</tr>
<tr>
<td>Unlikely</td>
<td>High Risk</td>
<td>Medium Risk</td>
<td>Medium Risk</td>
<td>Low Risk</td>
<td>Low Risk</td>
</tr>
<tr>
<td>Remote</td>
<td>Medium Risk</td>
<td>Medium Risk</td>
<td>Low Risk</td>
<td>Low Risk</td>
<td>Low Risk</td>
</tr>
</tbody>
</table>

16.2 Risk Assessment

The categories used to assess risk for this project reflect the parameters defined in the JORC Code to assess mineral resources and ore reserves.

16.2.1 Geology

This risk is assessed as Low Risk.

The geology is well known, mapped and has been drilled to 2000 metres below surface. Underground operations were mined down to 1000 metres depth historically and the Company has mined to 300 metres
Annual QPR for Charters Towers Gold Project Qld Australia for the Year Ended 31 March 2014
LionGold Corp Ltd

depth. The host rock geology is almost irrelevant as the mineralisation is contained within structures and fault lines developed after the host rocks had solidified enough to fracture linearly. There has been very little post-depositional deformation or fault movement, so the structures are very predictable in their geometry.

16.2.2 Mining
This risk is assessed as Low Risk.

The Company has been mining in the Project area since 1994, and has conducted both open pit and underground operations. It has extracted gold from two open pits (Stockholm and Washington) and four underground operations (Stockholm, Washington, Imperial [Warrior and Sons of Freedom reefs] and the Central Mine [No. 2 Cross Vein]). It has produced over 100,000 ounces of gold, and proved the effectiveness of its mining methods.

16.2.3 Processing and Metallurgical
This risk is assessed as Low Risk.

The Company has operated its processing plant since 1994 and achieves gold recoveries of 95% to 98% with a very uniform mineralogy in the ore. This is highly probable to continue. It has produced over 100,000 ounces of gold, and proved the effectiveness of its processing plant.

16.2.4 Infrastructure
This risk is assessed as Low Risk.

Most of the infrastructure is in place, paid for and operational. Power is drawn from the State grid. The Project is mostly self-sufficient in water but could draw on local municipal supplies if necessary. There is major town in the Project area that supplies all accommodation, services, transport and medical backup that may be required. There is a major port, international airport and city to the east, 1.5 hours drive by sealed highway, at Townsville with a population of over 196,000 (2012).

16.2.5 Economic and Marketing
Marketing is assessed as Low Risk. The gold and silver produced by the mine are directly exchangeable for cash, and mine will be able to sell all it can produce.

The economic risk is assessed as Moderate to High, in that some $100 million in capital is required over five years for the project to succeed. Once the operation exceeds 30,000 ounces per year it becomes profitable and over 40,000 ounces per year should be able to fund itself from its own profits, albeit more slowly than if the capital was directly injected. There is uncertainty about whether or not sufficient capital can be obtained in the required time frame. The Company has successfully funded its operations from shareholders’ funds since 1993 and should be able to continue to do so.

16.2.6 Legal
This risk is assessed as Low Risk.

The Company holds all the necessary land and permits it requires and has been mining since 1994. There are no legal matters in hand that appear likely to interfere with expanding the Project. In the 2013 Annual Report, the Directors declared that no person had brought actions under section 237 of the Corporations Act against the Company.

16.2.7 Environmental
This risk is assessed as Low Risk.

The Company has an approved Environmental Management Overview Strategy (EMOS) and Environmental Authority in place and has been conducting mining and processing operation since 1993, and expects to be able to continue to do so. In addition a Plan of Operations, in compliance with the EMOS, has also been approved by the DRNM. These operating documents are in compliance with Queensland’s stringent Environmental Protection Act and Regulation.
The Company is continuing discussion with the Department of Environment, Heritage and Protection in regards to the adequacy of financial assurance provided for the purpose of mine rehabilitation. The potential liability can be up to a maximum of $7.6 million.

16.2.8 Social and Governmental

This risk is assessed as Low Risk.

There are no known social or heritage matters that are seen as having the potential to stop the Project proceeding. Any proposed governmental changes to royalties, mining legislation, environmental protection or transport regulations would apply to the whole of either Queensland’s or Australia’s mining sector, and would therefore not proceed without timely discussion and time to implement. Australia is generally considered to have low political risk in relation to mining due to the long, successful and enduring mining industry contribution to the Australian economy and exports.
17 INTERPRETATION AND CONCLUSIONS

17.1 Interpretation

The Company has a robust geological model that has been predicted and then tested by diamond-core drilling down to 2000 metres vertical depth. Intersections into known quartz reefs have hit the predicted position within one metre at depths of up to 1,500 metre downhole. Over 350,000 metres of drilling has been conducted in 3,200 holes on down-dip and strike extensions of known reef systems, with 1,600 significant drill intersections. Over 1,500 pairs of repeat gold assays run on samples used in the resource estimate and assayed by commercial laboratories were examined. The precision of the results is generally within ± 10% of the average of two samples above 4 grams per tonne Au, within a range of ± 15% for the majority of samples used in resource estimation. This is consistent with the documented order of accuracy for commercial gold assaying.

The expected range of densities in material to be mined in the project varies from 2.7 t/m3 to 3.2 t/m3. This introduces a variability of 20% in any tonnages estimated. The tonnage estimates are regarded by the Company as conservative, using the lowest likely density of 2.7 t/m3 and the low historical payability of 30%. The Company is likely to have a higher payability as it will use a lower cut-off grade than the 9 metre-gram per tonne Au used historically. This could increase the tonnage by as much as 40%.

The minimum daily average Australian dollar gold price over the last five years shows a variation of over 40% from the mid-point to the high and low values. The variation in gold price at any time is outside the control of the Company.

17.2 Conclusions

The Company believes it has quantified the confidence levels to an acceptable level of commercial risk for its Charters Towers project.

There have been no material changes since the last formal report in 2012.

The Probable Ore Reserves at the Charters Towers Gold Project, at a 4 grams per tonne Au grade cut-off, are 2,500,000 tonnes at 7.7 grams per tonne gold and 5.1 grams per tonne silver, containing 620,000 ounces (19,000 kilograms) of gold and 410,000 ounces (13,000 kg) of silver. The Probable Ore Reserve is derived from, and not additional to, the Indicated Mineral Resource.

The Indicated Mineral Resource is 3,200,000 tonnes at 7.6 grams per tonne gold and 5.1 grams per tonne silver, containing 780,000 ounces of gold and 520,000 ounces of silver.

The Inferred Mineral Resource is 25 million tonnes at 14 grams of gold per tonne and 9 grams per tonne silver, containing 11 million ounces of gold and 7 million ounces of silver, using a lower cutoff grade of three grams of gold per tonne of mineralized material (grams per tonne Au) over a minimum sample true width of one metre (expressed as 3 metre-gram per tonne Au).

The Project is in gold production, with necessary infrastructure in place and has sold over 100,000 ounces of gold and 45,000 ounces of silver since 1997. It has been in continuous gold and silver production since 2007.

