TECHNICAL REPORT:

Mineral Resources and Reserves 2012 Charters Towers Gold Project

Citigold Corporation Limited

(Gold and Silver)

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18 May 2012

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1.0 Summary

This technical report has been prepared in accordance with the *Joint Ore Reserves Committee Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2004* (**'the JORC Code'**). The report is in the format of the Canadian *National Instrument 43-101 Standards of Disclosure for Mineral Projects 2005* (**'NI 43-101'**), although at the time of writing, Citigold Corporation Limited (Citigold or the Company) does not come under Canadian jurisdiction. Where there are differences in terminology between the two codes, the comparative terms are given in brackets. For example, the JORC Code uses Proved Ore Reserve for the highest confidence level material, whereas NI 43-101 uses the term "Proven Mineral Reserve". The NI 43-101 definitions for resources and reserves have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council. This report follows the format of the Canadian *Form 43-101 F1 Technical Report* for convenience, and for overseas investors familiar with the Canadian format.

The **Probable Ore Reserves** [termed *Probable Mineral Reserves* in the Canadian NI 43-101] 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 contained within, and is 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 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).

The Project is in gold production, with necessary infrastructure in place and has sold some 95,000 ounces of gold and 45,000 ounces of silver since 1997. It has been in continuous gold and silver production since 2007.

The significant changes since the last formal report in 2005 have been:

- a reduction in the Ore Reserve cut-off grade to reflect higher gold prices, from 7 grams per tonne Au to 4 grams per tonne Au, resulting in an additional 300,000 ounces added to Probable Ore Reserves, and
- the addition of the Imperial reef to the Inferred Mineral Resource, adding some 840,000 ounces into the Inferred Mineral Resource.
- The production of some 57,000 ounces of gold and 30,000 ounces of silver from the Warrior and Sons of Freedom reefs in the Imperial Mine. Reserves are maintained at the Imperial Mine on a 3-month rolling replacement process where new ore is added in by new on-ore development and diamond-drilling ahead of mining, and known ore is mined out during the period.

The confidence level is ±10 to 15% for the contained ounces in the Probable Ore Reserve [termed *Probable Mineral Reserves* in the Canadian NI 43-101]. 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).

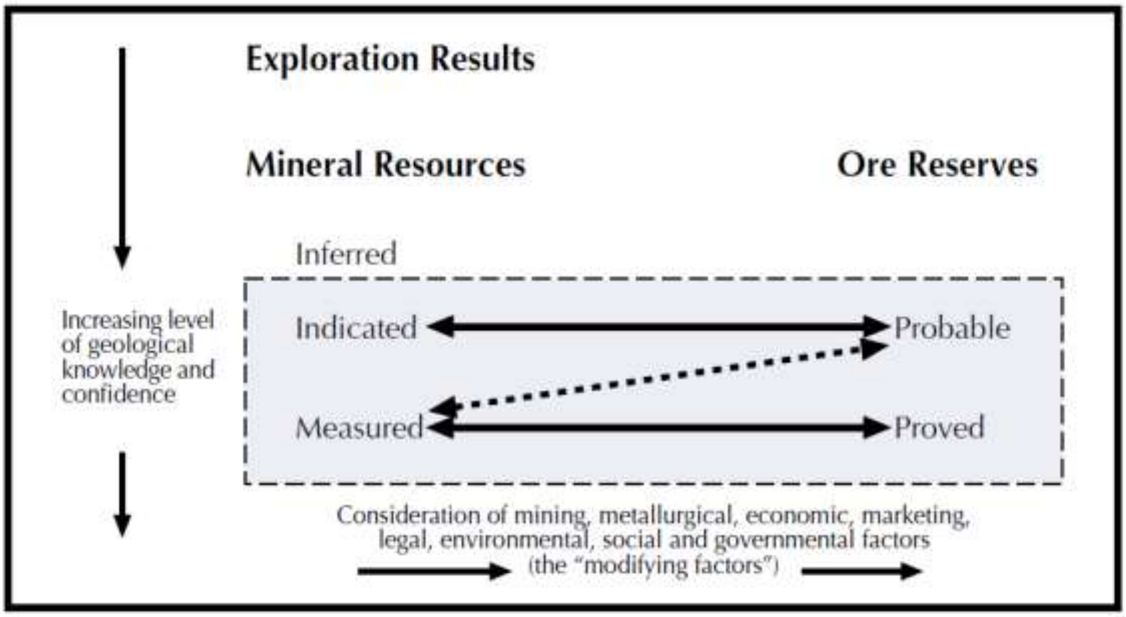
JORC STATEMENT - The following statements apply in respect of the information in this report that relates to Exploration Results, Mineral Resources and Ore Reserves: The information is based on, and accurately reflects, information compiled by Mr Christopher Alan John Towsey, who is a Corporate Member and Fellow of the Australasian Institute of Mining and Metallurgy and a member of the Australian Institute of Geoscientists. Mr Towsey is a consultant geologist. He has the relevant experience in relation to the mineralisation being reported on to qualify as a Competent Person as defined in the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves, having worked on the Project as a consultant and former full-time employee since 1999. Mr Towsey has consented in writing to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Christopher Alan John Towsey
18 May 2012

2.0 Introduction

The following terms, tabled below, are used in this report, and their equivalents are shown for the JORC Code and for NI 43-101.

JORC Code	NI 43-101 Equivalent Term	Category	Confidence Level
Inferred Mineral Resource	*Inferred Mineral Resource*	Resource	Lowest
Indicated Mineral Resource	*Indicated Mineral Resource*	Resource	Medium
Measured Mineral Resource	*Measured Mineral Resource*	Resource	Highest
Probable Ore Reserve	*Probable Mineral Reserve*	Reserve	Lower
Proved Ore Reserve	*Proven Mineral Reserve*	Reserve	Higher



ABOVE - General relationship between Exploration Results, Mineral Resources and Ore Reserves.

(from: Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves - The JORC Code. 2004 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC)

In 2005, Citigold Corporation Limited released reports on the Inferred Mineral Resources, and the Indicated Mineral Resources and Probable Ore Reserves, of the Charters Towers project. The Inferred Mineral Resource was 23 million tonnes at 14 grams per tonne gold containing 10 million ounces. The Charters Towers project total Indicated Mineral Resources was 740,000 tonnes at 15 grams per tonne Au containing 370,000 ounces at a cut-off of 7 grams per tonne Au, rounded to two significant figures.

The total Probable Ore Reserves, derived from the Indicated Mineral Resource, for the overall Charters Towers project was 800,000 tonnes at 13 grams per tonne Au containing 330,000 ounces at a 7 grams per tonne Au cut-off, rounded to two significant figures. The Probable Ore Reserve was derived from, and was not additional to, the Indicated Mineral Resource.

2.1 For whom is this report prepared

This report has been prepared at the request of the Board of Citigold Corporation Limited.

2.2 Purpose for which this Report has been prepared.

The purpose of this Report is the updated quantification of the gold and silver Resources and Reserves of the Charters Towers Gold Project (or Charters Towers project) held by Citigold Corporation Limited, which were last published as a formal report in late 2005 and reviewed annually in the Company's Annual Report. The Report is for the general information of Directors and shareholders of the Company, potential investors and for the general disclosure of information to the market. It has not been requested for any specific investment or capital raising proposal. It is a Public Report as defined under the JORC Code, and a Technical Report as defined under NI 43-101.

2.3 Sources of Information and Data.

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.

2.4 Scope of personal inspection of the property

The *Competent Person* (under the JORC Code) (called a *Qualified Person* under NI 43-101) responsible for this report, Mr Christopher Alan John Towsey, has been associated with the Project for 12 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 inspected the operations in April and September 2011. His last personal underground inspection of the property was 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.

3.0 Reliance on Other Experts

The work by the Company team in producing this report is founded on the fact that it is 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 and Jim Morrison, and current General Manager Geology, Nigel Storey 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.

3.1 Drilling undertaken by other parties

The drilling database includes:

- 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,
- 1975, 1981-82, and 1987 - Diamond and RC drilling on Central 2 and 3 on the Sunburst leases by A.O.G., CRA and Orion respectively.

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.

4.0 Property Description and Location

4.1 The area of the property

The Company controls over 1,500 square kilometres of land in 56 granted mineral holdings and two Applications, comprising four granted Exploration Permits Minerals ('EPM') (875.6 km^2), two EPM Applications (604.8 km^2), five Mineral Development Licences ('MDL') (66.4 km^2) and 47 Mining Leases ('ML') (26.42 km^2) in the Charters Towers goldfield, controlling 100% of the central goldfield.

The 26.4 square kilometres of Mining Leases and 66.4 square kilometres of Mineral Development Licences are located within and generally surrounded by the 875 square kilometres of granted exploration mineral holdings.

4.2 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 95,000 ounces of gold and 45,000 ounces of silver since 1997.

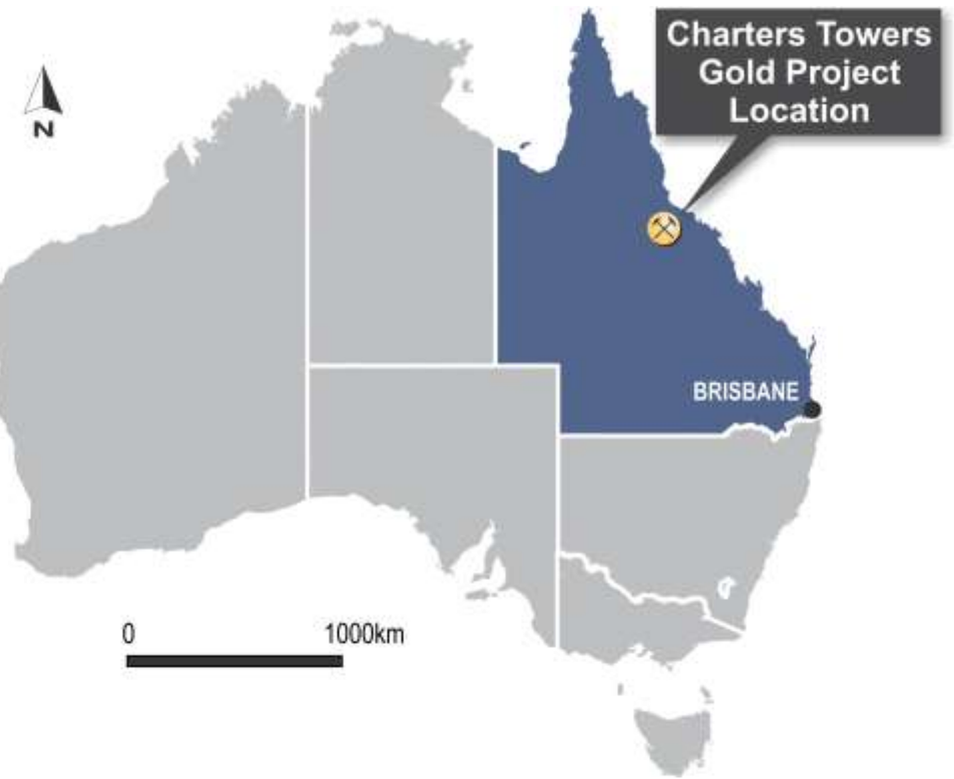


Figure 4-1. Location of the Charters Towers Gold Project

Figure 4-2. Detail location of the Charters Towers project.

4.3 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 Economic Development and Innovation (DEEDI) and Department Environmental and Resource Management (DERM). 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 Lease 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 DEEDI. 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.

SUMMARY OF MINING LEASES, PERMITS & AREAS OF INTEREST

The Company has a 100% control of the following mineral holdings at Charters Towers:

Four ***Exploration Permit Minerals***:
EPM 15964, EPM 15966, EPM 16979 and EPM 18465 (875.6 square kilometres)

Two ***Exploration Permit Minerals Applications***:
EPMA 18813 and *EMPA 18820* (604.8 square kilometres)

Five ***Mineral Development Licences***:
MDL 116, MDL 118, MDL 119, MDL 251 and MDL 252 (48.9 square kilometres)

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

ML 1343	ML 1424	ML 1491	ML 10005	ML 10222
ML 1344	ML 1428	ML 1499	ML 10032	ML 10281
ML 1347	ML 1429	ML 1521	ML 10042	ML 10282
ML 1348	ML 1430	ML 1545	ML 10048	ML 10283
ML 1385	ML 1431	ML 1548	ML 10050	ML 10284
ML 1387	ML 1432	ML 1549	ML 10091	ML 10285
ML 1398	ML 1433	ML 1585	ML 10093	ML 10335
ML 1407	ML 1472	ML 1586	ML 10193	
ML 1408	ML 1488	ML 1587	ML 10196	
ML 1409	ML 1490	ML 1735	ML 10208	

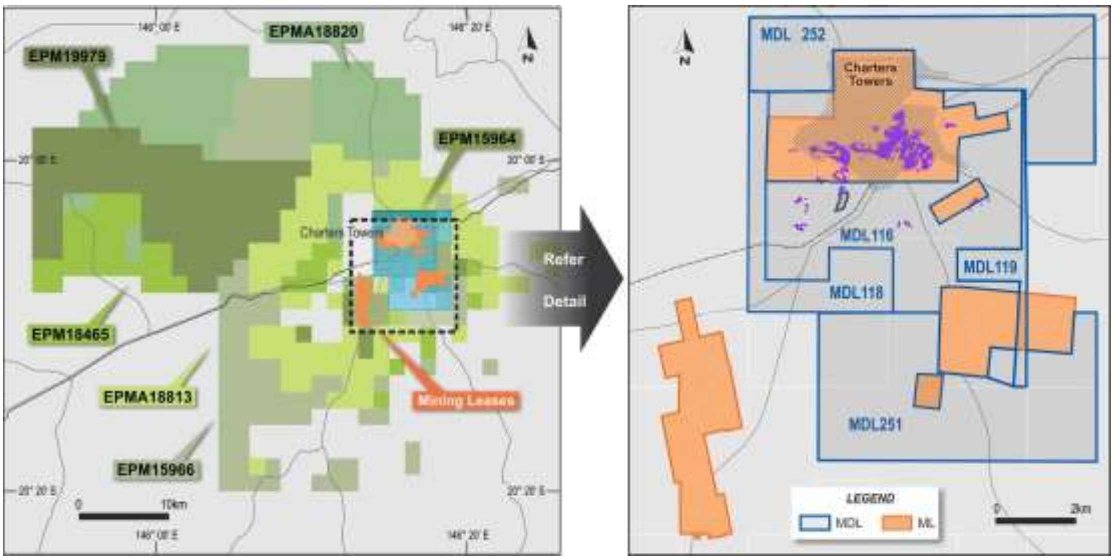


Figure 4-3. Location of the Company's mineral land titles

The area of each title and the proportion of granted surface areas on the Mining Leases are tabled on the right. EPS's and MDL's generally are inclusive of surface rights.

TENURE NUMBER	NAME	TOTAL AREA Ha	SURFACE AREA Ha
ML 1343	The Hern	1.71	1.40
ML 1344	The Gray	5.65	5.65
ML 1347	The Rainbow	1.98	1.98
ML 1348	Ladybird	16.19	15.73
ML 1385	Columbia	0.97	0.90
ML 1387	Beaumont North	8.09	8.09
ML 1398	Sunburst	128.60	-
ML 1407	BlackJack West	12.13	12.13
ML 1408	BlackJack West	3.03	3.03
ML1409	BlackJack North	8.09	8.09
ML 1424	Stockholm	8.43	7.69
ML 1428	BlackJack 1	27.65	14.74
ML 1429	BlackJack 2	53.57	11.50
ML 1430	BlackJack 4	117.50	34.24
ML 1431	BlackJack 6	20.29	12.00
ML 1432	BlackJack 7	35.23	14.81
ML 1433	BlackJack 10	26.56	14.32
ML 1472	The Stack	5.66	5.66
ML 1488	PG Gold	42.82	28.73
ML 1490	Golden Key	230.23	193.00
ML 1491	Golden Sunrise	70.00	19.54
ML 1499	Brilliant East	124.50	15.15
ML 1521	The Jewellers Shop	53.66	53.66
ML 1545	Sunburst Extended	31.16	31.16
ML 1548	Beaumont United	16.19	13.58
ML 1549	Beaumont United South	16.19	5.03
ML 1585	BlackJack 3	64.00	-
ML 1586	Stockholm North	19.80	-
ML 1587	Stockholm North No 1	19.80	-
ML 1735	Scandinavian West	9.67	4.93
ML 10005	Kelly's Road	1.00	1.00
ML 10032	Stockholm No 1	1.20	1.20
ML 10042	Stockholm No 2	0.88	0.88
ML 10048	Scandinavian	1.00	1.00
ML 10050	Swedenborg	1.00	1.00
ML 10091	Imperial	1.00	1.00
ML 10093	Caledonia	1.00	1.00
ML 10193	The Tiernay	1.50	1.50
ML 10196	Upper Mosman	1.38	1.38
ML 10208	Brilliant Central	566.90	4.14
ML 10222	Warrior East	33.40	16.59
ML 10281	Brilliant Central Extended	1.27	-
ML 10282	BlackJack No 3 Extended	64.00	-
ML 10283	Brilliant North	332.74	-
ML 10284	BlackJack No 5	52.00	-
ML 10285	BlackJack No 7 Extended	109.00	-
ML 10335	Warrior Extended	293.36	-
TOTAL		**2641.98**	**567.43**
EPM 15964	Consolidated	89.6 sq km	N/A
EPM 15966	Charters Towers West	316.8 sq km	N/A
EPM 16979	Charters Towers WNW	322.0 sq km	N/A
EPM 18465	Scrubby Creek	147.2 sq km	N/A
TOTAL		**875.60 km2**	
EPMa 18813	Gregory	304.0 sq km	N/A
EPMa 18820	Percy Springs	300.8 sq km	N/A
TOTAL		**604.80 km2**	
MDL 116	N/A	2038.10 ha	N/A
MDL 118	Deeprock	613.70 ha	N/A
MDL 119	Deeprock	215.96 ha	N/A
MDL 251	Charters Towers 5	2046.50 ha	N/A
MDL 252	Charters Towers 6	1723.80 ha	N/A
TOTAL		**6.638.06 ha**	
	TOTAL AREA	**1,573.2 km2**	

Table 4-1. List of the Company's mineral land titles and areas.

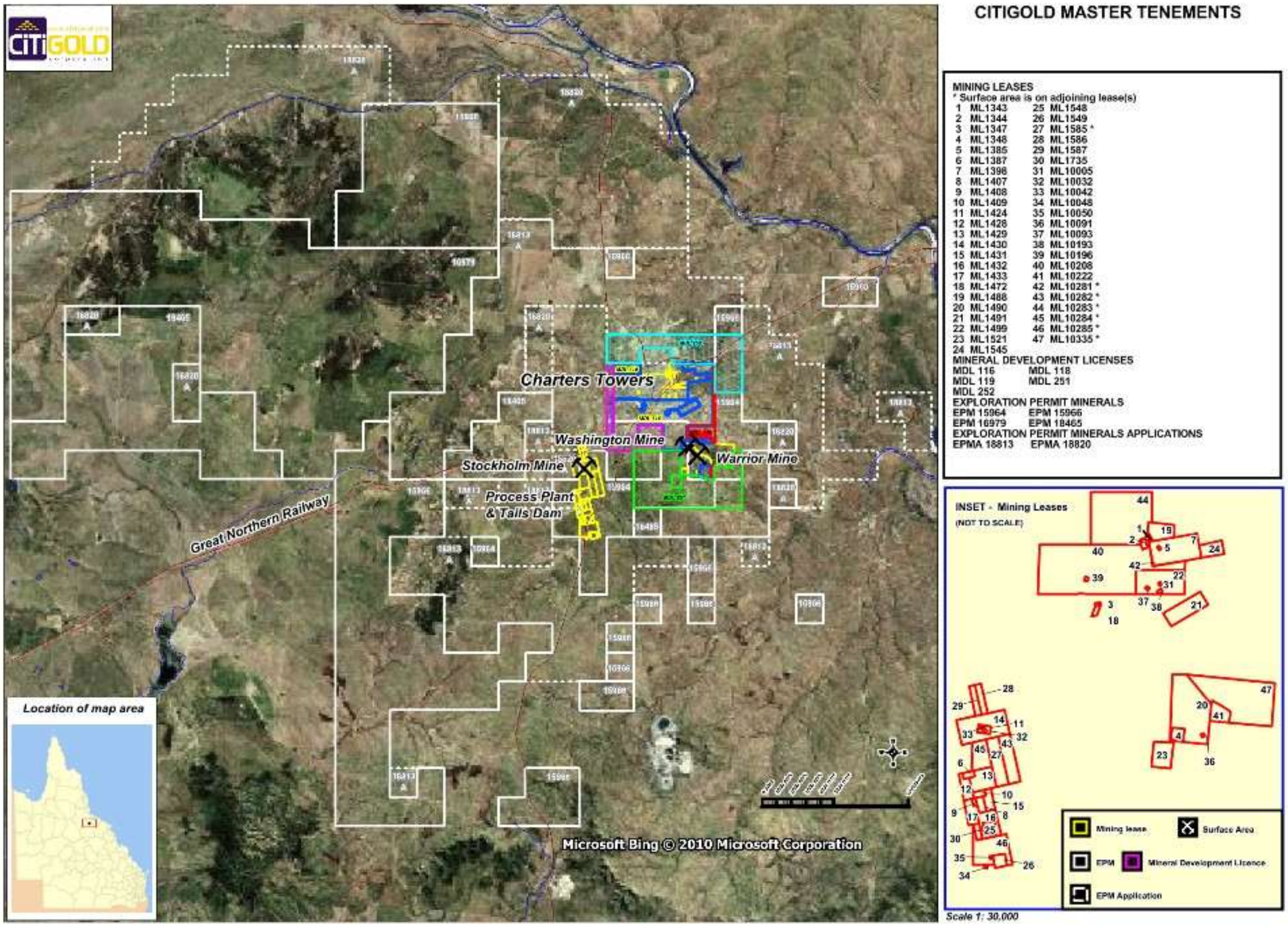


Figure 4-4. Satellite image of the Charters Towers area showing location of the Company's four Exploration Permits Minerals (EPMs), mines and gold processing plant. EPMs 18813 and 18820 are in the Application stage as at report date.

At the time of reporting the Company had 4 (four) granted EPMs (numbers 15964, 15966, 16979 and 18465) totaling about 875.6 square kilometres and there were 2 (two) EPMs under application totaling a further about 604.8 square kilometres. Some mineral holding consolidation and expansion took place during the previous year with EPMs 13453 and 11658 being surrendered so that they could be taken up into a new EPM 18465, which also included additional ground.

The Company's main assets, its mines, gold processing plant and tailings storage facility are all located within granted Mining Leases shown in Figures 4-3, 4-4, 4-5, 4-6 and 4-7. Detailed locations are shown in Figures 4-3 & 4-5. Mineral Resource areas are shown in Figure 4-8.

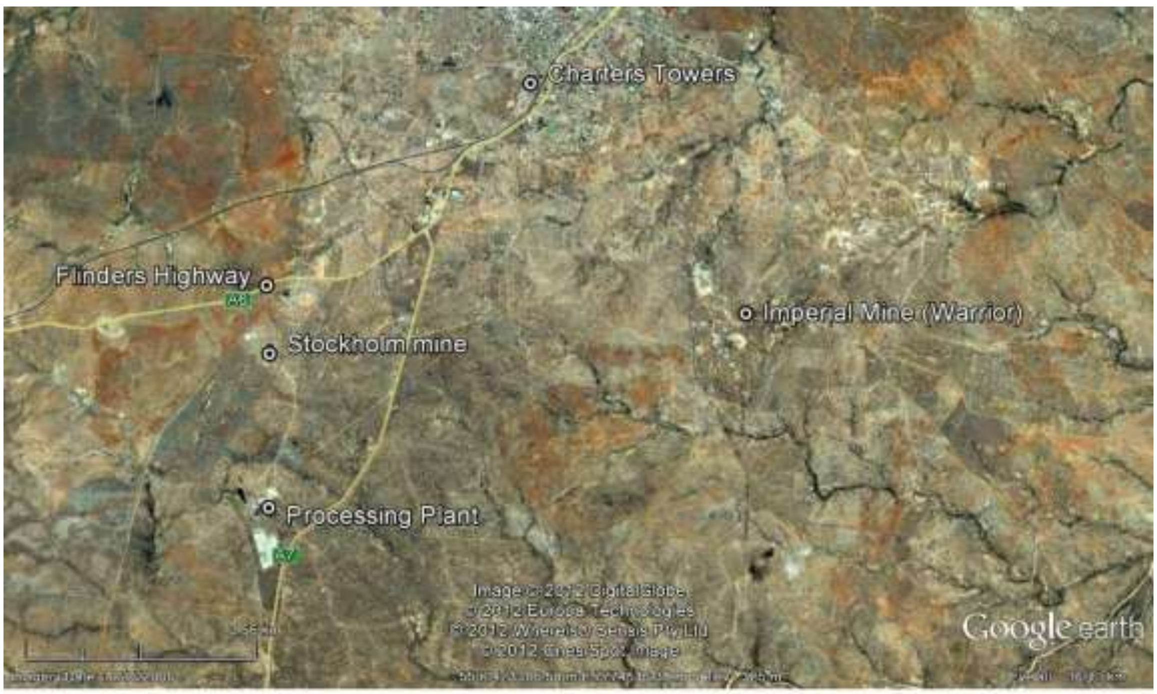


Figure 4-5. Location of the Company's main assets, gold processing plant and mines.

Figure 4-6. The Company's gold processing plant, workshops and stores warehouse.

Figure 4-7. The Company's gold processing plant, showing the gold smelting building (left), and conveyor belt feeding the ball mill (centre).

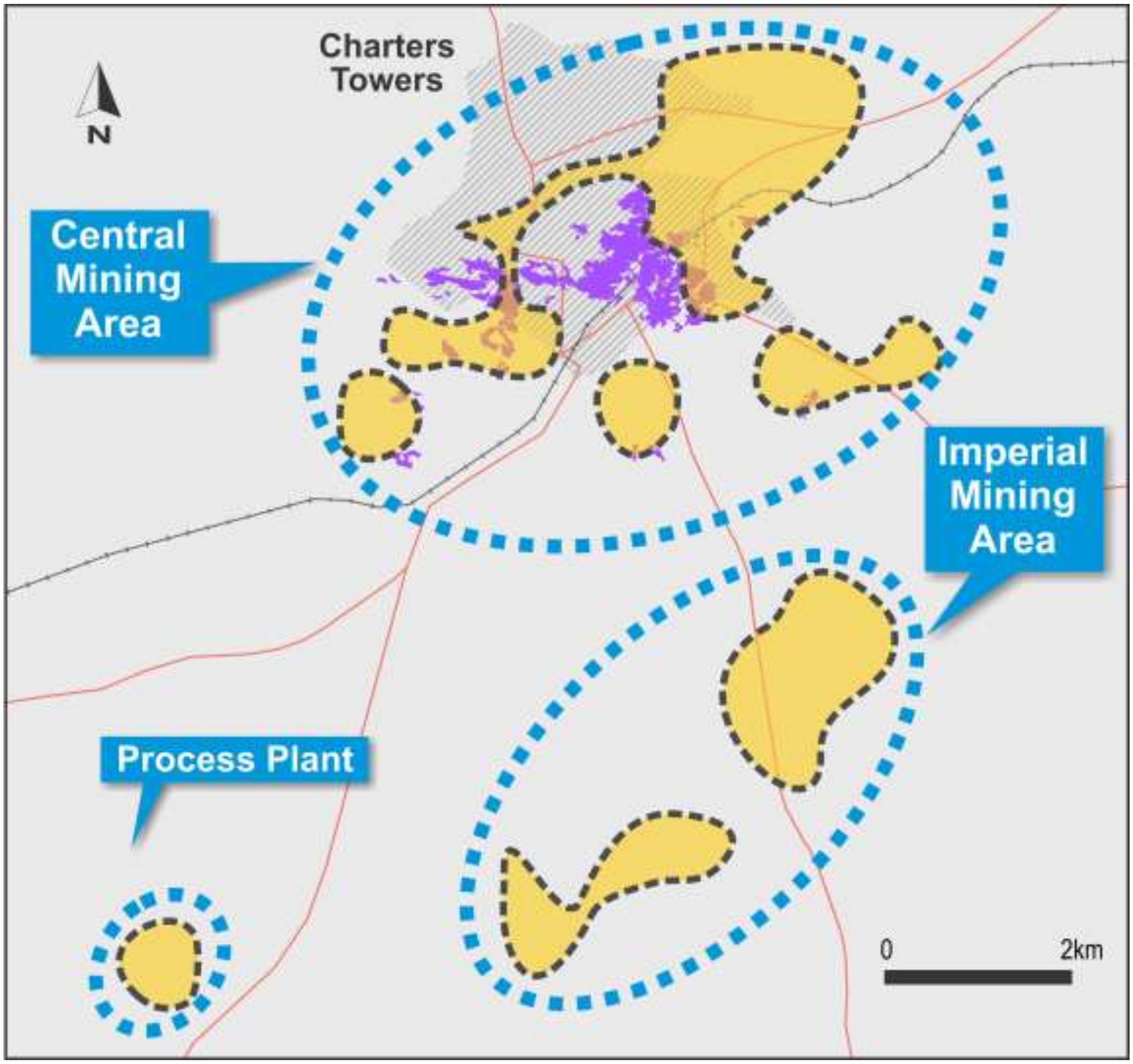


Figure 4-8. Location diagram of the 2012 Inferred Mineral Resources of 25 million tonnes at 14 grams per tonne gold containing 11 million ounces of gold and 3.2 million tonnes at 9 grams per tonne silver containing 7 million ounces of silver.

4.4 Other Agreements and Encumbrances

During the 2011 financial year 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) (termed *Mineral Reserves* in NI 43-101) referred to in this report. There are no Mineral Resources or Reserves within the exploration joint venture area.

4.5 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 Department of Employment, Economic Development and Innovation (DEEDI) 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.

4.6 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.

4.7 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.

5.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Charters Towers city is accessible by good bitumen highway (the Flinders Highway) from the international seaport of Townsville, 128 km to the northeast. 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 climate is sub-tropical to semi-arid, with a distinct wet season (summer monsoon) from November to March 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.

The area is on an inland plateau approximately 300 metres above sea level, with rolling hills and plains of open dry sclerophyll forests comprising mainly eucalyptus and acacia trees with Flinders and Mitchell grasses. 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.

Local infrastructure is excellent, with two secondary schools with boarding facilities, State Government electricity supply to the 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.

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.

6.0 History

6.1 History prior to 1993.

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. 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.

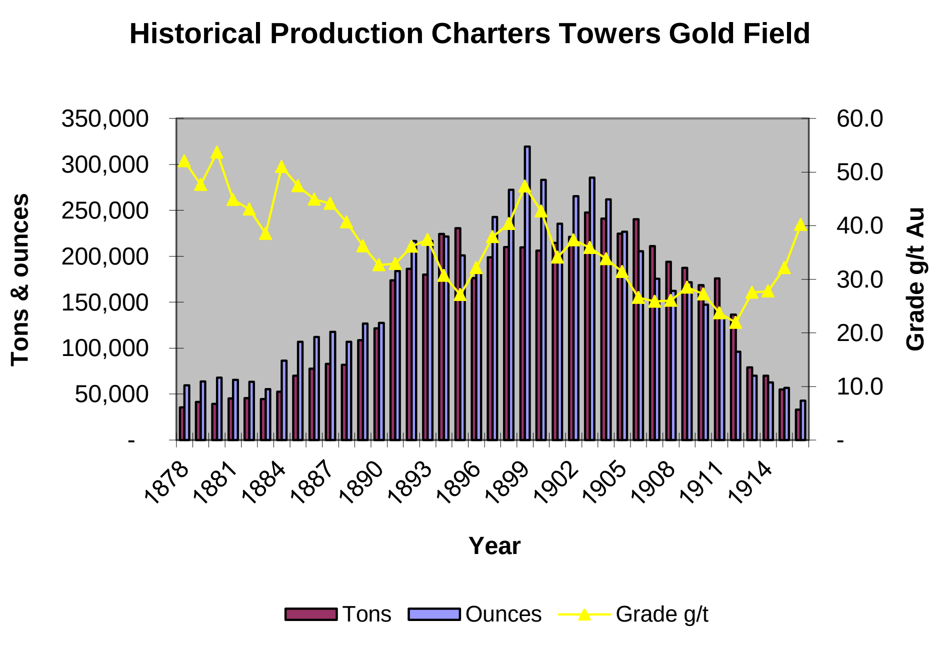


Figure 6-1. Historical Production from the Charters Towers Gold Field

- 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.

- 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).

- On 28 September 1935, The *Townsville Daily Bulletin* reported: *"G.M.A. Abandons Prospecting Rights. CHARTERS TOWERS. Sent. 27th. A telegram received from Mr. W. J. Wellington this evening states: 'Gold Mines of Australia has abandoned its rights to prospect*

Charters Towers.' " This was presumably due to a lack of cash flow caused by the strike at GMA's Mount Coolon mine.

6.2 History after 1993.

The Charters Towers goldfield remained closed from the 1920s until Charters Towers Gold Mines 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 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.
- The old Victoria Main Underlie shaft (Ventilation Shaft No.1, an inclined shaft) was reopened 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 (equivalent to the Canadian NI 43-101 definition category of *Probable Mineral Reserve*) 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. Gold production since the re-commencement of modern production is just under 100,000 ounces, as tabled below:

Financial Year ended 30 June	**Gold Sold (ounces)**
1997-2000	38,000
2007	3,510
2008	13,590
2009	10,906
2010	15,888
2011	8,451
2012 to 31 Dec	4,789
TOTAL	**95,134**

Table 6-1. Modern mining production from the Charters Towers project, from the commencement in 1997 through to 2000, and re-starting in November 2006.

Total investment in the overall Charters Towers project to 30 June 2011 was A$179 million and net assets were A$187 million.

7.0 Geological Setting 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. Host rock units for the mineralisation within the 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 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.

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.

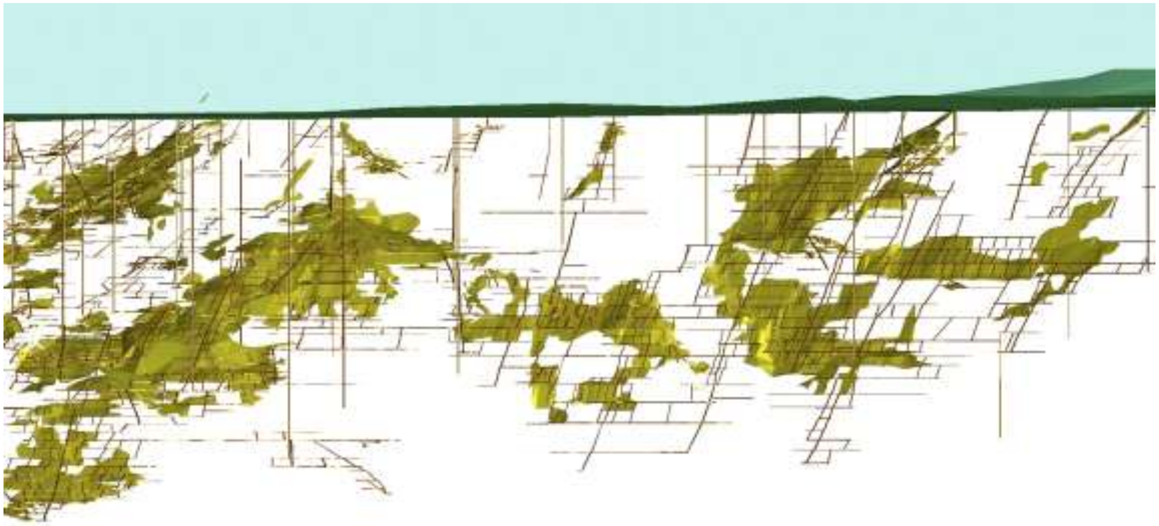


Figure 7-1. Long section looking south view of the Central (City) area, showing the historical vertical shafts, inclined shafts and horizontal drives ('old workings') underneath the city of Charters Towers, with previously stoped (mined-out) areas shown in olive/yellow colour, towards south/south east. The main east-west striking ore bodies dip to the north (towards the front of the image). The steeply dipping workings ~50 degrees on the right-hand side are the Day Dawn and Mexican areas, with the Brilliant workings on the left-hand side dipping at a shallower ~35 degree angle.

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 modeling of stoped 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).

Figure 7-2. Typical high-grade gold and silver ore, comprising pyrite (iron sulphide, brass coloured), galena (lead sulphide, silvery grey) and sphalerite (zinc sulphide, dark grey) in quartz and crushed granodiorite ('formation'). The gold and silver are too fine-grained to be visible. The top scale is in centimetres.

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 Warrior 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 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.

8.0 Deposit Types

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.

Gold is relatively fine-grained, mostly less than one millimeter, 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.

The host rocks are Ordovician to Silurian granites, granodiorites and tonalites. Roof pendants within the granitic bodies comprise the older Charters Towers Metamorphics, which are predominantly mica schists.

