

ASX and Media Release: 20 October 2016

ASX Code: WRM



## Initial Mining review demonstrates significant upside potential at Mt Carrington

**ASX Code: WRM**

**Issued Securities**

Shares: 551.6 million  
Options: 100.5 million

**Cash on hand (30 June 2016)**  
\$0.26M

**Market Cap (19 October 2016)**  
\$8.2M at \$0.015 per share

**Directors & Management**

Brian Phillips  
Non-Executive Chairman

Matthew Gill  
Managing Director &  
Chief Executive Officer

Geoffrey Lowe  
Non-Executive Director

Peter Lester  
Non-Executive Director

Shane Turner  
Company Secretary

Rohan Worland  
Exploration Manager

*For further information, contact:*  
Matthew Gill or Shane Turner  
Phone: 03 5331 4644

[info@whiterockminerals.com.au](mailto:info@whiterockminerals.com.au)  
[www.whiterockminerals.com.au](http://www.whiterockminerals.com.au)

White Rock Minerals Ltd ("White Rock") is pleased to confirm that a review of the Mining section of the Mt Carrington gold – silver Project Scoping Study<sup>1</sup> has highlighted that there is considerable upside potential for expanding the in-pit Mineral Resource, which could then flow through to increased mine life and / or higher gold and silver production rates.

This potential uplift would further enhance the strong financial metrics of the Project, where the current Scoping Study results already deliver an outstanding investment proposition – a Project with a pre-tax NPV<sub>10</sub> of A\$60.6M<sup>2</sup> and an IRR of over 100%, with A\$100M in free cash (undiscounted and before financing) delivered over its initial 7 year mine life<sup>3</sup>.

<sup>2</sup> The Mt Carrington Scoping Study considers an NPV accuracy of +/-30%, ranging between \$42M and A\$78M.

<sup>3</sup> The in-pit Mineral Resource is made up of a combination of Indicated (70%) and Inferred (30%) JORC Resource blocks. **There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.** The material assumptions and modifying factors considered to form reasonable grounds for stating the production targets and forecast financial information related to the Mt Carrington Project Scoping Study are contained in Annexure A.

As a result of this initial Mining review, a key element of the upcoming Feasibility Study will be to investigate a range of parameters associated with selecting the optimal plant size and mining rate to maximise the economic returns from the Project. The optimisation work will consider:

- Plant throughputs between 800,000 to 1,200,000 tonnes per annum;
- Reduced mining and processing costs as a result of this larger tonnage throughput;
- An increased gold equivalent<sup>4</sup> production profile up to and exceeding 40,000oz per annum initially,
- Whilst still retaining an initial 6 to 7 year mine life.

Importantly, the initial pit designs have highlighted that Feasibility Study optimisation work could result in:

- ✓ a 20% increase in in-pit Mineral Resource tonnes;
- ✓ a 20 to 40% increase in gold equivalent production per annum.

Initial work by Mining Plus, a fully integrated global mining consultancy, saw a high level review of the detailed mining section of the Scoping Study conducted. Ongoing review, detailed mine planning and scheduling, and optimisation of the Project's in-pit Mineral Resource will form a key component of the Feasibility Study, scheduled to commence in December 2016.

This work has advanced the project through the initial design of the first five mine pits, the site layout, waste dumps and mine scheduling (Figures 1 & 2).

In addition, Mining Plus have highlighted a number of areas in the Scoping Study that will be focused on to realise improved economic outputs that could further enhance what is already a compelling financial investment case<sup>5</sup>.

**Additional areas of mine optimisation during the Feasibility Study will include:**

- ✓ Pit sequencing and Pit production staging;
- ✓ Geotechnical slope design of fresh material;
- ✓ Re-optimisation of the pits;
- ✓ Reduced dilution;
- ✓ Fleet optimisation; and
- ✓ Waste haulage optimisation.