Inferred Mineral Resources used a cut-off of 1 metre,gram per tonne to define sample intersections used to construct the outlines of mineralised bodies. A conservative breakeven cut-off of 3 grams per tonne Au at a gold price of US$1300 per ounce and an exchange rate of $1 = US$ 0.91, as shown in Table 8.2 below, was used to estimate grades in Indicated and Inferred Mineral Resources. The mining cash cost was AUD$576 per ounce. A cut-off of 4 g/t gold was used to estimate grades in Ore Reserves. No top cut was used for the estimation of grade for Mineral Resources, but a top cut of 50 g/t was used for Ore Reserves. The confidence level is ±10 to 15% for the contained ounces in the Probable Ore Reserve. The confidence level is ±30% for the contained ounces in the Inferred Mineral Resource, because two mining factors have been included (a minimum mining width of one metre, and a substantial discount of the tonnes (70%) based on known mine payability on the reefs). Probable Ore Reserves are derived from, and included in, Indicated Mineral Resources. The Probable Reserves are not additional to Indicated Mineral Resources.
18 RECOMMENDATIONS

It is recommended that the Company vigorously proceed with the development of the Charters Towers Gold Project as stated in its public documents released to the market and set out in more detail in documents reviewed for this technical report.

The writer has extensive knowledge of the goldfield and is of the opinion that development of the goldfield into a larger gold producer will also allow the opportunity to, concurrently with gold production, efficiently obtain the additional geological data to upgrade more of the Inferred Mineral Resources and then to move those into Ore Reserves.

Further drilling and exploration is already underway and ongoing by the Company, including the search for additional Mineral Resources. The goldfield has only been partly explored and there is substantial potential for further Mineral Resources and Ore Reserves to be defined.
19 REFERENCES


QGMJ – Queensland Government Mining Journal (various years from 1901 onwards).


20 DATE AND SIGNATURE PAGES


Competent Person’s Consent Form

Pursuant to the requirements of ASX Listing Rule 5.6 and clause 8 of the 2012 JORC Code

(Written Consent Statement)

Report Description

Annual Qualified Person’s Report 2013.............................................................

(insert name or heading of report to be publicly released) (“Report”)

LionGold Corporation Limited.................................................................

(insert name of company releasing the Report)

………..The Charters Towers Gold Project, north Queensland, Australia……

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

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

Period ended 31 March 2014.................................................................

(Date of Report)

Statement

I, ………Christopher Alan John Towsey…………………………………….. confirm that:

(insert full name)

• I have read and understood the requirements of the 2012 Editions of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (“2012 JORC Code”).

• I am a Competent Person as defined by the 2012 JORC Codes, having more than five years’ experience which is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.

• I am Fellow of The Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists.

• I have reviewed the Report to which this Consent Statement applies.

• I am a full time employee of ………………………………………………………… (insert company name)

OR

• I am a consultant working for …Pathfinder Exploration Pty Ltd…………………… (insert company name) and have been engaged by ………LionGold Corporation Limited………………………… (insert company name) to prepare the documentation for …the Charters Towers
Annual QPR for Charters Towers Gold Project Qld Australia for the Year Ended 31 March 2014
LionGold Corp Ltd

Gold Project............... (insert deposit name) on which the Report is based, for the period ended 31 March 2014. (insert date of resource/reserve statement)

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

CONSENT

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

……Citigold Corporation Ltd and LionGold Corporation Limited……………………………………

(insert reporting company name)

31 March 2014

Signature of Competent Person: 

Date:

FAusIMM Chartered Professional (Geology) 103393

Christopher Alan John Towsey, MSc BSc(Hons), DipEd, FAusIMM, MMICA, MAIG, MAICD.
Pathfinder Exploration Pty Limited
# 21 Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>acid(ic)</td>
<td>In geology, a chemical classification of igneous rocks. Containing more than 66% silica. In chemistry, having a pH &lt;7.</td>
</tr>
<tr>
<td>aeromagnetics</td>
<td>Airborne geophysical survey measuring variations in the Earth's magnetic field.</td>
</tr>
<tr>
<td>Ag</td>
<td>Silver.</td>
</tr>
<tr>
<td>alteration (zone/envelopes)</td>
<td>Change in mineralogical composition of a rock commonly brought about by reactions with hydrothermal solutions.</td>
</tr>
<tr>
<td>anomalous</td>
<td>A departure from the expected norm. In mineral exploration this term is generally applied to either geochemical or geophysical features (values higher or lower than the norm).</td>
</tr>
<tr>
<td>assay</td>
<td>Chemical analysis. Strictly refers to analysis of precious metals by the fire assay method with a gravimetric finish. Commonly used to mean any chemical analysis.</td>
</tr>
<tr>
<td>Au</td>
<td>Gold.</td>
</tr>
<tr>
<td>auriferous</td>
<td>Containing gold (from Latin aurum meaning gold).</td>
</tr>
<tr>
<td>base metal</td>
<td>Generally a metal inferior in value to the precious metals, mainly copper, lead zinc, nickel, tin, and aluminium.</td>
</tr>
<tr>
<td>batholith</td>
<td>A large mass of consolidated intrusive igneous material (usually of granitic composition) (see also pluton).</td>
</tr>
<tr>
<td>bed-rock</td>
<td>Solid rock underlying soil, alluvium etc.</td>
</tr>
<tr>
<td>breakeven</td>
<td>In ore reserve estimation, the gold grade at which the mining cost equals the value of the extractable gold. At breakeven grades, the operation makes neither a profit nor a loss. Breakeven can be calculated at various cost levels, such as an operating breakeven (the grade required to continue operations) or total cost breakeven (which takes into account overheads such as depreciation, amortisation, cost of capital, off-site overheads, interest, tax etc).</td>
</tr>
<tr>
<td>carbonate</td>
<td>Compound of carbon and oxygen with one or metals, especially calcium (CaCO3), magnesium (MgCO3) and iron (FeCO3).</td>
</tr>
<tr>
<td>chalcopyrite</td>
<td>Copper-iron sulphide mineral. The main ore of copper.</td>
</tr>
<tr>
<td>chlorite</td>
<td>Dark green iron magnesium mineral, often associated with metamorphism or alteration.</td>
</tr>
<tr>
<td>country rock</td>
<td>The enclosing rock around a body of ore.</td>
</tr>
<tr>
<td>cross-cut</td>
<td>Mining passage constructed at right angles to the general trend of the ore body (see also drive, shaft, rise and winze).</td>
</tr>
<tr>
<td>cut-off</td>
<td>The estimated lowest grade of ore that can be mined and treated profitably in a mining operation.</td>
</tr>
<tr>
<td>cuttings</td>
<td>Broken pieces of rock generated by a drill bit during drilling. Forms the main part of percussion drill samples.</td>
</tr>
<tr>
<td>decline</td>
<td>Usually refers to a downward sloping underground roadway.</td>
</tr>
<tr>
<td>density</td>
<td>Mass divided by volume. Measured here in tonnes per cubic metre.</td>
</tr>
<tr>
<td>Devonian</td>
<td>Time unit of the Geological Time Scale, a geological Period, 416-359 million years ago.</td>
</tr>
<tr>
<td>diamond drilling</td>
<td>Method of obtaining a cylindrical core of rock by drilling with a diamond-impregnated bit.</td>
</tr>
<tr>
<td>Dilution</td>
<td>Reduction in grade resulting from admixture of lower grade material during mining or rock-breaking processes.</td>
</tr>
<tr>
<td>Disseminated</td>
<td>Mineralisation more or less evenly distributed throughout a rock.</td>
</tr>
<tr>
<td>Drive</td>
<td>Horizontal mining passage or access way underground, oriented along the length of the general trend of the ore body (noun and verb) (see also cross-cut).</td>
</tr>
<tr>
<td>dyke</td>
<td>A tabular body of igneous rock, cross cutting the host strata at a high angle.</td>
</tr>
<tr>
<td>ETW</td>
<td>Estimated true width.</td>
</tr>
<tr>
<td>Fault</td>
<td>A fracture in rocks along which rocks on one side have been moved relative to the rocks on the other side.</td>
</tr>
<tr>
<td>feasibility study</td>
<td>A comprehensive study of technical, financial, economic and legislative matters of sufficient depth and accuracy to provide the basis for financing.</td>
</tr>
<tr>
<td>Fire assay</td>
<td>Assay procedure involving roasting of a sample in a furnace to ensure complete extraction of all the contained metal.</td>
</tr>
<tr>
<td>Fluid inclusion</td>
<td>Bubbles of gas and/or liquid, sometimes containing crystals, within mineral grains that can be used to determine the temperature and pressure of formation of the mineral and provide data on the chemical composition of the original fluids.</td>
</tr>
<tr>
<td>Footwall</td>
<td>The wall or surface on the underside of an inclined geological feature such as a fault, vein, ore-body or stope.</td>
</tr>
<tr>
<td>Fractal analysis</td>
<td>A fractal is a geometrical figure consisting of a pattern that is repeated in finer and finer scales. It also refers to a process or structure that is made up of similar patterns at different scales and magnifications. Fractal patterns can be visualized on a computer using mathematical models and/or fractal geometry. Fractal analysis helps to see patterns in real objects and systems that at first appear not...</td>
</tr>
</tbody>
</table>
Fracture