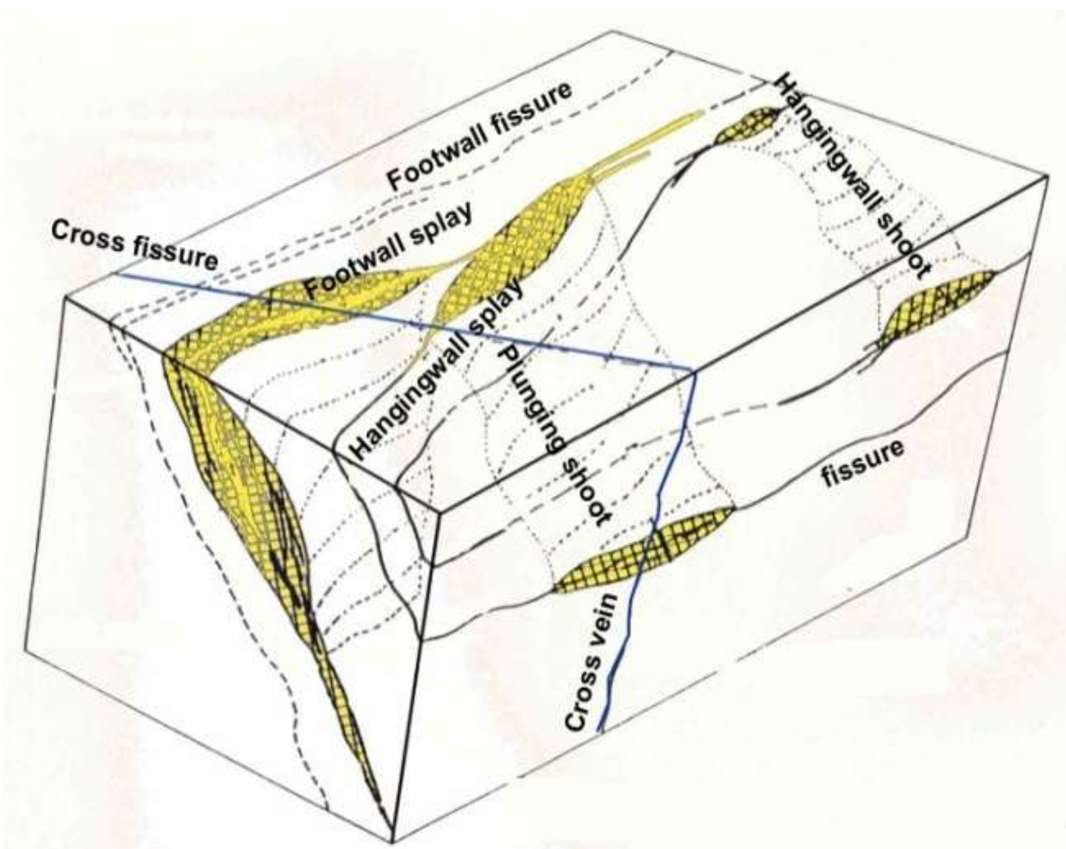


Figure 8-1. Block diagram showing the main reefs, cross reefs and splays containing the mineralized material.

9.0 Exploration

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.

9.1 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.

9.2 Research

Since 1980, there has been extensive research conducted on the Charters Towers and adjacent areas by over 20 government, industry and university researchers and presented in peer-reviewed publications and public domain documents.

Recent research since 1997 was based on new drill core, underground openings and open pits not available to previous workers. This research provided sound evidence that mineralisation is reasonably considered by the Company to persist to at least 3,000 metres depth, although Mineral Resources have been estimated to only 1,200 metres, limited by the deepest drilling at 1,270 metres. The ore body models defined in the Company's Inferred Mineral Resources report of May 2005 have since been tested and proven by underground mining on the Warrior ore body, a major east-west striking mineralised structure. Key points on which the Company's geological models are based are listed below:

- Mapping and petrological research shows ***the mineralised system is very large, over 40 km across***. Mineralisation at the Charters Towers and the Rishton-Hadleigh Castle mines 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).
- Nitrogen isotope data indicates that the granitoid-hosted gold mineralisation is derived from deep-seated granitic plutons or metamorphics and has risen through the crust to its present position uncontaminated by near-surface water (Kreuzer 2003, p.D-58).
- Fluid inclusion studies on reef samples from the Brilliant, Day Dawn and Queen Reefs using petrography, microthermometry and laser Raman spectroscopy indicate formation pressures of the gold-bearing reefs equivalent to depths of 5 km to 14 km. Mineralogical studies on

gangue, alteration and metamorphic minerals support this range. ***The preferred depth range of formation is 5 km ± 2 km***. (Kreuzer 2003, p. D-31; Peters & Golding 1989).

- Oxygen and hydrogen isotope fractionation data indicate a formation temperature ranging from 170° C to 360° C with a preferred value of 310° 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).

- The low-permeability intrusions of the Ravenswood Batholith restricted and focused the ascending fluids rising from deep in the Earth's crust. Sudden fault rupturing focused the fluid flow into the active reef structures, precipitating gold and base metals by fluid mixing and subsequent chemical and pressure changes to the fluid (Kreuzer 2003, p.D-56 to 58).

- Geological and geophysical data indicate that the Charters Towers mineralisation was not subjected to further significant deformation after the gold mineralisation formed (Kreuzer 2003, p. E-67).

- The host structures are characterized by ***good vertical continuity to at least 1.3 kilometres based on the Company drilling*** and previous mine workings (Reid 1917), (Kreuzer 2003).

- The reefs are located on the margins of gravity lows that coincide with distinct intrusions or complex igneous bodies. (Kreuzer 2003, p. E-67; the Company's geophysical studies).

- The deposits are hosted by country rock comprising mainly oxidized I-type granites, granodiorites and tonalities. I-type granites are derived by re-melting of original igneous rock. (Kreuzer 2003, p. D-1; Peters 1987; the Company mapping).

- 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, of de-magnetised areas adjacent to gravity lows (The Company mapping and aeromagnetic and gravity geophysical surveys).

- Studies of quartz reefs from over 200 gold mines in North Queensland indicate the Charters Towers ***gold-bearing reefs are typical of granitic rather than sub-volcanic hosts*** (Dowling & Morrison, 1989: Kreuzer 2003 p. C-54).

- Structural domain, fabric studies and spatial autocorrelation (Fry analysis – see Glossary) indicate that the east-west and NNW-SSE striking planes of weakness were oriented most favourably for reactivation during deformation, providing important loci for quartz reef formation and ascent of gold-bearing fluids. Areas with a greater density of intersecting structures were more likely to localize gold deposition. There was a ***single episode of reef formation and gold mineralisation*** during the fourth deformation event (designated D_4). (Kreuzer 2003, p.E-67).

- ***The reefs have not been significantly shifted by fault movements after formation***. Fault movements were minor, on a centimetre to metre scale. This is in agreement with earlier research at the time of mining where average fault separations were reported to be in the order of 0.9 metre to 1.2 metre (Reid 1917, Kreuzer 2003, p. B-31; the Company's mapping).

- The current exposure of the Ravenswood Batholith is at its roof zone, meaning that there is a high probability that ***most of the gold-bearing system is intact and has not been significantly eroded*** (the Company mapping; Hutton & Rienks 1997).
- There is a relationship of gold with galena (lead sulphide), where ***high gold values are accompanied by high lead values*** (the Company assaying). The presence of galena was used as an indicator of high-grade gold by previous miners (Reid 1917). the Company assays for lead to check for the location of ore shoots if gold values in drill samples are unexpectedly low.
- ***The potential for additional gold-bearing reefs to be discovered away from known mineral occurrences is considerable***. Fractal analysis of the spatial distribution of the gold deposits suggests the area to the south of Charters Towers may contain undiscovered deposits. Earlier work by The Company prior to 1999 had already targeted the area to the south based on structural analysis and geological mapping. (Kreuzer 2003, p. E-1, E-67 to 68).

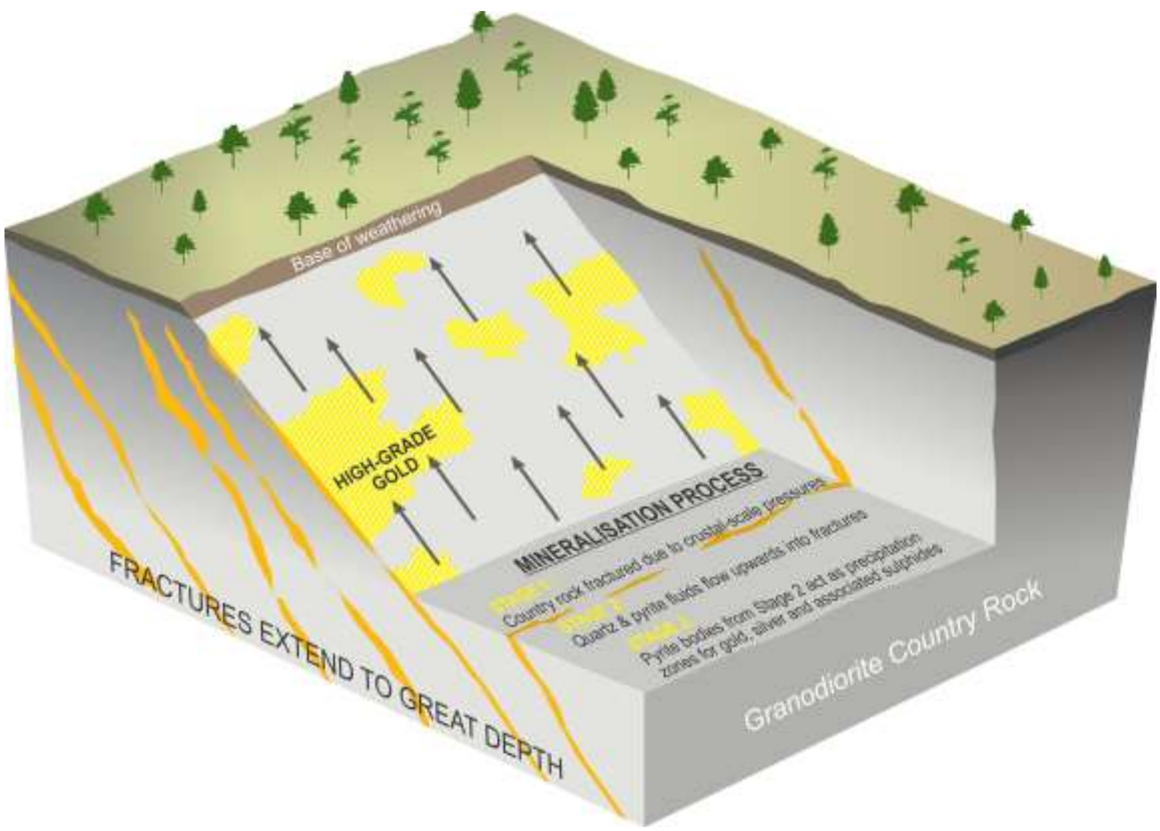


Figure 9-1 Diagrammatic representation of the mineralizing process that formed the Charters Towers reefs.

Figure 9-2. Typical mineralized reef exposed in the Company's underground mine workings at Charters Towers (looking easterly).

Figure 9-3. Typical mineralized reef exposed in the Company's underground mine workings at Charters Towers (looking easterly).

9.3 Testing the Model

9.3.1 Drilling

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 metres downhole. ***Over 350,000 metres of drilling have been conducted in 3,200 holes*** on down-dip and strike extensions of known reef systems, with 1,550 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.

9.3.2 Open pit and Underground mining

Underground mining in five underground operations since 1994 (the Central Decline, No.2 Cross Reef, Stockholm, Washington and Warrior mines) has also confirmed predicted intersections with previous workings within 0.3 metre and has intersected geological structures to confirm the accuracy of the model. Old workings have been re-opened and entered on the Brilliant, Victory, Victoria and Washington reefs, and new underground workings driven on extensions of known reef systems at Warrior, Stockholm, Washington and the No.2 Cross Reef.

The new workings have been rock-chip sampled, bulk sampled and the reefs mined by on-reef development and longhole open stoping .

Open pit mining was conducted on the Washington and Stockholm reef systems in 1998-2000. The Washington reef is a classic Charters Towers style reef. Stockholm was more diffuse, and was a wider zone with some quartz reef stockworks. Old fill was intersected in previously mined stopes at Stockholm, and was sampled in a 1,500 tonne bulk sample.

Total gold production from trial mining and processing a small tonnage of tailings was 38,000 ounces of gold from 1997-2000. All ore was processed through the Black Jack processing plant.

In 2006, the Company commenced underground production from the Imperial Mine (Warrior and Sons of Freedom reefs) about 5 km southeast of Charters Towers city centre. Access to the Warrior reef was via a one kilometre-long decline (sloping tunnel) from the floor of the Washington open pit. A series of horizontal mining levels were driven in the ore body at initially 10 metre vertical separations and later 15 metre vertical separations. Total gold production to 31 December 2011 from Imperial was 57,134 ounces (1,777 kg) and mining operations and gold production are continuing. Processing plant recoveries have consistently been around 97%.

Quarter	Gold production	
	Ounces	Kilograms
Mar-07	909	28.3
Jun-07	2,601	80.9
Sep-07	3,945	122.7
Dec-07	3,513	109.3
Mar-08	3,913	121.7
Jun-08	2,219	69.0
Sep-08	3,960	123.2
Dec-08	2,569	79.9
Mar-09	2,522	78.4
Jun-09	1,855	57.7
Sep-09	2,609	81.1
Dec-09	5,563	173.0
Mar-10	5,668	176.3
Jun-10	2,048	63.7
Sep-10	2,531	78.7
Dec-10	2,553	78.8
Mar-11	1,056	32.8
Jun-11	2,311	71.9
Sep-11	2,259	70.3
Dec-11	2,530	78.7
TOTAL	**57,134**	**1,777**

Table 9-1. Gold production from the Imperial Mine (Warrior and Sons of Freedom reefs) to 31 December 2011

All of the Company's mining has been along strike and down-dip from previously mined workings, confirming the initial assumption, that new extensions of previously-mined ore bodies would be found and mined. This has been proven now on the Stockholm, Washington, No.2 Cross Reef, Sons of Freedom and Warrior reefs.

A total of 95,134 ounces (2960 kg, 2.96 tonnes) of gold has been extracted since 1997, confirming initial assumptions, proving metallurgical recovery and trialing various mining methods and Level intervals.

9.3.3 Survey Accuracy of Previous Workings

Detailed mine plans of previous mining operations from 1872 to recent times are held by the Company on site, and these have been digitized and modeled in commercial computer programs (SURPAC and MICROMINE), and cross-checked against modern survey data. The majority of previous plans were accessed from originals held by the Queensland Department of Mines and Energy.

The old mine plans inspected in the Company's office are all signed off by licenced mining surveyors who updated their survey pickups every one to three months. A paper was presented on Mine Surveying by C.A.S. Andrews, Licenced Surveyor, to the General Meeting of the Queensland Institute of Surveyors in Brisbane in 1905, and summarised in the September and October 1905 issues of the QGMJ. Andrews gives extensive details of surveying methods used in underlies and levels. All measurements were taken by plumb-line, theodolite and steel chain, strained by a spring balance, from shaft collars indexed to surface survey points. Steel pins were inserted in timbers or rock backs, identical to methods used today in Australian mines. Detail is meticulous, even to the point of using two candles, one either side of the plumb-line, to ensure the centre of the line is sighted, rather than the centre of the illuminated portion if the line was lit from one side only. Distances on the chain were read to two decimal places. The theodolite was set up on planks across vertical shafts to ensure it was directly over the plumbed centre-line. Levels were surveyed by theodolite and chain, using a metal tape to pick up drive outlines and other features such as winzes and rises. Measured offsets were not usually taken to the walls along the drives, as these were usually timbered over, so drives and cross-cut outlines were sketched from the centre-line survey, as were stope faces. Survey pin positions were drafted onto the plans. Survey plugs were installed about two feet inside the lease boundaries for cross-checking when the level was broken into from the adjoining mine. Adjacent levels were cross-checked through the winzes and rises. These records indicate a survey closure error of less than 1 in 5000 (i.e. ±200mm in one kilometre) in chainage and, in the bearings, less than one minute of arc per 1,000' of underground survey (i.e. ±292 millimetre offset in one kilometre). Measurements plotted on the previous plans were reported to one decimal of a foot and one minute of arc.

These previous mine plans at a scale of one inch to forty feet (1":40' or 1:480) were digitized by the Company, showing detailed workings and stopes down to 928 m vertical depth.

Most of the historic workings were driven on reef. Results used from these plans, when checked against recent survey work, have been within acceptable limits, usually within 0.3 metres.

Recent shaft-capping programmes by the Queensland Government have located and surveyed a large number of shaft collars, and this data has been used by the Company to further cross-check the computer models of both the workings and the geology against modern survey pickups. The Department of Mines and Energy (DME) launched a project in July 1996 to define the scope and cost of repairing abandoned mine shafts in the Central area. There are around 830 identified shafts within the Charters Towers Central limits area that have been catalogued, with 688 shafts (it is considered these could be anything from a few metres deep 'gouger pits' to deep shafts) having been located in the field and inspected. The remaining 143 shafts have yet to be located in the field. The possible existence of a further 280 shafts has been identified from old aerial photos and gold mining lease plans. DME has continued its shaft capping program, 567 sites having been investigated and 240 shafts made safe at Charters Towers and other goldfields since 2003.

(Reference: Qld Government, *State of the Environment Report 2007*. Available at: http://www.derm.qld.gov.au/environmental_management/state_of_the_environment/state_of_the_environment_queensland_2007/state_of_the_environment_queensland_2007_contents/land_mining_disturbance.html)

9.3.4 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 structures 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 Brilliant East structure continuity has been proven by underground mining over a strike length of 650 metres and down dip for 1,080 metres to a vertical depth of 910 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.

9.3.5 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 modeling of the previous workings and stoped 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.

9.3.6 Other sampling techniques

Previous costean, stope and development sampling was by hammer, or hammer & chisel channel sampling averaging 2.5 kg samples of mineralised material. Individual reef splits and alteration zones were usually sampled separately. Standard sampling procedures were established. Underground faces are rock-chip sampled on horizontal lines across the face and also in individual samples perpendicular to the dip of the reefs.

10.0 Drilling

10.1 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 totaling 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:

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

Table 10-1. Summary of drilling – type, number of holes and metres.

The Company owns four diamond-drill rigs, and core drilling increased each Quarter from 2006 to around 10,000 metres and over 30 holes drilled per Quarter, then declined as shown below:

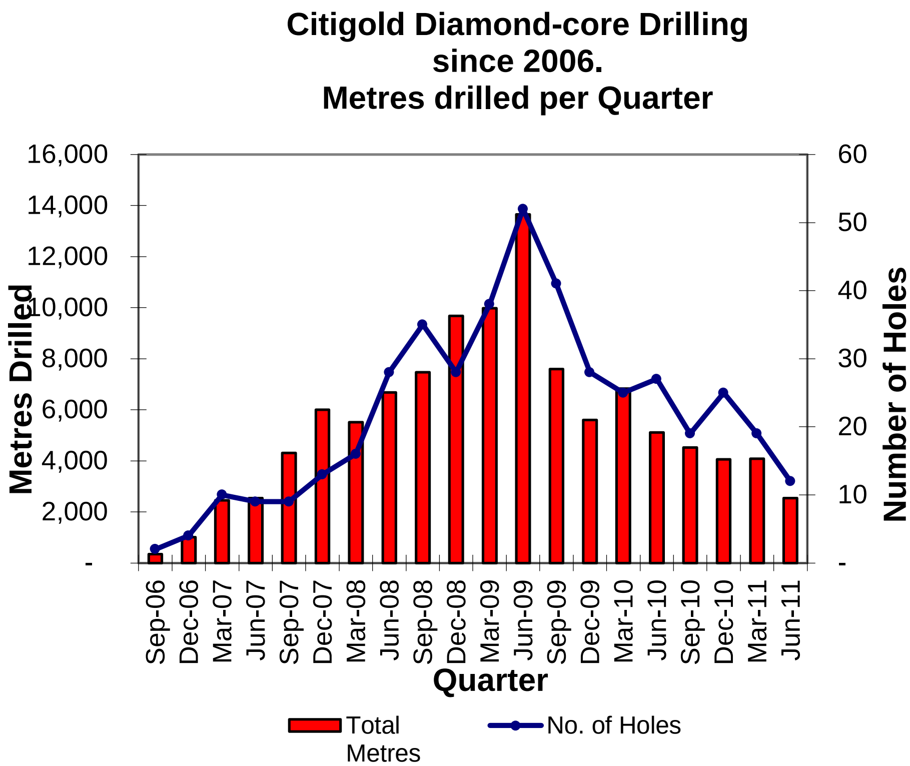


Figure 10-1. Graph showing the diamond-core drilling per Quarter since 2006, illustrating both metres drilled and the number of holes completed each Quarter.

The average hole depth since 2006 has been around 250 metres, initially increasing to around 500 metres in 2007 and then reducing to around 220 metres as rigs were moved from surface to underground, becoming more efficient and productive by drilling shorter holes, as shown below:

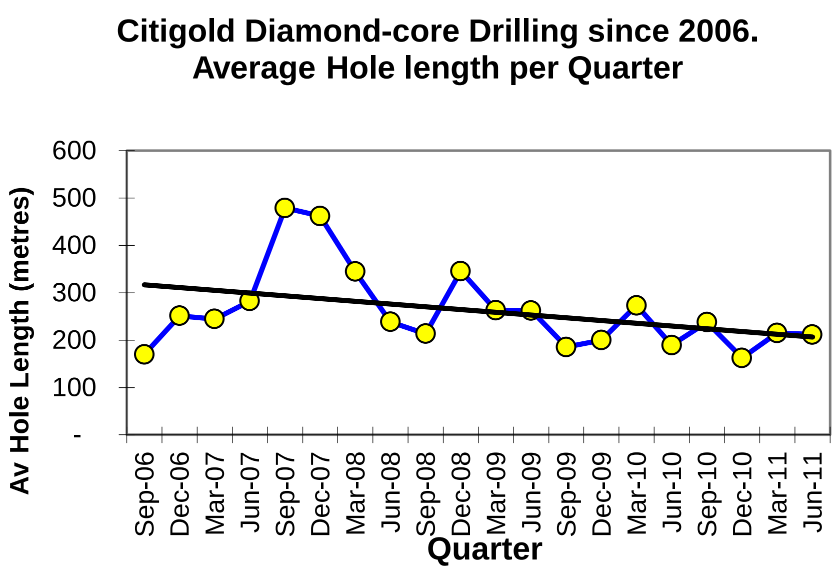


Figure 10-2. Graph showing the average hole length per Quarter since 2006. Hole lengths initially increased as the ore body was drilled deeper, then decreased as rigs were moved underground to drill more efficient shorter holes.

Much of the more recent drilling has been grade control and stope definition drilling.

10.2 Drilling, sampling and recovery factors

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 has 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).

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).

10.3 Drill hole locations

This is an advanced project with some 3,200 drill holes totaling 358,000 metres of drilling. It is impracticable to present a plot of all holes in this report.

However, drilling and sampling results have been reported quarterly since 2004 and results are posted on the Company's web site at the bottom of the Exploration page at:
http://www.citigold.com/mining/exploration

11.0 Sample Preparation, Analyses and Security

11.1 Quality of assay data and laboratory tests

The samples were assayed in 2000-2004 by commercial laboratories using 50 gram fire assays on 200 gram sub-samples riffle-split from dried crushed primary samples. The entire sample was pulverised to a nominal 85% of minus 80 mesh (75 micron) before splitting out the sub-sample.

Assay blanks and standards were run by the commercial laboratories as part of their quality assurance procedures, usually two standards, five replicates and one reagent blank in every batch of 50 or 84 samples. The standards & blank are for internal use and depending on the laboratory, may not have been routinely reported to the client unless requested. Replicate (repeat) assays were reported to the company.

At times all samples returning an initial assay greater than 1 gram per tonne Au have been re-assayed. Inter-laboratory comparisons are run periodically which indicate an assay precision of better than ±15% of the mean. Duplicate samples have a precision of ±10%, which is within normal limits. Assay grades, and therefore any estimate of contained ounces, should be regarded as ±10%.

Lead assays, useful as an indicator of gold mineralisation in the Charters Towers field, were determined by commercial laboratories, using a perchloric acid digest and flame AAS method. More recent work has shown the value of additional element assay in the search for mineralised zones. Since 1999 routine multi-element ICP analyses using aqua-regia digest have been undertaken to assist definition of mineral zonation and to investigate any high sulphide areas.

Previous auger samples were assayed for low level detection gold by solvent extraction graphite furnace AAS on 50g samples digested in aqua-regia. A number of samples, both from drilling and field sampling were also assayed, using ICP for a range of other elements, 7 to 36 depending on the sample. Where more precise multi-element assays were required a four acid “near total” digestion is used, HF-HNO_3-$HClO_4$ acid digestion and HCl leach.

11.2 Verification of sampling and assaying

Samples were gathered in the field or at the rig by a geologist and a geological technician. RC drill samples are riffle split at the rig by the independent drilling company’s driller’s offsider and company field technicians.

Diamond-drill core was cut at the company’s core yard at Nagle Street. Samples were bagged on site and then transported to a commercial laboratory in Townsville.

Assaying was done by the commercial laboratory and results sent to the company by email, fax, and mail. The supervising and senior geologists made regular visits to drilling sites, to ensure correct sampling procedures were being followed.

Twinning and wedging of drill holes was not done on a regular basis, although it has been carried out locally, especially in areas where mineralisation was confidently expected but returned low assays. Anomalous samples were re-sampled where required following further inspection by the project geologist.

Figure 11-1. Drilling at the Charters Towers Gold Project.

12.0 Data Verification

12.1 Location of data points

During the period 2000-2004, drill collars were picked up by either a professional surveyor, or by Differential Global Positioning System (DGPS) receivers. Some holes prior to 2000 were picked up by standard GPS receivers with a claimed precision of 3 metre to 10 metre.

All diamond and most RC drill holes post 2000 were surveyed down-hole for azimuth and dip by borehole camera at 30 metre or 50 metre intervals. All recent Central area core was oriented with core orientation devices supplied by the drilling contractor.

Mine sample points were located by tape (or laser survey) and compass from surveyed pins. All underground and surface drill collars since 2006 have been located by professional surveyors.

Old imperial measurement mine plans were drawn up between 1870 and 1917 by licenced mining surveyors, and previous records indicate a survey closure error of less than 1 in 5000 (i.e. ±200mm in one kilometre) in chainage and, in the bearings, less than one minute of arc per 1,000' of underground survey (i.e. ±292 millimetre offset in one kilometre). Measurements plotted on the previous plans are reported to one decimal of a foot and one minute of arc.

Results used from these plans, when checked against recent survey work, have been within acceptable limits.

All post 2002 rock chip and soil sample locations have been located by 12 channel GPS or by DGPS. Previous sample locations were mostly with reference to surveyed field grids.

12.2 Data density

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.

12.3 Audits or reviews

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

12.4 Database Integrity

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.

12.5 Assay Data Accuracy and Quality Control

It is often assumed by investors and non-mining readers that the chemical analysis or assay can be accepted as true values. This is not necessarily correct, as no chemical analysis technique is 100% accurate, and analytical values usually show a spread or range of values around an average value. There is also the uncertainty in deciding if the sample taken is representative of the surrounding area. The reader is referred to the Australian Mineral Industry Consultants Association web site for a range of professional papers by experienced consultants relating to quality control in sampling and chemical analysis, which highlights a range of potential errors, which if not managed and controlled, may lead to erroneous results.

It has been estimated that, industry-wide, sampling errors account for about 80% of the total error, with sample preparation contributing a further 15%, while assaying is only responsible for the final 5% (Matysek, 1999; Garnett, 1999). There are two main terms used in assessing analytical errors – **accuracy** and **precision**. Put simply, accuracy is how close a set of results is to the actual true value, whereas precision is the ability of a laboratory to obtain the same answer on one sample that is analysed many times. A set of results may be precise in that there is little variation between the repeated analyses, but they may not be accurate if the laboratory consistently returns results that are too high or too low.

The Company uses two types of samples to assess **precision** - ***duplicate samples*** (two samples prepared at the same time from the same starting material, especially RC drill cuttings, underground face and fill samples, and surface rock chips) and ***replicate samples***, where one sample is crushed and pulverised and several sub-samples taken and assayed.

The only way to assess **accuracy** is to compare the laboratory results achieved on specially prepared external standards. These standards contain a known amount of gold and therefore the true value is known. These may be artificial standards or natural standards. Artificial standards are prepared from laboratory reagents, such as Analytical Reagent (AR) grade gold chloride made into solution and disseminated through a neutral silica matrix such as crushed bottle glass. Natural standards are made from carefully homogenized naturally occurring gold ore, and are preferred as they have a matrix that more closely reflects the matrix (and therefore any interfering elements) that may be encountered in the project samples. The gold content of commercial gold standards is often determined by neutron activation analysis, which returns precise and accurate results, but usually requires the use of a nuclear reactor. This method is not commercially available within Australia. Australian laboratories offering such a service usually send their samples to Canada.

The following definitions from Hellman (1999) are useful:

*The term "**precision**" is commonly applied to the spread of assay data as determined by duplicate pairs. This information is usually more readily available than replicate analyses of individual samples. Pairs of assay results, such as two determinations of gold from the same pulp that comes out of a pulveriser provide estimates of one type of precision whereas an original assay paired to a check assay of a split of the same pulp carried out by a different laboratory provides another type of precision. In these cases the absolute value of the difference between the two results divided by the pair mean is often used to estimate precision and is commonly expressed as a percentage. This has been referred to as the "**Absolute Mean Percent Difference**" or **AMPD** (eg Bumstead, 1984). The average of these values for a number of pairs is often reported.*

AMPDs from duplicate determinations of pulps by different laboratories are recommended by Francois-Bongarcon et al (1996) to be better than 10% (i.e. the value returned from duplicate of assays of 1.000 and 0.905 grams per tonne). This level increases to 20% when assays from coarse rejects are considered. These levels are somewhat arbitrary and depend upon the commodity of interest (eg silver typically returns higher AMPDs than base-metals) and concentration level. AMPDs from concentrations near the Lower Level of Detection will obviously be considerably higher than at higher concentrations.

*"**Accuracy**" of analyses or assays refers to closeness to the true value. Consistent and significant departure from accuracy is termed "**bias**" and can be expressed in a variety of ways such as an absolute difference or as a percentage. Thus an average value of 0.8 grams per tonne from several assays of a standard with a "**Recommended Value**" (**RV**) of 1.0 grams per tonne indicates a **negative** bias of 20%. **Positive** bias refers to results from unknowns that are consistently higher than accepted values. Bias is only "**relative**" unless results from samples are referenced against results for which there is proof of accuracy.*

Benchmark papers that discuss this terminology in relation to geochemical analysis include Thompson & Howarth (1978), Thompson (1992) and Ramsey, et al (1992).

Laboratory errors in gold analysis include:

- **Bias** – the laboratory method and techniques return values that are consistently high or low compared to the true value

- **Random precision errors** – the laboratory results may be high or low within some percentage range of the true value, but are not consistently high or low. The industry generally accepts that results with a precision of ± 10% of the mean value are acceptable for commercial laboratory fire assays for gold with an AAS finish.
- **Contamination errors** – samples are contaminated by other samples during preparation or analysis. This is relevant where sample preparation machinery is not adequately cleaned between samples, and low-grade samples are prepared after high-grade samples, giving false high values. If fire assay pots are re-used, care must be used in ensuring low grade samples are not fired in pots previously used for high-grade samples. Airborne dust and personal gold jewellery worn by sample collectors and preparers are other potential sources of contamination. Base metal contamination can occur from metal fragments ground or chipped off sampling, crushing and pulverizing equipment, especially steel alloy equipment containing iron, chromium, tungsten, molybdenum and manganese. Zinc, copper and lead contamination can occur from galvanized equipment and from common thread greases in drilling equipment, as well as the soft metal matrices on diamond saw blades and core fillet grinders.
- **Interference errors** – other elements present in a sample or the nature of the rock matrix may interfere with the element being analysed. For example, high iron content may interfere with the analysis of gold by atomic absorption spectrophotometry (AAS) as the spectrum absorption peak for iron is close to, and may overlap, the absorption peak for gold. High iron samples may return falsely high gold values if care is not taken to reduce the iron content or eliminate the interference. AAS analysis is commonly used in fire assaying for the final determination of gold. Certain minerals may affect surface tension or fluidity during the firing procedure, or may release water molecules that are normally part of the mineral's crystal structure. The release of this water may change the weight of sample being analysed or carry away volatile elements and this may impact on the final assay result. The presence of tellurium in gold samples may affect the formation of the lead bullion collector or the gold prill on cupelling (volatilization of the lead collector) during fire assaying.
- **Analytical errors** – the use of inappropriate analytical methods, inappropriate fluxes in fire assaying, inappropriate firing temperatures or times, inappropriate gas mixtures in AAS, failure to calibrate machinery including scales and electronic balances and poor or inappropriate internal quality control checks all contribute to analytical errors in gold analysis.
- **Detection limit range errors** – different analytical methods work best at different ranges of concentrations, and these ranges may vary for any one method with the element required to be analysed. All analytical methods have a preferred range in which the laboratory recommends the use of the method. Accuracy and precision may vary outside acceptable limits as the sample element concentration approaches both the upper and lower detection limits.
- **Particle size errors** – the presence of coarse gold grains in samples has long been recognised as a potential source of errors in gold analysis, especially by partial extraction processes such as cyanidation or acid leaching. Crushing and pulverizing of samples may result in non-homogeneous distribution of gold particles in sub-samples, creating poor precision. Screen fire assaying is used where unacceptable precision

errors indicate a coarse gold problem. In recent years, more efficient pulverizing machinery has improved the homogeneity of sub-samples, but the potential for coarse gold still needs to be kept in mind.

There are no established "benchmarks" for levels of accuracy and precision that may be considered acceptable for mineral assay data, produced using commercial "production-type" analytical techniques. The accuracy within ± 5% of the accepted value for a particular element in a standard, and precision of better than 10% for 90% of samples determined using the Half Absolute Relative Difference (HARD) technique (Shaw, 1997) are generally accepted for bankable feasibility study purposes. (Waltho & Shaw 1999).

For a 50g fire assay of gold standards in an inter-laboratory comparison, after outlier results have been removed, the spread of analytical results averages about 20-30%, while base metal result spread can be anything up to an order of magnitude. (Eames, 1998, 1999; Bumstead, 1984).

12.5.1 Commercial Assays

One key point in this discussion is that mining companies generally use commercial laboratory assays, *which offer a compromise between assay costs, turnaround times and accuracy/precision. Results may vary from the true value by 10% to 15% in both accuracy and precision. Therefore any estimate of ounces contained in a resource or reserve may vary from the true value by up to ± 15% based on analytical factors only. Sampling variation may increase this uncertainty, as will variations in estimating volumes, densities and resulting tonnages. In general, with a reasonable number of samples examined and using quality control procedures, assays should be within 5% of the true value.*

12.5.2 Assay Uncertainty

A second key point is that the uncertainty may compound, or it may cancel out - a consistent high error in estimating gold grade may cancel out a consistent low error in estimating tonnage, reducing the impact on contained ounces. However, a consistent high error in estimating grade could compound with a consistent high error in estimating tonnage to overestimate contained ounces. Testing by The Company indicates that the assay uncertainty is neither high nor low – it cancels out over the significant gold value range and number of samples used by The Company.

12.5.3 Materiality

A third key point is materiality. While gold projects may be subject to the potential for numerous scientific errors, will these errors ***materially*** affect any conclusions on revenue flows, which is one purpose of estimating a resource and reserve? If the starting point of sampling and assaying produces a potential variation or confidence level of ± 15% to 30% in contained ounces, any potential errors need to be assessed to see if they will materially affect the contained ounces by more than 15% to 30%, or are they within this confidence level?

The JORC Code, Paragraph 13, states: "*A company must disclose any relevant information concerning a mineral deposit that could **materially** influence the economic value of that deposit to the company. A company must promptly report any **material** changes in its Mineral Resources or Ore Reserves*". The Code defines Materiality in Paragraph 4 as "***Materiality** requires that a Public Report contains all the* *relevant information which investors and their professional advisers would reasonably require, and reasonably expect to find in the report, for the purpose of making a reasoned and balanced judgement regarding the Exploration Results, Mineral Resources or Ore Reserves being reported*."

A numerical value for what change or influence may be regarded as "material" is not defined in the JORC Code. However the ASX Guidance Note 8 on Continuous Disclosure: Listing Rule 3.1 states in Paragraph 93: "*Listing rule 3.1 provides examples of information that, if material, would require disclosure. One of those examples is a change in the entity's previously released financial forecast or expectation. As a general policy, a variation in excess of 10% to 15% may be considered material, and should be announced by the entity as soon as the entity becomes aware of the variation."*

On this basis, the normal variation in sampling and assaying results borders on a material variation in most company resource and reserve reports. An investor looking at gold mining companies needs to be aware that revenue flows are based on recoverable, and therefore saleable, ounces of gold, and there is an inherent uncertainty in all figures generated.

Mining companies are commercial businesses, not scientific research enterprises. *In resource and reserve estimation, cost projections and revenue projections, they balance scientific accuracy against the cost to achieve an acceptable level of commercial risk. The cost of reducing resource grade or tonnage errors to less than ± 10% or 15% may not be commercially viable, but the results remain within a level of risk deemed as acceptable by the business.*

A 10% error in grade estimation is not uncommon, and is generally regarded as within an acceptable level of risk for an underground operation over time (for example, over a one-year period) (Dominy et al 2004). However in some cases, production/Ore Reserve reconciliation will show errors of ±50% to 80%. When it is considered that even for a good operation production costs are at least 50% to 75% of the mine site revenue, it can be seen that even a 10% decrease in grade can translate to a 20% to 40% decrease in operating surplus. (Dominy et al 2004).

The Company has used several commercial laboratories over the development of the project since 1994, and used three different techniques to determine gold values - fire assaying, bulk cyanide leach extraction and aqua-regia extraction. Fire assaying is regarded by the Company as the more accurate method, and aqua regia and bulk cyanide leach extraction are regarded as partial extraction methods, underestimating the true gold content. Since late 1998, only commercial fire assays have been used by the Company to analyse rock chip and drill samples for ore reserve estimates. Bulk cyanide leach extraction is still used for stream sediment sampling and for some types of soil sampling due to the advantage of its very low detection limit for gold.

Internal quality control by the Company includes submitting ***duplicate samples*** (two samples prepared at the same time from the same starting material, especially RC drill cuttings, underground face and fill samples, and surface rock chips) and ***replicate samples***, where one sample is crushed and pulverised and several sub-samples taken and assayed.

Duplicate samples are often taken at every tenth sample, given consecutive sample numbers and submitted to the laboratory as part of the normal sample run, so that the laboratory is unaware that duplicates are being submitted.

Replicate samples are run by the laboratory, and the process is usually automatic where the first assay exceeds 1 grams per tonne Au, or if the laboratory has concerns about precision, or at the request of the Company. The Company will frequently request re-assaying of a laboratory pulp where the first result is high (over 10 grams per tonne Au) or appears unexpectedly high or low.

12.5.4 Precision in The Company Drill Samples

The Company has analysed replicate samples from RC and diamond drill holes, with 2,052 replicate samples analysed. Of these, 1,544 were over 0.1 grams per tonne Au, 976 above 4 grams per tonne Au, 796 above 6 grams per tonne Au and 82 above 10 grams per tonne Au.