**MD & CEO Matt Gill said** “This Mining review has highlighted that the nature of the mineralisation at Mt Carrington provides significant upside potential through more detailed mine design at the feasibility stage. The broad zones of mineralisation that continue beyond the pit shells from earlier scoping studies provide significant increased ore tonnes that move into the pit once optimisations are accounted for in the ultimate pit design. A key focus of the upcoming Feasibility Study will be the bringing together of the necessary integrated technical expertise able to realise the maximum economic return from Mt Carrington through smart design work such as this at the Feasibility stage of the Mt Carrington gold-silver project.

White Rock secured a transformational financing package with Cartesian Royalty Holdings (CRH) in June 2016<sup>6</sup>, whereby the future streaming financing component (Phase II) provides for the construction and commissioning of the Mt Carrington Project with repayments to be made from a percentage of future gold and silver production from Mt Carrington. Hence, the future Phase II repayments do not require White Rock to undertake dilutive share issues to raise this construction financing.

This finance package is intended to help White Rock achieve its strategic goal of becoming a cash-generative gold and silver producer.

This innovative financing agreement with CRH provides White Rock with a long-term supportive strategic partner. The funding proposal will not only assist to advance the Mt Carrington gold – silver Project through feasibility and permitting, but will also directly fund construction and commissioning through to commercial production, subject to the delivery of a successful Definitive Feasibility Study.

**The compelling financial metrics from our recent scoping study, enhanced by this recent Mining Review, and backed by a construction finance facility, give us great confidence that we now have the keys to unlock the significant potential of the Mt Carrington asset for all stakeholders.”**

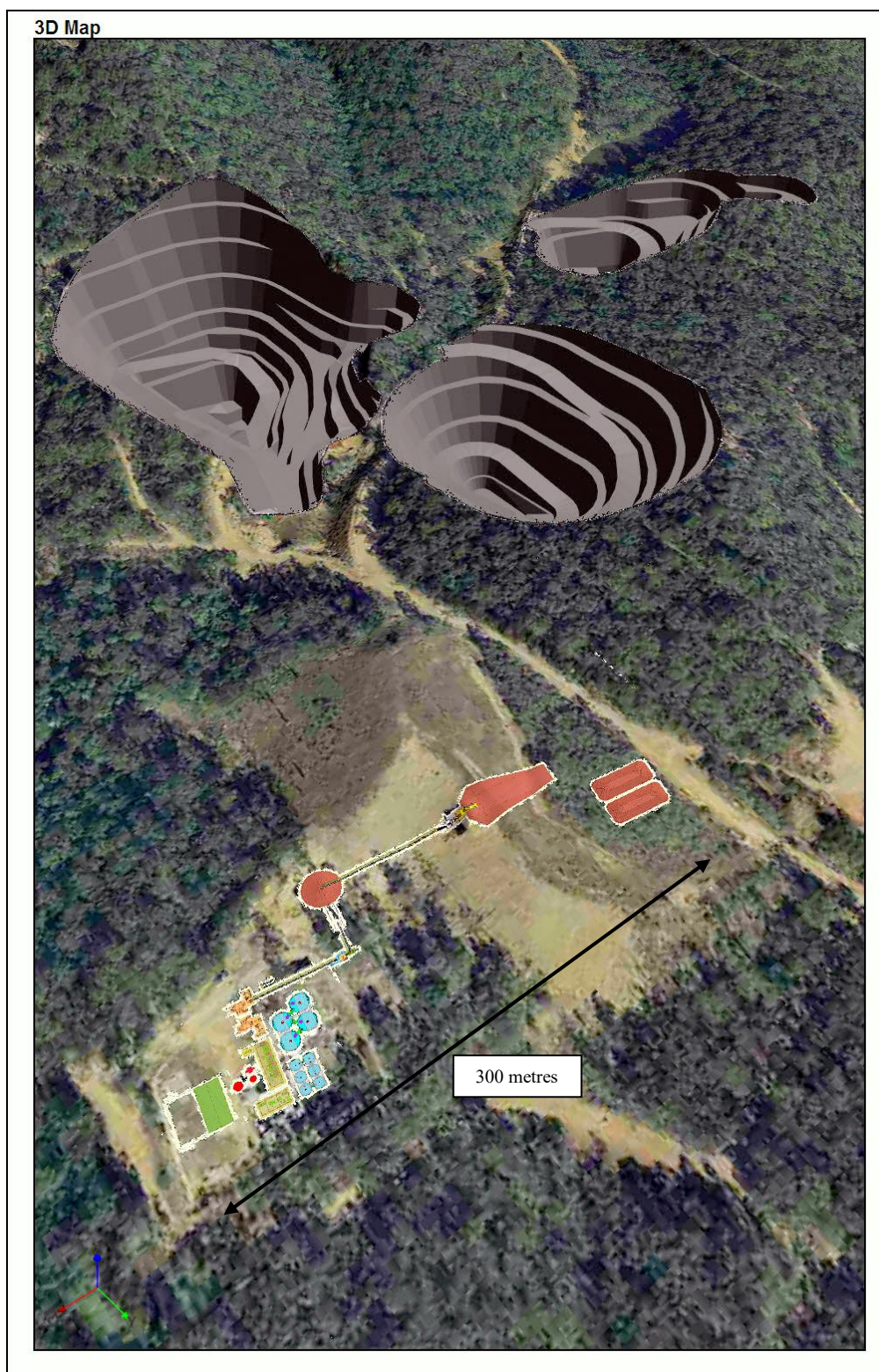
<sup>1</sup> Refer to Annexure A, which provides the material assumptions and modifying factors considered to form reasonable grounds for the stating of the production targets and forecast financial information related to the Mt Carrington Project Scoping Study. Earlier ASX releases relating to scoping studies at the Mt Carrington Project are dated 29 March 2016, 30 September 2015, 16 September 2014 and 31 July 2012.