Fry analysis

Fry analysis is a statistical method of correlating data points to see if there is a preferred direction. It offers a visual approach to quantify characteristic spatial trends for groups of point objects. The technique was originally designed to quantify finite strain based on a 2-D analysis of the nearest neighbours to a central reference point, assuming that the original distribution pattern was random. Fry analysis can also be used to search for anisotropies (asymmetric trends) in the distribution of point objects. More specifically it can be used to investigate if a distribution of point objects occurs along linear trends, and whether such linear trends occur at a characteristic spacing. Fry analysis uses a geometrical method of spatial autocorrelation for point data. For n points there are n x n spatial relationships and, because of the square function, the method yields interpretable results with small as well as large data sets. Fry analysis is an alternative to variography for directional studies. At the regional scale, Fry analysis can assess distribution patterns of mineralization and potential controlling structures. At the deposit scale, the characteristics of zones of mineralization such as direction, spacing, high-grade ore direction, and grade distribution can all be deduced. See Fry, N. 1979. Random point distributions and strain measurement in rocks. Tectonophysics 60: 806-807

g/t

grams per tonne (grams/tonne)

Galena

lead sulphide mineral, an ore of lead

Gangue

Waste minerals associated with ore

geological mapping

the recording in the field of geological information on a map.

Geophysical

the exploration of an area in which physical properties (e.g. resistivity, conductivity, magnetic properties) unique to the rocks in the area are quantitatively measured by one or more methods

Geostatistics

Mineral resource estimation method. A computer based method wherein particular relationships between sample points are established and employed to project the influence of the sample points. Based on the application of statistics to the variation in grade of ore bodies. grade

quantity of ore or metal relative to its other constituents

granite, granitic

coarse grained igneous rock composed of quartz and feldspar with varying amounts of ferromagnesian minerals such as biotite or hornblende, with or without muscovite. Adjective is ‘granitic’.

granitoid

Field term for body of rock of granitic composition

gravity survey

gеophysical survey technique measuring variations in the Earth’s gravitational field, due to variations in rock densities

hanging wall

the wall or surface on the upper side of an inclined geological feature such as a fault, vein, ore-body or stope.

head grades

genera term referring to the grade of ore delivered to the processing plant.

Hydrothermal

pertaining to heated water (hot aqueous solutions), associated with the formation of mineral deposits or the alteration of rocks.

igneous

Rocks formed by solidification from the molten state.

Indicated Resource

An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.

Inferred Resource

An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability.

in situ

Latin for “in place”. Term used to describe rocks and minerals found in their original position of formation.

intermediate

igneous rocks between acid and basic in composition.

Isotope

Different atoms of the same element, having the same atomic number but different atomic weights. The ratios of different isotopes in rocks and minerals can be used to estimate the age of the specimen or the time of crystallisation or thermal events.

joint

Fracture in rock along which no appreciable movement has occurred.

JORC Code

of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Australian Mining Industry Council. It is a comprehensive integrated exposition on geological resources and ore reserves, and adherence to the Code is a requirement under the Australian Stock Exchange Listing Rules.

<table>
<thead>
<tr>
<th>km</th>
<th>Kilometre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kriging</td>
<td>Mathematical statistical technique used in ore reserve estimation. It is used for interpolating sparse and clustered spatial data.</td>
</tr>
<tr>
<td>level</td>
<td>Underground horizon at which an ore body is opened up and from which mining proceeds</td>
</tr>
<tr>
<td>lode</td>
<td>Tabular or vein-like deposit of valuable mineral between well-defined walls.</td>
</tr>
<tr>
<td>Measured Resource</td>
<td>A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and/or grade continuity.</td>
</tr>
<tr>
<td>metre-gram(s) or metre-grams per tonne</td>
<td>is the assay grade normalised out to a minimum width of one metre width by multiplying the true width by the grade to produce metal accumulations over a metre of rock (ie. metre-grams per tonne Au or metre grams of gold per tonne of rock) and is used where the drill intersections true width is less than one metre. The material included in the one metre interval outside the assayed section is assumed to be zero grade thereby diluting the original assay.</td>
</tr>
<tr>
<td>microthermometry</td>
<td>Determination of the temperature of formation of minerals by examining, heating and cooling fluid inclusions under a microscope.</td>
</tr>
<tr>
<td>mineralisation</td>
<td>the introduction of valuable minerals into a rock body</td>
</tr>
<tr>
<td>mm</td>
<td>millimetre</td>
</tr>
</tbody>
</table>

National Association of Testing Authorities (NATA). NATA is the authority that provides independent assurance of technical competence through a proven network of best practice industry experts for customers who require confidence in the delivery of their products and services. NATA provides assessment, accreditation and training services to laboratories and technical facilities throughout Australia and internationally. Nuggetty, a bias produced in geostatistics caused by isolated high values.

open cut | synonymous with open pit |
| open pit | mine excavation or quarry, open to the surface |

Ordovician | Time unit of the Geological Time Scale, a geological Period from 500 to 440 million years ago, a sub-division of the Palaeozoic Era |

ore | rock or mineral(s) that can be extracted at a profit. Often applied (incorrectly) to mineralisation in general. |

Ore Reserve | An 'Ore Reserve' is the economically mineable part of a Measured or Indicated Mineral Resource. It includes diluting materials and allowances for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves |

ore shoot | pods of mineralised material, often high-grade, within a vein |

outcrop | a body of rock exposed at the ground surface |

oxidised | near surface or after-mining decomposition of rocks, minerals or metals by exposure to the atmosphere and groundwater. |

Palaeozoic | Time unit of the Geological Time Scale, a geological Era from 600-230 million years ago |

percussion drilling | method of drilling using a hammering action with rotation, forcing dust and cuttings to the hole collar by compressed air. Usually refers to open hole percussion drilling, where cuttings return outside the drill rods. See also RAB drilling and RC drilling |

petrography | the study of rocks under the microscope |

pH | Literally, “power of Hydrogen”. A measure of the concentration of hydrogen ions in solution that determines acidity or alkalinity. The pH ranges from 0 to 14, with 7 being neutral. Acids have a pH less than 7 and alkalis greater than 7. |

portal | surface entrance to a tunnel or drive. |

ppm | parts per million equal to grams per tonne |

Probable Ore Reserve | A 'Probable Ore Reserve' is the economically mineable part of an Indicated, and
in some circumstances Measured, Mineral Resource. It includes diluting materials and allowances for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. A Probable Ore Reserve has a lower level of confidence than a Proved Ore Reserve.