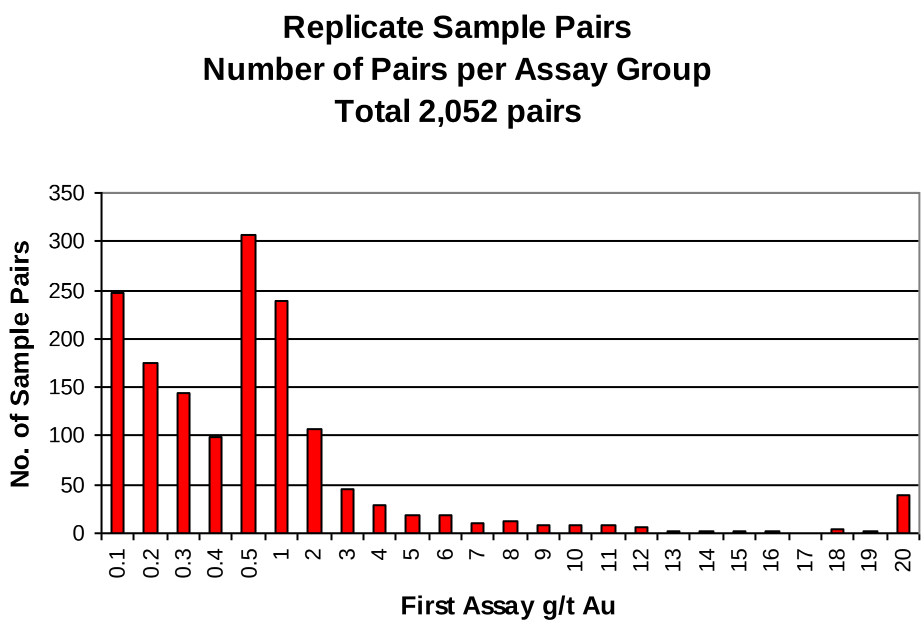


Figure 12-1. Replicate sample pairs from 2,052 sample intervals in RC and diamond core drilling, of which 1,544 are above 0.1 grams per tonne Au, showing the number of samples in each assay group.

Precision was analysed in two ways, one looking at the percentage difference from the average of two samples, regardless of whether the second sample was higher or lower than the first assay (Absolute Mean Difference, or **AMD**), and the second looking at whether the second value was higher or lower than the mean of the two samples (Half Average Relative Difference, or **HARD**). These are shown below in Figures 12-2 and 12-3.

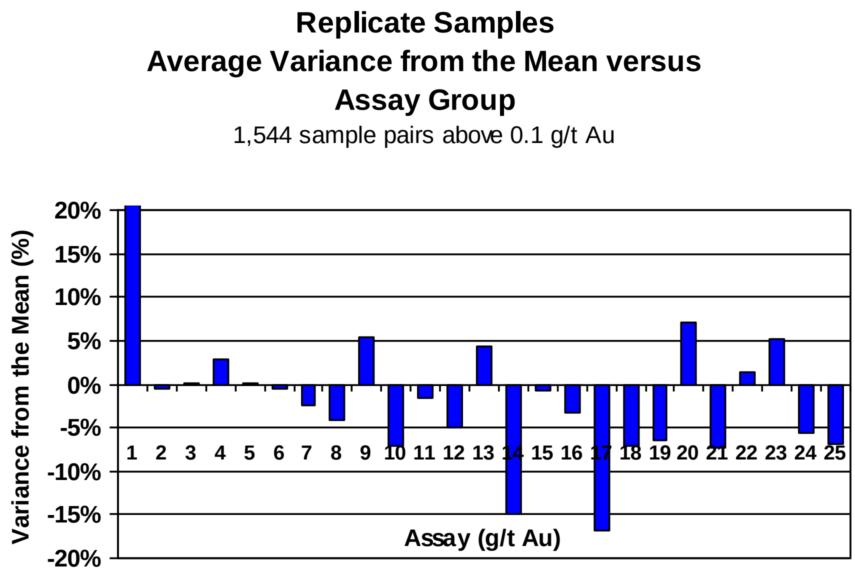


Figure 12-2. Half Absolute Relative Difference (HARD) plot of precision at various assay group values for replicate drill samples. This measures the average variance of two samples from their mean value.

This plot (Figure 12-2) shows that the average sample precision is highly variable but showing a slight tendency for the second assay to be up to 4% lower than the mean assay. Generally, the variation is random and less than ± 10%. Higher variabilities generally reflect a small number of assays.

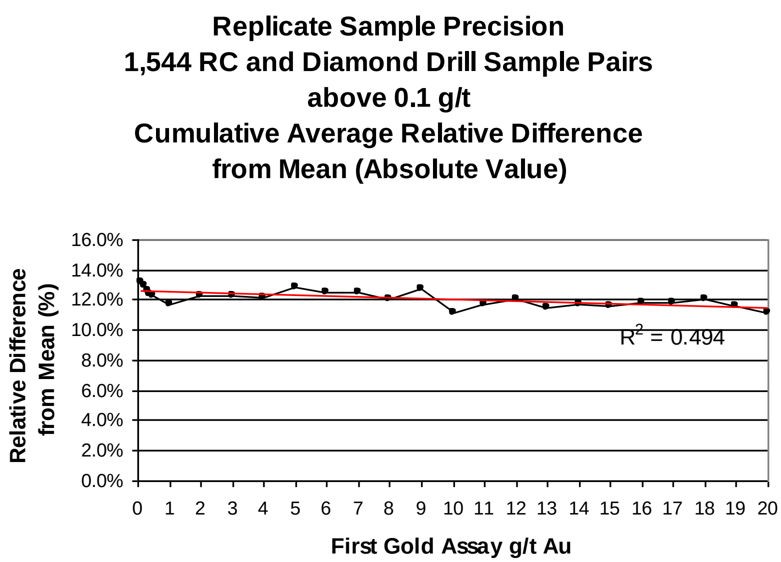


Figure 12-3. Cumulative Absolute Mean Difference (AMD) plot of precision at various assay group values for replicate drill sample assays. The absolute value is used (i.e. ignoring whether the difference is positive or negative).

Figure 12-3 above shows a general variation of plus or minus 12% from the average of two samples, with the precision improving (i.e., the difference reducing) from about 13% at low gold values to about 11% at higher values.

12.5.5 Bias in the Company Drill Samples

Sample bias between the first and second samples was also examined in the same data set of 2,052 samples, examining significant sample pairs over 0.1 grams per tonne Au (1,544 samples). The results are plotted in Figures 12-4 and 12-5 below.

Replicate Samples 1,544 Sample Pairs
Percentage Difference from the Mean versus
First Assay Gold Grade

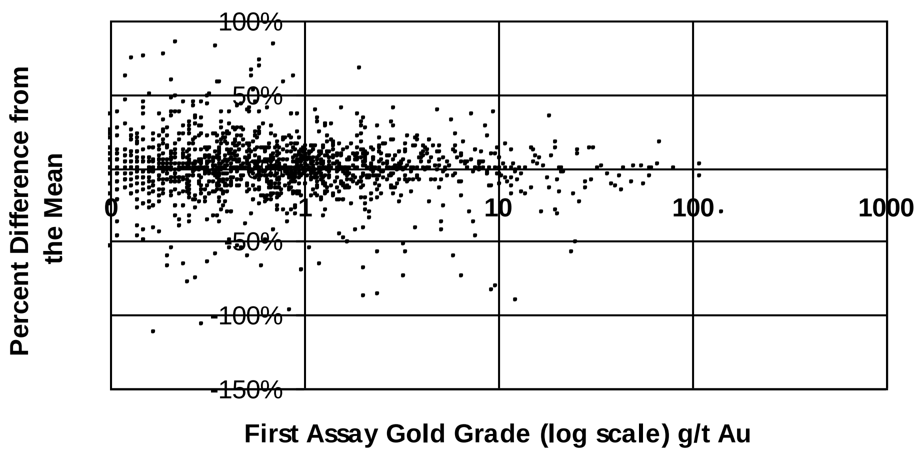


Figure 12-4. Variance versus grade, for 1,544 values above 0.1 grams per tonne Au. This plots the percentage difference of two samples from their mean (average) value. The ideal variance would be zero.

Figure 12-4 shows there is no apparent bias in the difference of two assays from their mean, with a symmetrical distribution about the zero axis. The variance tends to increase at lower gold values, closer to the detection limit of the assay method, a common feature of chemical analysis.

The values of interest to the Company are those above the mineral resource cut-off of 4 metre-gram per tonne Au (4 grams per tonne Au over one metre), and above the breakeven cut-of grade into the mill of 6 grams per tonne Au. These show that the repeat samples variances are random and tend to cancel out.

Figure 12-5 (below) shows the bias in each assay group. As the assay values drop below 1 grams per tonne Au and approach the detection limit of the assay method (0.01 grams per tonne Au) the variability increases to beyond 15%. Overall, the positive and negative bias would tend to cancel out. The higher percentage variations for a few assay groups between 10 grams per tonne and 20 grams per tonne result from a small number of samples assayed in these groups.

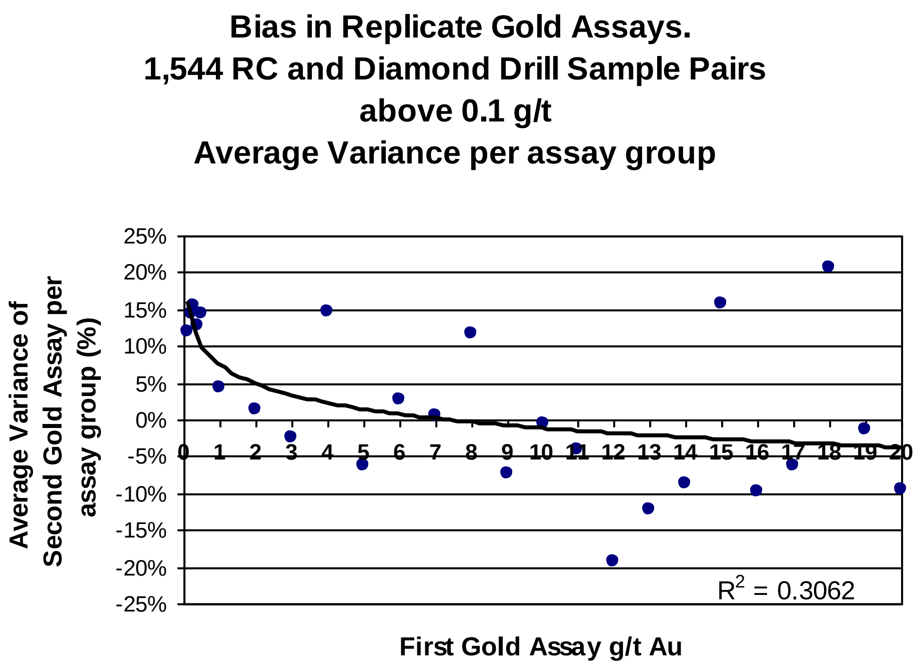


Figure 12-5. Bias in the average precision of two assays per sample, with a variable number of samples in each assay group. As values approach the detection limit of 0.01 grams per tonne Au the precision decreases to above 15%.

The data was examined to see if there was any relationship between variance and the number of samples in each assay group, as it would be expected that as more samples were analysed, the precision variance should approach zero if the variance was random. The precision was shown to improve with increasing numbers of samples (see Figure 12-6 below).

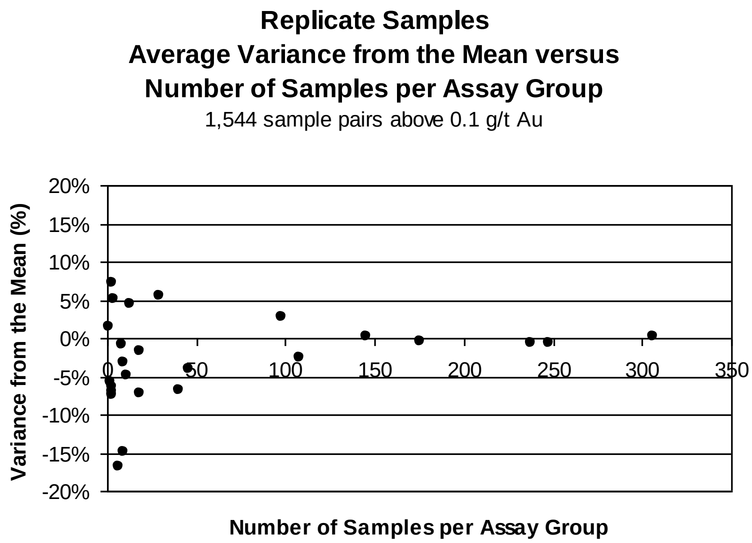


Figure 12-6. Plot of the variance (average difference of two assays from the mean of the two assays as a percentage of the mean) versus the number of samples per assay group

Figure 12-6 shows an obvious correlation between the number of samples and any change in the variance. As more samples are analysed, the average variance tends towards zero. The assay precision variance is random, and can be reduced to zero if enough samples are taken. The precision is within ± 10% of the mean for most samples. This is within accepted industry practice.

Within the assay ranges of interest to the Company, which is generally above 0.1 grams per tonne Au for significant assays, 1 grams per tonne Au for mineral resource estimates and 3 grams per tonne Au for the breakeven cut-off, the results are generally within ± 10% and most within ± 15%, as shown in Figure 12-7 (below).

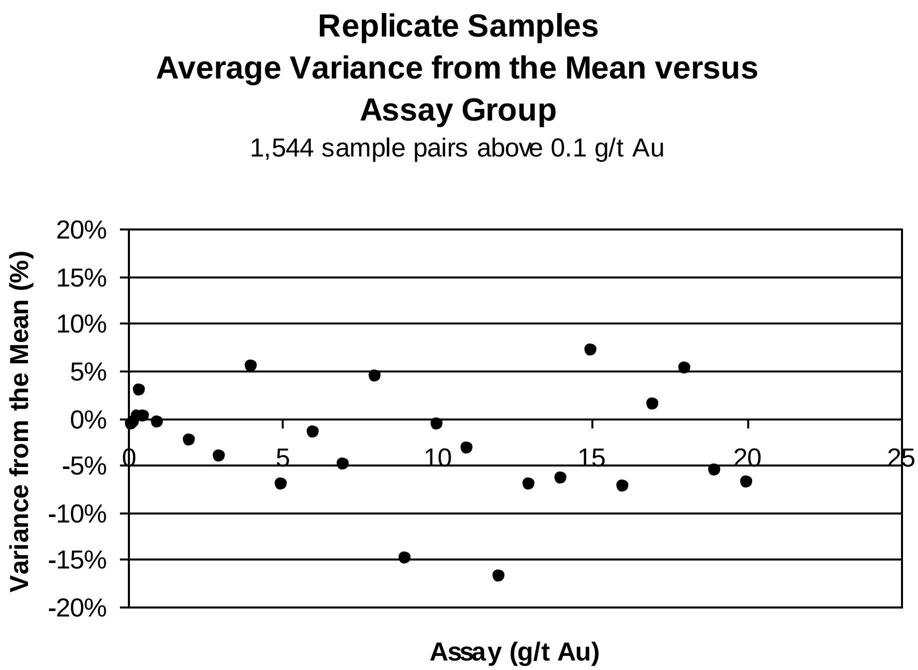


Figure 12-7. Plot of the variance (average difference of two assays from the mean of the two assays as a percentage of the mean) versus assay group. The results are generally within ± 10% and most within ± 15%.

To consistently achieve a variance of ± 5% with this assay technique in this deposit, the Company would need to analyse each sample 50 times or more. This is a commercially unrealistic expectation for the relatively small gain, and the variance of ± 10% is regarded by the Company as an acceptable level of risk, given that the purpose of mineral resource estimates is to be able to estimate life-of-mine cash flows and revenue, and the gold price may vary by 30% over a 5-year period.

12.5.6 Multiple Repeat Assays

The replicate samples were then examined to see how the first gold assay varied from the average of all repeat assays. Some samples were re-assayed up to six times. Figure 12-8 (below) shows the variance of the first gold assay from the average of all repeat assays for 1,544 samples above 0.1 grams per tonne Au. The plot shows that the variance is much higher as the assay values decrease, approaching the detection limit of the assay method.

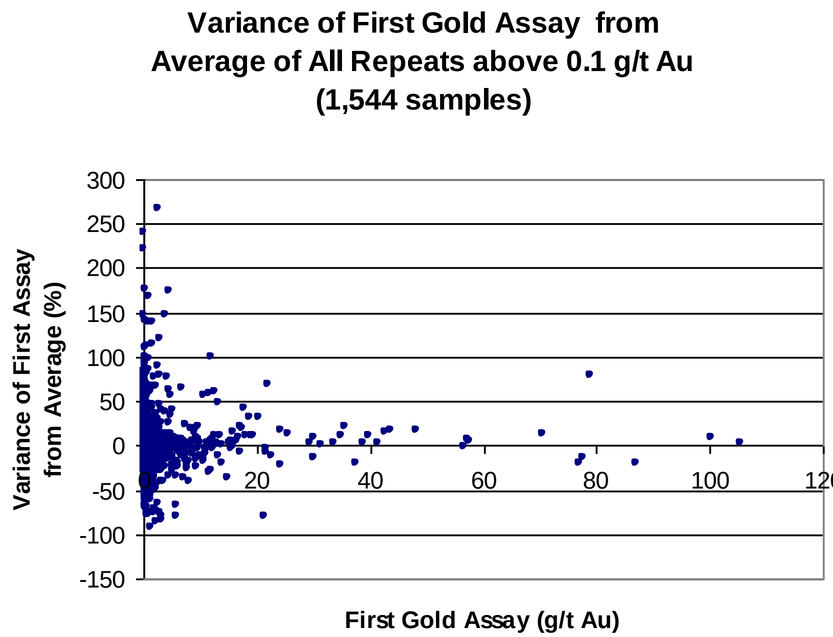


Figure 12-8. Variance of the first gold assay from the average of all repeat assays for 1,544 samples above 0.1 grams per tonne Au.

The data was then partitioned above 4 grams per tonne Au, the normal Mineral Resource cut-off. The results for 190 samples above 4 grams per tonne Au is shown below in Figure 12-9.

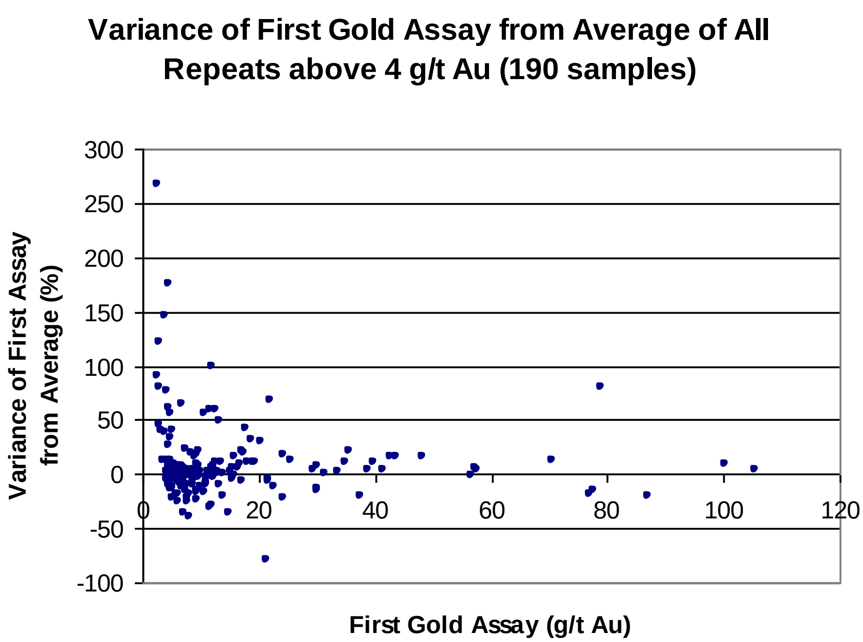


Figure 12-9. Variance of the first gold assay from the average of all repeat assays for 190 samples above 4 grams per tonne Au.

The results in Figures 12-8 and 12-9 show that the variance of the first assay from the average is random, and appears to improve slightly to within ± 10-15% as grades increase above about 10 grams per tonne. This high variability is expected with this type of deposit, which is known to have a irregular and non-uniform gold distribution caused by coalescence or not of many small gold particles.

To put the percentage variance into perspective, a difference of ±25% at the breakeven head grade of 6 grams per tonne Au means that the result could be ±1.5 grams per tonne, varying from 4.5 grams per tonne to 7.5 grams per tonne. The same difference of ±25% at 10 grams per tonne means that the result could be ±2.5 grams per tonne, varying from 7.5 grams per tonne to 12.5 grams per tonne. If the differences remain random and not biased on the low side, the variation is unlikely to be material to cash flows over a period of time.

12.5.7 The Company Assay Precision above 4 grams per tonne Au

The significant assay range of interest to the Company's underground operations are those results above 4 grams per tonne Au. The precision of 180 repeat samples above 4 grams per tonne Au was examined to see how the precision varied. A summary of results are tabled below, and shown in Figure 12-10. Some 85% of the 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%.

Variance Range %	Percentage of Samples	Cumulative Percent of Samples
0	10.0	10.0
5	27.8	37.78
10	18.9	56.67
15	21.1	77.78
20	7.2	85.00
25	2.2	87.22
30	2.2	89.44
35	2.8	92.22
40	2.8	95.00

Table 12-1. Variance range of 180 samples above 4 grams per tonne Au

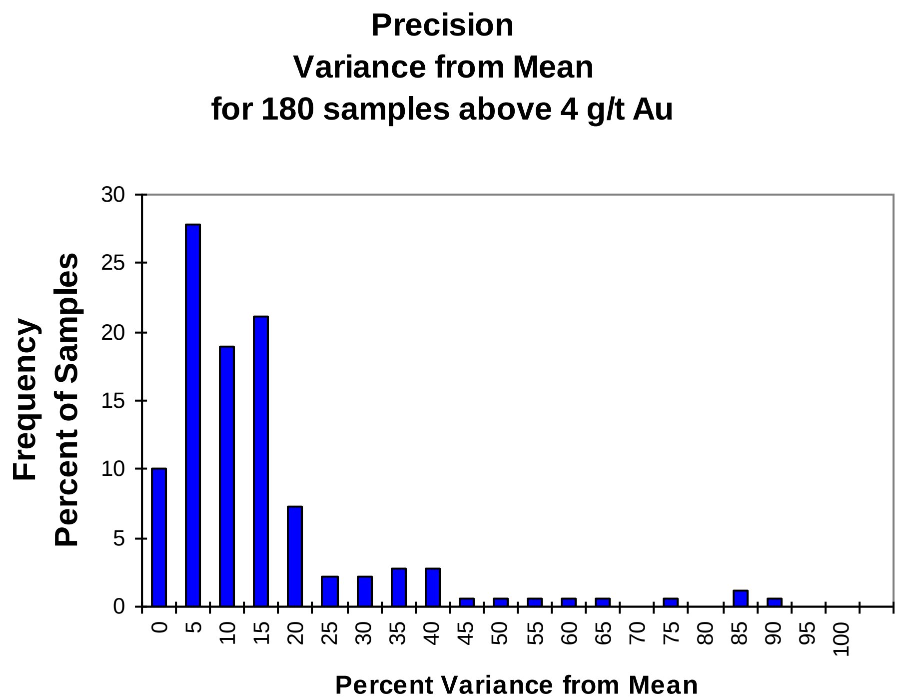


Figure 12-10. Precision of 180 samples above 4 grams per tonne Au.

12.5.8 The Company Assay Procedures

The Company samples were assayed in 2000-2005 by commercial laboratories using 50 gram fire assays on 200 gram sub-samples riffle-split from dried crushed primary samples. The entire sample was pulverised to a nominal 85% of minus 80 mesh (75 micron) before splitting out the sub-sample.

Assay blanks and standards were run by the commercial laboratories as part of their quality assurance procedures, usually two standards, five replicates and one reagent blank in every batch of 50 or 84 samples. The standards and blanks are for the laboratories' internal quality control use and were not routinely reported to the Company. Replicate (repeat) assays were reported to the company. At irregular intervals, the Company inserts specially prepared laboratory standards into routine assay runs to check on laboratory accuracy and precision.

Inter-laboratory comparisons were run periodically on standards and replicates which indicated an assay precision of better than ±15% of the mean (see Figure 12-11). Duplicate samples have a precision of ± 10% to 15% at significant values (above 4 grams per tonne Au), which is within normal commercial limits and at an acceptable level of risk.

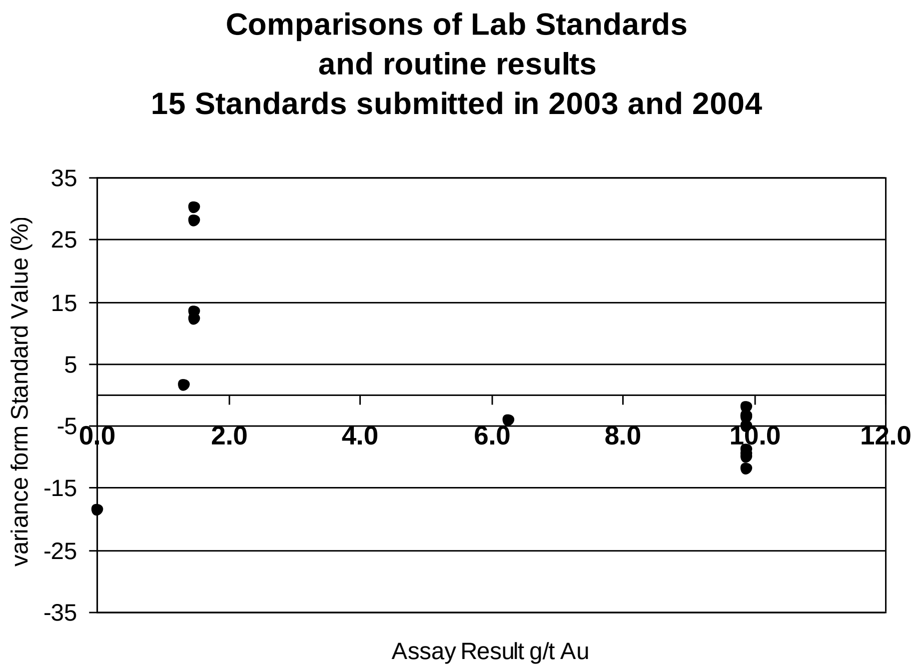


Figure 12-11. Plot of routine assays of specially prepared laboratory Standards submitted during normal sample runs. The results show a variation of ± 10-15% from the Standard value above 4 grams per tonne Au, normal for routine commercial fire assays in the range of material assays.

For comparison, the minimum daily average Australian dollar gold price over the five year period from 31 May 2000 to 31 May 2005 was $465.80 per ounce, and the maximum was $648.86 from figures supplied by Perth Mint, with a mid-point of $557.33. This is a variation of $183.07 or ± $91.53 (± 16.4%) from the mid value of $557.33, and a variation of over 30% from high to low.

For the five years from March 2005 to Feb 2010, when the gold price rose dramatically, the average gold bid price ranged from a low of A$546.14 to a high of A$1524.23, with an average (mean) of A$907.10, a median value of A$847.12 and a most common value (mode) of A$568.97. The mid-point value was $1035.19, with a variation of $489.05 (± 47%) from the mid-point.

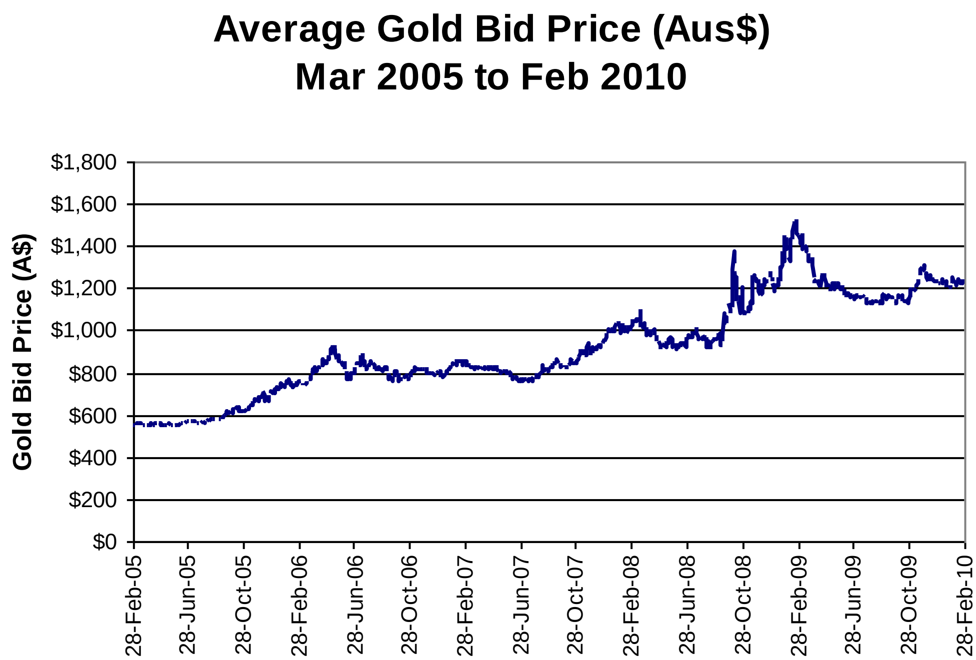


Figure 12-12. Plot of the average daily gold bid price in Australian dollars for the five years from March 2005 to February 2010.

Given that economic assessments such as cut-off grades and breakeven analyses are conducted using a selected metal price, the error in the metal price movements far exceeds the error in assaying.

This level of assay risk (± 15%) is acceptable to the Company, balancing the materiality of potential errors against the increased costs of more precise assays.

Assay grades, and therefore any resultant estimate of contained ounces, on the Company project should be regarded as ± 15%. This is normal for external commercial assays and is at an acceptable level of commercial risk for this project.

12.5.9 Sampling Accuracy

Sampling errors have a greater impact than assay errors, making up to 80% of combined sampling and assaying errors (Matysek, 1999; Garnett, 1999).

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 and NQ core. The majority of drilling since 2004 has been diamond-core. Some sludge sampling is undertaken underground to look for splits in the ore body, but these samples are not part of reserve estimates.

Indicated Mineral Resources grades derived for the Sunburst project are based solely on assayed samples from diamond-core drilling. All Company drill core and RC chips were logged on site by university degree-qualified geologists, (most with more than 5 years experience). Company drill core is photographed and geotechnically and structurally logged. Base of oxidation and, where possible, depth to water was recorded for all Company holes.

Reverse circulation sample recoveries were estimated by bag volumes, and recoveries generally exceeded 90% in the mineralised zones of most Company holes. Diamond-drill core recovery was measured by tape from drillers' blocks and usually exceeded 95% through the mineralised zones in Company holes.

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 kg 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 5 x 1 metre bulk bags and sent for assay. Individual 1 metre samples for any anomalous composite assay zones, and any specific intervals chosen by the geologists were also sent for assay.

Duplicate samples were taken as required, but not all drilling undertaken by other companies on the project area over the previous 20 years used duplicates as a standard practice. Common industry practice is that every tenth sample in RC, stream sediment, soil and rock chip sampling is a duplicate. However, the drilling by major companies such as BHP, Mt Leyshon Gold Mines, WMC and Orion is regarded by the Company as acceptable in its quality control, particularly as current Company staff had first-hand knowledge of techniques used by these companies as they were employed by BHP and Mt Leyshon during the relevant periods. The compiler of this report, Mr Christopher Towsey, was employed by BHP as Senior Geochemist from 1984 to 1987, and verified that BHP's analyses met suitable quality control and quality assurance standards. Mr James Morrison, General Manager Exploration, worked for Mt Leyshon Gold Mines from 1985 to 1996 and was involved in their Charters Towers drilling in 1993.

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 millimeter diameter core). Holes were initially started as PQ (85 millimetre diameter core) or HQ (64 millimetre diameter core) and then cased down to NQ as the holes deepened or as required by ground conditions within the hole.

Samples were gathered in the field or at the rig by a geologist and a geological technician. RC drill samples are riffle split at the rig by the independent drilling company's driller's offsider and Company field technicians.

Diamond-drill core was cut at the Company's core yard at Nagle Street, Charters Towers. Samples were bagged on site and then transported to a commercial laboratory in Townsville.

Assaying was done by the commercial laboratory and results sent to the Company by email, fax, and mail. The supervising and senior geologists made regular visits to drilling sites, to ensure correct sampling procedures were being followed.

Twinning and wedging of drill holes was not done on a regular basis, although it has been carried out locally, especially in areas where mineralisation was confidently expected but returned low assays. Anomalous samples were re-sampled where required following further inspection by the project geologist.

12.5.10 Drilling Density

A significant cost factor to the Company on this specific project is that deep drilling is required (from 500m to 1500m depth) and collar locations for the Central project area are located within the city limits of Charters Towers.

This means that optimum collar locations are usually not possible, and the Company is forced to use vacant lots and open parklands to locate the drilling rigs and drill collar positions.

As a result, the Company has to angle holes from non-optimum sites to get the required intersections, and to wedge off the main hole to get additional intersections without the cost of drilling 500m of primary hole. This imposes financial limits on the density of sampling that can be realistically used to achieve an acceptable level of risk.

Shallow deposits have been densely drilled – Warrior East on 25 metre centres and Warrior West on 15 metre centres. Deeper deposits such as Sunburst have been drilled on 50 metre to 100 metre centres.

To drill the City area from surface to 1500 metre depth on 25m centres would cost more than extending the Central Decline to intersect and bulk sample the main mineralised bodies, and there is no guarantee that this drilling would adequately identify the grade distribution. The Company has therefore elected to explore the deposit by underground driving, and prove up the grade distribution by face sampling and bulk sampling the material derived from driving.

It is significant to remember that this is a very well understood deposit based on the fact that over 6,000,000 tonnes of ore has already been mined and modern studies have further advanced the knowledge and understanding of the mineralisation and the fractures that contain the mineralization, based on exposures in recent mine workings.

13.0 Mineral Processing and Metallurgical Testing

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 2011 was running at half capacity, milling around 150,000 dry tonnes per year.

Metallurgical test-work was completed prior to the construction of the CIL plant in 1996-97, and fine-tuned as the plant operated intermittently from 1997 to 2000 and since 2007.

Figure 13-1. The Company's mineral processing plant.

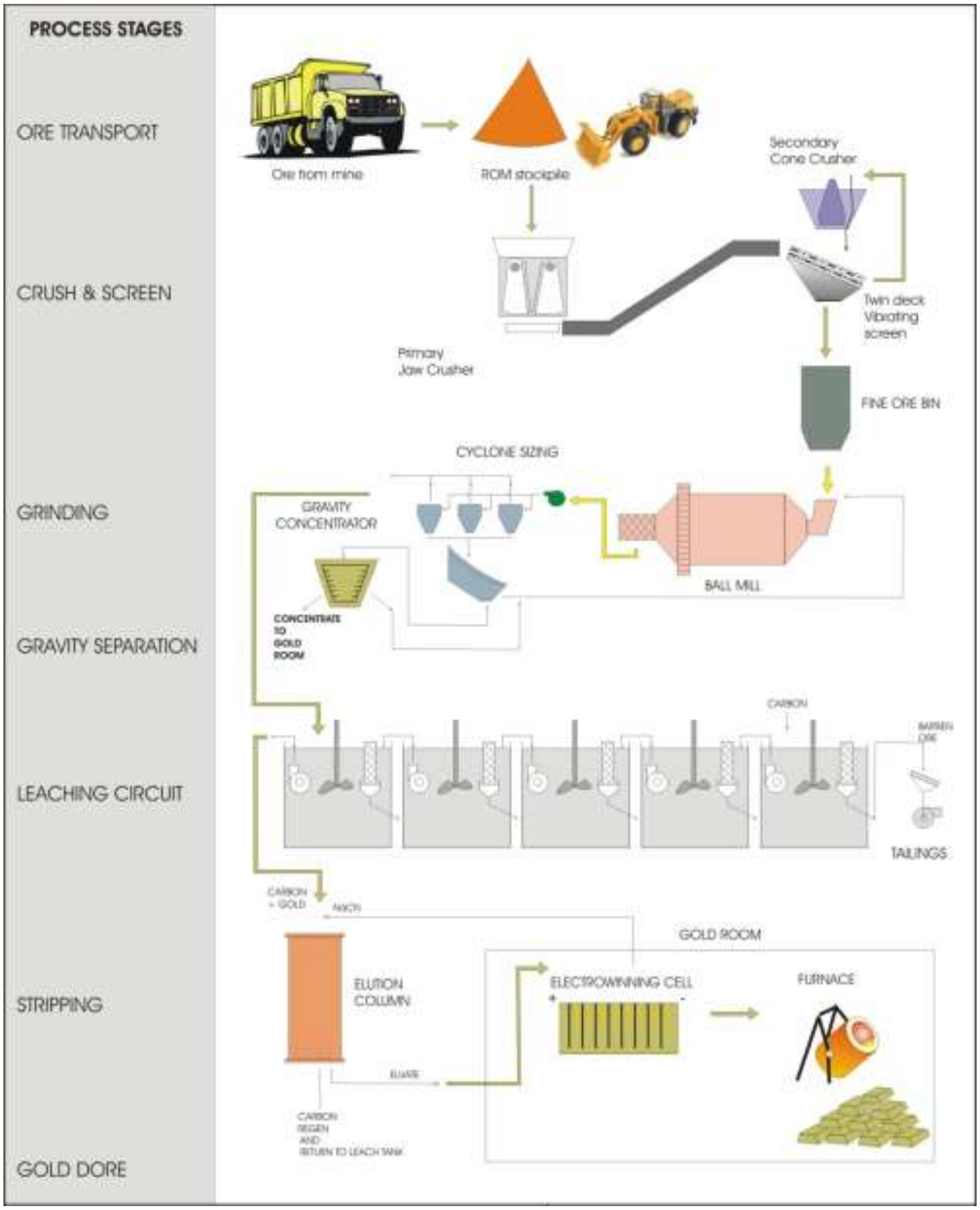


Figure 13-2. Gold production process flowchart.

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. This is discussed in more detail in Items 14 and 15.

Figure 13-3. Pouring the gold and silver doré bars after extraction and smelting at the Company's Charters Towers project.

Figure 13-4. The final product – unrefined gold doré bars at the Company's Charters Towers project containing mainly gold and silver with ~5% impurities.

14.0 Mineral Resource Estimates

14.1 Inferred Mineral Resource Grade Estimation

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 since 2005 to 30 June 2011 has increased the database to ***3,272 holes totaling 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.

However, 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 added significantly to the 2005 total Inferred Mineral Resource. The Imperial drilling was aimed at converting Indicated Mineral Resources to Probable Ore Reserves in the JORC classification (*Probable Mineral Reserves* in the NI 43-101 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.

14.1.1 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 14-1 (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.