<sup>4</sup> Gold equivalent production target calculations are based on the gold production plus silver production estimated from the Scoping Study using the assumptions (gold price, silver price and metal recovery) provided in Annexure A. The price assumptions are A\$1,600/oz for gold and A\$22/oz for silver.

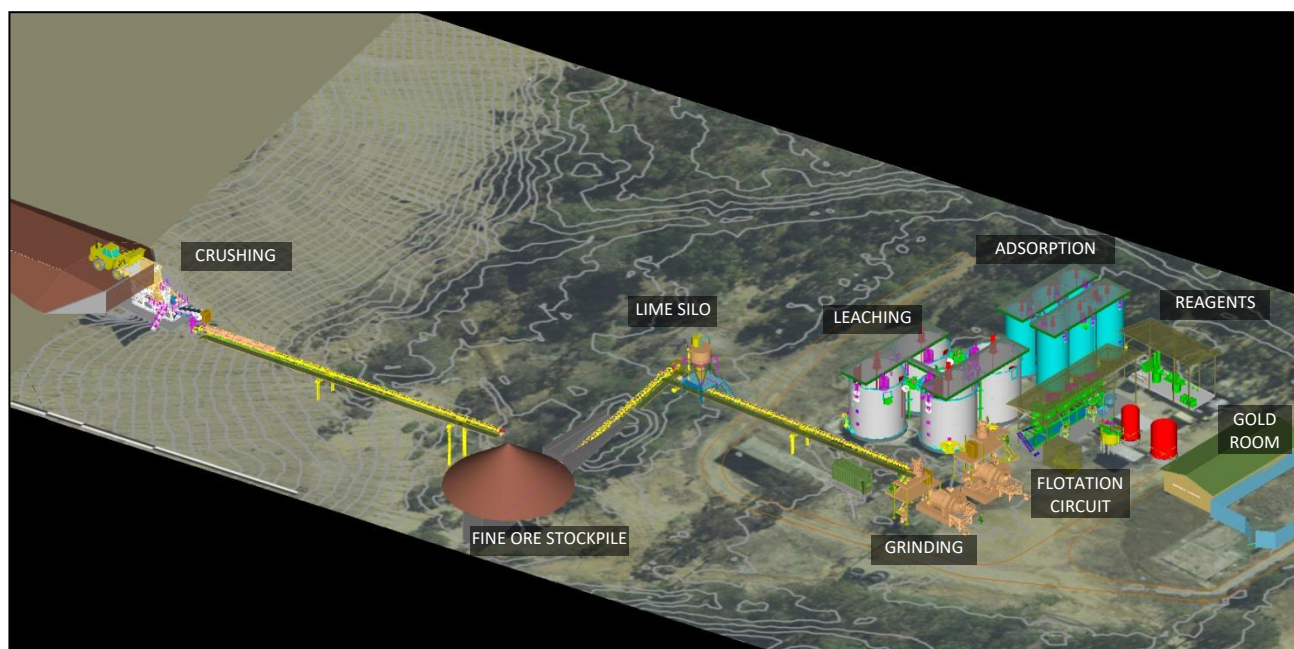
<sup>5</sup> Refer to release to the ASX of 20 September 2016 - “*Potential Upside Opportunities in Scoping Study Mining Review*”.