**prospect**

an area that warrants detailed exploration.

**Proved Ore Reserve**

A 'Proved Ore Reserve' is the economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowances for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified.

**pyrite**

An iron sulphide mineral, often associated with economic mineralisation. Occasionally used as an ore of sulphur.

**quartz**

Very common minerals composed of silica SiO2. Amethyst is a variety of the well-known purple (amethystine) colour. Aventurine is a quartz spangled with scales of mica, haematite, or other minerals. False topaz or citrine is a yellow quartz. Rock crystal is a clear variety. Rose quartz is a pink variety, and caïngorm is a brownish variety. Tigereye is crocidolite (an asbestos-like material) replaced by silica and iron oxide. Quartz is the name of the mineral prefixed to the names of many rocks that contain it, such as quartz porphyry, quartz diorite.

**recovered grades**

means the eventual recovery after mining dilution and processing losses measured against plant feed tonnes.

**recovery (drilling)**

Proportion of core or cuttings actually recovered from a drill hole, compared to the maximum theoretical quantity.

**reef**

in mining, a gold-bearing quartz vein.

**reserves (ore)**

See Proved or Probable Ore Reserves. It is recommended that the reader study the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code 2012 Edition", a report of the joint committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Australian Mining Industry Council for a comprehensive integrated exposition on geological resources and ore reserves. The various resource categories are classified according to the level of geological information, and thus the confidence, underlying the estimate. The Inferred Resources cannot become a Reserve. The Proved and Probable Reserves are derived respectively from the Measured and Indicated Resource after the application of sufficient technical, financial, marketing, economic, legislative, legal and environmental factors to be confident that their mining and processing would be economically viable. However, it should be appreciated that the Code does not define a level of profitability.

**resource**

See Measured, Indicated or Inferred Mineral Resource. Mineralisation to which conceptual tonnage and grade figures are assigned, but for which exploration data are inadequate to estimate ore reserves.

**Reverse Circulation(RC) Drilling**

Method of drilling whereby rock chips are recovered by pressurised air returning inside the drill rods.

**rock-chip sampling**

Obtaining a sample, generally for assay, by breaking chips off a rock face.

**Rotary Air Blast (RAB) Drilling**

Method of drilling soft rocks in which the cuttings from the bit are carried to the surface by pressurised air returning outside the drill rods.

**schist**

Type of fine grained metamorphic rock with laminated fabric similar to slate.

**sediment**

Rocks formed of particles deposited from suspension in water, wind or ice.

**sericite (sericitic)**

Fine grained variety of mica generally formed by metamorphic processes.

**S.G.**

Specific Gravity.

**shaft**

A vertical or inclined passage from the surface by which a mine is entered and through which ore or ventilation air is transported.

**shear**

Zone in which rocks have been deformed by lateral movement along innumerable parallel planes.

**Silurian**

Time unit of the Geological Time Scale, a Period from about 438 to 408 million years ago.

**Specific Gravity**

Mass divided by volume at a specified temperature compared to an equal amount of water that is assigned an SG of 1.0. Equivalent to density (mass per unit volume), measured here in tonnes per cubic metre.

**sphalerite**

Zinc sulphide mineral.

**stockwork**

Interlocking network of tabular veins or lobes.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>stope</td>
<td>Mine excavation from which ore is being or has been extracted.</td>
</tr>
<tr>
<td>stream sediment survey</td>
<td>Systematic sampling of sediments within drainage channels, used to locate traces of mineralisation that has weathered from the ore zone and been shed into the drainage channels.</td>
</tr>
<tr>
<td>strike</td>
<td>The azimuth of a surface, bed or layer of rocks in the horizontal plane</td>
</tr>
<tr>
<td>sulphides</td>
<td>Minerals comprising a chemical combination of sulphur and metals.</td>
</tr>
<tr>
<td>t/m³</td>
<td>Tonnes per cubic metre</td>
</tr>
<tr>
<td>tailings</td>
<td>Material rejected from a treatment plant after the recoverable valuable minerals have been extracted.</td>
</tr>
<tr>
<td>tonalite</td>
<td>Igneous rock similar to granite but containing mainly calcium feldspar rather than alkali (sodium and potassium) feldspar.</td>
</tr>
<tr>
<td>true width</td>
<td>Width or thickness of a lode or other formation measured at right angles to its sides (see also apparent width)</td>
</tr>
<tr>
<td>TSF</td>
<td>Tailings storage facility</td>
</tr>
<tr>
<td>vein</td>
<td>A narrow dyke-like intrusion of mineral traversing a rock mass of different material.</td>
</tr>
<tr>
<td>volcanic</td>
<td>Class of igneous rocks that have flowed out or have been ejected at or near the earth’s surface, as from a volcano</td>
</tr>
<tr>
<td>wall rock</td>
<td>Rock mass adjacent to a fault, fault zone or lode.</td>
</tr>
<tr>
<td>winze</td>
<td>A vertical or inclined underground shaft or access way between levels mined from the top down.</td>
</tr>
</tbody>
</table>
Appendix A. Checklist of assessment and reporting criteria, based on Table 1 of the 2012 JORC Code
## Section 1 Sampling techniques and data

(Criteria in this section apply to all succeeding sections)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sampling techniques</strong></td>
<td>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</td>
<td>• The Charters Towers area has been sampled by a mixture of diamond (HQ and NQ2) and RC drill holes for the purpose of identifying the location of mineralised structures and for identifying potential for mineralisation on these structures and for down-hole (DH) geophysics. • HQ / NQ core is typically cut in half (50%) using a diamond saw (100% of core recovered) and half or in some instances 1/4 (25%) of the core is submitted for analysis. Only HQ-size drill core is used for quarter core samples. • RC drilling was sampled on 1m intervals or through sections where mineralisation was known to occur. RC results are not reported. • Due to the &quot;narrow vein&quot; style of mineralisation found at Charters Towers, the maximum HQ / NQ sample interval is 1m &amp; minimum sample interval 0.1m. • Zones of mineralisation are defined by sericite, chlorite and epidote alteration of granite surrounding narrow, but high grade quartz veins containing sulfides, other gangue minerals and gold. Samples are taken from the mineralised zone and on either side of the mineralisation into unaltered granite. • Sampling methods follow guidelines and methodologies established by Citigold throughout its mining and exploration history. These methods are described in detail in the 2012 Mineral Resources and Reserves Report which can be found on the company’s website (<a href="http://www.citigold.com">www.citigold.com</a>).</td>
</tr>
<tr>
<td><strong>Drilling techniques</strong></td>
<td>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.).</td>
<td>• Most diamond drilling has been 63.5mm diameter HQ core, although some NQ2 core has been drilled. RC pre-collars have been used for some drill holes where drilling was aimed at defining the location for the fracture. NQ2 drill core was typically used for the diamond tails on RC pre-collars. • Downhole surveys have been taken at a minimum of every 50m down hole. • 60mm PN12 PVC piping has been inserted into many holes to accommodate the DH geophysics tools and to maintain the internal integrity of the holes in case of further surveying requirements. • In 2013, all drilling was completed under contract to Citigold. • Core orientation was only carried out on drilling taking place in the central area (CT9000).</td>
</tr>
</tbody>
</table>
| **Drill sample recovery** | Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. | • Core is recovered by wireline drilling, where core is collected inside a core barrel winched back to surface inside the drill rods. The core is marked up and measured by senior field assistants and geologists under the guidance of the senior geologist. Core recovered (CR) is compared with the meters drilled (MD, recorded by the drillers in their daily log-sheets) and a ‘core recovery’ percentage is calculated; CR/MD x 100 = % recovered. All data is recorded within the Citigold database where it is checked by senior geologists. • Drilling is mostly within competent granites where core loss is minimal, however, in areas where high degrees of alteration and associated mineralisation occur, some core loss is expected and subsequently recorded. Accordingly, it is possible that some fine
### Criteria