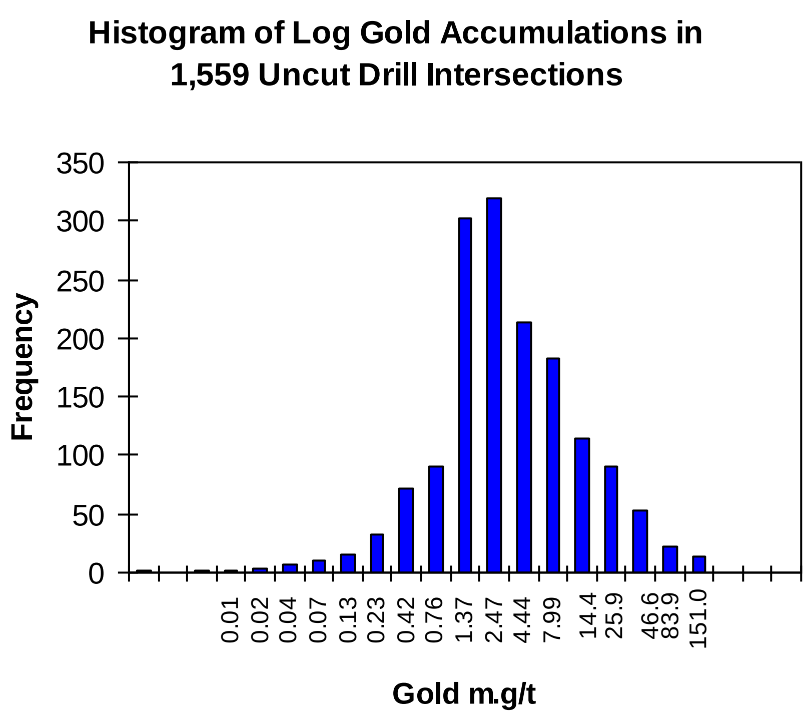


Figure 14-1. Frequency Distribution of Significant Drill Intersections showing log normal distribution

14.1.2 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 14-2 (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 grams 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.

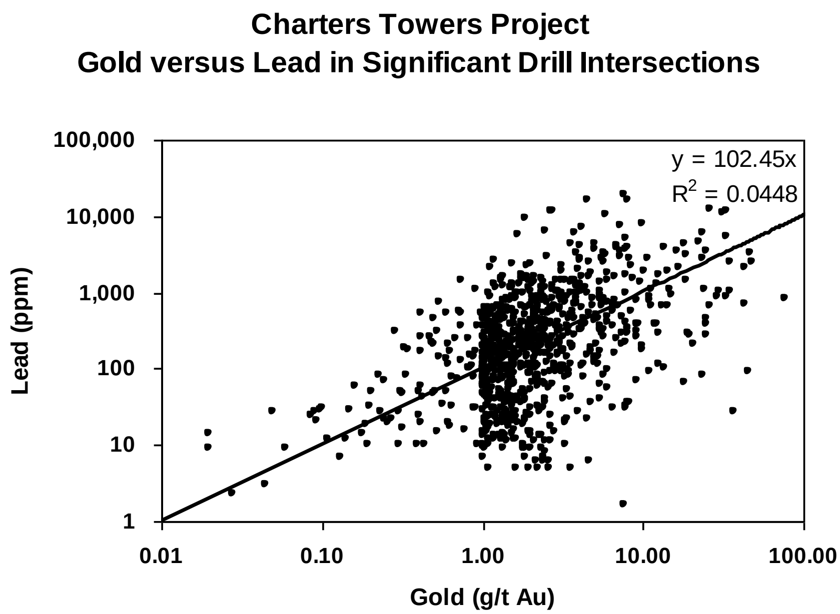


***Figure 14-2. Log plot of gold versus lead for over 1500 drill intersections used in the Company's mineral resource estimation*.**

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 trendline correspond to the actual data. A trendline 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 14-3 below:

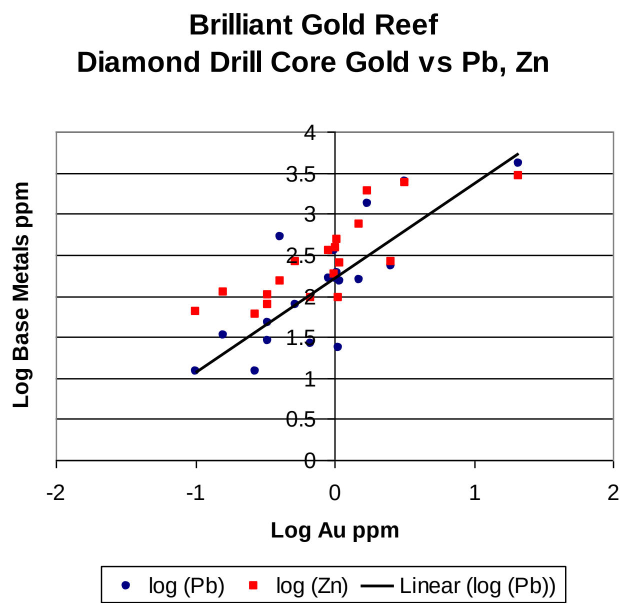


Figure 14-3. Log plot of gold versus lead and zinc for 19 drill intersections in diamond-core hole CT647 on the Brilliant reef

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 14-4 below).

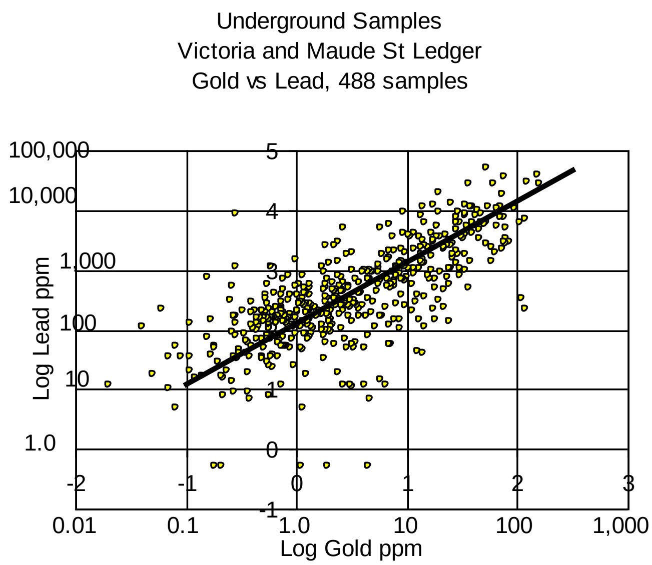


Figure 14-4. Log plot of gold versus lead and zinc for 488 stope face samples from the No.2 Cross Reef (Maude St Leger reef)

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 nuggetty 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. Mining at Imperial from 2006 to 2011 has returned satisfactory reconciliations between face samples and gold produced.

14.1.3 Cut-off Grades

The JORC Code 2004 defines Cut-off Grade (p. 20) 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 mining and processing costs. 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 14-1 (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.

A conservative breakeven cut-off, as per Table 14-1 below, was 2.0 grams per tonne Au at a gold price of US$1500 per ounce and an exchange rate of A$1 = US$ 0.95. The cost to haul and process a tonne of rock landed at surface was 0.53 grams per tonne Au and mining costs of around 1.11 grams per tonne Au.

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 14-2 below a 3 metre x 3 metre production or exploration drive can be mined at breakeven if it carries a reef 1.0 metre wide at 6.5 grams per tonne Au within the reef (2 grams per tonne Au average development grade).

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 14-5 (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.

Cut-off grade estimator RED cells are results

Enter new data in BLUE cells	
Head Grade (grams per tonne) =	8.0
Tonnes per ounce =	3.89
Mining Cost (US$/oz) =	$ 349.11
Mining Cost (A$/tonne) = (incl. processing & transport)	$ 95.52
Mill recovery (%) =	98
Gold Price (A$/oz) =	$ 1,578.95
Gold Royalty (% of gross revenue) =	5
Effective metal recovery after royalty (%) =	93.10

Enter new data in BLUE cells	A$/t	Cost equivalent grams per tonne
Mining Cost (A$/t)	$ 56.54	1.11
Surface Transport (A$/t)	$ 6.00	0.12
Ore Processing (A$/t)	$ 20.98	0.41
Rehabilitation & shutdown ($/t)	$ 2.00	0.04
Site Administration (A$/t)	$ 10.00	0.20
Total Cash Cost (A$/t)	$ 95.52	1.88
Recovered grade after royalties		2.0
Gold Price (US$/oz)	$ 1,500.00	
Exchange rate A$1.00=US$	0.9500	
Gold Price (A$)	$ 1,578.95	
Gold Price (A$ per gram)	$ 50.77	

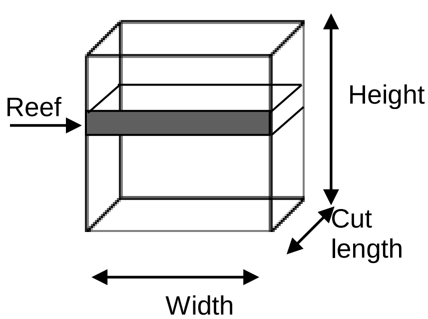
Breakeven grade = 2.0 grams per tonne Au

Mining Cost A$ per ounce=	$ 371.37	
at a head grade of	8.0	grams per tonne Au
At US$1,500 per ounce and A$1.00 = US$0.95		

Mining Cost	Drill & Blast	$ 4.32	A$/tonne
	Stope Production	$ 8.36	A$/tonne
	UG Transport	$ 9.85	A$/tonne
	UG Services	$ 2.36	A$/tonne
	UG General	$ 3.37	A$/tonne
	Sub-total	$ 28.25	A$/tonne
	Mine Development	$ 28.29	A$/tonne
	TOTAL MINING	**$ 56.54**	A$/tonne
Ore Processing	Crushing & Screening	$ 3.15	A$/tonne
	Grinding	$ 3.81	A$/tonne
	Leaching	$ 5.05	A$/tonne
	Process Services	$ 6.10	A$/tonne
	General	$ 2.87	A$/tonne
	TOTAL PROCESSING	$ 20.98	A$/tonne

Table 14-1. Break-even grade estimator.

	Horizontal	45 deg dip	20 deg dip
Drive Height (m)	3.00	3.00	3.00
Drive Width (m)	3.00	3.00	3.00
Cut length (m)	2.70	2.70	2.70
Reef Width (m)	1.00	1.00	1.00
S.G. (t/cu.m)	2.80	2.80	2.80
Ore Grade (grams per tonne Au)	6.50	6.50	6.50
Gold Price US$/oz	$ 1,500.00	$ 1,500.00	$ 1,500.00
Exchange rate A$1.00=US	$ 0.95	0.95	0.95
Aust gold price ($A/oz)	$ 1,578.95	1,578.95	1,578.95
Driving cost (A$ per metre)	**$ 2,233.73**	2,233.73	2,233.73
Ore haulage & sorting (A$/t)	$ 3.00	3.00	3.00
Waste tonnes (t)	45.36	35.97	43.90
Ore tonnes (t)	22.68	32.07	24.14
Contained gold (oz)	4.74	6.70	5.04
Value of recovered gold (A$)	$ 6,601	$ 9,336	$ 7,025
Profit/loss	**$ 570.28**	**$ 3,304.64**	**$ 993.94**
Mining, haul & sort cost (A$/t)	**91.64**	**91.64**	**91.64**
Physical Gold Losses	10%	10%	10%
Mill recovery	98%	98%	98%
Milling cost A$ per tonne	$ 20.98	$ 20.98	$ 20.98
Total milling cost	$ 476.28	$ 673.56	$ 506.85
Net profit	**$ 94.00**	**$ 2,631.08**	**$ 487.09**
Average development grade	1.95	2.76	2.08



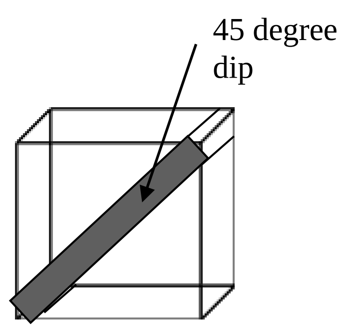


Table 14-2. Value of gold contained in on-reef development decline and drives.

14.1.4 Variation in data set with cut-off grade

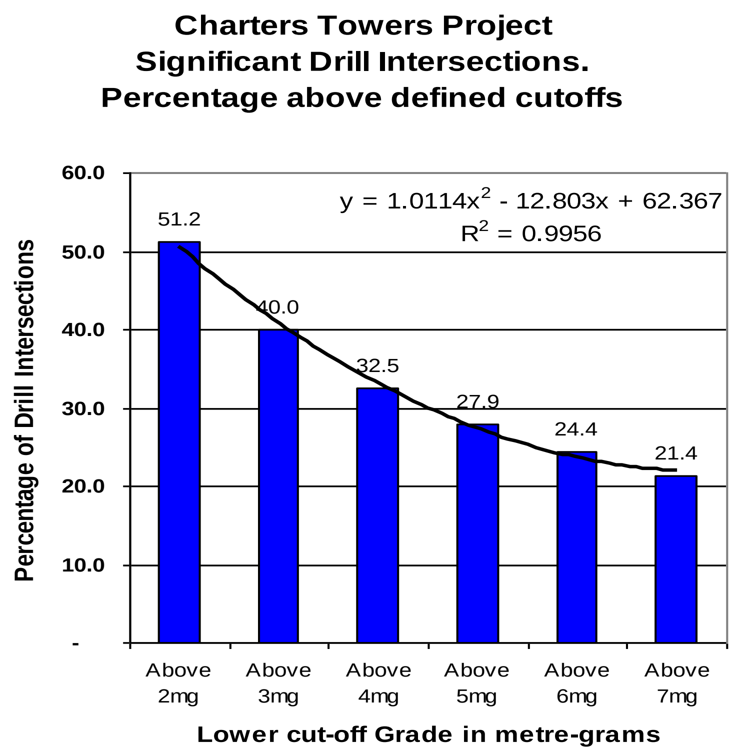


Figure 14-5. Plot of significant drill intersections showing percentage of intercepts above various lower cut-off grades.

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).

Cut-off	Frequency	%
Above 0.1 metre-grams per tonne	1517	97.3
Above 1 metre-grams per tonne	1274	81.7
Above 2 metre-grams per tonne	798	51.2
Above 3 metre-grams per tonne	623	40.0
Above 4 metre-grams per tonne	507	32.5
Above 5 metre-grams per tonne	435	27.9
Above 6 metre-grams per tonne	381	24.4

TABLE 14-3. Frequency and percentage of significant drill intersections above a range of cut-off grade values in metre-grams per tonne gold.

14.1.5 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. A selection of the major mines, accounting for two-thirds of the total production, is listed in Table 14-4 below, showing average recovered grade. 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 14-1, above) with no significant outlying high values, no top cut of drill grades has been used.

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. 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.

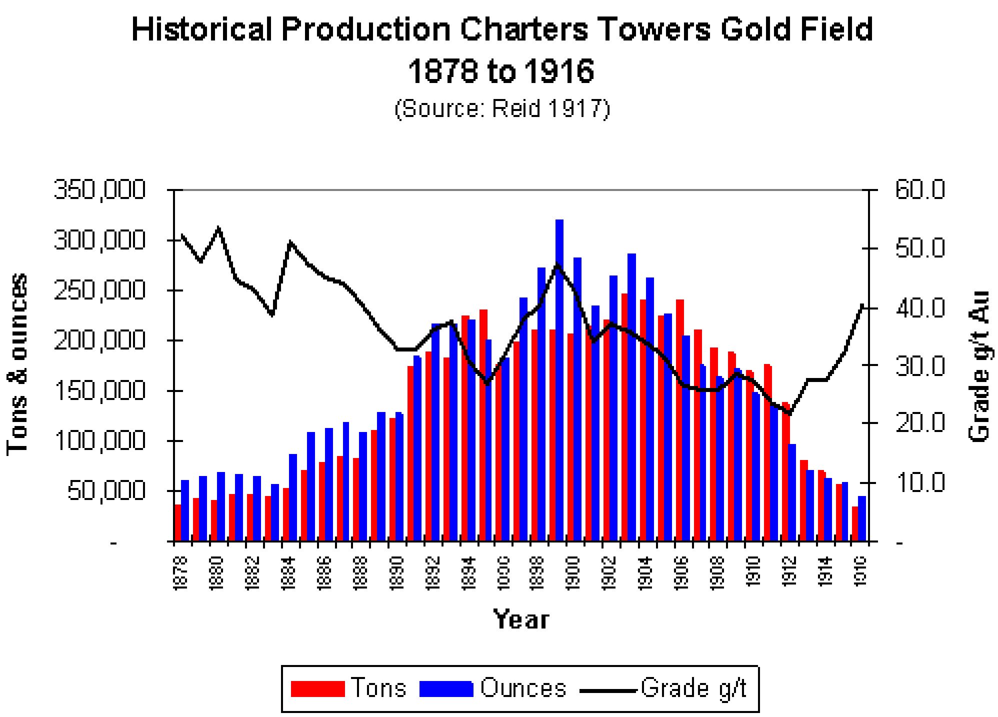


Figure 14-6. Historical production at Charters Towers gold field from 1878 to 1916 showing tons, ounces and yearly average recovered grades

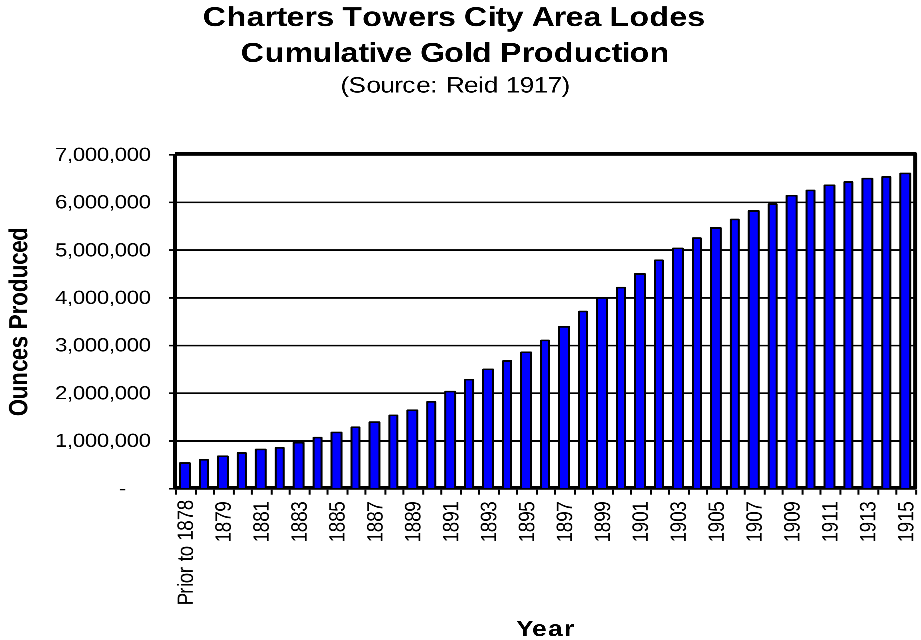


Figure 14-7. Historical cumulative gold production at Charters Towers was 6,600,000 ounces of gold from 1878 to 1916.

Historical Ore Grades - As a generalization, overall average recoveries of gold through the 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 Citigold by using Surpac modeling of stope voids and relating the volume to the actual tonnage extracted historically. A density of *in situ* material of 2.7 t/m^3 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-grame 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 Citigold'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.

Summary	Tons	Ounces	Recovered Grade (grams per tonne)
Victory	98,803	216,360	68.1
Queen Cross	138,125	287,039	64.6
Victoria	70,913	146,968	64.5
Victoria & Queen	35,730	63,613	55.4
Papuan, Brilliant & Victoria	41,354	70,559	53.1
Golden Gate (Sunburst East)	35,303	56,626	49.9
Day Dawn PC	275,128	379,859	42.9
Victoria & Caledonia Block	36,849	49,906	42.1
Brilliant & St George	371,088	462,296	38.7
Kelly's Queen Block	91,586	113,937	38.7
Band of Hope	86,454	104,637	37.6
Bonnie Dundee	59,296	70,808	37.1
Brilliant PC	340,582	403,198	36.8
New Queen	106,366	121,515	35.5
Day Dawn Gold Mines	51,937	54,120	32.4
Day Dawn Block & Wyndham	589,531	546,871	28.9
Brilliant Central	245,477	215,523	27.3
Brilliant Block	158,606	133,988	26.3
Mills DD United	507,428	428,429	26.3
New Brilliant Freeholds	124,360	92,537	23.1
Stockholm	97,667	64,894	20.7
Brilliant Extended	567,500	202,188	11.1
TOTAL	**4,130,083**	**4,285,871**	**32.3**
			Weighted average recovered grade

Table 14-4. Production from the major mines, accounting for two-thirds of the total production, showing average recovered grades.

14.2 Silver Resources

The silver resources and reserves were not considered material to the project in 2005 in terms of "materiality" as defined in the ASX Guidance Note 8 paragraph 93, which defines "material" as a difference of 10% to 15%. An estimate of the silver resources and reserves was not undertaken in 2005, although the ratio of silver to gold was quantified on Page 23 of the 2005 Report as 36:64.

In 2005, the gold price was around A$550 per ounce and the silver price about $5 per ounce, about 1% of the gold price. In 2011, the silver price has averaged around $35 per ounce and touched $50 per ounce, and the gold price has risen to around $1800 per ounce, making the silver price around 2% to 3% of the gold price. The high availability of silver and lower price per ounce has made silver an attractive investment for investors seeking to hold the physical metal, and shareholders have inquired about the Company's silver inventory.

The Company produces and sells silver as a co-product of gold mining, but as the revenue is usually around 1% to 2% of gold sales, it has not been regarded as a significant factor in long-term financial projections, Net Present Value estimates or budgeting. However, there is a large silver resource at Charters Towers that does provide revenue on a regular and continuing basis, and has contributed over $600,000 to revenue over 4 years.

From July 2008 to 11 April 2011, the Company sold 30,699 ounces of silver and 46,503 ounces of gold, a ratio of 1.5 ounces of gold for every ounce of silver. Silver revenue was 1.2% of the gold revenue, and silver ounces were 40% of the total weight of precious metal sold.

Financial Year ended 30 June	Gold Sales Revenue	Silver Sales Revenue	Silver as % of gold sales
2008	$ 12,471,419	$ 191,779	1.5%
2009	$ 13,027,965	$ 139,924	1.1%
2010	$ 19,668,312	$ 192,215	1.0%
2011	$ 11,772,024	$ 135,863	1.2%
TOTAL	**$ 56,939,720**	**$ 659,781**	**1.2%**

Table 14-5. Gold and silver sales revenue for the financial years 2008 to 2011.

14.2.1 Silver Sample Data

Silver is routinely assayed along with gold and base metals in the majority of samples analysed, including diamond-drill core, Reverse Circulation percussion (RC) drill samples, rock chips, soils, stream sediments and underground grade control face samples (rock chip and channel samples). It is subject to the same Quality Assurance and Quality Control (QA/QC) procedures as gold and other elements (see Items 11 and 12).

The database contains 13,252 samples in which silver was assayed, covering all of the deposits and mines in the project area. Of these, there are 3,560 samples where silver is at or above 0.2 ppm silver.

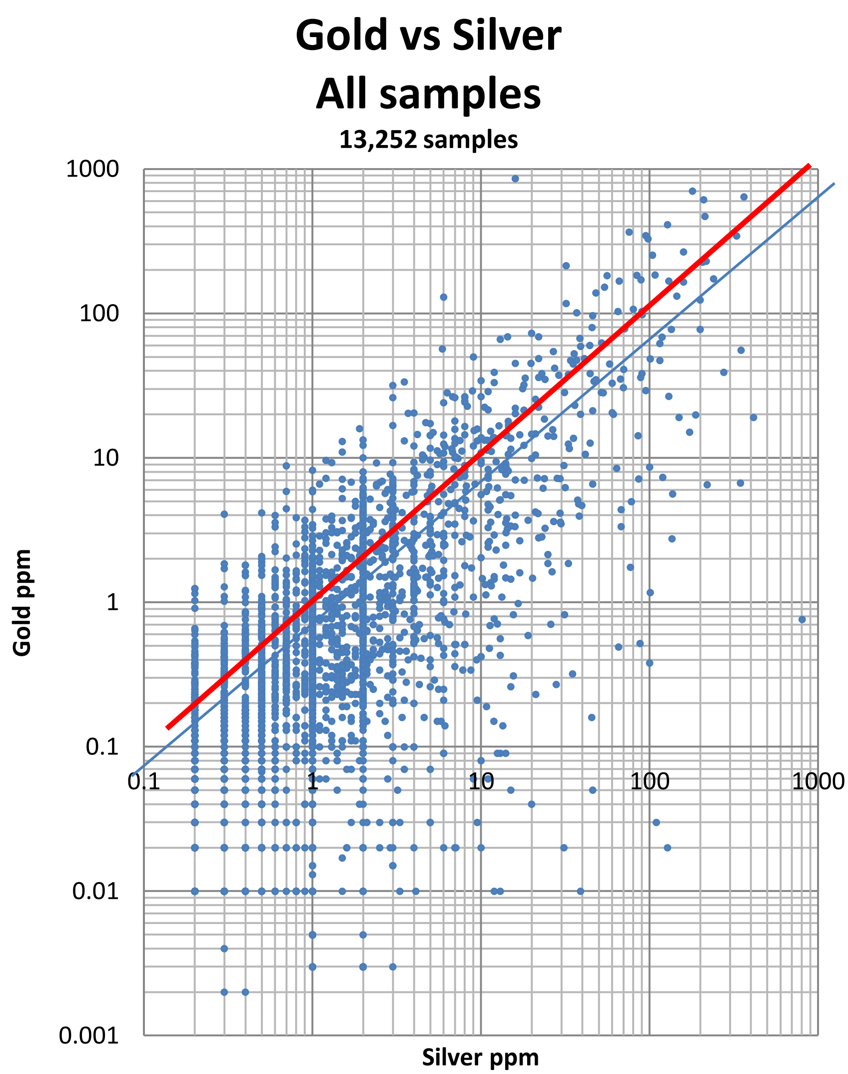


Figure 14-8. Variation of gold content with silver for all assayed samples. The red line shows a one-to-one correlation, and the blue line shows the calculated regression line (R^2 =0.247). The regression line suggests a ratio of 1000 ppm silver to 600 ppm gold, or 1.67 ounces of silver to one ounce of gold.

Figure 14-8 above shows the variation in silver content with gold for all samples analysed. The calculated regression line with a Coefficient of Determination (a measure of the proportion of variability in a data set and equal to the square of Pearson's Correlation Coefficient, or R^2) of 0.247 suggests a ratio of 1000 ppm silver to 600 ppm gold, or 1.7 ounces of silver to one ounce of gold in assayed samples. A perfect correlation would give an R^2 value of 1.0, and absolutely no correlation would return an R^2 value of 0.0.

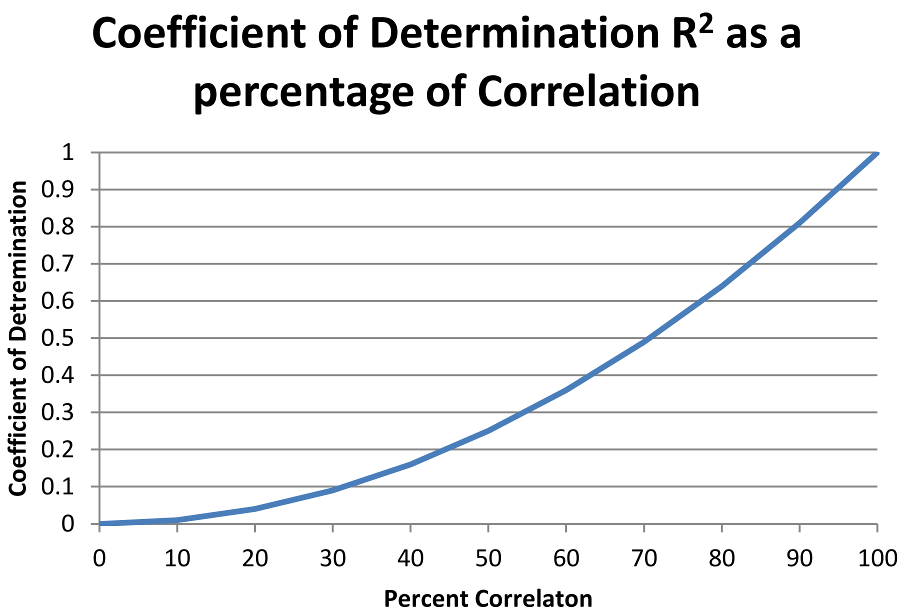


Figure 14-9. A Coefficient of Determination (R^2) of 0.247 indicates a correlation of about 50%.

This ratio of one ounce of gold to 1.7 ounces of silver in the *in situ* assays is not the same as the gold to silver ratio in the recovered metals after mining and processing, as the processing plant is set up to maximize the recovery of gold, not silver, because silver is worth only 1% to 2% of the value of the gold. Silver is recovered essentially as a by-product of gold recovery, and the RECOVERED METAL ratio of gold to silver, based on actual bullion sales from 2008 to 2011, is 1.5 ounces of gold to one ounce of silver, the REVERSE of the in-rock assayed values. The recovered ratio has been used for the resource estimation of grade, rather than the assayed ratio.

In the Imperial Mine area (Warrior, Sons of Freedom, Mt Cenis and Imperial ore bodies), there are over 11,000 samples with over 2000 containing silver in excess of 0.2 ppm Ag, as tabled below:

Reef Name	Total Samples	>0.02 ppm Ag
Stockholm	50	46
Mt Cenis	397	143
Warrior	8,082	1,466
Sons of Freedom	1,836	269
Imperial Reef	575	84
Warrior West	154	122
Washington	45	25
TOTAL	**11,139**	**2,155**

Table 14-6. Southern Area reefs showing total number of samples and significant silver values.

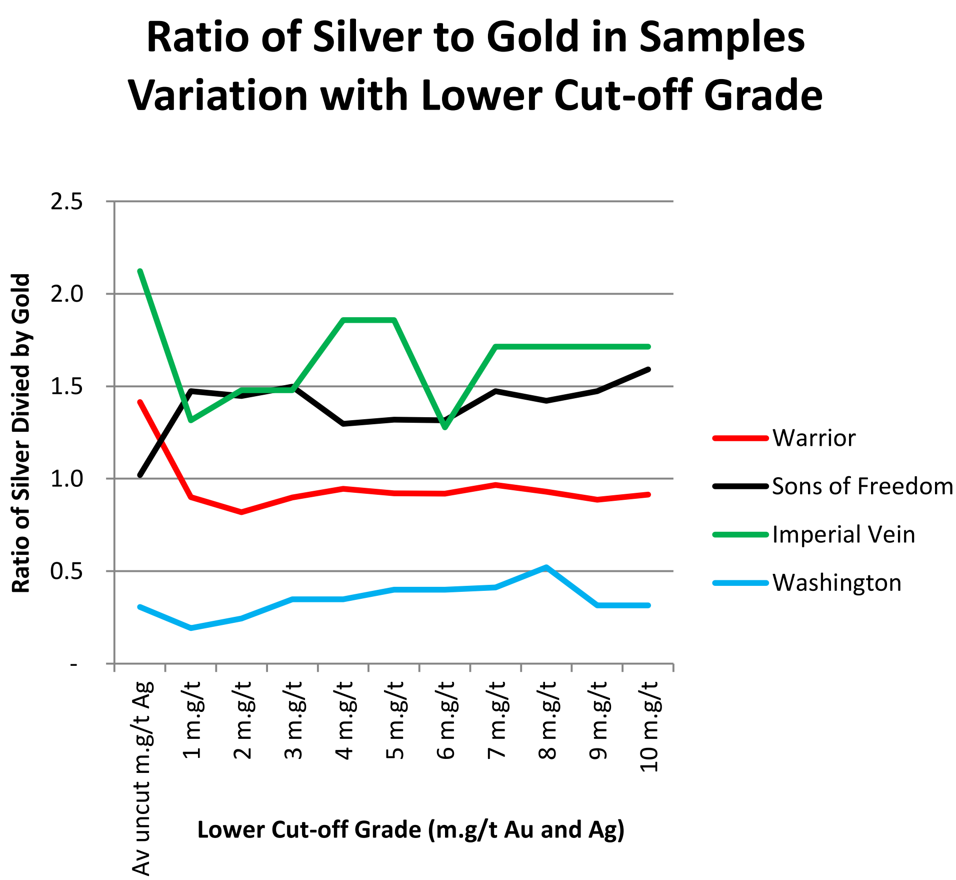


Figure 14-10. Imperial Mine reefs, showing the ratio of Silver to Gold in assayed samples, and the variation with lower cut-off grade. While differing slightly between reefs, the ratios remain relatively constant.

14.3 Inferred Mineral Resources

14.3.1 Database Integrity

Between 1999 and 2003, the drill collar positions, drill logs, assays and the Company database were extensively cross-checked against original records, verified and audited to eliminate data errors prior to re-evaluating the resource estimate. The database was audited on three occasions during and after 1999 by external consultant groups (Pathfinder Exploration Pty Ltd, Veronica Webster Pty Ltd and Hackchester Pty Ltd). In 2011 the database was again audited by Snowden (Dominy, 2011 *unpublished*).

Some hole collars were re-surveyed, and drill core was frequently checked or re-logged to ensure that assayed intersections were correctly matched to the correct mineralised bodies. Where drill holes were interpreted in Surpac mining software to have passed through a body but no assay was recorded or assays were unremarkable values, the relevant logs were examined for the presence of quartz reef material or the core re-logged, specifically searching for "formation" (altered granite adjacent to reef fissures) or quartz reefs. Any un-assayed reef material discovered in this process was half-core sawn and sent for assay.

Multiple gold assays on any one intersection, resulting from either quarter-core sampling or re-assaying of original samples and check assaying were detected and a procedure written for handling such results. Generally, if the repeat assays were within 10% to 15% of the original, the original assay was used. Where the uneven gold distribution resulted in widely variable results, samples were often sent for further screen fire assaying, or professional judgment used to select a suitable value to use. This may have been an average of two or more of the more consistent or acceptable values, or severe outliers rejected from more closely grouped results.

14.3.2 Central Area

14.3.2 (a) 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 14-11). 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 as shown in Figure 14-12 (below). 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.***

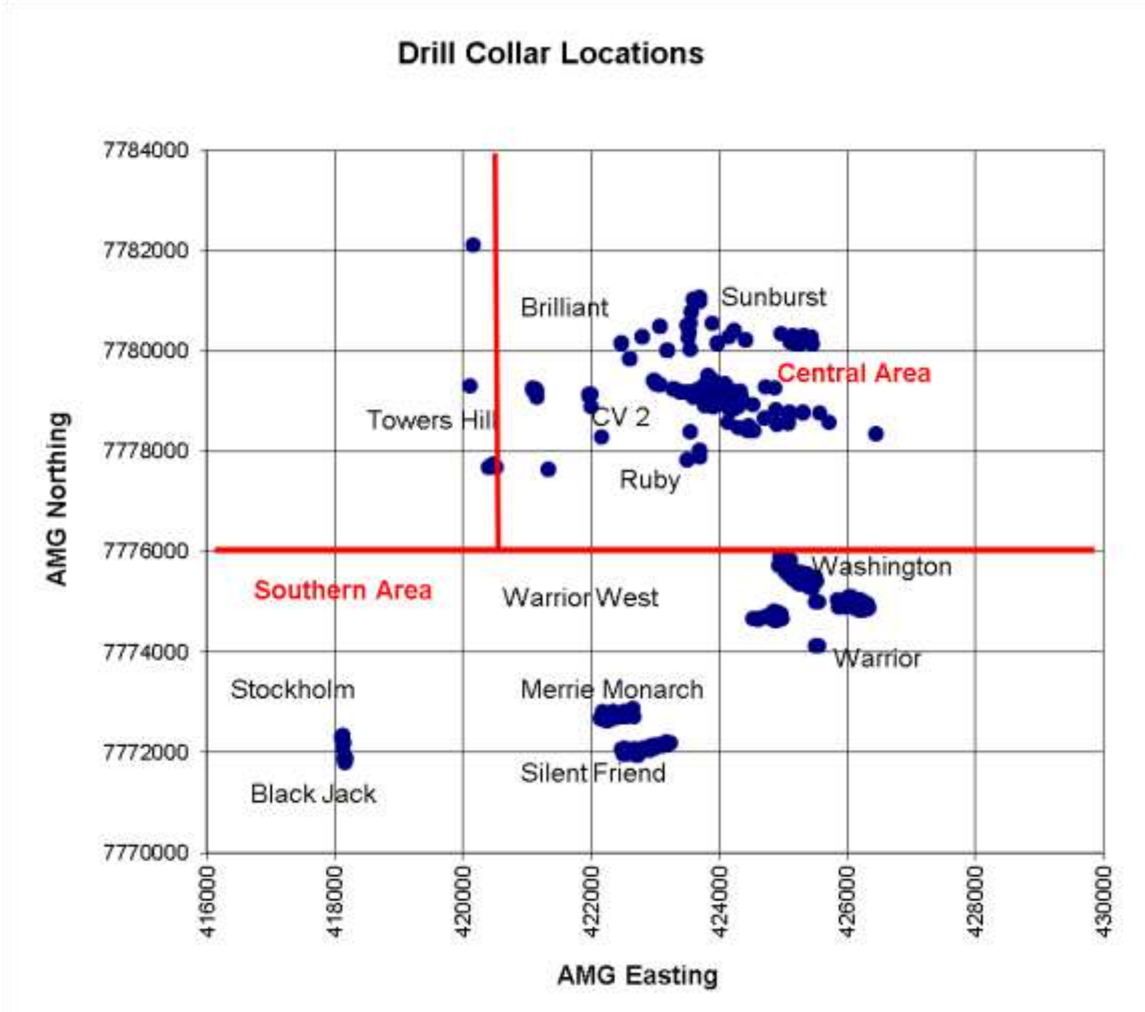


Figure 14-11. Drill Collar locations, showing the Central Area and the Southern Area, in which Mineral Resources were estimated.