<sup>6</sup> Refer to release to the ASX of 27 June 2016 – “*WRM Signs Transformational Financing Package with Cartesian Royalty Holdings*”. The Transactions contemplated by the Term Sheet are subject to various conditions including the completion of due diligence to the satisfaction of CRH, certain White Rock shareholder approvals, and the entry into definitive documentation for Phase 2 (streaming financing), as set out in more detail in the ASX announcement of 27 June 2016.





**Figure 1:** Aerial view towards the south-west looking down on the preliminary pit designs for the Strauss and Kylo gold deposits, and showing their close proximity to the processing plant layout which will utilise the existing foundations and haul roads.  
(ASX Announcement “*Potential Upside Opportunities in Scoping Study Mining Review*” dated 20 September 2016.)



**Figure 2:** Aerial view looking towards the north and looking down on the preliminary processing plant layout utilising the former ROM pad and existing foundations.

(ASX Announcement “White Rock’s Mt Carrington updated Scoping Study Delivers Justification For Feasibility Study” dated 29 March 2016).

For more information about White Rock and its Projects, please visit our website  
[www.whiterockminerals.com.au](http://www.whiterockminerals.com.au)

or contact:

Matt Gill (MD&CEO) or Shane Turner (Company Secretary)

Phone: +61 (0)3 5331 4644

Email: [info@whiterockminerals.com.au](mailto:info@whiterockminerals.com.au)

*This announcement has been prepared for publication in Australia.*

*This announcement does not constitute an offer to sell, or a solicitation of an offer to buy, securities in any other jurisdiction.*

### Competent Persons Statement

*The information in this report that relates to exploration results is based on information compiled by Mr Rohan Worland who is a Member of the Australian Institute of Geoscientists and is a consultant to White Rock Minerals Ltd. Mr Worland has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Worland consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*



## Annexure A

The Mt Carrington Project Scoping Study assumptions and metrics are as follows:

Assumptions	
Gold price (AUD\$/oz)	1,600
Silver price (AUD\$/oz)	22
Ore Recovery	95%
Ore Dilution	5%
Treatment Rate (Mtpa)	0.8
Ore milled (Mt)	5.6
Average open pit strip ratio	2.0 : 1
Mine Life (years)	7.0
Recoveries – Au / Ag (bullion %)	73 / 37
Recoveries – Au / Ag (concentrate %)	69 / 84
Bullion Produced – Au (Koz)*	89 +/-30% (62 - 116)
Bullion Produced – Ag (Koz)*	96 +/-30% (67 - 125)
Concentrate Produced – Au (Koz)*	22 +/-30% (15 - 29)
Concentrate Produced – Ag (Koz)*	6,661 +/-30% (4,663 - 8,659)
Au Payability - bullion (%)	99.9
Ag Payability - bullion (%)	99.5
Au Payability - concentrate (%)	90
Ag Payability - concentrate (%)	90
Royalty (%)	4
Discount Rate	10%