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<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
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<tbody>
<tr>
<td>Logging</td>
<td>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.</td>
<td>gold within clay could have been lost during drilling.</td>
</tr>
<tr>
<td>Sub-sampling techniques and sample preparation</td>
<td>If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representativeness of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</td>
<td>• Core is sawn in half and one half (50%) is submitted for analysis at NATA accredited labs in Townsville (QLD, AUSTRALIA). • Selected core (as listed in associated tables) is cut for 1/4 core (25%) and submitted for analysis at NATA accredited labs in Townsville (QLD, AUSTRALIA). • The 25%-50% sampling of the HQ core is considered appropriate for the mineralisation type. NQ core is sampled for 50% only. • Samples are couriered to NATA accredited laboratories where they are dried at 105°C; weighed; crushed to ~6mm; and pulsed to 90% passing 75um where a 200 g sub-sample is taken. 5% of samples are dual sub-sampled (second split) for sizing and analytical quality control purposes. Fire assay: 50 g of sample is added to a combustion flux and fired at 1000°C; the resultant lead button is separated from the slag and muffled at 950°C to produce a gold/silver prill; the prill is digested in aqua regia and read on a AAS. ICP40Q: A 0.2g sub-sample is digested using nitric/hydrochloric/perchloric/hydrofluoric acids; the diluted digestion product is then presented to a Perkin Elmer 7300 ICP AES for analysis. Quality Control: second splits (5% of total); 2 in 45 sample repeats; and 2 CRM standards for each rack of 50 samples are analysed in all methods.</td>
</tr>
<tr>
<td>Quality of assay data and laboratory tests</td>
<td>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</td>
<td>• Citigold uses standards sourced from Gannett Holdings Pty Ltd, Perth, Australia. Certificate number 13U20C-22-04-13. • A blank sample and/or a standard sample and/or a duplicate sample are randomly inserted approximately every 30 samples that are submitted. • NATA accredited laboratories in Townsville have their own rigorous ‘in lab’ QAQC procedures and are accredited for precious metal and base metal analyses. • A complete discussion on assay techniques, sample sizes, assay variance and sample bias can be found in the Citigold 2012 Mineral Resources and Reserves report.</td>
</tr>
<tr>
<td>Verification of sampling and assaying</td>
<td>The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.</td>
<td>• Selected samples are submitted to other labs, including Citigold's on-site lab to check for consistency, accuracy and as a second means of obtaining a result. • Some strongly anomalous holes have been resubmitted for assay. • no twinned holes were completed by Citigold in 2013, however, prior exploration has engaged diamond drilling as a means of checking anomalous RC drilling and to confirm the precise depth of the mineralised structure. • All drill holes are logged into laptop computers and checked before entering into</td>
</tr>
</tbody>
</table>
### Criteria | JORC Code explanation | Commentary
--- | --- | ---
**Location of data points** | Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. | - Citigold uses a combination of grids including a local mine grid and AMG AGD66 Zone 55 which closely approximates the local mine grid.  
- Drill hole collars are surveyed using a Leica Viva Real Time Kinematic (RTK) Differential GPS system with a fully integrated radio, allowing for data capture in 3 dimensions at an accuracy of +/-25mm over baselines within 5km radius of the base station.  
- All coordinates are provided in AMG AGD66 unless otherwise stated.  
- Citigold uses a geo-registered 50cm pixel satellite photograph acquired in September of 2013 as a secondary check on the spatial location of all surface points.  
- Down-hole surveys are obtained using either a Ranger or Camteq downhole survey instrument. Survey tools are checked in Citigold’s base station (a precise DH camera alignment station) prior to drilling holes over 800m or approximately every 4-5 holes in other circumstances. DH geophysics are obtained from most drill holes at which time the holes are often re-surveyed with a Camteq Proshot acting as a secondary check of the original survey.  
- All samples logs are recorded onto paper and assigned a unique sample number once cut. The sample and other details are entered into the Citigold database.  
- All significant intercepts are checked against the remaining core, checked for corresponding base metal grades and assessed for geological consistency.

**Data spacing and distribution** | Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. | - Drill hole spacing and orientation is currently constrained by the requirements for DH geophysical surveying. Approximately 80m between points of intercept are planned, however; the nature of the structure may require alterations to the spatial pattern of holes.  
- Drill hole spacing in the E05 area is aimed at intercepts no further than 50m apart. No Resources or Reserves are being presented here. A full description of Citigold’s Mineral Resources and Reserves can be found in the 2012 Mineral Resources and Reserves Report (www.citigold.com).

**Orientation of data in relation to geological structure** | Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. | - Drill holes are planned to intercept the mineralised structures (average 45 degree dip) at high angles. The presence of landholders and other features on the landscape prevent all holes from intercepting perpendicular to the structure. Typically, holes will be drilled in a fanning pattern with intercepts at no less than 60 degrees to the mineralised structure. True widths are determined only after the exact geometry of the structure is known from multiple drill holes.  
- Holes intercepting at angles of less than an estimated 60 degrees are reported as such.  
- Lode-parallel drill holes have been completed by Citigold, however, these holes are specifically designed for geophysics and are not reported.

**Sample security** | The measures taken to ensure sample security. | - All drill core is stored within locked yard guarded by contracted security.  
- Samples are delivered by Citigold staff to NATA accredited laboratories and/or by
Criteria | JORC Code explanation | Commentary
---|---|---
registered courier.  
• Standards are retained within the office of the chief geologist and only released under strict control.  
• The chain of sample custody is managed and closely monitored by Citigold (management and senior staff).

Audits or reviews | The results of any audits or reviews of sampling techniques and data. | • A full Mineral Resources and Ore Reserves report was completed in May 2012, written in compliance with the then-current 2004 JORC Code. The report contains a comprehensive review and assessment of all sampling techniques and methodologies, sub-sampling techniques, data acquisition and storage, and reporting of results. Statements on QA and QC can be found on page 48 of the report. The report can be found on Citigold’s website at www.citigold.com.  
• Citigold’s database has been audited by several independent consultants since 1998 and most recently by Snowden in 2011.