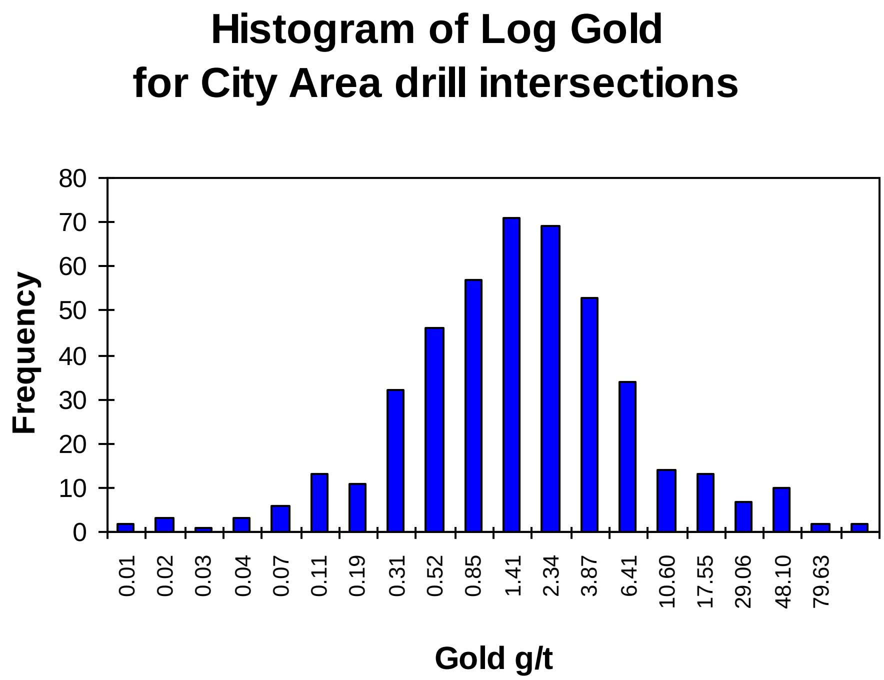


Figure 14-12. Plot of uncut grade-width metal accumulations in metre-grams per tonne for the Central area north of 7776000mN AMG and east of 420500mE AMG. The plot displays a log normal distribution.

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 does not display any particular distribution (see Figure 14-13), 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 (see Figure 14-13 below).

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.

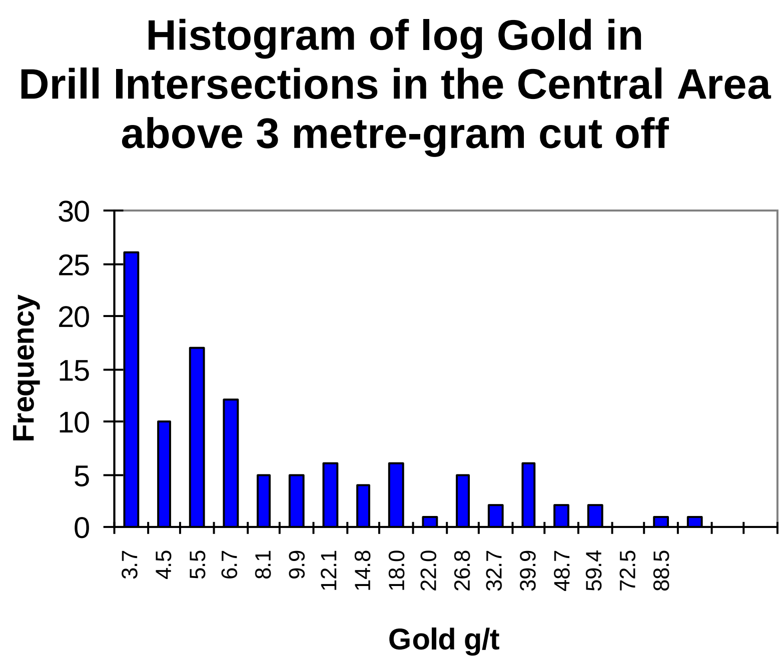


Figure 14-13. Partitioned data set of log grade-width accumulations in significant drill intersections above 3 metre-gram per tonne Au cut-off from the Central Area.

14.3.2 (b) Volume and tonnage

Mineralised body solids were modeled 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-gram 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 footwall or hangingwall splits. The splits were frequently economic and mined previously.

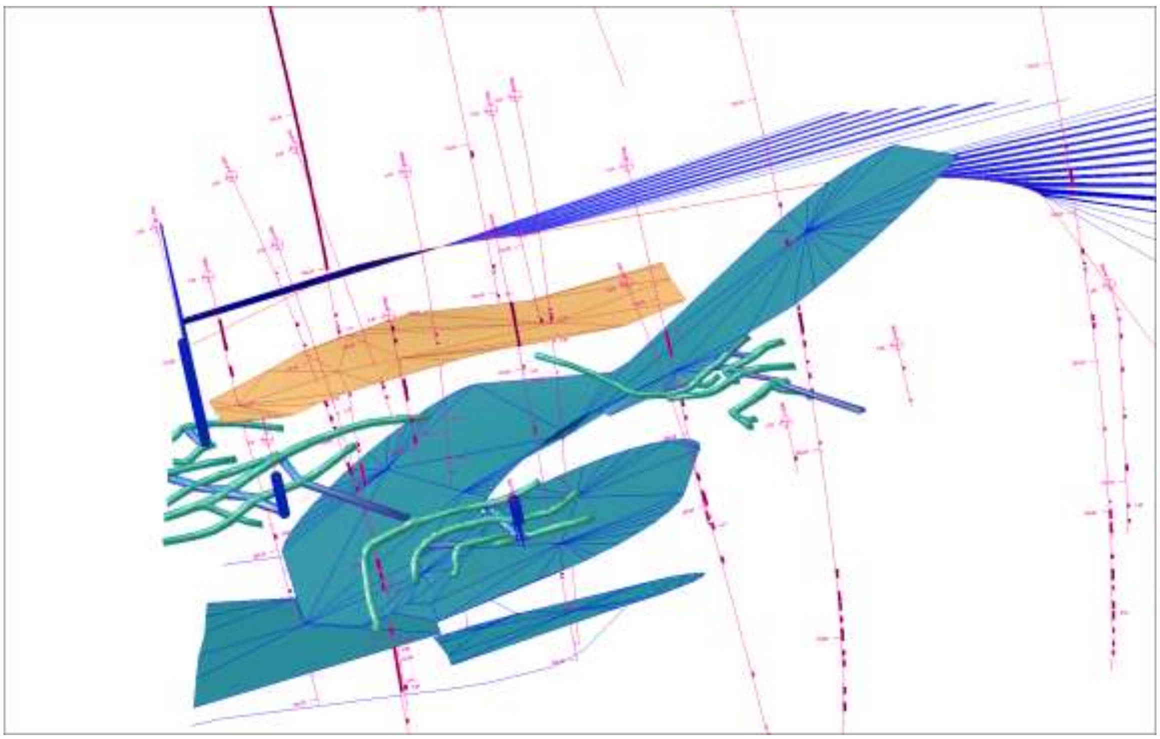


Figure 14-14. Digital Terrain Models (DTMs) were constructed in Surpac using all drill intersections. Widths were obtained from true width intersections through the structure and used to estimate tonnage within the DTM. Widths were diluted out to one metre if the true width was less than one metre.

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-gram per tonne 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-gram 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-gram per tonne Au, ***the Company will mine a higher percentage of each structure, resulting in a higher tonnage extracted from the same areas.***

C17 DAY DAWN & MEXICAN AREA
STOPE & HISTORIC UNDERGROUND DEVELOPMENT
USED TO DETERMINE "% PAYABILITY" OF FISSURE

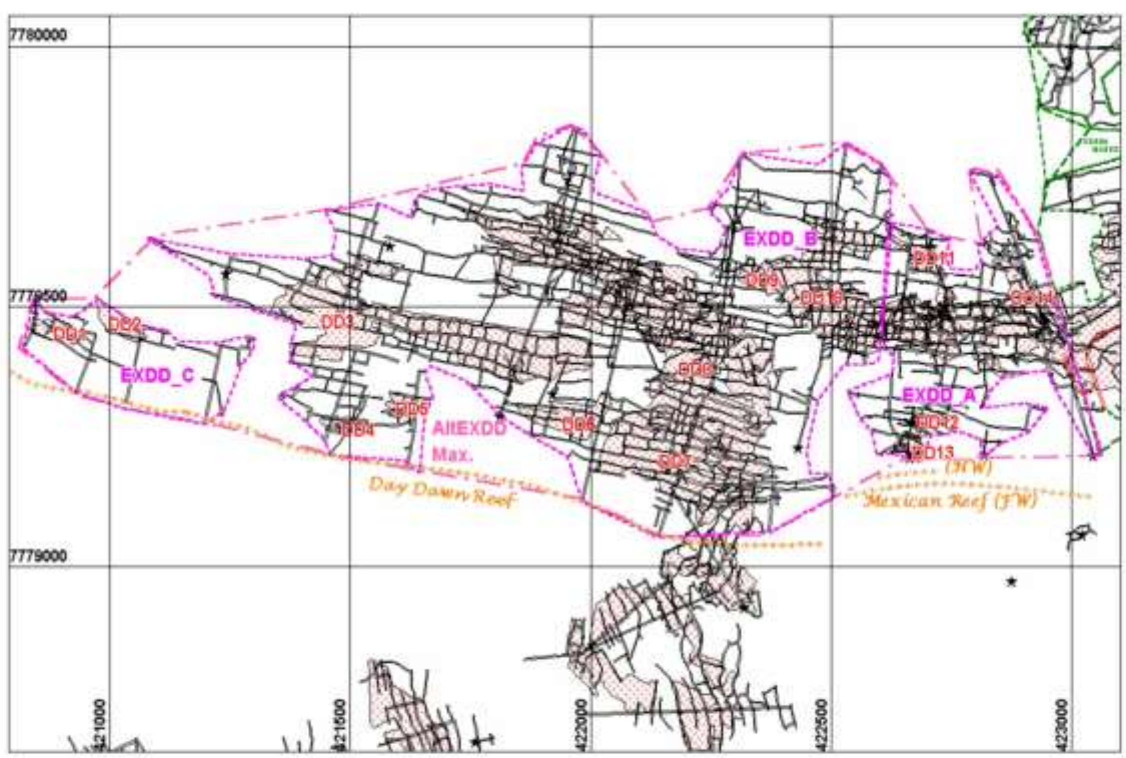


Figure 14-15. The "payability" is the ratio of the previously stoped areas from historical records (the stippled areas) compared to the total area of the structure as defined by exploratory drives (outlined by the dot-and-dash line). The average payability was estimated to be 30%, i.e. 30% of the whole structure was economic to mine, and 70% was not mined.

The individual mineralised bodies modeled are tabulated in Table 14-7 below.

Since the 2005 report, the identity, Ruby, Lady Florence and Wellington reefs have been re-allocated from the Southern Area to the Central area, redistributing about 1.7 million ounces from the Southern area to the Central area. The 2005 figures for the Central area were 10 million tonnes at 14 grams per tonne containing 4 million ounces.

For this 2012 report, the total 44 million tonnes in the Central 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.***

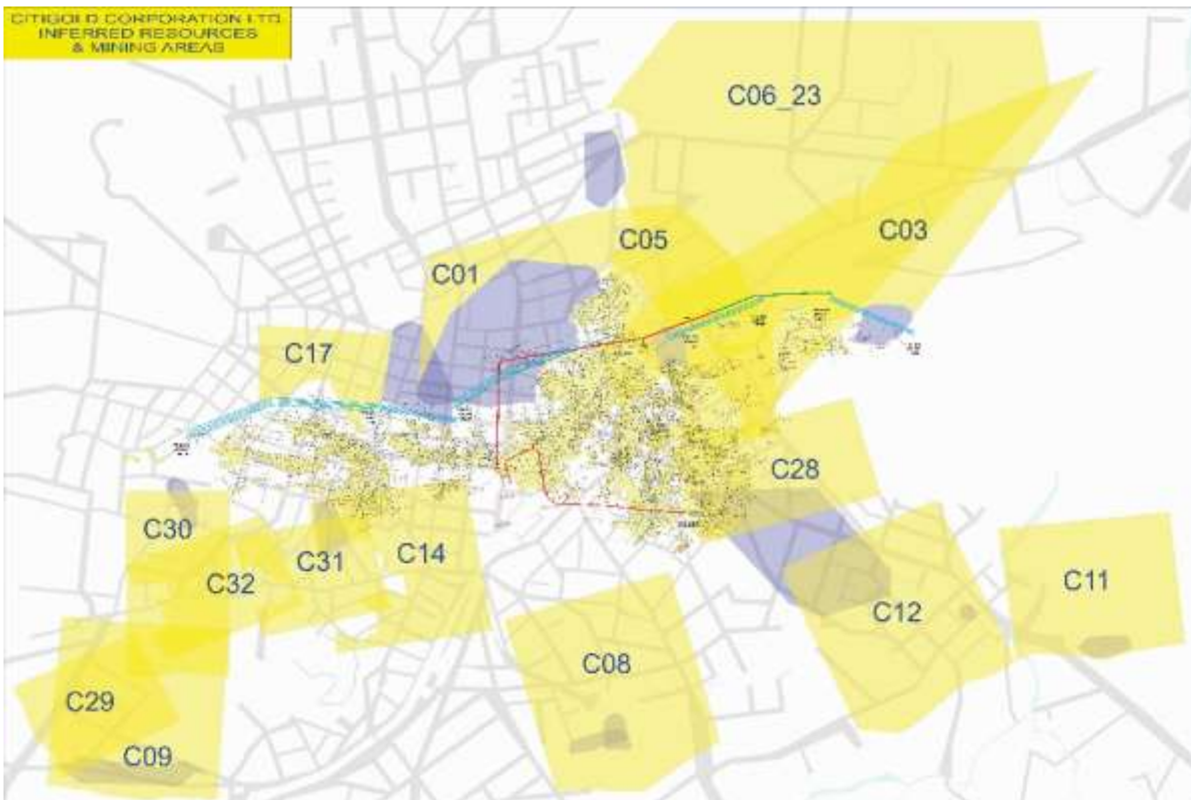


Figure 14-16. Plan view of the Inferred Mineral Resource reefs in the Central area.

Table 14-7. INFERRED MINERAL RESOURCES
CENTRAL AREA

North of 79000mN

Structure	Structure Name	Area sq.m	Density t/m³	Tonnes	Payability	Payable tonnes	Grade grams per tonne Au	Ounces
C01	Brilliant West	316,123	2.7	853,532	0.5	426,766	13.5	185,232
C05	Brilliant East (within Tonalite)	748,807	2.7	2,021,779	0.5	1,010,889	13.5	438,763
C17	Day Dawn	476,408	2.7	1,286,302	0.3	385,890	13.5	167,490
C03	Queen & Sunburst	2,073,794	2.7	5,599,244	0.3	1,679,773	13.5	729,082
	4 x Towers Hill Cross Reefs, 600m strike each	2,880,000	2.7	7,776,000	0.3	2,332,800	13.5	1,012,520
C28	No.1 Cross Reef	720,000	2.7	1,944,000	0.3	583,200	13.5	253,130
C06, C23	St Patrick & Columbia Cross Reefs	4,447,019	2.7	12,006,951	0.3	3,602,085	13.5	1,563,435
C09	Wellington	1,200,000	2.7	3,240,000	0.3	972,000	13.5	421,883
C08, C11, C12	Identity, Ruby, Lady Florence	3,600,000	2.7	9,720,000	0.3	2,916,000	13.5	1,265,649

TOTAL Central Area		13,909,405	13.5	6,037,184
ROUNDED	**Gold**	**14 million**	**14**	**6 million**
	Silver		**9**	**4 million**

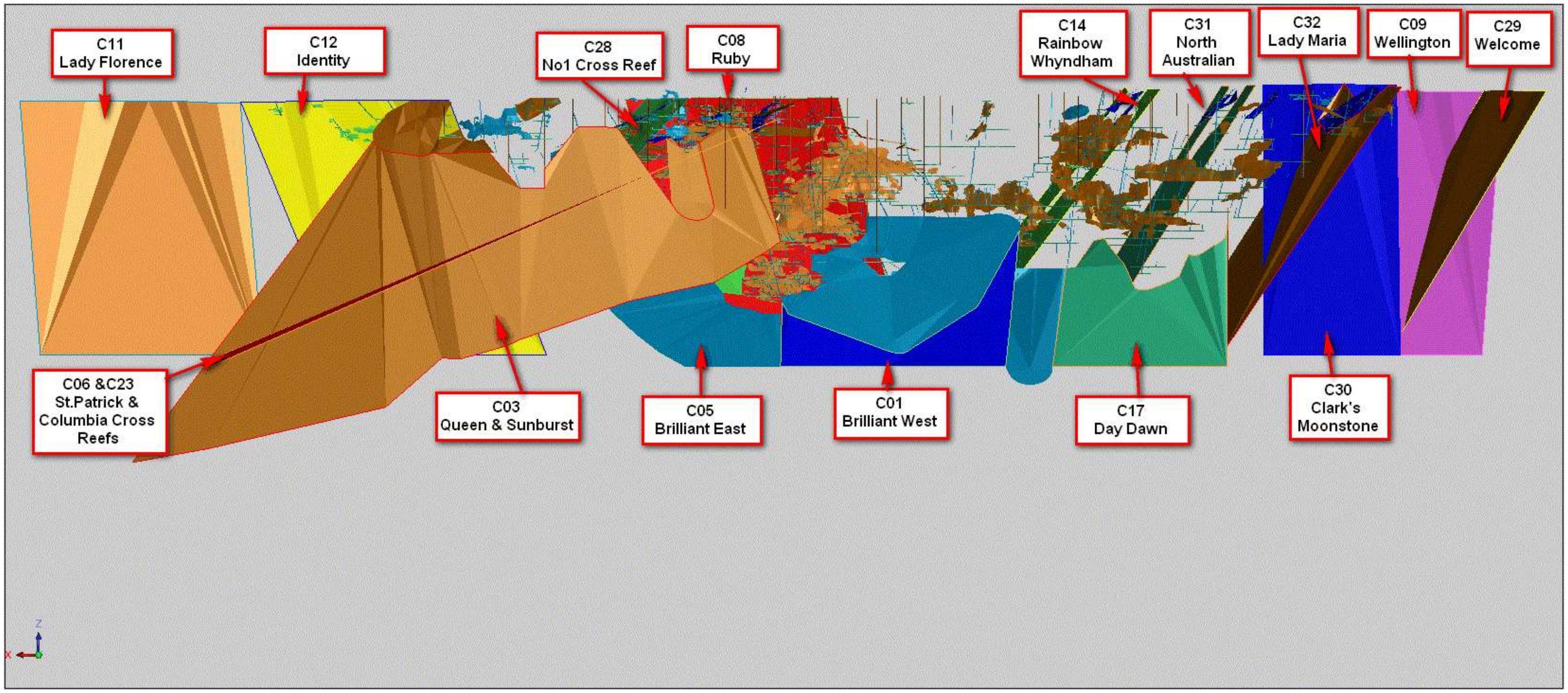


Figure 14-16.1. Long section looking South, showing the Inferred Mineral Resources outlines for each structure.

14.3.3 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 14-11). 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 as shown in Figure 14-17 below. 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 (see Figure 14-18), 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. With no evidence of a second population of high values, there is no justification for cutting values to some arbitrary limit such as 50 metre-gram per tonne or the 95% percentile.

However, to maintain a conservative approach, it was decided to use the lower average grade of 13.5 metre-gram per tonne obtained in the Central area, rather than the actual Southern area average grade of 15.5 metre-gram per tonne. At this stage of the project, this conservative approach is preferred.

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 modeled are tabulated in Table 14-8.

The Identity, Ruby, Lady Florence and Wellington reefs were re-allocated to the Central area, reducing the Southern area by about 1.7 million ounces, and a new Resource estimated on the Imperial reef which added about 840,000 ounces and was not previously included in the 2005 report. The 2005 report listed the Southern area Inferred Mineral Resource as 13 million tones at 14 grams per tonne containing 6 million ounces.

For this 2012 report, the new ***total Inferred Mineral Resource for the Southern area***, rounded to two significant figures, ***is 11 million tonnes at 14 grams per tonne containing 5 million ounces.***

Histogram of Log Gold Values South of 79000mN

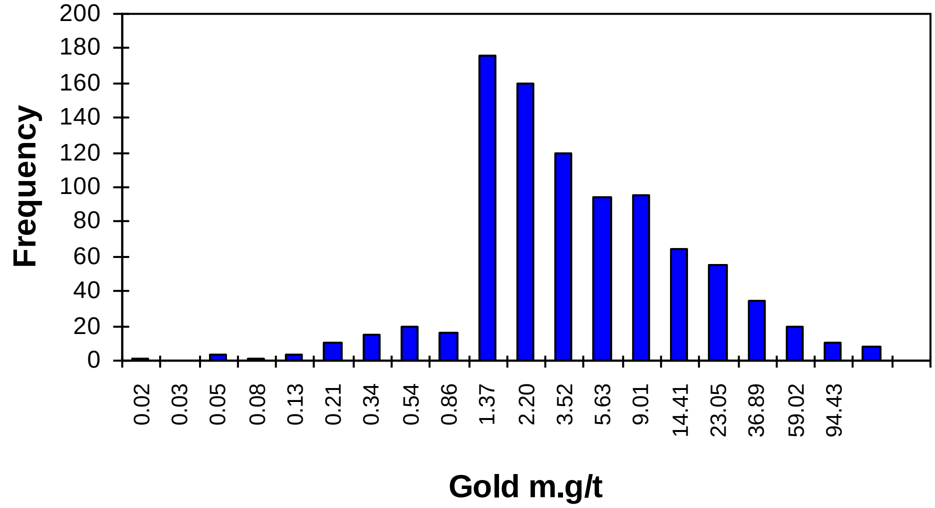


Figure 14-17. Plot of grade-width metal accumulations in metre-grams per tonne for the Southern area south of 7776000mN AMG. The plot displays a log normal distribution with a slight deficiency of values below 1 metre-gram per tonne.

Histogram of Log Gold Above 3mg/t South of 79000mN

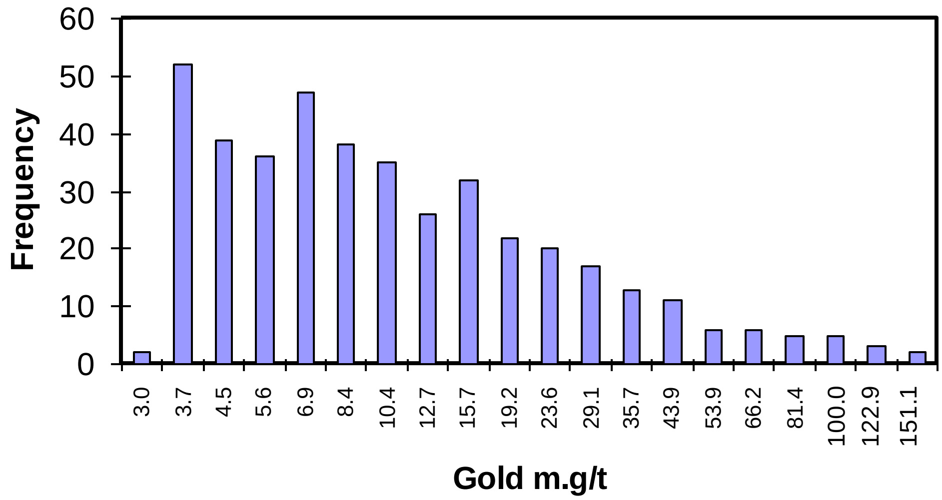


Figure 14-18. Partitioned data set of log grade-width accumulations in significant drill intersections above 3 metre-gram per tonne Au cut-off from the Southern area.

Table 14-8. INFERRED MINERAL RESOURCES SOUTHERN AREA

	Strike Length	Structure Name	Down-dip Area sq.m	Density t/m³	Tonnes (t)	Payability	Payable tonnes	Grade grams per tonne Au	Ounces
S01	1,000	Black Jack	1,200,000	2.7	3,240,000	0.3	972,000	13.5	421,883
C30	600	Clark's Moonstone	720,000	2.7	1,944,000	0.3	583,200	13.5	253,130
E06	1,500	Hidden Secret	1,800,000	2.7	4,860,000	0.3	1,458,000	13.5	632,825
E07	2,000	Imperial	2,400,000	2.7	6,480,000	0.3	1,944,000	13.5	843,766
S03	1,000	Merrie Monarch	1,200,000	2.7	3,240,000	0.3	972,000	13.5	421,883
S04	500	Mt Cenis	600,000	2.7	1,620,000	0.3	486,000	13.5	210,942
E06	1,000	Silent Friend	1,200,000	2.7	3,240,000	0.3	972,000	13.5	421,883
E03	2,000	Warrior	2,400,000	2.7	6,480,000	0.3	1,944,000	13.5	843,766
E01 & E05	1,500	Washington (E01) & Sons of Freedom (E05)	1,800,000	2.7	4,860,000	0.3	1,458,000	13.5	632,825

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*	*10,720,087*
ROUNDED	***Gold***	***25 million***	***14 grams per tonne***	***11 million***
	Silver	***25 million***	***9 grams per tonne***	***7 million***

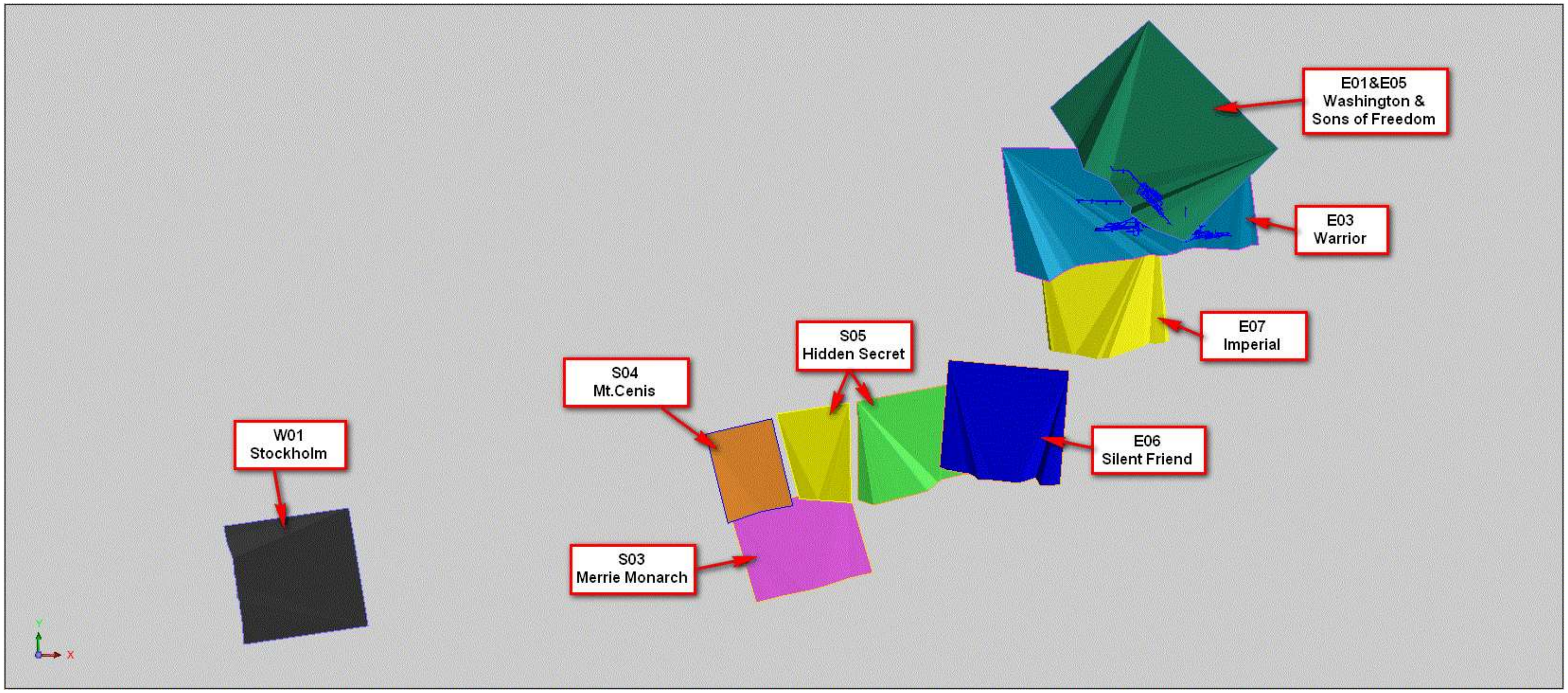


Figure 14-18.1. Plan view showing the main resource structures for the Southern Area.

14.4 Total Inferred Mineral Resources

AREA	TONNES	GRADE grams per tonne Gold	GRADE grams per tonne Silver	OUNCES Gold	OUNCES Silver
CENTRAL	14 million	14	9	6 million	3 million
SOUTHERN	11 million	14	9	5 million	4 million
TOTAL	***25 million***	***14***	***9***	***11 million***	***7 million***

Table 14-9. Total gold and silver Inferred Mineral Resource, combining both the Central and Southern areas, is 11 million ounces of gold and 7 million ounces of silver.

14.4.1 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' 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.
Extrapolation and interpolation distances are set out below for mineralized bodies listed in the Inferred Mineral Resources :-

Inferred Mineral Resources	**Reef**	**Strike extent**	**Dip Extent**	**Max Extrapolation Distance**
Central	C01 Brilliant West	1050	2400	450
	C05 Brilliant East	1600	2400	530
	C17 Day Dawn	800	1400	680
	C03 Queen & Sunburst	1800	1200	1,100
	4x Towers hill cross reefs			
	C29 Welcome	610	1,420	1,120
	C30 Clark's Moonstone	245	1,450	1,150
	C31 North Australian	150	1,600	1,300
	C32 Lady Maria	250	1,000	700
	C28 No.1 Cross Reef	600	1,000	700
	C06 C23 St Patrick & Columbia	2,450	2,733	1,434
	C09 Wellington	1,000	1,550	1,250
	Identity, Ruby, Lady Florence			
	C08 Ruby	1,000	1,560	1,260
	C11 Lady Florence	995	1,375	1,075
	C12 Identity	1,010	1,540	1,240
South	S01 Black Jack	990	1,200	900
	C30 Clark's Moonstone	600	1,200	1,050
	E06 Hidden Secret (2 parts)	430 & 930	1,200	900
	E07 Imperial	1,350	1,200	900
	S03 Merrie Monarch	992	1,200	800
	S04 Mt Cenis	557	1,200	940
	E06 Silent Friend	1,005	1,200	1,100
	E03 Warrior	2,016	1,200	350
	E01 Washington & E05 Sons of Freedom	1,563	1,200	890

14.5 Indicated Mineral Resources

14.5.1 Grade Continuity

Inferred Mineral Resources have been estimated within the Company's mineral holdings where the drilling density and other physical evidence is such that there is a reasonable certainty that the geological structures continue between the data points and that gold and silver is present in these structures. This information is contained within the report titled "Report on the Inferred Mineral Resources for the Charters Towers Gold Project, May 2005" submitted to the Australian Stock Exchange ('ASX') as an announcement on 2 June 2005, and revised in Item 14 of this current report.

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. Later in this report, information is given on the variability of the gold price over the last five years (a range of ± 44% from the mid-point) and the variability of assaying (10% to 15%) to show that cash flow projections for all gold projects may have an inherent variability risk of the order of ± 40% based on gold price assumptions alone. A prime purpose of mineral resource and ore reserve estimation is to generate cash flow projections to assess the feasibility of a mining project.

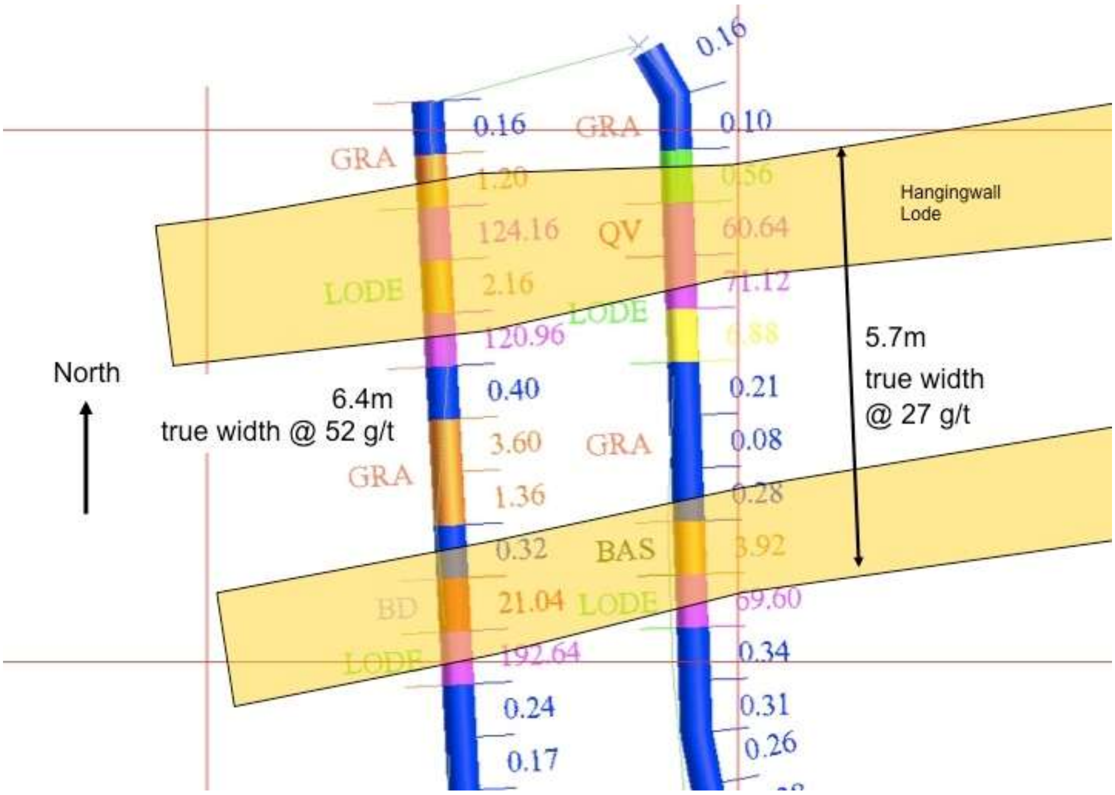


Figure 14-19. Plan view, showing the variation in gold assays in rock-chip samples along the walls of a level drive in the Warrior ore body.

The Company believes that it has quantified the risk of grade continuity in the Charters Towers project sufficiently to move more densely drilled areas into the Indicated Mineral Resource category. The JORC Code (Paragraph 21) states that:

> *"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.
An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource, but has a higher level of confidence than that applying to an Inferred Mineral Resource.
Mineralisation may be classified as an Indicated Mineral Resource when the nature, quality, amount and distribution of data are such as to allow confident interpretation of the geological framework and to assume continuity of mineralisation.
Confidence in the estimate is sufficient to allow the application of technical and economic parameters, and to enable an evaluation of economic viability."

The Company's Indicated Mineral Resource at Sunburst is based on defining the geological structures from surface mapping over two (2) kilometres of strike length, accurately locating previous mine shaft collars connecting to workings on the structures, diamond drilling to over 1,000 metres depth, combined with confident survey location and modelling of previous mine workings on the geological structures to depths of 400 metres for the Queen-Sunburst structure and over 900 metres for the Brilliant.

The Warrior, Sons of Freedom and Imperial resources are based on defining the geological structure from surface mapping over two (2) kilometres of strike length, underground mining on the Warrior and Sons of Freedom, previous mine shaft collars and confident survey location of previous workings, reverse circulation (RC) drilling and diamond drilling down to 270 metres.

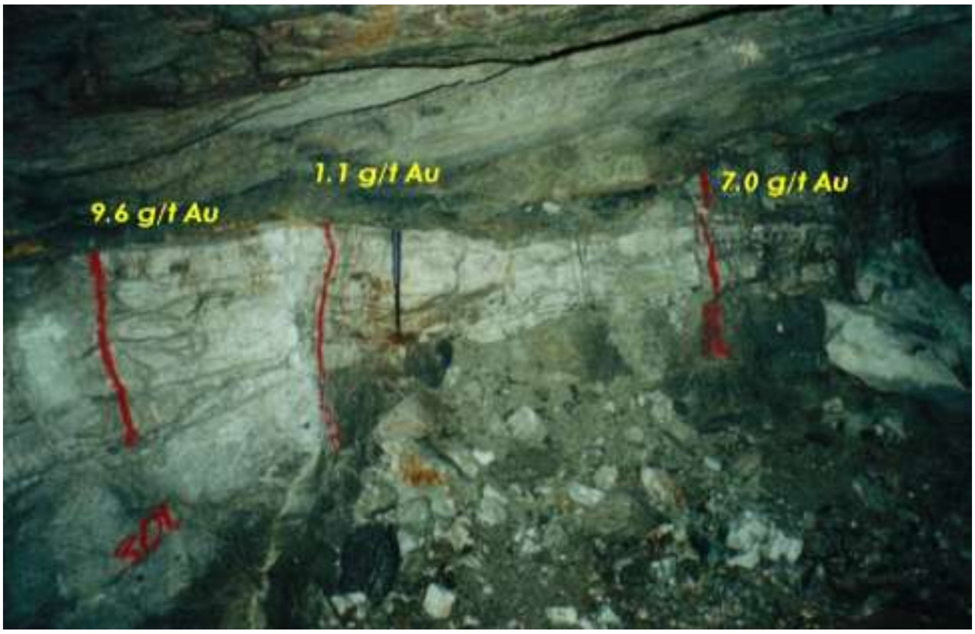


Figure 14-20. Sampling of the No.2 Cross Reef (Maude St Leger reef) in a remnant pillar on the 890 Level. The geological hammer is 40cm long. This reef is geologically continuous and has a reasonably uniform width, but the grade is highly variable.

The above photograph (Figure 14-20) illustrates the point about grade continuity. It is the No. 2 Cross Reef in the Central area, a typical Charters Towers reef, intersected in the Company's 1997-99 underground mine workings on the 890 Level. It is an extension of the previously-mined Maude St Leger Reef. It is representative of the type of reefs in the project areas. Rock chip face samples taken over the quartz reef show three different gold grades within a short distance of less than three metres. This block was left as a pillar and shows the rapid variation in grade over a short distance. If the reef had been one metre thick, this block would have been mined as a continuous unit, but a drill intersection from surface at each sample point would have returned two intersections above cut-off (9.6 metre-gram per tonne and 7.0 metre-gram per tonne) and one below (1.1 metre-gram per tonne). At a nominal drill spacing of 25 metres, the intersection would have either been included or excluded from any interpreted ore shoot, depending on which intersection was used.