**Table 1: Mt Carrington Scoping Study Assumptions Summary**

Financial Summary pre-tax	
NPV (pre-tax) (\$M)*	61 +/-30% (42 - 79)
IRR (pre-tax %)	103
Undiscounted Cash Flow (pre-tax \$M)	100
Net Revenue (\$M)	286
Total Capital Cost (\$M)	24.2
Total Operating Cost (\$M)	154
Payback (years)	0.9
Mine Life (years)	7.0
C1 Cash Cost (\$/oz AuEq) (ex royalties)	755

**Table 2: Mt Carrington Financial Outcomes Summary**

Ore Classification Proportions					
Sequence	Tonnes	Au oz ('000)	Ag oz ('000)	Indicated	Inferred
Strauss	1,630,000	57	129	73%	27%
Kylo	1,104,000	32	51	60%	40%
Lady Hampden	1,076,000	28	2,270	100%	0%
White Rock	1,626,000	3	5,390	64%	36%
Silver King	164,000	-	410	0%	100%
<b>Total</b>	<b>5,600,000</b>			<b>73%</b>	<b>27%</b>

**Table 3: Mt Carrington In-Pit Ore Classification Proportions**

\* The Mt Carrington Scoping Study considers a production accuracy of 30%, ranging from 77,000 - 145,000oz of gold and 4,730,000 - 8,784,000oz of silver, and an NPV accuracy of +/-30%, ranging between \$42M and A\$78M.

### **Metal Equivalents**

Gold equivalent production target calculations are based on the gold production plus silver production estimated from the Scoping Study using the assumptions (gold price, silver price and metal recovery) provided in Table 1 above. Total silver production targets calculated in the Scoping Study take into account the silver recovery for both bullion and concentrate production using metallurgical test work results as described in the modifying factors below. The formula for gold equivalent calculations is gold produced plus silver produced times 22 divided by 1,600 (the A\$ price assumptions for silver and gold respectively). White Rock considers that both gold and silver have reasonable potential to be recovered and sold.

### **Modifying Factors**

The Board of White Rock Minerals Ltd considers there is reasonable basis for the production targets and forecast financial information based on sufficient consideration of the ASX Listing Rules, and the JORC modifying factors as outlined below, and the resulting material assumptions summarised above. Inclusion of Inferred Resources are on the basis that they are not the determining factor.

#### **1. Mining**

Preliminary Whittle open pit optimisation of each deposit, done in the 2012 and 2014 scoping studies by independent consultants, and previously reported, has provided a range of pit shells with which to assess in-pit Mineral Resources for each of the deposits. A number of mining scenarios were subsequently analysed to identify preferred mining options which would maximise resource recovery and project Net Present Value (NPV).

The Whittle modelling indicated that five of the seven deposits are amenable to favourable open pit mining scenarios – Strauss (Au), Kylo (Au), Lady Hampden (Ag-Au), Silver King (Ag) and White Rock (Ag). Strip ratios range from 1.3:1 (Kylo) to 3.4:1 (Lady Hampden). The overall average strip ratio for these five deposits is 2.0:1. Mining recovery and ore dilution factors of 95% and 5% respectively were used to determine mined tonnes and grade.

The recent review by Mining Plus (the subject of this ASX Announcement) used the pit shells to complete initial pit designs. Assessment of the in-pit Mineral Resource within these pit designs forms the basis for the potential increase in ore tonnes and metal production that supports the production targets.

An example of the level of detail applied to this review is reflected in the detailed pit design for the first two pits planned to be mined (Strauss and Kylo (Figure 1)).