Section 2 Reporting of exploration results  
(Criteria listed in the preceding section also apply to this section)

Criteria | JORC Code explanation | Commentary
---|---|---
Mineral tenement and land tenure status | Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. | • Citigold holds a number of tenements including Exploration Permit Minerals (EPM’s), Mineral Development Licenses (MDL’s) and Mining Leases (ML’s).  
EPM15964, EPM15966, EPM16979, EPM18465, EPM18813, EPM18820, MDL116, MDL118, MDL119, MDL251, MDL252, ML1343, ML1344, ML1347, ML1348, ML1385, ML1387, ML1398, ML1407, ML1408, ML1409, ML1424, ML1428, ML1429, ML1430, ML1431, ML1432, ML1433, ML1472, ML1488, ML1490, ML1491, ML1499, ML1521, ML1545, ML1548, ML1549, ML1558, ML1556, ML1557, ML1735, ML10005, ML10032, ML10042, ML10048, ML10050, ML10091, ML10093, ML10193, ML10196, ML10208, ML10222, ML10281, ML10282, ML10283, ML10284, ML10285, ML10335

Exploration done by other parties | Acknowledgment and appraisal of exploration by other parties. | • Charters Towers is one of Australia’s richest gold deposits. A plethora of historical data from the Charters Towers area has been collected, collated and is included within the Citigold geological database.  
• Citigold’s drill hole database includes historical drilling including 1993 - Mt Leyshon Gold Mines Ltd extensions to CRA diamond drill holes in the areas. 1991 - Diamond and RC drilling by PosGold in a joint venture with Charters Towers Mines NL that covered parts of the Central area areas. 1981-84 - Diamond-drilling by the Homestake/BHP joint venture in the Central area 1975, 1981-82, and 1987 - Diamond and RC drilling in central by A.O.G., CRA and Orion respectively.  
• Citigold retains all diamond core and a collection of core drilled by other companies is its on-site coreyard.
### Geology

Deposit type, geological setting and style of mineralisation.

- Mineralisation at Charters Towers is referred to as "orogenic" style vein mesothermal gold deposit.
- The many reefs are hosted within a series of variably-oriented fractures in granite and granodioritic host rocks. Mineralisation does occur in adjacent metasedimentary rocks.
- The gold-bearing reefs at Charters Towers are typically 0.3 metres to 1.5 meters thick, comprising hydrothermal quartz reefs in granite, tonalite and granodiorite host rocks. There are some 80 major reefs in and around Charters Towers city.
- The majority of the ore mined in the past was concentrated within a set of fractures over 5 km long East-West, and 500 meters to 1600 meters down dip in a North-South direction. The mineralised reefs lie in two predominant directions dipping at moderate to shallow angles to the north (main production), and the cross-reefs, which dip to the ENE.
- The reefs are hydrothermal quartz-gold systems with a gangue of pyrite, galena, sphalerite, carbonate, chlorite and clays. The reefs occur within sericitic hydrothermal alteration, historically known as "Formation".
- The goldfield was first discovered in December 1871 and produced some 6.6 million ounces of gold from 6 million tons of ore from 1872 to 1920, with up to 40 companies operating many individual mining leases on the same ore bodies. There were 206 mining leases covering 127 mines working 80 lines of reef and 95 mills, cyaniding and chlorination plants. The field produced over 200,000 ounces per year for 20 consecutive years, and its largest production year was 1899 when it produced some 320,000 ounces.

### Drill hole Information

A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:

- Easting and northing of the drill hole collar
- Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar
- Dip and azimuth of the hole
- Down hole length and interception depth
- Hole length.

If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.

- There are over 3,300 drill holes in the project area, and it is impracticable to list them all in this report. Drilling since 2004 has been tabulated on the Company’s web site and significant results listed in the Quarterly reports.

### Data aggregation methods

In reporting Exploration Results, 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.

- 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.
- Where sample intervals are presented as "Depth from" and "Depth to" and intercept length.
- The assumptions used for any reporting of metal equivalent values should be clearly stated.

- For practical reasons, not all sample intervals are included here, however, the results from all assays on drill core sampled in 2013 are available on the Citigold website (http://www.citigold.com/mining/exploration). The intercepts shown here are in sufficient detail, including gold maxima and subintervals, to allow the reader to make an assessment of the balance of high and low grades in the intercept.
- All sample interval lengths are presented as “Depth from” and “Depth to” and intercept length.
- Assay results for Ag, Pb and Au are presented as ppm. In addition, Au (gold) is presented as meter-grams per tonne (m.g/t). Table 1 presents all intercepts over 1m.g/t. Table 2 presents all intercepts between 0.5 and 1m.g/t.
- No aggregation of sections have been used.
Relationship between mineralisation widths and intercept lengths

<table>
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<tr>
<th>Criteria</th>
<th>JORC Code explanation</th>
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<tr>
<td></td>
<td>These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. ‘down hole length, true width not known’).</td>
<td>• All intercepts presented in tables in Quarterly Reports are reported as down-hole lengths unless stated as True Widths. • Structures within Charters Towers are highly variable in width and can be variable in dip over short distances, however, every attempt is made to drill approximately perpendicular to the dip of the structure. The intercepts reported as intercept widths may not necessarily represent true widths in some cases. • All tables clearly indicate “From” and “to” intervals.</td>
</tr>
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</table>

Diagrams

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<th>JORC Code explanation</th>
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<td></td>
<td>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.</td>
<td>• All drill hole collar locations are shown on Figure 8.11.</td>
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</table>

Balanced reporting

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<th>Criteria</th>
<th>JORC Code explanation</th>
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<tr>
<td></td>
<td>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.</td>
<td>• Almost every drillhole completed on the property from 2004 to 2011 is available from the Citigold website (<a href="http://www.citigold.com/mining/exploration">http://www.citigold.com/mining/exploration</a>). Drilling was suspended during 2012 and resumed in 2013. • Drill holes not included (regardless of intercepts and grade) are those that were drilled specifically for DH geophysics which were typically drilled parallel to the mineralised structure. All other drill holes have been reported, regardless of whether it has returned high or low grades. • Higher grade drillholes (above 0.5m.g/t) are reported in Quarterly Reports.</td>
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Other substantive exploration data

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<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
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<tr>
<td></td>
<td>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.</td>
<td>• Not applicable to this report</td>
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</table>

Further work

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<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
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<tbody>
<tr>
<td></td>
<td>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</td>
<td>• Future work will concentrate on drilling between drill hole intercepts in the Central area.</td>
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</table>

Section 3 Estimation and reporting of Mineral Resources

(Criteria listed in Section 1, and where relevant in Section 2, also apply to this section)

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<th>Criteria</th>
<th>JORC Code explanation</th>
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<tr>
<td>Database integrity</td>
<td>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used.</td>
<td>Databases were manually audited and checked on three occasions by external consultants since 1998 and most recently by Snowden in 2011. The SUPPAC computer program has an automatic error checking procedure that checks for duplication and column errors.</td>
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### Criteria

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<tr>
<td>Site visits</td>
<td>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.</td>
<td>The Competent Person (under the JORC Code) responsible for this report, Mr Christopher Alan John Towsey MSc BSc(Hons), DipEd, FAusIMM, CPGeo, MMICA, MAIG, has been associated with the Project for 15 years from 1999 as a consultant geologist and employee. He joined the Company on full-time staff as General Manager Mining in July 2002, was promoted to Chief Operating Officer (&quot;COO&quot;) in January 2004 and lived on-site at Charters Towers as COO and Site Senior Executive managing the day-to-day operations of the underground mining operations of the Imperial Mine from October 2009 to January 2011. He has remained as a consultant geologist to the Company since January 2011. On 21 February 2014 he was appointed as a Non-Executive Director of Citigold Corporation Limited. He is independent of LionGold Corporation Limited. He inspected the operations in April and September 2011, and again the 19th and 20th December 2011, inspecting the Central Decline underground down to the Brilliant Block Shaft 180m vertically below the city, and inspecting the 830 and 840 production levels in the Sons of Freedom ore body in the Imperial Mine 5 km southeast of the city. He visited the site on 19 January 2012. He was abreast of daily operations up until April 2011 and since 21 Feb 2014..</td>
</tr>
<tr>
<td>Geological interpretation</td>
<td>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology.</td>
<td>This is covered in sections 5, 6.2.1 and 8.3.2 of this report.</td>
</tr>
<tr>
<td>Dimensions</td>
<td>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</td>
<td>There are 25 mineralised bodies included in the Mineral Resource estimate. These are up to 2 km along strike. Mineral resources are estimated to a maximum depth of 1200 m down dip. The tops of bodies in the Resources are terminated at 50 m below surface, as it is unlikely the top 50 m under the city can be safely mined without disturbing existing buildings and infrastructure such as rail lines and highways Drilling has intersected mineralised structures down to 2000m depth.</td>
</tr>
<tr>
<td>Estimation and modelling techniques</td>
<td>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates.</td>
<td>This is covered in section 8.3</td>
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</table>
## Criteria | JORC Code explanation | Commentary
--- | --- | ---
Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. | All tonnages are estimated on dry weight as all material is below the base of oxidation.