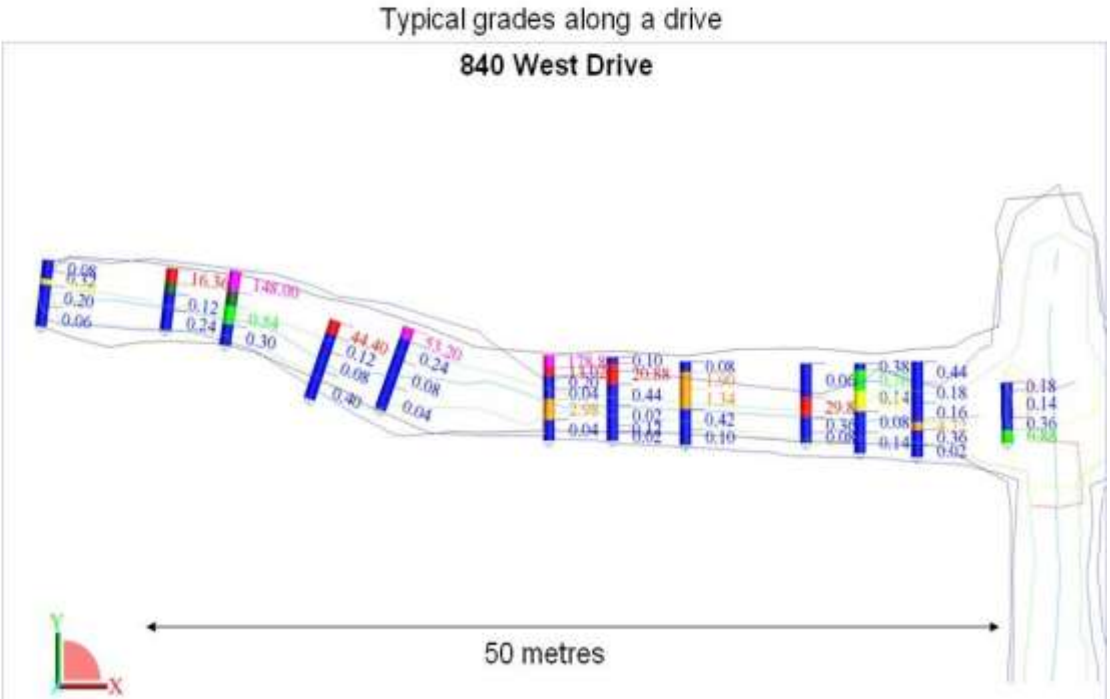


Figure 14-21. 840 West Level drive in the Warrior ore body, Imperial Mine, showing the variation in grade along the ore body over a 50 metre interval. Samples are line rock chip samples across the face at about chest height.

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 14.1.5 of this Report). This gives high confidence when extrapolating assumptions on geological continuity and expected recovered grades.

14.5.2 Assay Precision and Quality Control

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% (see Items 11 and 12, and References).

Details of the results of the Company's quality control on precision and accuracy are given in Items 11 and 12.

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.

14.5.3 Ore Body Modelling

Ore body modelling refers to the process of producing a geometrical shape of the mineralised body, from which a tonnage can be estimated.

The procedures used were as follows:

- The drill intersections and historic workings were examined in three dimensions (3D) using SURPAC computer software. Where a series of intersections were shown to lie in planar continuity with the historic workings a projected plane of extension to the mineralised fissures was defined.
- The total areas of the mineralised bodies in the Indicated Mineral Resource category were based on the projection of the mineralised fissure from the historic workings down dip or along strike to the drill intersections. The area in the curved surface of the fissure was calculated using SURPAC software. The surface was extended 50m to 100m beyond the boundary drill holes, depending on the drill density and confidence levels in the structure.
- Where appropriate, estimation of the area of the fissure taken to be payable was made based on the "% payability" determined from historically stoped areas versus the underground exploration development on the particular fissure.
- For the major mineralised fissures in the Central Area, the gold content of the fissure estimated to be above 3 metre-gram per tonne Au (estimated true width, '**ETW**') cut off (using the % "payability" factor) was made using the average of the grade determined from drill hole intersections above 3 metre-gram per tonne within the whole mineralised body.

- Volumes were estimated based on the average of the drilled true widths of the reefs.
- Tonnages were estimated from the volume calculated, and a Bulk Density of 2.7 tonnes per cubic metre (t/m³), then where applicable, discounted by the % payability factor for the fissure.
- Grade was estimated by dividing the sum of the metal accumulation (ETW metre x grams per tonne Au) by the sum of the intersection widths.
- Gold content calculations were based on metal accumulations (metre-gram per tonne Au) obtained from drilling intersections.

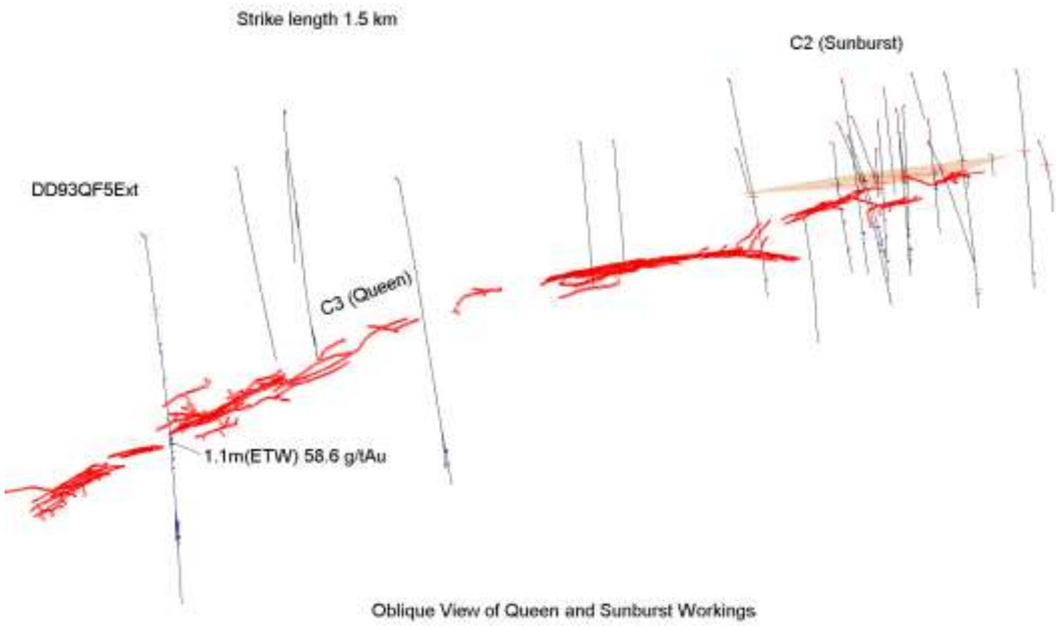


Figure 14-22. Oblique view of the Queen – Sunburst structure looking down the dip of the structure, showing diamond-drill hole paths along strike and down dip of previous workings. The geological significance is the remarkably uniform dip and strike over the 1.5 kilometre length and 600 metre down dip extent.

The confidence limits on the volume estimates are regarded as high. The widths are based on the average of the drill intersection true widths, and the boundaries of the solids are constrained by drill intersections. Tonnage data is extrapolated for a maximum of 50m from the last sample point, and the total tonnage is then discounted by 70% according to the payability factor. There is a very small margin of potential error in the remaining tonnage expected to be economically extractable.

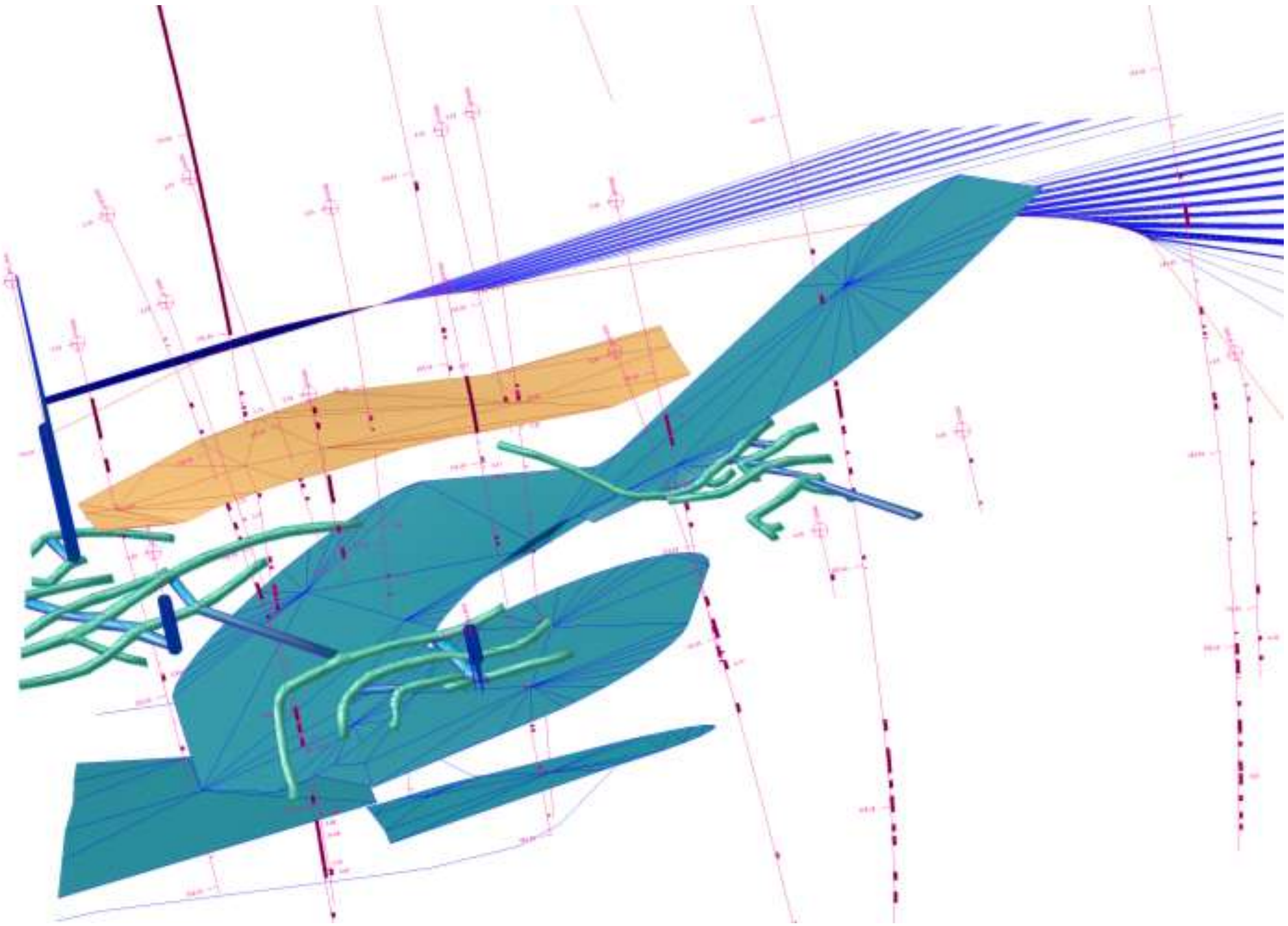


Figure 14-23. Example of a SURPAC model of the Queen East and Sunburst mineralised bodies constructed from drill intersections

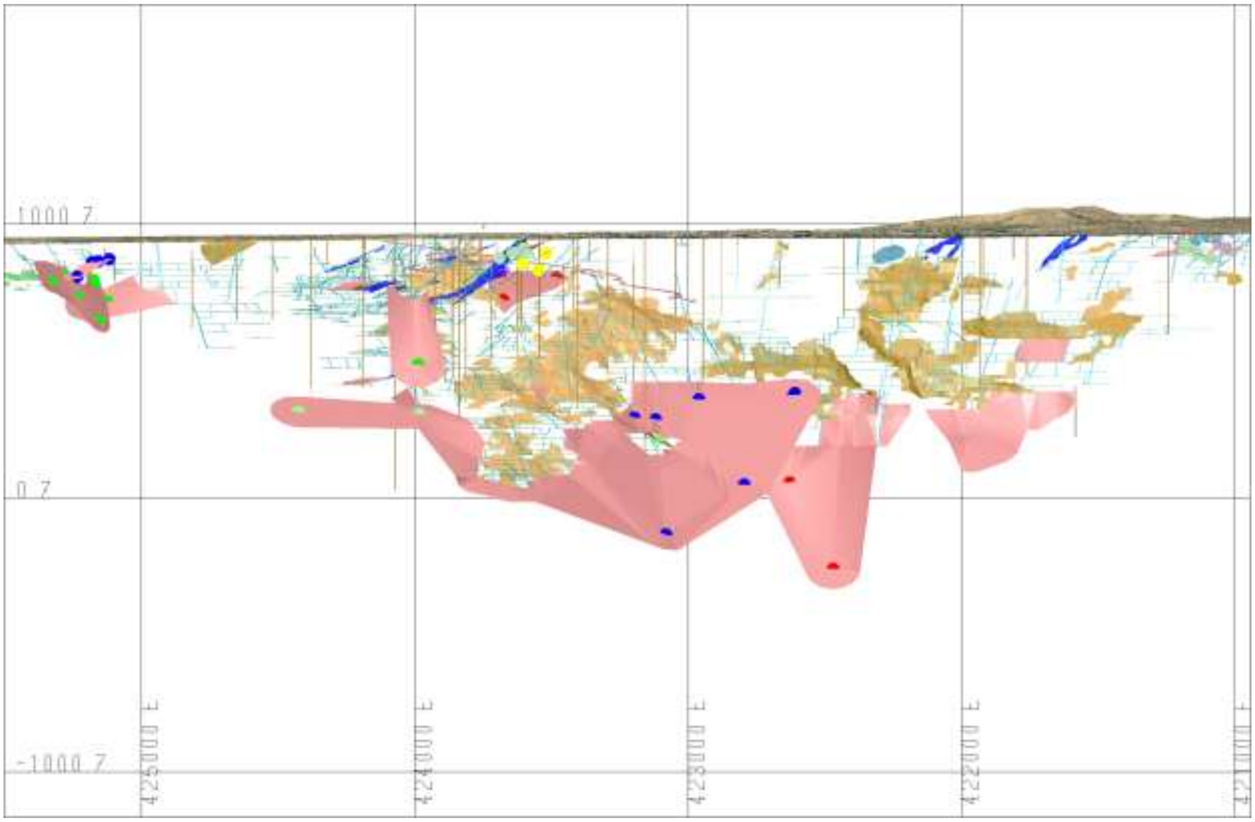


Figure 14-24. Long section looking south, showing the drill pierce points through the Central Area Indicated Mineral Resource structures.

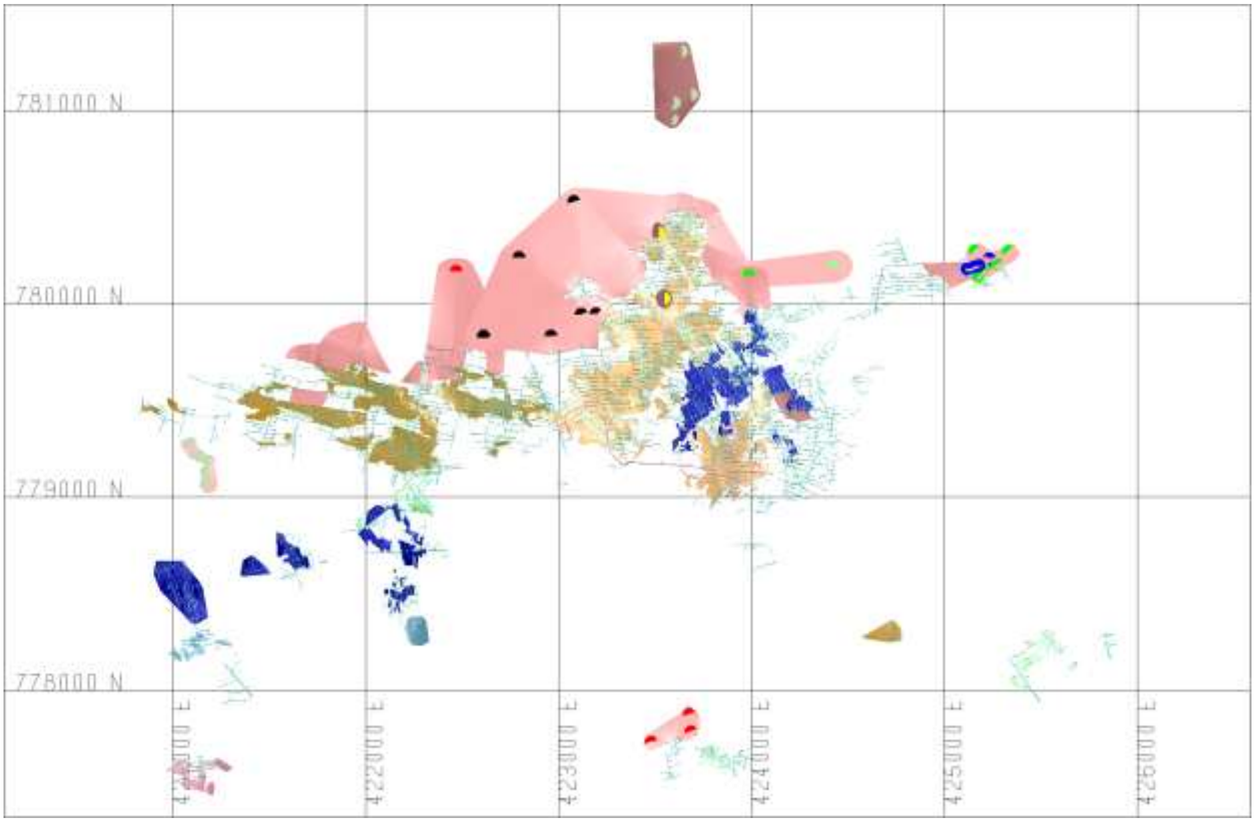


Figure 14-25. Plan view showing drill pierce points through the Central Area Indicated Mineral Resource structures.

14.5.4 Tonnage Estimates

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 modeled 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/m^3), 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/m^3 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/m^3 to 3.2 t/m^3 based on the Company measurements summarized in Tables 14-10 and 14-11 below .

The figure of 2.7 t/m^3 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 on granodiorite drill core by James Cook University returned values from 2.69 t/m^3 to 2.74 t/m^3 with an average of 2.72 t/m^3. Specific gravity ('S.G.', here synonymous with density) measurements were conducted by ALS on six hard rock, low-sulphide ore returning values from 2.64 to 2.75, and averaging 2.69 t/m^3.

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/m^3. The average density was 2.83 t/m^3 (see Table 14-9 below).

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/m^3. The average density was 3.1 t/m^3 (see Table 14-11 below).

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-gram 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/m^3 without correcting for SG will always be the minimum tonnage expected.

A variation of 0.1 t/m^3 in the S.G. will vary the estimated tonnage by about 4%.

The variation in densities from 2.7 t/m^3 to 3.2 t/m^3 will vary the tonnages by 20%.

Payabilities used are the historical figures at a high cut-off grade of 9 metre-gram 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.

TABLE 14-10. Specific gravity measurements conducted by the Company on 32 core samples from 8 diamond-core holes at Warrior East.

Abbreviations – str = strong; mod = moderate; Wk = weak; py = pyrite; gl = galena; ox = oxidized; tr = trace; GFM = gold formation; sp = sphalerite;; QV = quartz veining; ser = sericitic alteration; frac = fractured; Pkfs = pink feldspar alteration; BD = basaltic dyke

Hole/Sample Id	Ore-zone / Prospect	Measured Depth from Mtrs	Measured Depth to Mtrs	Length Mtrs	Geology & Comments	SG
WEDD005	Warrior East	175.4	175.55	0.15	GFM	2.80
		176.05	176.1	0.05	GFM, QV	2.98
		176.6	176.7	0.1	QZ Zone	2.72
		176.8	176.9	0.1	GFM	2.83
CTRC346	Warrior East	161.9	162.1	0.2	GFM Wk ser	2.80
		162.2	162.4	0.2	GFM & QV Wk py	2.77
		162.4	162.5	0.1	GFM	2.80
		163	163.2	0.2	GFM & QV Wk ser Tr py	2.80
		168.45	168.55	0.1	frac GFM Wk ser	2.78
		168.65	168.75	0.1	frac GFM & QV Tr py Wk ser	2.77
		169.5	169.6	0.1	frac GFM & QV Tr py Wk ser	2.78
		170	170.55	0.55	Ox Qtz zone Wk py Wk GFM bands	2.72
		170.75	171.05	0.3	GFM & QV Tr py Wk ser	2.79
WEDD001	Warrior East	211	211.1	0.1	BD Tr py	2.96
		211.1	211.3	0.2	frac Qtz	2.69
		211.4	211.5	0.1	BD	2.89
WEDD002	Warrior East	161.6	161.7	0.1	GFM Wk ser Tr py	2.82
		161.7	161.91	0.21	QV Mod py	3.00
		161.91	162.08	0.17	GFM Wk ser Tr py	2.81
WERC028	Warrior East	266	266.1	0.1	BD Tr py	2.94
		266.1	266.35	0.25	QV Wk py	2.78
		266.65	266.75	0.1	BD Tr QV Wk py	2.90
		266.75	266.95	0.2	BD Pkfs	2.88
		266.95	267.05	0.1	GFM Wk ser	2.80
WERC024	Warrior East	182.45	182.6	0.15	frac BD micro vn's	2.90
		182.6	183.1	0.5	frac QV Tr py	2.67
		183.1	183.2	0.1	GFM Mod ser	2.92
WEDD002	Warrior East	178.95	179.06	0.11	GFM Mod ser Tr py	2.68
CTRC345	Warrior East	183.8	183.9	0.1	BD	3.05
		184.5	184.95	0.45	QV & BD broken core	2.76
		185	185.45	0.45	frac QV Mod py	3.05
		186.25	186.4	0.15	Qtz BD Mod py	2.83
					Average	2.83

Table 14-11. Density measurements on 102 underground ore samples from the No.2 Cross Reef (Maude St Leger Reef). Average sample weight was 0.75 kg. Average density is 3.1 t/m^3.

Abbreviations – str = strong; mod = moderate; wk = weak; py = pyrite; gl = galena; ox = oxidized; tr = trace; gfm = gold formation; sp = sphalerite; bx = brecciated

Hole/Sample Number	Geology & Comments	Dry Weight grams	Density
204511	str py	519	2.98
204512	str gl	452	2.86
204513	tr py	535	2.54
204514	mod py, gl	494	2.92
204515	mod py, tr gl	486	2.76
204516	str py	514	2.76
204517	str gl, py	519	3.60
204518	str py, tr gl	538	2.92
204519	wk py, ox	487	2.68
204520	str py, ox	446	3.03
204521	str py	524	2.66
204522	str py, mod gl	522	3.55
204523	str py	520	3.02
204524	str py	513	2.95
204525	str py, gl	494	3.27
204526	str py, gl ox	490	3.43
204527	str py gl	536	4.19
204528	str py mod gl	545	2.66
204529	str py	509	3.18
204530	str py	517	3.54
204531	str py	480	3.12
204532	str py	483	2.88
204533	str py	465	2.85
204534	mod py, gl	507	2.74
204535	tr py	473	2.67
204536	str py	499	2.95
204537	str py	519	3.87
204538	wk py	496	2.80
204539	str py, mod gl	529	3.55
204540	str py	554	3.01
204541	str py ox	509	3.49
204542	str py ox	451	2.77
204543	mod py ox	469	2.70
204544	str py gl	547	4.60
204545	str py ox	519	2.97
204546	str py ox	469	3.91

204547	str py ox	493	2.95
204548	str py	549	2.84
204549	wk py	510	2.66
204550	str py	522	2.95
204551	str py	521	2.96
204552	str py	540	3.09
204553	str py	448	3.20
204554	str py, gl	552	3.41
204555	mod py	530	2.68
204556	mod py, tr gl	543	2.66
204557	str py gl	541	3.32
204558	str py, mod gfm, tr gl	546	3.03
204559	str py, tr gl, wk gfm	533	2.94
204560	mod py	551	2.73
204563	tr py	1010	2.66
204564	tr py	1045	2.63
204565	wk py	983	2.61
204566	wk py	1029	2.63
204567	wk py	994	2.91
204568	wk py	1028	2.78
204569	mod py	1029	2.77
204570	mod py	951	2.74
204571	tr py	1022	2.65
204572	wk py	1025	2.67
204573	tr py	1017	3.09
204574	tr py	1016	2.65
204575	wk py	993	2.63
204576	wk py	1028	2.79
204577	mod py	1017	2.71
204578	wk py	1028	2.81
204579	mod py tr gl	958	2.72
204580	tr py wk ox	972	2.66
204581	tr py	1000	2.64
204582	mod py wk ox	990	2.73
204583	mod py	981	2.81
204584	str py	1024	2.69
204585	mod py	1005	2.78
204586	wk py	975	2.72
204587	str py wk ox	955	2.81
204588	str py tr gfm	962	3.33
204589	str py tr gl	1013	3.31
204590	str py str gl	1016	3.63
204591	str py str gl	943	3.53
204592	str py wk gl wk ox	1014	3.05
204593	str py	1023	3.82
204594	str py	1027	3.07

204595	str py mod gl	947	4.17
204596	str py mod gl	1004	4.10
204597	mod py	935	2.80
204598	Aplite blank sample	555	2.62
204599	str py mod gl	1019	3.77
204600	wk py wk gfm	1016	2.73
204601	str py	1022	3.52
204602	str py wk ox	1041	2.92
204603	str py	994	3.91
204604	str py mod gl	1028	4.02
204605	str py	934	3.71
204606	str py wk gl	1022	3.17
204607	str py mod gl tr mal	901	4.02
204608	str py	987	3.50
204609	Tonalite blank sample	365	2.63
204610	str py	957	3.86
204611	str py	1033	4.08
204612	str py mod gl mod sp	968	3.09
204613	str py bx freegold on face	952	3.84
204614	str py	1048	3.77
	Average	**748.13**	**3.10**

14.5.5 Grade Estimates

Grade estimates are based on the average of those drill intersection grades that are above the lower cut-off grade, for the diamond drill holes penetrating each mineralised body. The orientation of the structure is known from computer modelling extended from extensive surveyed workings underground, combined with surveyed diamond-core hole intersections. All drill collars were surveyed and all holes surveyed downhole usually at 50 metre intervals. Oriented core samples were taken in the majority of recent drill holes, so that there is certainty in correlating reef intersections with known reefs. True widths of drill intersections were calculated in SURPAC for reef intersections.

Where drill intersection true widths were less than one metre, the grades were multiplied by the true widths to produce metal accumulations in metre-grams of gold per tonne of rock (m-grams per tonne Au). The material included in the one-metre interval outside the assayed section was assumed to be zero grade, diluting the original assay. This minimum mining width is a mining factor normally used in Reserve estimation, but is introduced at the Resource stage to produce a meaningful Resource figure for both Inferred and Indicated Resources. It is improbable that any opening less than one metre can be economically mined in reality. Diluting grades in narrow intervals less than one metre ensures that average grades are not biased by thin high-grade values.

Figure 14-26. Where the ore body width is less than one metre, the grade is diluted out to an arbitrary width of one metre, as one metre is the minimum width that is likely to be mineable (looking easterly).

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.

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.

This method of grade estimation (averaging drill grades above a set cut-off) is essentially the same as the polygonal method of grade estimation. More sophisticated computerized statistical methods are inappropriate for this project given the number of drill intersections available at this stage of the project. As the project is not a grass roots project and has an extensive knowledge base of previous production exceeding six million ounces over 40 year period, this method is regarded by The Company as sufficiently accurate for its purposes at the Indicated Mineral Resource stage, within the stated confidence limits.

Drilling is primarily used by the Company to establish that the reef system exists at a particular point. The drill intersection may or may not contain economic levels of mineralisation, and is probably not representative of the grade over an area much beyond 5 metres from the intersection. Diamond drilling is useful in this type of deposit for locating structures and can be used in a broad manner for global grade information once sufficient data points are obtained (in excess of 50 intersections). The Company has over 1,500 significant drill intersections and has drawn reliable conclusions on the global grade statistics. However, diamond drilling, even at large diameters, will not produce reliable local grade distribution information. Mine planning will rely on an effective day-to-day grade control management system during the mining process, as is common in these types of deposits.

A true indication of the grade distribution in this type of deposit will only be obtained by underground driving on the structures, and this requires the extension of the Central Decline down to 600 metres vertical depth.

The Company is firmly of the opinion that additional drilling would not necessarily guarantee that the confidence limits on grade distribution would be materially improved, due to the known nature of the mineralisation and the known irregular and non-uniform gold grade distribution.

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.

Due to the difficulties in obtaining reliable and cost-effective grade distribution from drilling, the Charters Towers project will be unlikely ever to have extensive Proved Ore Reserves beyond one to two years of planned production. Mine planning will be extensively reliant on Inferred and Indicated Mineral Resources, and at best Probable Ore Reserves derived from Indicated Mineral Resources. This is not uncommon in reef type deposits where there is an extensive previous mining database.

Nevertheless, the confidence will be high at ±30% for Inferred Mineral Resources because –

A) the base tonnes have been discounted already, and

B) the ore body is well understood from current and past mining.

14.6 Indicated Mineral Resources

The Indicated Mineral Resources are tabled below:

INDICATED MINERAL RESOURCES

Ore Body	Tonnes	Grade grams per tonne Au	Gold Ounces
C1 Brilliant West a	298,043	6.45	61,809
C1 Brilliant West b	691,681	5.63	125,220
C2 (Sunburst)	213,476	11.16	76,605
C3 Queen West	103,015	32.37	107,203
C5 Brilliant East 3	111,930	5.35	19,238
C5 Brilliant East 4	122,685	23.27	91,774
C 6 (St Patrick)	704,047	3.74	84,649
C 7 Caledonia Extended	14,969	15.00	7,219
C8 (Ruby)	32,816	5.54	5,848
C13 Mountain Maid	247,881	5.81	46,288
C17 Day Dawn	117,983	5.00	18,974
C23 Columbia	184,582	7.16	42,511
C26 Queen East [Golden Gate]	67,455	13.93	30,211
E3 Warrior East	203,847	7.16	46,920
S3 Merrie Monarch	50,916	3.29	5,385
W1 Stockholm	14,968	12.26	5,898
TOTAL	**3,180,295**	**7.59**	**775,751**
Rounded	**3,200,000**	**7.6 grams per tonne gold**	**780,000 ozs gold**
	tonnes	**5.1 grams per tonne silver**	**520,000 ozs silver**

Table 14-12. Indicated Mineral Resources summary of the tonnes, grade and ounces in each of the resource blocks, and the factors used are below.

***FACTORS**		
Top cut	50	grams per tonne
Lower cut-off	3	metre-gram per tonne
US Gold Price	$ 1,500	
Exchange Rate	0.95	
Australian Gold Price	$ 1,579	
Payability	Variable - 30% to 52%	
Minimum mining width	1.00	metre
Estimation method		
Area:	Surpac DTM's	
Thickness:	Drill hole average true width	
Grade:	Weighted average of drill intersections	

15.0 Ore Reserve Estimate [JORC] (termed Mineral Reserve in NI 43-101)

The Probable Ore Reserve (*Probable Mineral Reserve* in NI 43-101) is derived from the Indicated Mineral Resource by applying various legal, economic and mining factors to the geological data that comprises the Indicated Mineral Resource.

The Probable Ore Reserve (JORC) (*Probable Mineral Reserve* NI 43-101) at a 4 grams per tonne cut-off is tabled below, together with the mining factors:

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

Table 15-1. Probable Ore Reserve (JORC) (Probable Mineral Reserve NI 43-101) at a 4 grams per tonne cut-off, and mining factors below.

***FACTORS**		
Mining method	Long-hole open stoping, 10m sub-levels	
Minimum mining width	1.00	metre
Dilution	10%	
Gold losses	5%	
Payability	Variable - 30% to 52%	
Pillars left	0% due to payability factor	
US Gold Price USD	$ 1,500	
Exchange Rate	0.95	
Aus Gold Price AUD	$ 1,579	
Driving cost AUD	$ 3,000	per metre, 3.5 metre square
Driving cost equivalent	2.15	Ounces

15.1 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 15-1 and 15-2).

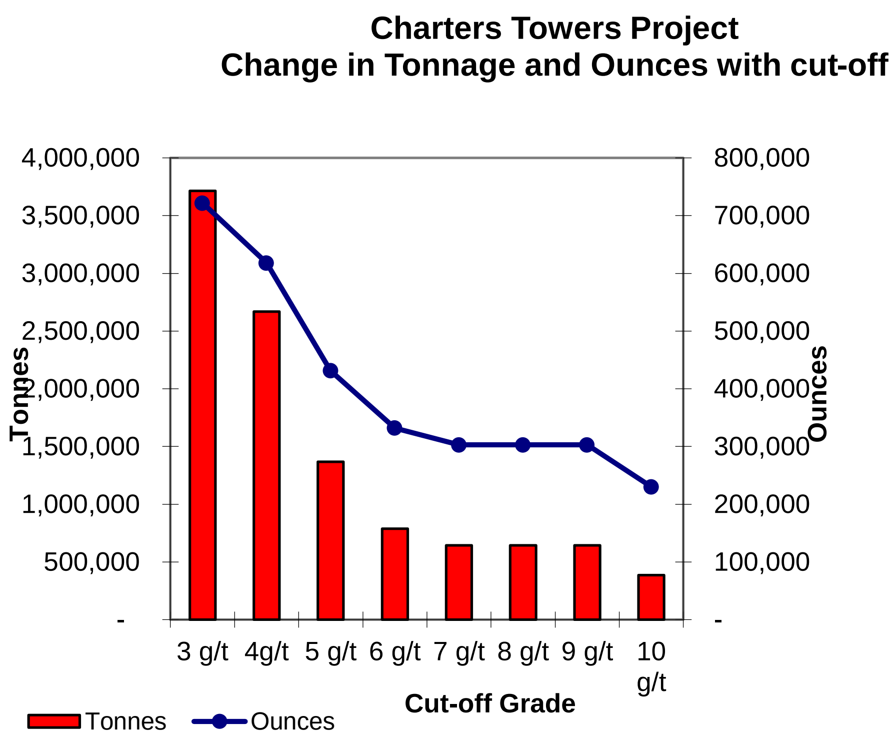


Figure 15-1. Tonnage-ounce curve showing change in tonnage and ounces with cut-off grade.

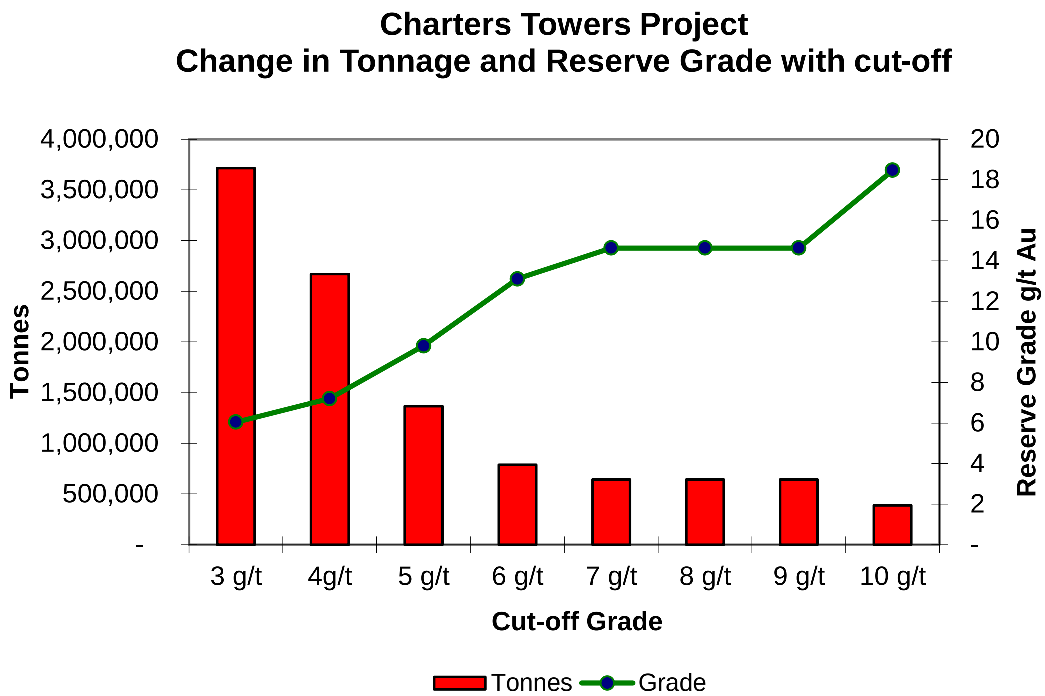


Figure 15-2. Tonnage-grade curve showing change in tonnage and grade with cut-off grade.

15.2 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 2005 and 2012 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 $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 2.5 ounces of gold revenue at A$1550 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.

15.3 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.

These results 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.

15.4 Mining Factors

Mining factors used in the estimate are summarized below in Table 15-2. These were developed from data originally submitted to ASX in the Gold Production Plan of September 2002 and modified in the internal feasibility study for Sunburst Mine. A summary of the mining costs for the 2005 study was released in the March 2005 Quarterly Activities Report to the ASX and the Indicated Mineral Resources and Probable Ore Reserves report released to ASX in August 2005.

The current figures are updated based on current operating costs at the Imperial Mine in 2010 and 2011.

Mining method	Long-hole open stoping, 10m to 15m sub-levels	
Minimum mining width	1.2	Metres
Dilution	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	$ 1,500	per ounce
Exchange Rate	A$0.95	= US$1.00
Australian Gold Price AUD	$ 1,579	per ounce
Driving cost AUD	$ 3,000	per metre, 3.5m square
Driving cost equivalent	2.15	ounces per metre
Mill recovery	95%	of mill feed

Table 15-2. Summary of 2012 Mining Factors

15.5 Risk Factors

The relevant mining leases have been granted and the processing plant and tailings dam have been built and approved for operations. Some 95,000 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.

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.

The Probable Ore Reserves are derived from, and contained within, the Indicated Mineral Resources. The Probable Ore Reserves are not additional to the Indicated Mineral Resources.

The total Probable Ore Reserves 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.

16.0 Mining Method

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 preprocessing 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.