The in-pit Mineral Resource is made up of a combination of Indicated (70%) and Inferred (30%) JORC Resource blocks. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

White Rock is reporting a production target that is based on a portion of Inferred Mineral Resources in addition to Indicated Mineral Resources. White Rock is satisfied that the respective proportions of Inferred Mineral Resources are not the determining factors in project viability. In addition, the Inferred Mineral Resources do not feature as a significant proportion early in the mine plan.

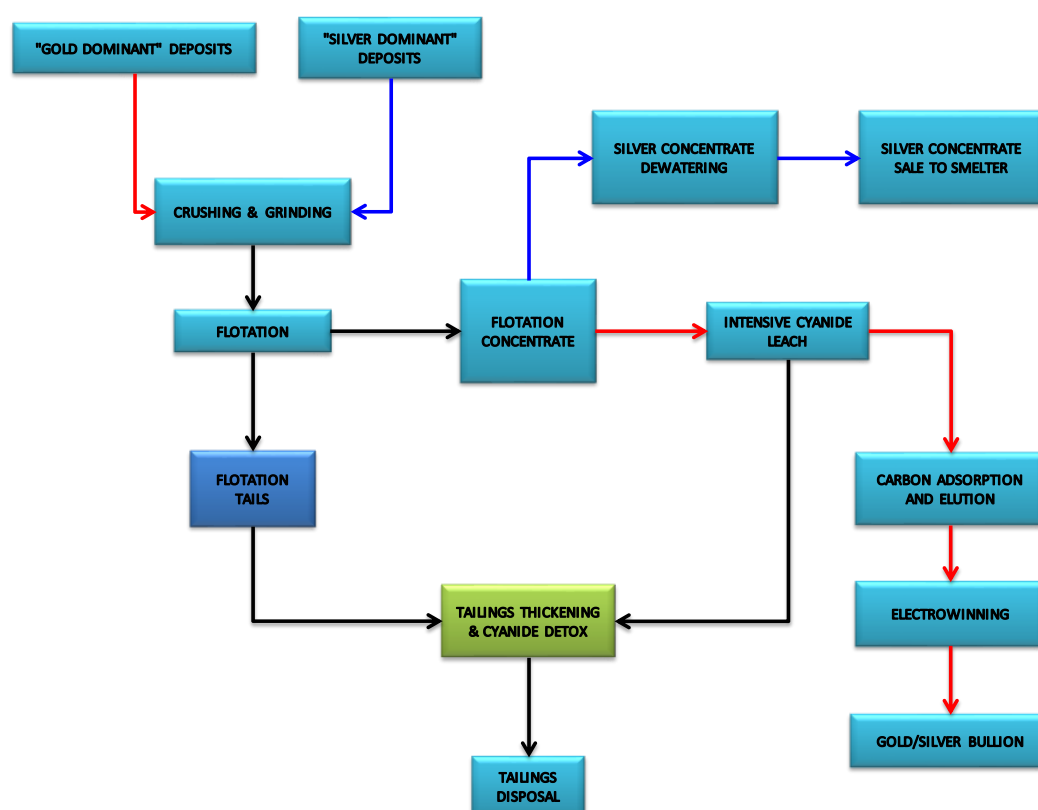
#### **2. Metallurgical Test work**

Metallurgical test work has been undertaken by Ammttec Laboratories in Adelaide, using bulk drill core samples which have been composited from each of the Strauss, Kylo, Lady Hampden and White Rock deposits. The samples have been designed to accurately represent specific metallurgical domains within the Resource block model. Results continue to confirm earlier results and provide information for optimisation test work during the upcoming Feasibility Study.

### 3. Processing Scenario

All deposits at Mt Carrington comprise predominantly sulphide-hosted gold and silver mineralisation. On the basis of metallurgical test work to date and the evaluation of historical test and mine production data, a processing plant has been conceptually designed to treat all sulphide ore types present. The preferred processing flow sheet would consist of a conventional crushing and grinding circuit, followed by a flotation circuit to produce a concentrate that would then be subject to intensive cyanide leaching in a standard CIL circuit. Standard electrowinning and gold dore production would then follow. In Year Three, the silver-dominant pits are brought into the mine plan. Incremental capital is spent on the flotation circuit to include a cleaner step, dewatering and concentrate production facility. Labour is increased accordingly.