### Moisture
Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. | See section 8.3.3. A lower cut-off grade of three grams of gold per tonne of mineralized material (grams per tonne Au) over a minimum sample true width of one metre (expressed as 3 metre-gram per tonne Au). No Top Cut was applied to Mineral resources as explained in section 8.3.6.

### Cut-off parameters
The basis of the adopted cut-off grade(s) or quality parameters applied. | Two mining factors have been included (a minimum mining width of one metre, and a substantial discount of the tonnes (70%) based on known mine payability on the reefs). See section 8.3.6.3.

### Mining factors or assumptions
Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. | From 2006 to 2012, the Company’s Quarterly Reports to the Australian Securities Exchange listed the gold recovery from the plant. Recoveries were in the range of 95% to 98% recovery of gold entering the plant. A recovery of 98% has been used in the mining factors for estimating Ore Reserves and estimating mining and processing costs. See section 11.3.

### Metallurgical factors or assumptions
The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made. | One ounce of silver is recovered for every 1.5 ounces of gold recovered. See section 7.3 and section 8.3.6.6

### 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 mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made. | The Project has been mining since 1994 with an accepted EMOS and granted permits. The Tailings Storage Facility was constructed in 1995. See sections 3.3, 3.4, 11.1.16 and 11.4 for more details.

### Bulk density
Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the | Extensive density measurements were carried out. A bulk density of 2.7 t/m³ was used. See section 8.3.6.4 and section 14.5.4 Tonnage Estimates in the 2012 Mineral Resources Report for tables of density data (Tables 14.10 and 14.11 in the 2012 report).
### Criteria | JORC Code explanation | Commentary
--- | --- | ---
**Classification** | The basis for the classification of the Mineral Resources into varying confidence categories. 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). Whether the result appropriately reflects the Competent Person’s view of the deposit. | The confidence level is ±30% for the contained ounces in the Inferred Mineral Resource, because two mining factors have been included (a minimum mining width of one metre, and a substantial discount of the tonnes (70%) based on known mine payability on the reefs). |
**Audits or reviews** | The results of any audits or reviews of Mineral Resource estimates. | The last peer review of the Mineral Resources was by Snowden Associates in June 2012. Snowden concluded that the 2012 Technical Report is written in accordance with the 2004 JORC Code. In addition, Snowden considers that Citigold’s approach to estimating Mineral Resources at Charters Towers are reasonable based on the nature of the mineralisation, the methodology adopted in preparing the estimate and the history of operations in the goldfield. |
**Discussion of relative accuracy/confidence** | Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. | The confidence level is ±30% for the contained ounces in the Inferred Mineral Resource, because two mining factors have been included (a minimum mining width of one metre, and a substantial discount of the tonnes (70%) based on known mine payability on the reefs). |

## Section 4 Estimation and reporting of Ore Reserves

(Criteria listed in Section 1, and where relevant in Sections 2 and 3, also apply to this section)

| Criteria | JORC Code explanation | Commentary
--- | --- | ---
**Mineral Resource estimate for conversion to Ore Reserves** | Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves. | The Indicated Mineral Resource is 3,200,000 tonnes at 7.6 grams per tonne gold and 5.1 grams per tonne silver, containing 780,000 ounces of gold and 520,000 ounces of silver. The Probable Ore Reserve is derived from, and not additional to, the Indicated Mineral Resource. There are 16 separate mineralised bodies in the Indicated Mineral Resource, and of these 16, fourteen met the criteria to be classified as ore bodies in the Probable Ore Reserve. |
**Site visits** | Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. | The Competent Person (under the JORC Code) responsible for this report, Mr Christopher Alan John Towsey MSc BSc(Hons), DipEd, FAusIMM, CPGeo, MMICA, MAIG, has been associated with the Project for 15 years from 1999 as a consultant geologist and employee. He joined the Company on full-time staff as General Manager Mining in July 2002, was promoted to Chief Operating Officer ("COO") in January 2004 and lived on-site at Charters Towers as COO and Site Senior Executive managing the day-to-day operations of the underground mining operations of the Imperial Mine from... |
### Criteria | JORC Code explanation | Commentary
--- | --- | ---
Study status | The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered. | October 2009 to January 2011. He has remained as a consultant geologist to the Company since January 2011. On 21 February 2014 he was appointed as a Non-Executive Director of Citigold Corporation Limited. He is independent of LionGold Corporation Limited. He inspected the operations in April and September 2011, and again the 19th and 20th December 2011, inspecting the Central Decline underground down to the Brilliant Block Shaft 180m vertically below the city, and inspecting the 830 and 840 production levels in the Sons of Freedom ore body in the Imperial Mine 5 km southeast of the city. He visited the site on 19 January 2012 and again on 29-30 April 2014. He was abreast of daily operations up until April 2011 and since 21 Feb 2014.

Cut-off parameters | The basis of the cut-off grade(s) or quality parameters applied. | The project has been mining since 1993 and has produced over 100,000 ounces of gold in trial mining, which constitutes a Full Feasibility Study, even though there is no single document with that title. Mining Leases have been granted, a two million tonne capacity tailings storage facility constructed and a processing plant built and operated since 1994. Actual mining costs have been obtained, together with purchased mining equipment and over $200 million already invested. Material Modifying Factors have been tested under actual production conditions and validated.

Mining factors or assumptions | The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling. The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). The mining dilution factors used. The mining recovery factors used. Any minimum mining widths used. | Mining method - Underground. Longhole open stoping, 10m sub-levels

| | | Dilation - 10% after ore sorting
| | | Gold losses - 5% after ore sorting
| | | Payability - Variable - 30% to 52%
| | | Pillars left - 0% due to payability factor
| | | US Gold Price - USD $1,300
| | | Exchange Rate - 0.91
| | | Aus Gold Price - AUD $1,429
| | | Driving cost - AUD $3,000 per metre, 3.5m square
| | | Driving cost equivalent - 2.1 Ounces per metre, 3.5m square
| | | Mill recovery - 95% of mill feed

See section 8.3.3. A lower cut-off grade of three grams of gold per tonne of mineralized material (grams per tonne Au) over a minimum sample true width of one metre (expressed as 3 metre-gram per tonne Au). No Top Cut was applied to Mineral resources as explained in section 8.3.6.