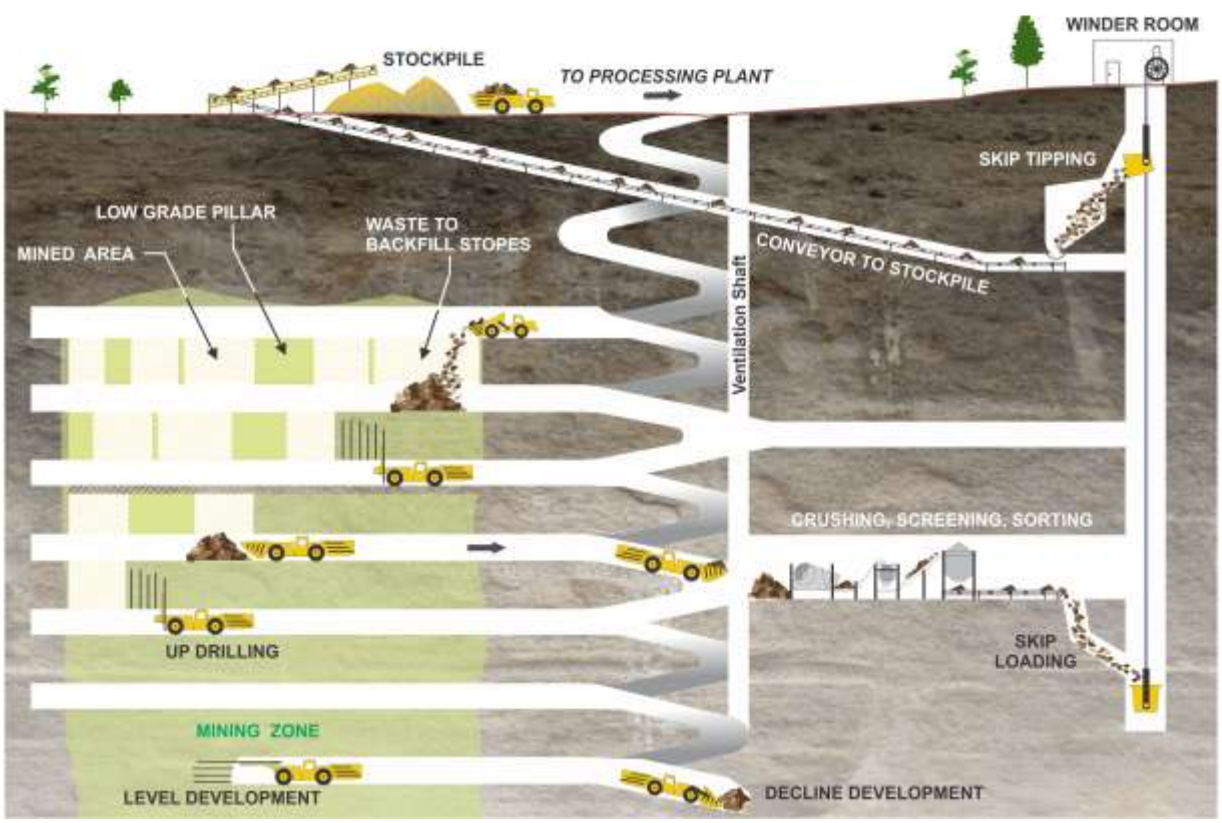


Figure 16-1. Diagram of underground mining method proposed for the Central area.

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 township. 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.

Figure 16-2. Shanty-back level drive in ore in the Imperial Mine (looking westerly).

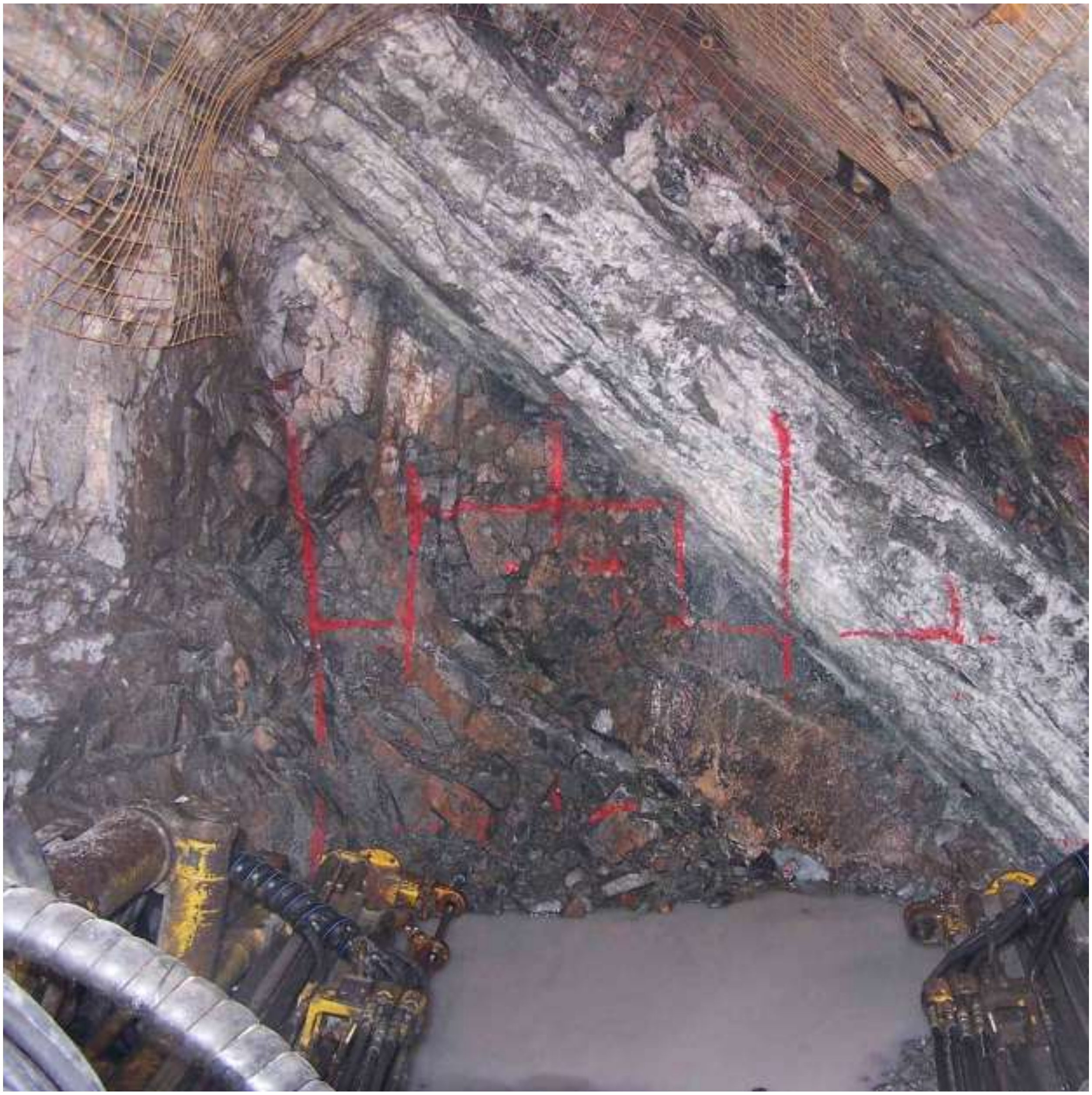


Figure 16-3. Gold-bearing quartz reef exposed in the Imperial Mine, prior to stoping (looking westerly).

Figure 16-4. Stope (void) left after the ore has been extracted, showing the clean break along each side, and stable walls of the stope. Part of the remaining un-mined reef can be seen at the top left. Low-grade parts of the reef are left in place to act as pillars to support the surrounding ground (looking westerly).

Figure 16-5. View looking east along the Sons of Freedom ore body in the Imperial Mine, showing the floor of the level drive, and the stope voids above and below the level. The ore has been cleanly extracted, with little dilution from the stable stope walls. While the access drive has to be about 3.5m x 3.5m to get drilling machines into the area, the stope slots between the levels are confined to the ore itself, minimizing dilution by maintaining a narrow stoping slot width.

16.1 Processing

Ore from the Imperial and Central mines will be transported to the existing gold processing plant located 10 km southwest of the city of Charters Towers. This processing plant is referred to as the Black Jack plant because of its location on the old (historic) Black Jack mine site. The blended ore, which has been preprocessed underground, will be screened then processed through milling, gravity concentrating and extraction in a CIL leaching circuit. The production rate builds up over four years to produce gold doré bars at a rate of over 100,000 ounces per year from Imperial and over 220,000 ounces per year from the Central area.

16.2 Development Capital Costs

The Charter Towers project, as currently estimated to require A$246 million to bring into full scale production, of which at least A$50 million will be sought externally and the balance derived from cash flows. This will be spent over a five (5) year period as tabled below:

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Start up capital (A$ million)	$ 39.05	$ 101.37	$ 97.15	$ 8.57	$ -
Maintenance capital (A$ million)	$ -	$ -	$ -	$4.65 Per year	$ 4.65 Per year

Table 16-1. Summary of main expenditure estimated for the development of the Charters Towers project.

The breakdown by activity of this expenditure is tabled below:

Mine Development	Development Budget A$	YEAR 1	YEAR 2	YEAR 3	YEAR 4
Establishment	$ 3,200,000	3,200,000	-	-	-
Main Access	$ 77,642,075	12,709,625	36,724,100	27,026,150	1,182,200
In Ore development	$ 36,420,000	2,400,000	11,460,000	22,560,000	-
Diamond Drilling	$ 45,842,255	10,954,286	20,103,932	14,784,037	-
Ventilation	$ 16,528,000	1,426,000	4,435,000	7,839,000	2,828,000
Dewatering	$ 1,060,000	260,000	473,333	326,667	-
UG Services	$ 7,314,150	1,207,208	2,927,271	2,830,238	349,433
Processing	$ 27,000,000	2,000,000	12,500,000	12,500,000	-
Technical Services	$ 15,067,000	1,976,000	5,958,875	6,298,500	833,625
Equipment	$ 16,070,000	2,915,000	6,785,000	2,990,000	3,380,000
	$ 246,143,480	$ 39,048,119	$ 101,367,511	$ 97,154,592	$ 8,573,258

Table 16-2. Estimated Development Expenditure Schedule

16.3 Production Schedule

The production schedule to build up to full production in the project area is shown below. After four years, the production remains constant at 336,000 ounces per year.

Production Schedule		Year 1	Year 2	Year 3	Year 4	Year 5
Ore production	Tonnes ('000')	95	361	628	1,027	1,365
Gold grade	Grams per tonne	8.11	7.94	7.98	8.04	8.06
Recovery	%	0.95	0.95	0.95	0.95	0.95
Gold metal	Ounces ('000')	23.54	87.52	152.88	252.32	336.34

Table 16-3. Summary of the estimated gold production schedule build up for the Charters Towers project.

16.4 Operating Cost Estimated

Breakeven grade = 2.0 grams per tonne Au

Mining Cost A$ per ounce =	**$371.37**
at a head grade of grams per tonne Au	**8.00**
At US$1,500 per ounce and A$1.00 = US$0.95	

Mining Cost A$		
Drill & Blast	**$ 4.32**	A$/tonne
Stope Production	**$ 8.36**	A$/tonne
UG Transport	**$ 9.85**	A$/tonne
UG Services	**$ 2.36**	A$/tonne
UG General	**$ 3.37**	A$/tonne
Sub-total	**$ 28.25**	**A$/tonne**
Mine Development	$ 28.29	A$/tonne
TOTAL MINING	**$ 56.54**	A$/tonne
Ore Processing		
Crushing & Screening	**$ 3.15**	A$/tonne
Grinding	**$ 3.81**	A$/tonne
Leaching	**$ 5.05**	A$/tonne
Process Services	**$ 6.10**	A$/tonne
General	**$ 2.87**	A$/tonne
TOTAL PROCESSING	**$ 20.98**	A$/tonne

Table 16-4. Summary of the estimated major operating costs on a "per tonne" basis for the Charters Towers project.

16.5 Gold Price

The minimum daily average Australian dollar gold bid price over the last six years from 3 Jan 2006 to 31 August 2011 was $703.65 per ounce, and the maximum was $1,815.71 from figures supplied by Perth Mint, with an average of $1,071.72 and a mid-point of $1,259.68 (see Table 16-5 below). This is a variation of $556.03 or ± 44% from the mid-point value of $1,259.68, and a variation in the average price of +69% to the high and -34% to the low.

	US Gold price Av. Daily Bid	A$ Gold price Av. Daily Bid
Average	$ 924.69	$ 1,071.72
Maximum	$ 1,894.70	$ 1,815.71
Minimum	$ 517.98	$ 703.65
Median	$ 884.79	$ 1,021.85
Var from av. Max	105%	69%
Var from av. Min	-44%	-34%
Mid-point	$ 1,206.34	$ 1,259.68
Var from mid-point	57%	44%

Table 16-5. Variation in the average daily bid price of gold in US and Australian dollars in the six years from 3 Jan 2006 to 31 Aug 2011.

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$600 to A$1600 for about five years, with the Australian dollar exceeding parity to the US dollar from late 2010 (the crossover point in Figure 16-6 below).

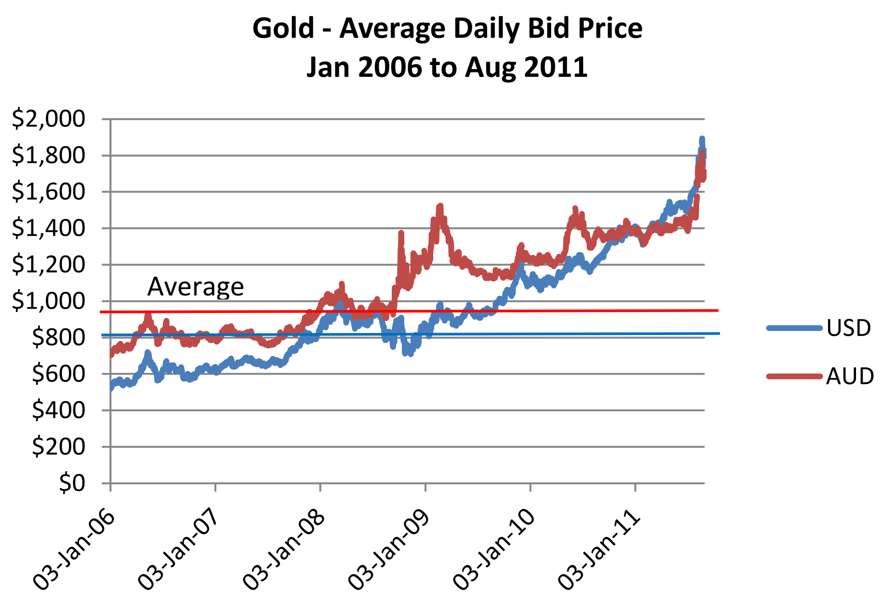


Figure 16-6. Daily average gold bid price in Australian and US dollars for the six years from January 2006 to August 2011, showing the average price for the period.

17.0 Recovery Methods

17.1 Metallurgy

The metallurgy of mineralisation throughout the field is remarkably uniform, as discussed in the section on Inferred Mineral Resources and grade continuity. The Charters Towers project will initially be entirely underground, and resources under the Charters Towers township are limited to deeper than 50 metres below surface to maintain a safety barrier for surface buildings. This means that no oxidised or transition zone ore will be treated initially, although there is scope for open pit operations outside the Central area in later years.

Ore has already been processed from mining operations in four geographically separate areas: Stockholm (open pit and underground), Washington open pit, Imperial Mine (underground, mining the Warrior and Sons of Freedom ore bodies) and the No.2 Cross Reef in the Central area (a lateral extension of the previously-mined Maude St Leger Reef).

No metallurgical problems were encountered in the trial mining production of 38,000 ounces of gold from the Stockholm, Washington and No. 2 Cross Reef areas in 1997-2000. Recoveries were as high as 98% in these areas, and consistently above 97% in 2007-2011 extracting 57,000 ounces from the Imperial Mine. The Company has conservatively used 95% recovery in its reserve estimations, less than the recent recoveries in the treatment of some 95,000 ounces of gold.

The mineralogy is simple, consistent with mesothermal quartz reefs in granite. Gold is located mainly between sulphide grains, making it amenable to liberation by grinding and conventional Carbon-In-Leach (CIL) processing plant treatment. About 30% of the gold is gravity-recoverable through spirals and shaker tables, with the balance recovered through the CIL processing plant. Final gold recovery is by electroplating onto steel wool, which is then roasted and smelted with fluxes to remove excess iron and produce a final doré bar of gold and silver, which is transported to a precious metals refiner (the Perth Mint) for final refining.

The mineralisation comprises free gold with a small amount of electrum (a natural gold-silver alloy), and the gangue minerals are sulphides of iron (pyrite), lead (galena), zinc (sphalerite) and copper (chalcopyrite).

As the temperature of formation is relatively high (300° to 350° C), there are very low to undetectable concentrations of volatile penalty metal elements such as mercury, arsenic, antimony and selenium.

Sulphides comprise no more than 5% to 10% of the material to be milled, and the associated metals do not consume adverse amounts of processing reagents.

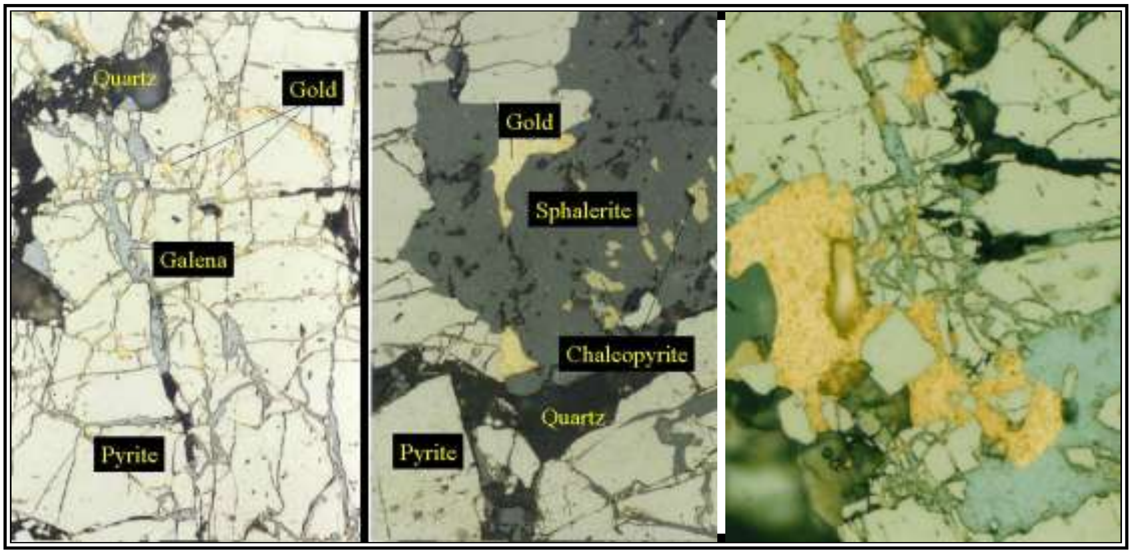


Figure 17-1. Photomicrograph of polished sections of typical Charters Towers ore, showing that gold is the last mineral to crystallize, filling cracks and interstitial spaces between previously-formed grains. This makes the ore readily amenable to gravity concentration and treatment in a CIL plant.

18.0 Project Infrastructure

The Project has been producing gold since 1996 and has sold some 95,000 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.

Roads – 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.

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.

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.

Dams – 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.

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.

Processing plant – the plant is a standard Minproc style design Carbon-in-Leach ('CIL') gold processing plant with a design capacity of some 960 tonnes per day or 340,000 tonnes per year. It was erected in 1996/7, run intermittently at about 50% capacity from 1997 to 2000 and then run at about 160,000 tonnes per year since 2007. The plant usually runs on a campaign basis as required.

The plant is fed through a jaw crusher, cone crusher and screening plant that supplies -14mm ore by conveyor to a fine-ore bin. 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 (Cedarapids, El-Jay Rollercone 54-inch crusher, [standard head]) and Allis Chalmers 3 metre x 6 metre double deck vibrating screen. Product to the fine ore bin is 80% of 10 to 12 millimetre. The fine-ore bin discharges through a hopper onto a conveyor where lime is added before discharging from the belt into a single rubber-lined ball mill.

Grinding is by closed circuit ball mill and cyclones. The mill is an Allis Chalmers (3 metre diameter x 4 metre long [10 feet x 13 feet]), overflow discharge ball mill, rubber lined, 600 kilowatt (kW). The mill capacity is 340 000 tonnes per year (40 tonnes per hour) at 95% availability based on an average feed Bond Work Index of 15 kilowatt-hours per tonne. 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.

Discharge from the ball mill goes to a series of six leach tanks where the gold and silver are adsorbed onto activated carbon, then stripped from the carbon and electroplated onto steel wool. The steel wool is roasted and the oxidised steel wool then smelted with fluxes to remove impurities, and the precious metals poured as doré bars.

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.

Tailings disposal – tailings comprise mostly 80% minus 106 micron fine quartz sand, crushed granite, minor clay and some metal sulphides (pyrite, galena and sphalerite) averaging around 9000 ppm lead and zinc and 0.05 to 0.2 ppm gold at a slightly alkaline pH of 8.5 to 10. There is no acidic run-off as process water has lime added to it to maintain an alkaline pH, and the weathered granite generates calcium carbonate as the feldspars decompose, neutralising any acid that may form from the decomposition of the sulphides. Tailings are stored in a registered tailings storage facility ('TSF') at the processing plant, with process water being recycled. The very high evaporation rate in the semi-arid Charters Towers area ensures tailings are solidified. The TSF measures about 600 metres by 300 metres with a design storage capacity of some two million tonnes and area for expansion.

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 (marked as "HV Sub Station" in Figure 18-1 below) 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.

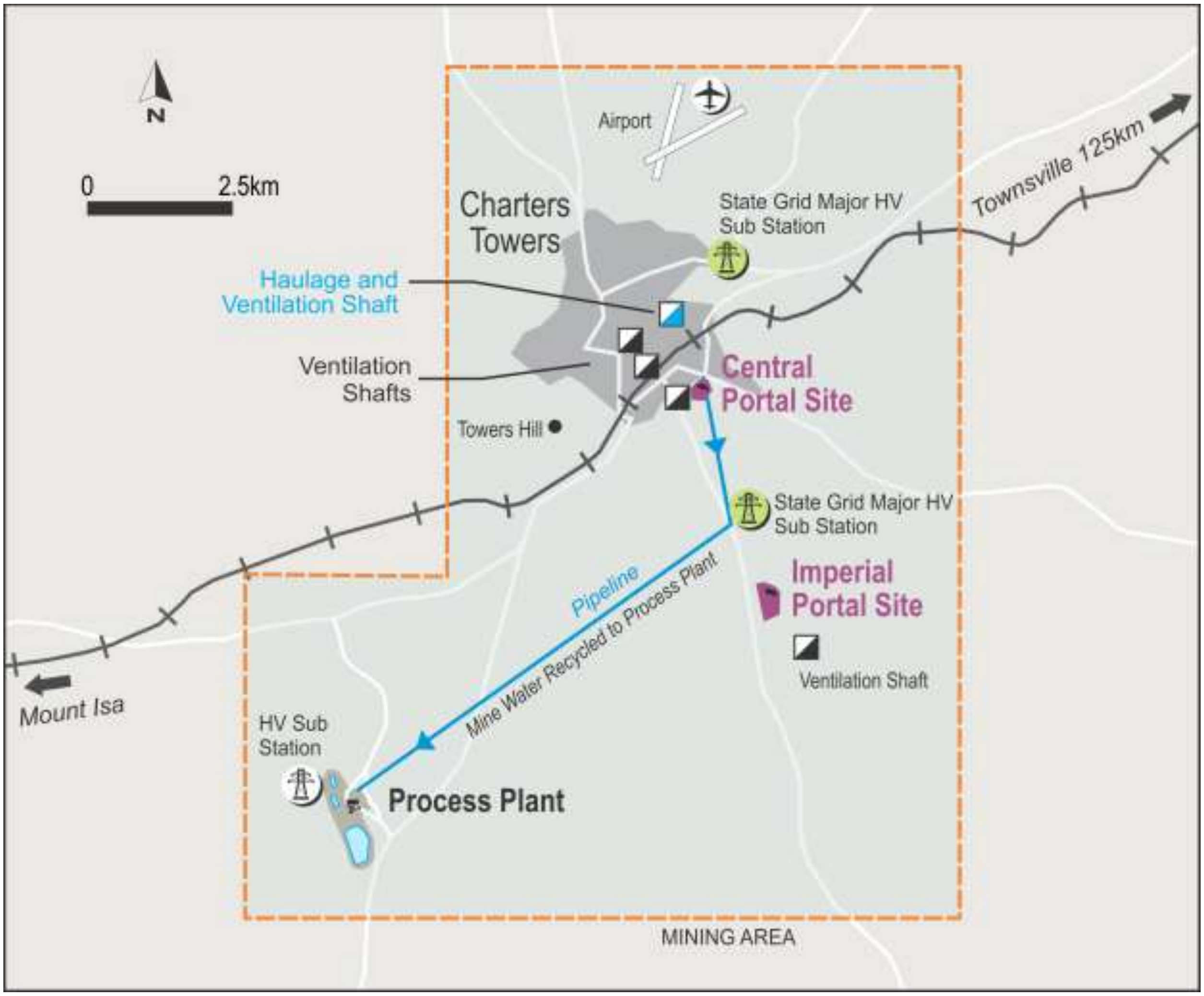


Figure 18-1. Diagram of the main infrastructure for the Charters Towers project.

Figure 18-2. Central surface mine site showing decline portal to the underground.

19.0 Market Studies and Contracts

19.1 Gold Price

The minimum daily average Australian dollar gold bid price over the last six years from 3 Jan 2006 to 31 August 2011 was $703.65 per ounce, and the maximum was $1,815.71 from figures supplied by Perth Mint, with an average of $1,071.72 and a mid-point of $1,259.68 (see Figure 19-1 below). This is a variation of $556.03 or ± 44% from the mid-point value of $1,259.68, and a variation in the average price of +69% to the high and -34% to the low.

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Var from mid-point	57%	44%

Table 19-1. Variation in the average daily bid price of gold in US and Australian dollars in the six years from 3 Jan 2006 to 31 Aug 2011.

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$600 to A$1600 for about five years, with the Australian dollar exceeding parity to the US dollar from late 2010 (the crossover point in Figure 19-1 below).

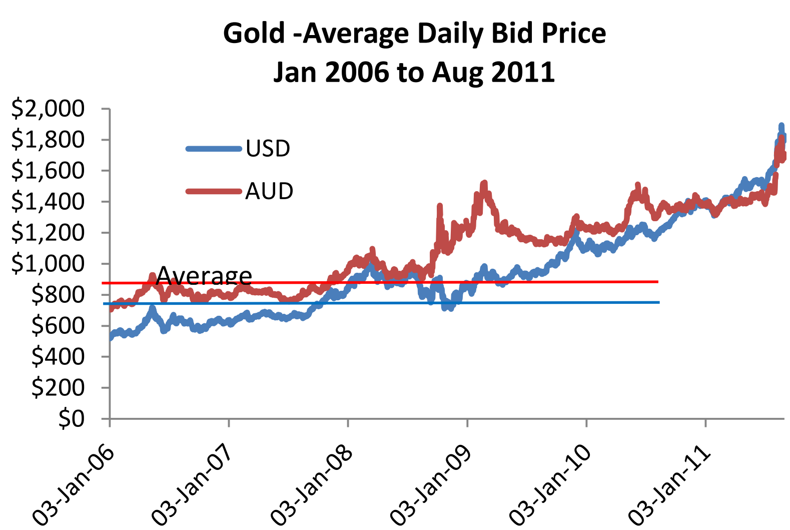

Figure 19-1. Daily average gold bid price in Australian and US dollars for the six years from January 2006 to August 2011, showing the average price for the period.

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$1500 per ounce and an exchange rate of A$1.00 = US$0.95 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.

19.2 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.

20.0 Environmental Studies, Permitting, and Social or Community Impact

20.1 Environmental Harmonisation

Citigold Corporation has a formal environmental policy that is supported by the staff and board of directors. The Policy approved by Citigold Corporation and signed off on by the Managing Director, 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. Citigold Corporation 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 Citigold 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.*

20.2 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.

Citigold has always endorsed Queensland's high environmental standards.

20.3 Local Community Supports Citigold's Mines

Citigold 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 Citigold will continue to support and work in harmony with the local community.

Figure 20-1. The Company's underground drilling equipment on display during a local parade in Charters Towers. The Company operates locally through its wholly owned subsidiary Charters Towers Gold Pty Ltd.

Today there are two main sectors of environmental considerations – the natural environment and the people environment. Permitting to mine under a City with over 3,000 landholders and 8,500 residents presents a unique challenge. Much is to be learned from the success of the Citigold's Charters Towers operations and the need to inform people and treat each person as an important stakeholder.

When Citigold conducted its initial exploration work on the mineral holdings under Charters Towers, as part of its huge 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 Citigold 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, Citigold 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). Citigold 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.

20.4 Extensive Mineral Holdings

The lengthy and complex process of negotiating, pegging and acquiring all the mineral holdings initially began in 1969. Citigold’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 Citigold, 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 Citigold’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.

20.5 Environmental Sustainability

Citigold considers environmental sustainability as an integral component of its operational responsibilities and contributes to the local environment and community in numerous ways. In addition to regular environmental rehabilitation, recovery of surplus granite rock has contributed to the creation of a new sports field and regular road construction works.

Water is systematically recycled from all underground mine water supplies, and the mine is largely independent of community water supplies. Energy consumption is monitored and minimised to limit greenhouse gas emissions. Electricity is used in preference to petrol or diesel-powered equipment where possible, as this centralises greenhouse gas emissions at the State grid power station, making control and reductions of emissions easier.

Citigold recognises the importance of community - industry relations in all of its operations and daily activities. In accordance with a comprehensive system of regulatory requirements, Citigold's exploration work under and around the township, has earned wide respect and support from the local community's leaders as well as its residents. An ongoing co-operative relationship has been established and Citigold will continue to promote open communication with and to work alongside local members of the community in expanding the gold deposits.

Consistent with this is Citigold's commitment to upholding its sustainability practices for the community and its future. This positive stance, the surrounding community and the infrastructure of Charters Towers is an integral component of Citigold Corporation's mining operations and ultimately enables the maintenance and progression of a safe, profitable and successful operation.

Figure 20-2. Environmental Reference Site to monitor any changes to flora and fauna populations and soil geochemistry.

20.6 Mine Rehabilitation and Shutdown

An allowance of $2 per tonne of ore mined has been budgeted to cover progressive rehabilitation and final mine shutdown. With the current planned production schedule, this amounts to some A$18 million over 15 years.

Mine shutdown is relatively simple as operations will be all underground and not large open pits. The stope voids underground will be backfilled as mining progresses and the workings allowed to fill with natural groundwater after all services and equipment have been removed. Above ground, buildings and shaft head-frames will be demolished and removed unless they can continue to be used for community or business purposes. Shafts and decline portals will be closed with concrete slabs, vented to equalize air pressure as water levels rise and fall with the natural seasons. The Tailings Storage Facility (TSF) contains Non-Acid Forming rock and will be capped with crushed neutral rock, levelled, covered with topsoil and vegetated with native vegetation species seeded from the local area. Where feasible, stable non-mineralised granite mined from underground will be sold for landscaping, road & concrete gravel and rail ballast. Piezometers and groundwater monitoring bores will be maintained and monitored post-mining in accordance with the requirement of the Environmental Authority (DNRM).

21.0 Capital and Operating Costs

The capital and 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.

Mine Development	Development Budget A$	YEAR 1	YEAR 2	YEAR 3	YEAR 4
Establishment	$ 3,200,000	3,200,000	-	-	-
Main Access	$ 77,642,075	12,709,625	36,724,100	27,026,150	1,182,200
In Ore development	$ 36,420,000	2,400,000	11,460,000	22,560,000	-
Diamond Drilling	$ 45,842,255	10,954,286	20,103,932	14,784,037	-
Ventilation	$ 16,528,000	1,426,000	4,435,000	7,839,000	2,828,000
Dewatering	$ 1,060,000	260,000	473,333	326,667	-
UG Services	$ 7,314,150	1,207,208	2,927,271	2,830,238	349,433
Processing	$ 27,000,000	2,000,000	12,500,000	12,500,000	-
Technical Services	$ 15,067,000	1,976,000	5,958,875	6,298,500	833,625
Equipment	$ 16,070,000	2,915,000	6,785,000	2,990,000	3,380,000
	$ 246,143,480	$ 39,048,119	$ 101,367,511	$ 97,154,592	$ 8,573,258

Table 21-1. Estimated Development Expenditure Schedule

Citigold Cash Cost Breakdown at Full Production		
Direct Mining Costs		
Gold produced	**ounces**	**336,000**
	A$/t ore	A$
Mining	57	77,202,241
Ore Transport	6	8,192,818
Processing	21	28,671,302
Mine Admin	5	6,976,400
	89	**121,042,762**
DIRECT COSTS PER OUNCE		**$ 359.88**
INDIRECT MINING COSTS		
Corporate Costs	6	8,192,818
Geotechnical/ Mine Planning		5,045,714
Machinery Leasing Costs		24,316,600
		37,555,132
INDIRECT COSTS PER OUNCE		**$ 111.66**
TOTAL COSTS PER OUNCE		**$ 471.54**
MAINTENANCE CAPITAL COSTS		
Other UG Capital		3,522,500
Surface & Facilities		300,000
Eng Design & Proj Man		830,625
		4,653,125
TOTAL MAINTENANCE CAPITAL PER OUNCE		**$ 3.83**

Table 21-2. Citigold estimated cash cost breakdown at full production.

22.0 Economic Analysis

22.1 Statement of and justification for the principal assumptions

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, Citigold'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. Citigold 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.

22.2 Cash flow forecasts on an annual basis using mineral reserves or mineral resources and an annual production schedule for the life of project

Refer to Annual Cash Flow Forecast Table 22-1 (below):

Cash flows have in part used Inferred Mineral Resources, permissible under the JORC Code but not under NI 43-101. At present, the Company is not listed, in the jurisdiction where NI 43-101 applies. The NI 43-101 format has been adopted to enable ease of comparison with other companies based overseas and using NI 43-101.

Figure 22-1. Load and haul method to move ore and waste from the underground to the surface at Imperial mine.

Figures in A$'million

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Operating activities																
EBITDA		$ 18.18	$ 76.73	$ 150.18	$ 256.63	$ 376.92	$ 398.38	$ 409.71	$ 385.84	$ 362.81	$ 343.52	$ 323.93	$ 304.82	$ 285.14	$ 266.14	$ 250.72
Change in working capital		$ 1.10	$ -	$ -	-$ 38.54	-$ 15.07	-$ 2.09	-$ 1.11	$ 2.27	$ 2.18	$ 2.09	$ 2.01	$ 1.93	$ 1.85	$ 1.78	$ 1.71
Interest income		$ 1.04	$ 1.66	$ 0.15	$ 3.41	$ 13.31	$ 29.50	$ 47.97	$ 67.57	$ 87.47	$ 107.22	$ 127.22	$ 147.07	$ 166.74	$ 186.72	$ 206.78
Interest expense		-$ 6.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15	-$ 1.15
Taxation		$ -	$ -	$ -	-$ 48.64	-$ 110.40	-$ 121.55	-$ 130.24	-$ 128.53	-$ 127.26	-$ 127.00	-$ 126.84	-$ 126.50	-$ 125.35	-$ 124.50	-$ 123.48
Investing activities																
Start up capex		-$ 36.13	-$ 94.58	-$ 94.16	-$ 5.19	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Start up capex - equipment		-$ 2.92	-$ 6.79	-$ 2.99	-$ 3.38	$ -	-$ 2.92	-$ 6.79	-$ 2.99	-$ 3.38	$ -	-$ 2.92	-$ 6.79	-$ 2.99	-$ 3.38	$ -
Ongoing capex		$ -	$ -	$ -	-$ 4.65	-$ 4.65	-$ 4.65	-$ 4.65	-$ 4.65	-$ 4.65	-$ 4.65	-$ 4.65	-$ 4.65	-$ 4.65	-$ 4.65	-$ 4.65
Financing activities																
Potential Financing		$ 50.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Repayment of financing		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bond		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dividend Payment		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net cash flows		$ 25.12	-$ 24.13	$ 52.03	$ 158.48	$ 258.96	$ 295.51	$ 313.73	$ 318.36	$ 316.01	$ 320.03	$ 317.60	$ 314.73	$ 319.59	$ 320.95	$ 329.92
Cash at beginning		$ 1.48	$ 26.59	$ 2.46	$ 54.49	$ 212.97	$ 471.94	$ 767.44	$1,081.18	$1,399.53	$1,715.54	$2,035.57	$2,353.16	$2,667.90	$2,987.49	$3,308.44
Cash at end		**$ 26.59**	**$ 2.46**	**$ 54.49**	**$ 212.97**	**$ 471.94**	**$ 767.44**	**$1,081.18**	**$1,399.53**	**$1,715.54**	**$2,035.57**	**$2,353.16**	**$2,667.90**	**$2,987.49**	**$3,308.44**	**$3,638.36**
Discounted Cash Flows	20%	**$ 20.93**	**-$ 16.76**	**$ 30.11**	**$ 76.43**	**$ 104.07**	**$ 98.96**	**$ 87.56**	**$ 74.04**	**$ 61.24**	**$ 51.69**	**$ 42.74**	**$ 35.30**	**$ 29.87**	**$ 25.00**	**$ 21.41**
NPV		**$ 742.60**														

Table 22-1. Annual Cash Flow Forecast, in A$'million.

22.3 Discussion of net present value (NPV), internal rate of return (IRR), and payback period of capital with imputed or actual interest

Based upon Citigold's financial model, the NPV of the project is estimated at A$742 million based on a discount rate of 20%.

22.4 Summary of the taxes, royalties, and other government levies or interests applicable to the mineral project or to production, and to revenue or income from the mineral project

- 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.
- Annual rental is payable on all mining, petroleum, geothermal and other tenures administered by the State. Rent on Mining Leases, Mining Claims, Mineral Development Licences and all petroleum tenures is payable in advance by 31 August for the rental year commencing from 1 September. The rental rates are as follows:

Tenements	Comments	1 September 2011 - 31 August 2012 Rental Rates
MC (Mining Claim)	Per claim	$0.00
ML (Mining Lease - Variable Rate)	Per hectare	$49.05
ML (Mining Lease - Fixed Rate)	For each acre, or for each hectare, or for each square mile	
MDL (Mineral Development Licence)	Year 1	$3.65 per hectare
	Year 2	$7.35 per hectare
	Year 3	$11.20 per hectare
	Year 4	$19.25 per hectare
	After 4 years	$23.10 per hectare
	How the MDL rent is calculated:	
	For the first 1,000 hectares	
	For the next 1,000 hectares	
	For the next 3,000 hectares	
	For the next 10,000 hectares	
	For each additional hectare	

- Companies or groups of companies that pay $1,000,000 or more a year in Australian wages must pay payroll tax. There are deductions, concessions and exemptions available to those that are eligible. The current payroll tax rate is 4.75% on all taxable wages paid out to employees and payable to the Queensland Office of State Revenue.
- The Department of Natural Resources and Mines (DNRM) administers legislative acts to help protect Queensland's environment and natural resources. DNRM assists company in accessing and managing its environmental risks associated to its mining project. All new mining projects must apply for an Environmental Authority (EA) under the Environmental Protection Act 1994 (EP Act). A person or company who holds an

environmental authority (mining activities) for a level 1 mining project is required to submit an annual fee and return. The 2011 annual fee is $57,800.