This conceptual flow sheet is represented below.



**Proposed flow sheet for the Mt Carrington Project**

### 4. Infrastructure

The Mt Carrington Project is located 100km to the west of Lismore and 250km south of Brisbane (Figure 3). The project is conveniently located in close proximity to key regional infrastructure and utilities, adjacent to the sealed Bruxner Highway, and is 80km west of the Sydney – Brisbane railhead at Casino, with a local workforce and suppliers in the nearby regional centres of Casino (population 11,000) and Tenterfield (population 4,000).

The in-pit Mineral Resource base is located on granted Mining Leases (1,000Ha) which are current to the end of 2020, and also contains considerable mining infrastructure, as shown in Plates 1 to 5.

The key regional infrastructure and site assets include:

- 1.5Mt tailings storage facility with capacity for expansion;
- 750ML freshwater dam;
- Site exploration / mine administration office;
- Water treatment plant with 0.8ML/day output capacity;
- Connection to the NSW State Power grid which traverses directly through the Mining Leases;
- The project is located adjacent to the sealed Bruxner Highway, and is 80km west of the Sydney – Brisbane railhead at Casino; and
- Local workforce and suppliers at nearby regional centres of Casino (population 11,000) and Tenterfield (population 4,000).



**Plate 1 - Mt Carrington Project site layout plan**

White Rock considers that this asset base significantly de-risks the project and enhances the ability of the company to deliver on our near term development vision.

The proposed layout of mining operations and location of site infrastructure on the Mining Leases is shown in Figure 4, and existing infrastructure also shown in Plates 2 - 5. The Strauss, Kyo North and Lady Hampden deposits were mined in the 1980's, leaving the current (sulphide) gold and silver resources exposed at surface, as shown in Plate 2. The Kyo West, White Rock and Silver King deposits have not been mined during modern times but mineralisation does commence at surface.





**Figure 3- Mt Carrington Project location plan**



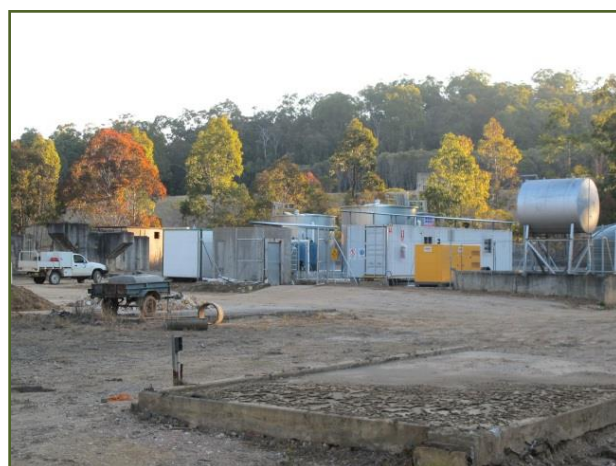
**Plate 2 – Kylo and Strauss open pits**