For conversion of Indicated Mineral Resources to Probable Reserves, a lower cut-off grade of 4 g/t gold was used to allow for physical losses and dilution during mining. An arbitrary top cut of 50 grams per tonne Au was applied to high assays in Ore Reserve estimation to reduce any potential biasing effect of the high-grades. This is a conservative approach, as there is no statistical basis for cutting high grades, as discussed in the Inferred Mineral Resources section, and several of the Central ore bodies averaged recovered grades of over 50 grams per tonne for tens of years when mined previously.

See section 9.3
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<thead>
<tr>
<th>Criteria</th>
<th>JORC Code explanation</th>
<th>Commentary</th>
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<tbody>
<tr>
<td>Criteria</td>
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<tr>
<td>Metallurgical factors or assumptions</td>
<td>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. The infrastructure requirements of the selected mining methods.</td>
<td>Metallurgical characteristics are well-understood, having operated the processing plant since 1993 and recovered over 100,000 ounces of gold and 45,000 ounces of silver. Actual mill recoveries varied from 95% to 98% of mill feed. Mill recovery used for future projections is 95% of mill feed.</td>
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<tr>
<td>Environmental</td>
<td>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</td>
<td>This risk is assessed as Low Risk. The Company has an approved Environmental Management Overview Strategy (EMOS) and Environmental Authority in place and has been conducting mining and processing operation since 1993, and expects to be able to continue to do so. In addition a Plan of Operations, in compliance with the EMOS, has also been approved by the DRNM. These operating documents are in compliance with Queensland’s stringent Environmental Protection Act and Regulation. The Tailings Storage facility has already been built and used since 1994. Adjacent land alongside has been acquired for any future expansion. Dry stacking of tailing above ground is being evaluated. The Company is continuing discussion with the Department of Environment, Heritage and Protection in regards to the adequacy of financial assurance provided for the purpose of mine rehabilitation. The potential liability can be up to a maximum of $7.6 million.</td>
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<tr>
<td>Infrastructure</td>
<td>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.</td>
<td>Most of the infrastructure is in place, paid for and operational. Power is drawn from the State grid. The Project is mostly self-sufficient in water but could draw on local municipal supplies if necessary. There is major town in the Project area that supplies all accommodation, services, transport and medical backup that may be required. There is a major port, international airport and city to the east, 1.5 hours drive by sealed highway, at Townsville with a population of over 196,000 (2012).</td>
</tr>
<tr>
<td>Costs</td>
<td>The derivation of, or assumptions made, regarding projected capital costs in the study. The methodology used to estimate operating costs. 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. The source of exchange rates used in the study. Derivation of transportation charges.</td>
<td>Operating, transport, treatment, refining and capital costs are based on actual costs since 2006. A gold price of US$1300, an exchange rate of 0.91 and an Australian dollar gold price of $1430 were used, based on analysis of the supply and demand by the World Gold Council, and actual prices and exchange rates over the last 5 years. The deposit has low arsenic, selenium and mercury levels, and gold doré bars produced by the Company have met the refiner’s specifications since 1994 without penalty. Royalties are currently at 5% of the gross revenue received from precious metal sales. This set by the Queensland State Government and is subject to periodic change outside</td>
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<td>Criteria</td>
<td>JORC Code explanation</td>
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<tr>
<td>Revenue factors</td>
<td>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. The allowances made for royalties payable, both Government and private.</td>
<td>the Company’s control. The Government has not announced any plans to change the gold royalty.</td>
</tr>
<tr>
<td>Revenue factors</td>
<td>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</td>
<td>These are covered in sections 14, 15 and 16. Future metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns are simply unknown. Assumptions have been made based on the best available actual data and trends estimated by professional bodies and investment groups.</td>
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<tr>
<td>Market assessment</td>
<td>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. A customer and competitor analysis along with the identification of likely market windows for the product. Price and volume forecasts and the basis for these forecasts. For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</td>
<td>Refined gold and silver are directly exchangeable for cash. There are no sale contracts, hedging contracts, forward sales or royalty contracts currently in place that lock the Company into any fixed sales arrangements. The Company has an agreement to refine its doré bullion at the Perth Mint precious metals refinery in Western Australia at market refining prices. There is an opportunity, but no obligation, for the Perth Mint to sell the gold and silver on the Company’s behalf if instructed by the Company. The Company retains full flexibility to choose if, when and where it sells its gold and silver, and whether or not to enter into hedging or royalty agreements. See section 14.</td>
</tr>
<tr>
<td>Economic</td>
<td>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. NPV ranges and sensitivity to variations in the significant assumptions and inputs.</td>
<td>See section 15.</td>
</tr>
<tr>
<td>Social</td>
<td>The status of agreements with key stakeholders and matters leading to social licence to operate.</td>
<td>This risk is assessed as Low Risk. There are no known social or heritage matters that are seen as having the potential to stop the Project proceeding. Any proposed governmental changes to royalties, mining legislation, environmental protection or transport regulations would apply to the whole of either Queensland’s or Australia’s mining sector, and would therefore not proceed without timely discussion and time to implement.</td>
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<tr>
<td>Other</td>
<td>The extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: Any identified material naturally occurring risks. The status of material legal agreements and marketing arrangements. The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent. The Company holds all the necessary land and permits it requires and has been mining since 1994. There are no legal matters in hand that appear likely to interfere with expanding the Project. In the 2013 Annual Report, the Directors declared that no person had brought actions under section 237 of the Corporations Act against the Company.</td>
<td>Probable Ore Reserves are derived from Indicated Mineral Resources, which in turn are based on drill and face sample data at intervals of 25 to 80 metres. The Probable Ore Reserves are derived from, contained within, and not additional to, the Indicated Mineral Resources. There are 16 separate mineralised bodies in the Indicated Mineral Resources.</td>
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<tr>
<td>Classification</td>
<td>The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the Competent Person’s view of the deposit. The proportion of Probable Ore Reserves that have been derived from Measured Mineral</td>
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<tr>
<td>Resources (if any)</td>
<td>Resource, and of these 16, fourteen met the criteria to be classified as ore bodies in the Probable Ore Reserve.</td>
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<td>Audits or reviews</td>
<td>The results of any audits or reviews of Ore Reserve estimates.</td>
<td>The last peer review of the Ore Reserves was by Snowden Associates in June 2012. Snowden concluded that the 2012 Technical Report is written in accordance with the 2004 JORC Code. In addition, Snowden considers that Citigold’s approach to estimating Ore Reserves at Charters Towers are reasonable based on the nature of the mineralisation, the methodology adopted in preparing the estimate and the history of operations in the goldfield.</td>
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<tr>
<td>Discussion of relative accuracy/confidence</td>
<td>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates 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. Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</td>
<td>The confidence level is ±10 to 15% for the contained ounces in the Probable Ore Reserve. Assay duplicate precision has been audited and found to be within ±10% of the mean value, which is within acceptable limits for commercial assays. Selective rer-assay of samples was undertaken following inspection of results where particularly high or anomalous assays were noted. Assay results were reviewed statistically, by cumulative frequency plots and histograms, and log normality of data sets was established for the mineralised zones. See the Company 2012 Mineral Resources and Ore Reserves Report, available on the Company’s web site at <a href="http://www.citigold.com/mining/technical-reports">http://www.citigold.com/mining/technical-reports</a>, pages 45 to 64. The normal range of precision from commercial laboratories (as used by the Company) is 10% to 15% (Bumstead, 1984), meaning that repeat samples vary from the average of the samples by up to 10% to 15%. Given that the most accurate starting number, the laboratory assay precision is already ±10 to 15%, it is not possible to estimate contained ounces or confidence limits to a higher accuracy.</td>
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