22.5 Sensitivity or other analysis using variants in significant parameters, as appropriate, and discuss the impact of the results

Table 22-2 (below) illustrates the responses obtained by changing a number of parameters while maintaining others constant. The Company has determined that the following input criteria would be reviewed:

- Foreign Exchange: 10% reduction in A$ exchange rates
- Gold Prices: 10% reduction in US$ gold prices
- Total Cash Costs per Ounce Gold: 10% increase in A$ cash operating costs

Throughout each of the input variable sensitivity runs the discount rate applied to the Net Present Value (NPV) of calculated future cash flows was held constant at 20% for all the individual scenarios.

Operating Variable	Value (A$'million)	Change
Exchange Rate	$ 882	18.77%
Gold Price (US$)	$ 617	-16.91%
Operating Costs	$ 712	-4.12%

Table 22-2 Sensitivities - Operating Variables

Discount Rate	Value (A$'million)	Change %
8%	$ 1,776	139.16%
10%	$ 1,512	103.61%
15%	$ 1,041	40.18%
25%	$ 546	-26.47%

Table 22-3 Sensitivities - Discount rate

Discussion

Exchange Rate

This report does not attempt to provide a guide to the basis of relative currency 'value', but does note that the Australian Dollar (A$) is currently trading and has been forecast by Goldman Sachs to continue to trade for the next few years at parity or slightly above parity to the US$.

Reducing the Exchange Rate assumption by 10% produces a change of approximately 19% in the calculated value.

Gold Price

With reference to Table 22-2 *Sensitivities – Operating Variables* (above), it can be seen that the Company's valuation is also quite sensitive to changes in the assumed price of gold. This sensitivity is slightly lower than the sensitivity to foreign exchange values.

Total Cash Costs Per Ounce

Total Cash Costs per Ounce, as shown in Table 22-2 *Sensitivities – Operating Variables* (above), show that the impact of a 10% increase in these costs will result in an approximate 4% reduction in the Project value.

Discount Rate

Table 22-3 Sensitivities – Discount Rate (above), shows that the Company's valuation is very sensitive to changes in the discount rate applied to the calculation of the Net Present Value of the forecast mining cash flows. Even when there is only a 2% incremental change, the impact of Discount Rates is very significant.

23.0 Adjacent Properties

The Charters Towers area is one of a number of gold-bearing provinces in northern Queensland (see Figure 23-1 below). Surrounding gold mines with current or recent production include Pajingo (operating), Ravenswood-Mt Wright (operating), Kidston (closed) and Mt Leyshon (closed).

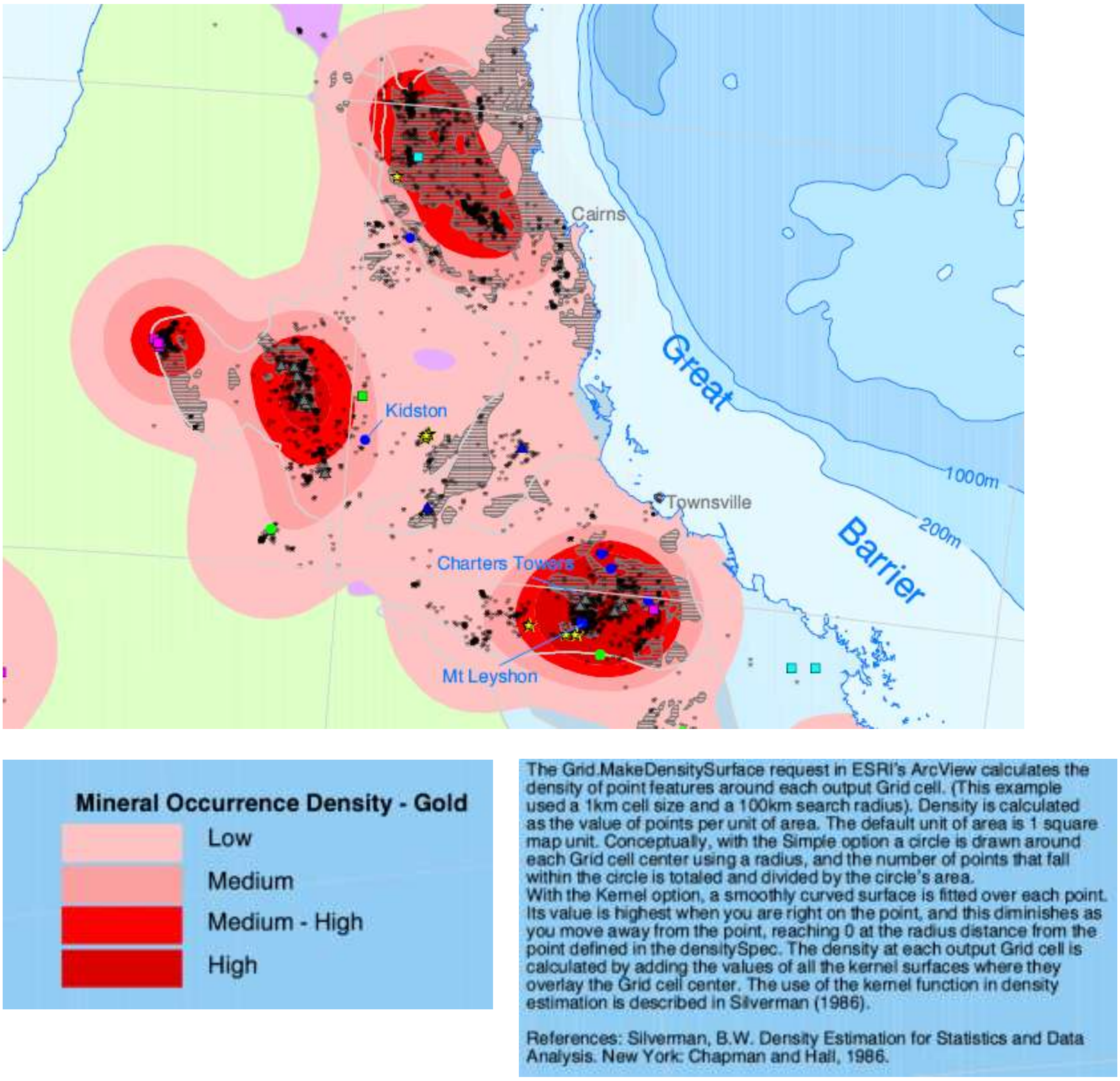

Figure 23-1. Gold-bearing provinces in northern Queensland, ranked by density of mineralisation. Source: Geoscience Australia February 2005, Australian Federal Government.

24.0 Other Relevant Data and Information

All information or explanations necessary to make the technical report understandable and not misleading have been included above.

25.0 Interpretation and Conclusions

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/m^3 to 3.2 t/m^3. 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/m^3 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.

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

The **Probable Ore Reserves** [termed ***Probable Mineral Reserves*** in the Canadian NI 43-101] 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 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).

The Project is in gold production, with necessary infrastructure in place and has sold 95,000 ounces of gold and 45,000 ounces of silver since 1997. It has been in continuous gold and silver production since 2007.

The significant changes since the last formal report in 2005 have been:

- a reduction in the cut-off grade to reflect higher gold prices, from 7 grams per tonne Au to 4 grams per tonne Au, resulting in an additional 300,000 ounces added to Probable Ore Reserves [termed *Probable Mineral Reserves* under NI 43-101], and

- the addition of the Imperial reef to the Inferred Mineral Resource, adding some 840,000 ounces into the Inferred Mineral Resource.

- The production of some 57,000 ounces of gold and 30,000 ounces of silver from the Warrior and Sons of Freedom reefs in the Imperial Mine. Reserves are maintained at the Imperial Mine on a 3-month rolling replacement process where new ore is added in by new on-ore development and diamond-drilling ahead of mining, and known ore is mined out during the period.

The confidence level is ±10 to 15% for the contained ounces in the Probable Ore Reserve [termed ***Probable Mineral Reserves*** in the Canadian NI 43-101]. 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).

26.0 Recommendations

The purpose of this report is to present an update on the current Mineral Resources and Ore Reserves of the Charters Towers Gold Project.

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 (Mineral) 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.

27.0 References

Blatchford, A., 1953. *Geology of the Tavua Goldfield, Viti Levu, Fiji.*

Bumstead, E., 1984. Some comments on the precision and accuracy of gold analysis in exploration. AusIMM Proceedings 289, pp 71-78.

Corbett, G.J. and Leach, T.M. (1998) Southwest Pacific Gold-Copper Systems : Structure, Alteration and Mineralisation. Special Publication Number 6, Society of Economic Geologists, pg. 236.

Davis, B. and Windham, C., 1995. Statistical Control for the Production of Assay Laboratory Standards. SME Annual Meeting, March.

Dawes B, 1996. *Re-establishing Rightful Prominence*. Barton Capital Ltd Mining Research, Sydney.

Dominy, S.C., 2006. Sampling Review and Heterogeneity Study. CTG Report CT2006-09 (unpubl.)

Dominy, S.C., 2011. Review of Mineral Resources and Ore Reserves, Sept 2011 (unpubl.)

Dominy, S.C., Annels, A.E., and Noppe, M.A., 2002. "Errors and Uncertainty in Mineral Resource and Ore Reserve Estimates: operator beware". Underground Operators Conference, Townsville, 29 to 30 July 2002. Australasian Institute of Mining & Metallurgy.

Dominy, S.C., Noppe M.A., Annels A.E., 2004. "Errors and Uncertainty in Mineral Resource and Ore Reserve Estimation: The Importance of Getting it Right." Explor. Mining Geol., Vol. 11, Nos. 1-4, pp. 77–98, 2002.

Dominy, S.C. and Johansen, G.F., 2005. "Development of Sampling and Assaying Protocols at the New Bendigo Gold Project, Victoria, Australia." Second World Conference on Sampling and Blending, Brisbane, Queensland, May 2005.

Dominy, S.C. and Petersen, J.S., 2005. "Sampling Coarse Gold-Bearing Mineralisation — Developing Effective Protocols and a Case Study From the Nalunaq Deposit, Southern Greenland." Second World Conference on Sampling and Blending, Brisbane, Queensland, May 2005.

Dowling, K. and Morrison, G.W.,1989. Application of quartz textures to the classification of gold deposits using North Queensland examples. **In: Keays, R.R., Ramsay, W.R.H. and Groves, D.I.** (Eds) *The Geology of Gold Deposits – the Perspective in 1988.* Economic Geology Monograph 6, Society of Economic Geologists, Littleton, pp. 342-355.

Eames, J.C., 1998. "Quality Control of Collected and Processed Information", Best Practice Mineral Exploration, Hotel Inter-Continental, Sydney, 23-24 February 1998.

Eames, J.C. 1999. Unrealistic Expectations of Assay Results. . **In** *Good Project – Wrong Assays! Getting Sample Preparation and Assaying Right.* Seminar sponsored by MICA, AIG and AusIMM – Monday 26 July, 1999. See: **Mineral Industry Consultants Association Technical Documents** http://www.mica.org.au/index.cfm?pageid=5296_7_moria_pg&docid=335_24_moria_shelf

Francois-Bongarcon, D.M., Long, S.D. & Parker, H.M., 1996: Assay Quality Assurance-Quality Control Program. Mineral Resources Development, Inc.

Garnett, D. 1999. Assay quality - an overview. . **In** *Good Project – Wrong Assays! Getting Sample Preparation and Assaying Right.* Seminar sponsored by MICA, AIG and AusIMM – Monday 26 July, 1999.
http://www.mica.org.au/index.cfm?pageid=5296_7_moria_pg&docid=339_24_moria_shelf

Hall, G.E.M. & Bonham-Carter, G.F., 1988: Review of Methods to Determine Gold, Platinum and Palladium in Production-Oriented Geochemical Laboratories, with Application of a Statistical Procedure to Test for Bias, J Geoch Expl, 30, 255 – 286

Hall, G.E.M., Coope, J.A. & Weiland, E.F., 1989 Bias in Analyses for Gold. Explore, 65, pp 17 – 18

Handley, G.A., Lewis, R. W. & Wilson, G.I., 1987 The Collection and Management of Ore Reserve Estimation Data. Resources and Reserves Symposium. AusIMM, pp 27 - 30.

Hellman, P. L., 1999: Issues concerning the quality of assay results. **In** *Good Project – Wrong Assays! Getting Sample Preparation and Assaying Right.* Seminar sponsored by MICA, AIG and AusIMM – Monday 26 July, 1999.

Hunt, Doug (1996). Industrial conflict at Mount Coolon, 1935. In Dalton, B. J. (Ed.), *Lectures on North Queensland history. No. 5* (pp. 36-51) Townsville, Qld.: Dept. of History and Politics, James Cook University of North Queensland.

Hutton, L.J and Rienks, I.P, 1997. Geology of the Ravenswood Batholith. *Queensland Geology 8,* Dept of Minerals and Energy, Brisbane.

James, C. & Radford, N., 1988 Quality Control - How do you Know if Your Data are Right? **In** Sample Preparation and Analyses for Gold and Platinum-Group Elements. AIG Bull. No. 8, 129 - 133.

Johansen, G., 1987 Sampling, Assaying and Reporting in a Coarse Gold Environment. Assaying and Reporting Standards – Assessing Asian Mineral Investment Criteria in the Post-Bre-X Era. AIC Conference, Singapore.

JORC, 2004. Australasian Code for the Reporting of Identified Mineral Resources and Ore Reserves, Report of the Joint Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).

Kreuzer, O.P., 2003. *Structure, timing and genesis of auriferous quartz veins in the Charters Towers Goldfield, North Queensland: implications for exploration and prospectivity.* PhD thesis, School of Earth Sciences, James Cook University of North Queensland.

Kreuzer, O.P., T.G. Blenkinsop, T.G., Morrison, R.J and S.G. Peters, S.G. 2007. Ore controls in the Charters Towers goldfield, NE Australia: Constraints from geological, geophysical and numerical analyses. *Ore Geology Reviews*. V. 32, Issues 1-2, September 2007, pp 37-80.

Matysek, P., 1999. Toronto Stock Exchange Mining Standards Task Force Final Report: some implications and issues. In 'Quality Control in Mineral Exploration' Short Course notes, 19th International Geochemical Exploration Symposium, Vancouver, Canada. Association of Exploration Geochemists.

Melnbardis, L-D., 1991: A Comparison of Ring Versus Disc Pulverising for Metallic Screening. CMA Conference, 1991, Hull-Ottawa.

Morrison R.J, Storey N.J.M, and Towsey C.A.J, 2004. Management of Geological Risks associated with Quartz Reef Gold Deposits, Charters Towers, Queensland. In EGRU Contribution No. 62 pp 87-106. Mining and Resource Geology Symposium, 2nd April 2004 Proceedings Volume, S Dominy Ed. Economic Geology Research Unit, James Cook University, Townsville, Qld.

Peters, S.G., 1987. *Geology, fluid characteristics, lode controls and ore-shoot growth in mesothermal gold-quartz veins, northeastern Queensland.* PhD thesis, School of Earth Sciences, James Cook University of North Queensland.

Peters, S.G., 1987. Geology and lode controls of the Charters Towers Goldfield, northeastern Queensland. *Contributions of the Economic Geology Research Unit 19,* School of Earth Sciences, James Cook University of North Queensland.

Peters, S.G. and Golding, S.D., 1989. Geologic, fluid inclusion and stable isotope studies of granitoid-hosted gold-bearing quartz veins, Charters Towers, northeastern Australia. **In: Keays, R.R., Ramsay, W.R.H. and Groves, D.I.** (Eds) *The Geology of Gold Deposits – the Perspective in 1988.* Economic Geology Monograph 6, Society of Economic Geologists, Littleton, pp. 260-273.

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

Ramsey, M. H., Thompson, M. and Hale M., 1992: Objective Evaluation of Precision Requirements for Geochemical Analysis Using Robust Analysis of Variance. Journ Geoch. Expl., 44, 23 – 36.

Reid, J.H., 1917. The Charters Towers Goldfield. *Geological Survey of Queensland Publication No. 256*. Department of Mines, Queensland. 236pp.

Schreiber, D.W., Fontboté, L., Lochmann, D., 1990, Geologic setting, paragenesis, and physicochemistry of gold quartz veins hosted by plutonic rocks in the Pataz region: Economic Geology, v. 85, p. 1328-1347.

Shaw, W.J., 1997. Validation of sampling and assaying quality for bankable feasibility studies, Paper 7 in The Resource Database Towards 2000. The Australasian Institute of Mining and Metallurgy Illawarra Branch, Wollongong.

Snowden, V., 1994: Improving Predictions by Studying Reality. **In** Geostatistics For the Next Century. Kluwer Academic Publishers.

Snowden, D.V. 1996. "Practical interpretation of resource classification guidelines", AusIMM Annual Conference, Perth.

Snowden D. V., 2001. "Practical Interpretation of Mineral Resource and Ore Reserve Classification Guidelines", in Mineral Resource and Ore Reserve Estimation, The AusIMM Guide to Good Practice. *AusIMM Monograph 23*, pp 643 -652.

Snowden, D.V., Glacken, I. and Noppe, M. 2002. Dealing with demands of technical variability and uncertainty along he mine value chain. *Value Tracking Symposium*, Brisbane Qld 7-8 October 2002.

Taylor, R. G., 2007. Aspects of gold occurrences within six samples from the Warrior vein system, Charters Towers goldfield, Queensland. CTG Report CT2007-24 (unpubl.)

Thompson, M., 1992: Data Quality in Applied Geochemistry: the Requirements, and How to Achieve Them. Journ Geoch. Expl., 44, 3 – 22.

Thompson, M. and Howarth R.J., 1973. The rapid estimation and control of precision by duplicate determination. The Analyst 98, pp 153-160.

Thompson, M. and Howarth, R., 1978: A New Approach to the Estimation of Analytical Precision. Journ Geoch. Expl., 9, 23 – 30

Towsey, C.A.J., 2003. "The Charters Towers Gold Project". **Northern Engineering Conference NEC 2003 Townsville.** *Institute of Engineers Australia.*

Towsey, C.A.J., 2004. Case Study – Breathing new life into Charters Towers. **2nd Annual Underground Mining 2004 Conference.** Perth 28th-30th July 2004

Towsey, C.A.J., 2005. The Warrior Mine, Charters Towers. **New Developments in North Queensland, NQ Branch AusIMM Symposium.** Charters Towers 9th-10th April 2005

Towsey C.A.J, Morrison R.J., Foord G.E. & Storey N.J.M, 2002. The Charters Towers Gold Project Gold Production Plan, September 2002. *Charters Towers Gold Mines Ltd., Brisbane, Qld. http://www.citigold.com*

Towsey, C.A.J., Morrison R.J. and Storey N.J.M 2004. The Charters Towers Gold Project. **North Qld Exploration & Mining Symposium Townsville May 27-28 2004.** Aust Inst Geoscientists *AIG Bulletin No. 40.*

Waltho, A.E, and Shaw W.J., 1999. **Assay Program Management – Planning For Quality**. In *Good Project – Wrong Assays! Getting Sample Preparation and Assaying Right.* Seminar sponsored by MICA, AIG and AusIMM – Monday 26 July, 1999. **Mineral Industry Consultants Association Technical Documents** http://www.mica.org.au/index.cfm?pageid=5296_7_moria_pg&docid=333_24_moria_shelf

28.0 Date and Signature Page

The effective date of this Technical Report, titled "Mineral Resource and Reserves on the Charters Towers Gold Project", is 18 May 2012.

Signed,

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

29.0 Certificate of Qualified Person

29.1 Name and address

Mr Christopher Alan John Towsey
Managing Director
Pathfinder Exploration Pty Ltd
4 Toby Court
PO Box 126
DAYBORO QLD 4521 Australia

29.2 Occupation

Consultant Geologist

29.3 Title and Effective Date of Technical Report to which Certificate Applies

Mineral Resources and Reserves 2012
Charters Towers Gold Project

18 May 2012

29.4 Qualified Person's Qualifications

29.4.1 Qualifications

MSc (Univ Sydney), BSc(Hons) (Univ Sydney),
Dip Ed (Sydney Teachers College),
Site Senior Executive BOE-SSE 11-020 (Qld Board of Examiners)

29.4.2 Relevant Experience

Chris Towsey is currently Managing Director of Pathfinder Exploration Pty Ltd. Until Jan 2011 he was Chief Operating Officer and Site Senior Executive for Citigold Corporation's underground Warrior (Imperial) gold mine, having originally joined them in July 2002 as General Manager Mining. He is an experienced mining & exploration geologist, graduating in 1974 and has particular expertise in narrow vein gold deposits. He was formerly Chief Geologist and Executive Manager Exploration for Emperor Mines Ltd at Vatukoula gold mine in Fiji from 1994-98, and General Manager Minerals for Century Resources Ltd in 1998. He has operated a consulting geology business as Managing Director of Pathfinder Exploration Pty Ltd since 1987. Prior to that he was a Project Geologist both underground and in surface exploration for Mount Isa Mines Ltd (now Xstrata) and Senior Geochemist with BHP Minerals. He holds Honours and Masters Degrees in economic geology from Sydney University and is a Chartered Professional (Geology). He is a Member of the Australian Institute of Company Directors, and a former Director of the Queensland Resources Council and Great Mines Ltd. He has worked in 26 countries around the world.

29.4.3 Professional Association Memberships

Fellow of the Australasian Institute of Mining & Metallurgy (40 year membership) and
Chartered Professional (Geology)

Member of the Mineral Industry Consultants Association
Member of the Australian Institute of Geoscientists
Member of the Geological Society of Australia
Member of the Australian Institute of Company Directors

29.4.4 Qualified Person [Competent Person – JORC]

Mr Christopher Alan John Towsey is a Corporate Member and Fellow of the Australasian Institute of Mining and Metallurgy and a member of the Australian Institute of Geoscientists. Mr Towsey is a consultant geologist. He has the relevant experience in relation to the mineralisation being reported on to qualify as a ***Competent Person*** as defined in the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves and a ***Qualified Person*** under the Canadian NI 43-101, having worked on the Project as a consultant and former full-time employee since 1999. Mr Towsey has consented in writing to the inclusion in this report of the matters based on the information in the form and context in which it appears.

29.5 Date and duration of the Qualified Person's most recent personal inspection of each property

The *Competent Person* (under the JORC Code) (called a *Qualified Person* under NI 43-101) responsible for this report, Mr Christopher Alan John Towsey, has been associated with the Project since 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 inspected the operations in April and September 2011.

His last personal underground inspection of the property was on 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.

29.6 The item or items of the technical report for which the qualified person is responsible

Mr Towsey is responsible for the compilation of data and estimation of the Mineral Resources and Ore Reserves [*Mineral Reserves* under NI 43-101]. He has relied on mining engineering information and legal & financial information supplied by employees of the Company for the conversion of resources to reserves, supplemented by his personal mine production experience underground as Site Senior Executive for two years from October 2009. He has compiled information on past gold price statistics from data supplied by the Perth Mint in Western Australia.

29.7 Whether the qualified person is independent of the issuer as described in section 2.1

Mr Towsey is currently independent of the Company and has been since January 2011, supplying occasional consulting services on a per diem cash fee at normal market rates.

He has held a small quantity of shares in the company since 2002, which were either inherited from his father or bought personally, either on market or purchased under a Share Purchase Plan available to all shareholders. He holds no shares, warrants or options that were issued as part of a performance package, bonus or in lieu of fees for consulting services. He currently holds 175,737 shares with a weighted-average purchase price of 15 cents per share, worth $12,300 at the current market price of 7 cents per share. He would benefit financially by $1,757 for every cent that the share price exceeded 15 cents per share.

29.8 what prior involvement, if any, the qualified person has had with the property that is the subject of the technical report

Mr Towsey has been associated with the Project since 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 an occasional consultant geologist to the Company since January 2011.

29.9 That the qualified person has read this Instrument and the technical report, or part that the qualified person is responsible for, has been prepared in compliance with this Instrument

Mr Towsey has consented in writing to the inclusion in this report of the matters relating to Exploration Results, Mineral Resources and Ore Reserves based on the information in the form and context in which it appears, and as at the date of publication, had not withdrawn this consent.

29.10 That, at the effective date of the technical report, to the best of the qualified person's knowledge, information, and belief, the technical report, or part that the qualified person is responsible for, contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

At the effective date of this technical report, to the best of my knowledge, information, and belief, this technical report, or part for which I am responsible, contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Christopher Alan John Towsey
18 May 2012

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Glossary of Terms

acid(ic)	In geology, a chemical classification of igneous rocks. Containing more than 66% silica. In chemistry, having a pH <7
aeromagnetics	Airborne geophysical survey measuring variations in the Earth's magnetic field
Ag	silver
alteration	(zone/envelopes) change in mineralogical composition of a rock commonly brought about by reactions with hydrothermal solutions
anomalous	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).
assay	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.
Au	gold
auriferous	containing gold (from Latin aurum m eaning gold)
base metal	generally a metal inferior in value to the precious metals, mainly copper, lead zinc, nickel, tin and aluminium
batholith	a large mass of consolidated intrusive igneous material (usually of granitic composition) (see also pluton).
bed-rock	solid rock underlying soil, alluvium etc
breakeven	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).
carbonate	compound of carbon and oxygen with one or metals, especially calcium (CaC03), magnesium (MgC03) and iron (FeC03).
chalcopyrite	copper-iron sulphide mineral. The main ore of copper.
chlorite	dark green iron magnesium mineral, often associated with metamorphism or alteration.
country rock	the enclosing rock around a body of ore
cross-cut	Mining passage constructed at right angles to the general trend of the ore body (see also drive, shaft, rise and winze)
cut-off	the estimated lowest grade of ore that can be mined and treated profitably in a mining operation.
cuttings	broken pieces of rock generated by a drill bit during drilling Forms the main part of percussion drill samples.
decline	usually refers to a downward sloping underground roadway
density	Mass divided by volume. Measured here in tonnes per cubic metre.
Devonian	Time unit of the Geological Time Scale, a geological Period, 416-359 million years ago
diamond drilling	method of obtaining a cylindrical core of rock by drilling with a diamond impregnated bit.
Dilution	Reduction in grade resulting from admixture of lower grade material during mining or rock-breaking processes.
Disseminated	mineralisation more or less evenly distributed throughout a rock.
Drive	Horizontal mining passage or access way underground, oriented along the length or general trend of the ore body (noun and verb)(see also cross-cut)
dyke	a tabular body of igneous rock, cross cutting the host strata at a high angle.
ETW	estimated true width
fault	a fracture in rocks along which rocks on one side have been moved relative to the rocks on the other

feasibility study	a comprehensive study of technical, financial, economic and legislative matters of sufficient depth and accuracy to provide the basis for financing.
Fire assay	assay procedure involving roasting of a sample in a furnace to ensure complete extraction of all the contained metal.
Fluid inclusion	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 he original fluids
footwall	the wall or surface on the underside of an inclined geological feature such as a fault, vein, ore-body or stope.
Fractal analysis	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 to be patterned.
Fracture	a break in the rock.
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^2-n spatial relationships and, because of the square function, the method yields interpretable results with smalt 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	geophysical 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	a general 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.

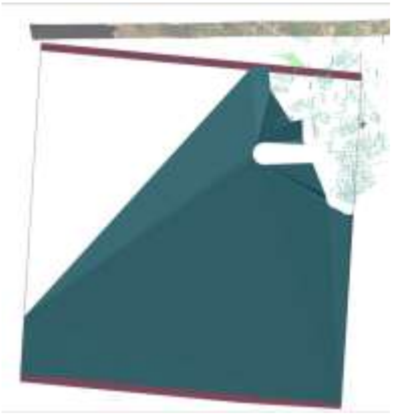
igneous	Rocks formed by solidification from the molten state.
Indicated Resource	An 'Indicated Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based 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	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	The "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code 2004 Edition", a report of the joint committee 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
km	Kilometre
Kriging	Mathematical statistical technique used in ore reserve estimation. It is used for interpolating sparse and clustered spatial data.
level	Underground horizon at which an ore body is opened up and from which mining proceeds
lode	Tabular or vein-like deposit of valuable mineral between well defined walls.
Measured Resource	A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and/or grade continuity
metre-gram(s) or metre-grams per tonne	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.
microthermometry	Determination of the temperature of formation of minerals by examining, heating and cooling fluid inclusions under a microscope.
mineralisation	the introduction of valuable minerals into a rock body
mm	millimetre
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 Si02. Amethyst is a variety of the well known amethystine colour. Aventurine is a quartz spangled with scales ofmica, 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 cairngorm is a brownish variety. Tiger-eye 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 2004 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

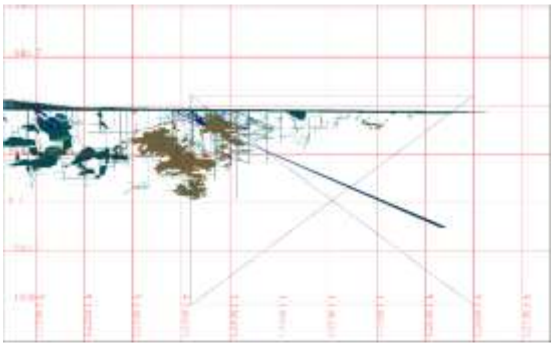
	geological resources and ore reserves. The various resource categories are classified according to the level of geological information, and thus the confidence, underlying the estimate. The Inferred Resources cannot become a Reserve. The Proved and Probable Reserves are derived respectively from the 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.
stope	Mine excavation from which ore is being or has been extracted.
stream sediment survey	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.
strike	The azimuth of a surface, bed or layer of rocks in the horizontal plane
sulphides	Minerals comprising a chemical combination of sulphur and metals.
t/m^3	tonnes per cubic metre
tailings	Material rejected from a treatment plant after the recoverable valuable minerals have been extracted.
tonalite	Igneous rock similar to granite but containing mainly calcium feldspar rather than alkali (sodium and potassium) feldspar.
true width	Width or thickness of a lode or other formation measured at right angles to its sides (see also apparent width
TSF	tailings storage facility
vein	A narrow dyke-like intrusion of mineral traversing a rock mass of different material.
volcanic	Class of igneous rocks that have flowed out or have been ejected at or near the earth's surface, as from a volcano
wall rock	Rock mass adjacent to a fault, fault zone or lode.
winze	A vertical or inclined underground shaft or access way between levels mined from the top down.

Appendix

Sections and Plans showing extrapolated material from old workings and drill holes.

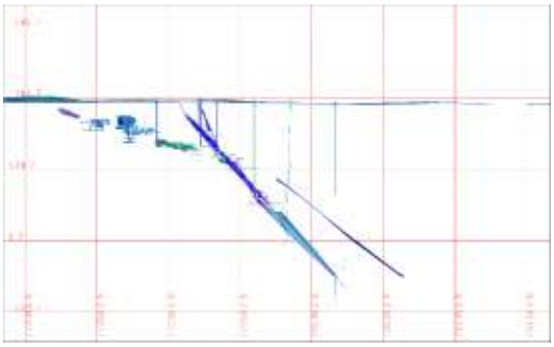


Long section of C05 Brilliant East, cut off on the left by the Queen-Sunburst reef.

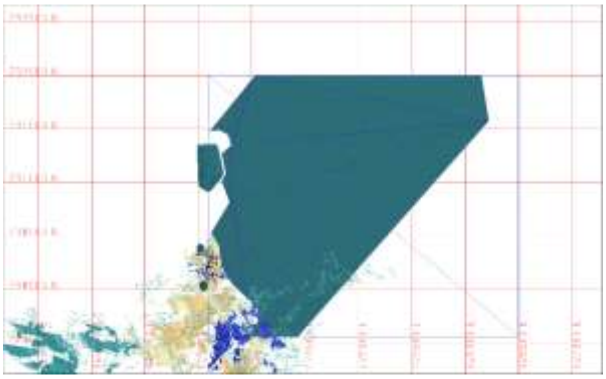


Cross-section view of C6-C23 St Patrick and Columbia cross-reef extending below the old workings.

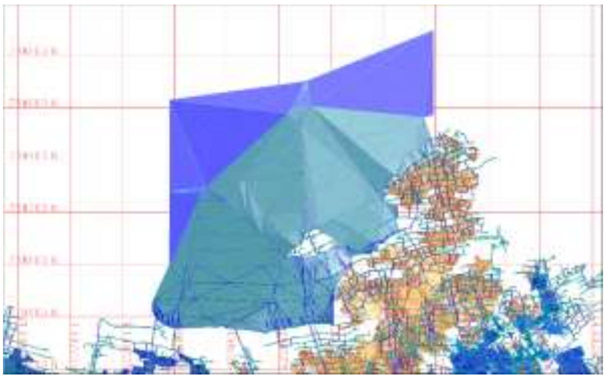
C06 St Patrick – Columbia cross-reef, extended below the old workings and cut off on the left by the Queen-Sunburst reef.



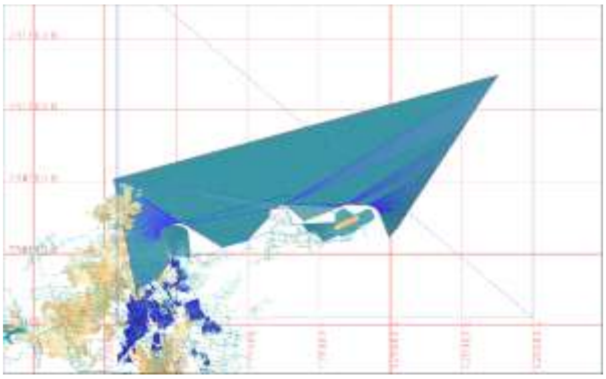
Cross section of the C01 Brilliant West (right) and C17 Day Dawn reefs (centre) extending below the old workings.



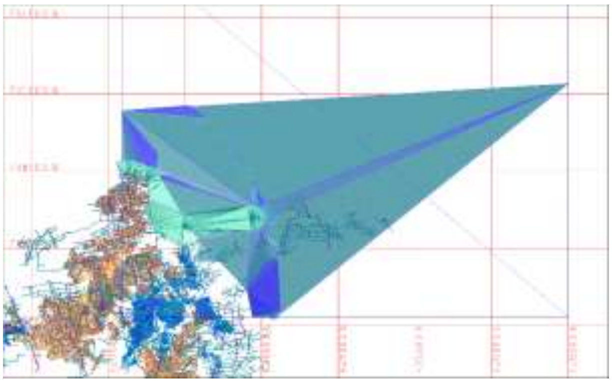
Plan view of the C06-C23 St Patrick Columbia reef, cut off on the right by the Queen-Sunburst reef.



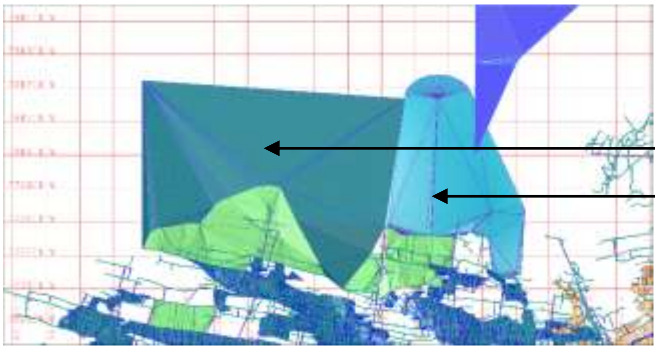
Plan view of the C01 Brilliant West reef extending below the old workings.



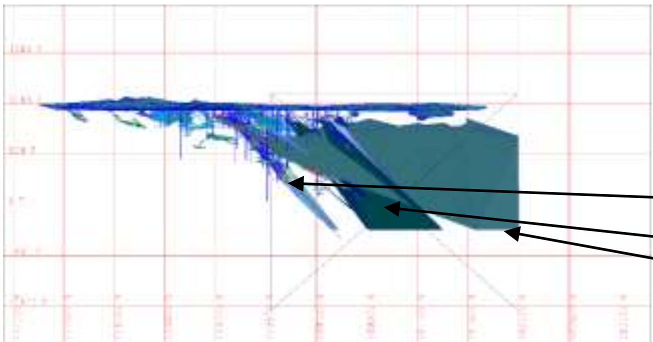
Plan view of the C03 Queen-Sunburst reef, cut off at the north (top) by the St Patrick – Columbia reef system.



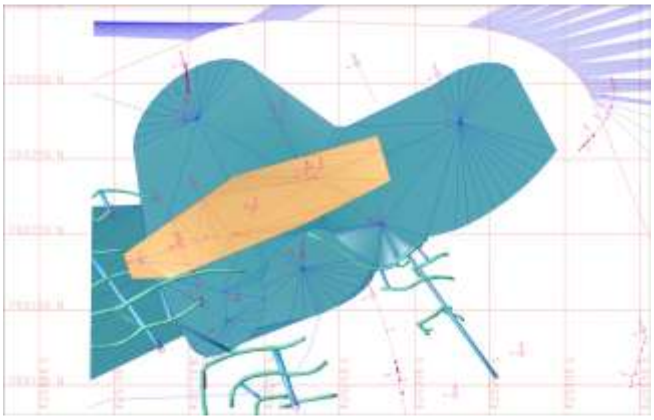
Plan view of C05 Brilliant East reef, cut off on the east (right) by the Queen-Sunburst reef.



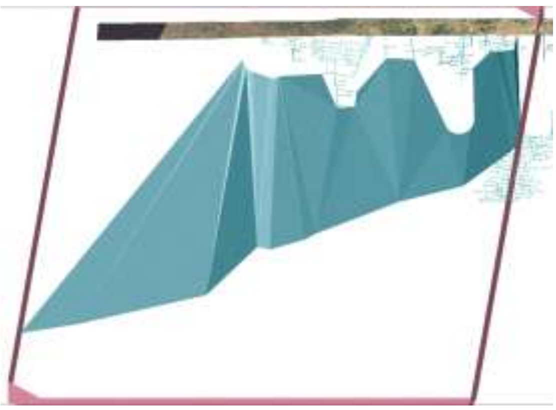
Plan view of the C17 Day Dawn reef and the C01 Brilliant West reef.



Cross-section looking west, showing the Day Dawn, Queen-Sunburst and St Patrick-Columbia reefs.



Plan view of the C26 Queen East (Golden Gate) reef.



Long section of the C03 Queen Sunburst reef extending below the old workings.