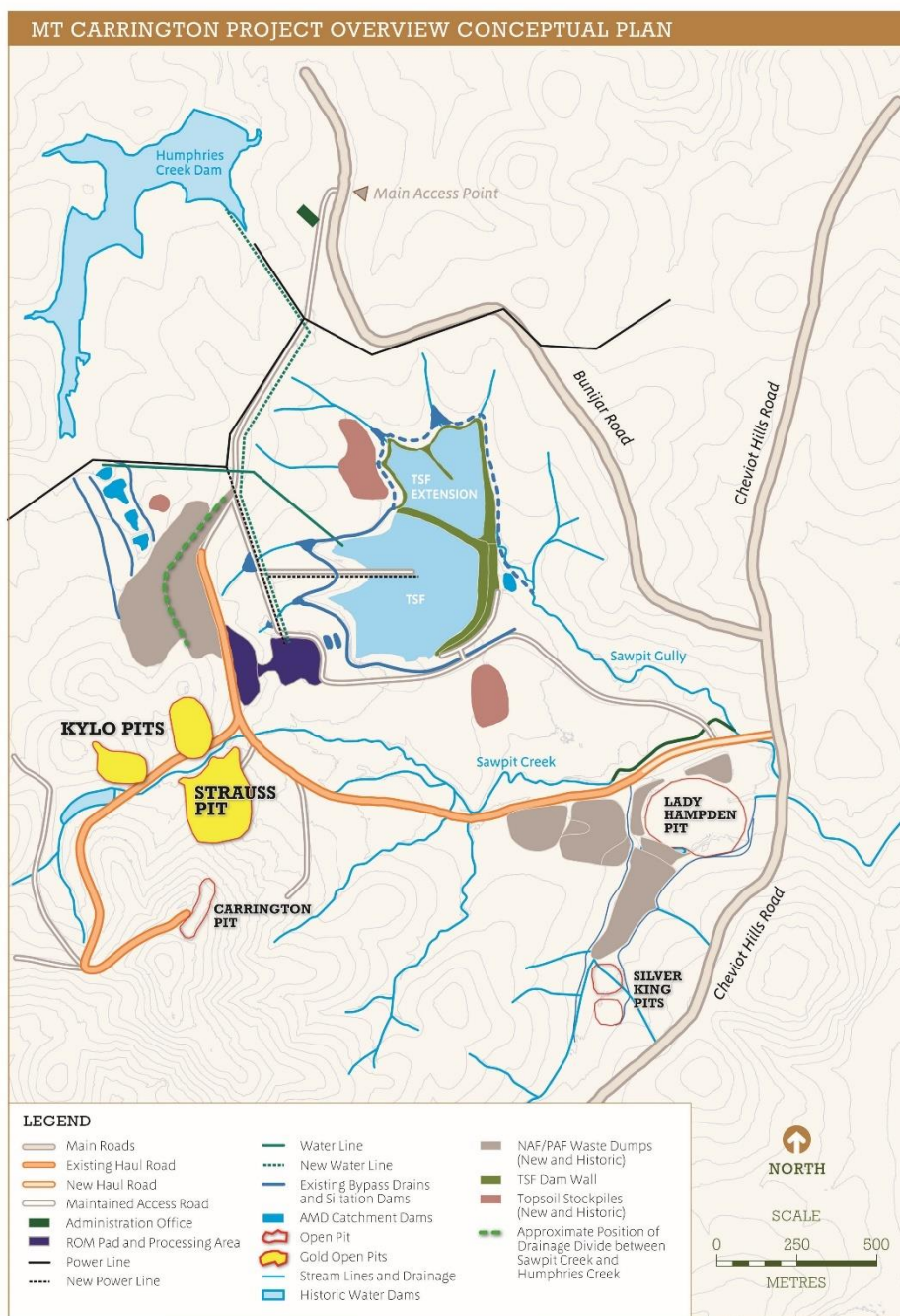
**Plate 3 - Tailings Storage Facility**



**Plate 4 – Humphries freshwater dam (350ML capacity)**



**Plate 5 – Water desalination Plant**



**Figure 4: Mt Carrington Site Infrastructure Layout – Stage 1 Strauss and Kylo Development**

## 5. Capital and Operating Cost Estimates

The conceptual flow sheet for the Mt Carrington Project considers the following:

- A central ROM Pad with ROM bin and primary crusher fed by a FEL,
- A coarse ore stockpile, with a re-claim conveyor,
- A lime addition silo on the conveyor feeding the grinding circuit,
- A grinding circuit with a requirement for approx. 1800kW of grinding power (to possibly consist of a SAG mill and ball mill), and a re-grind ball mill (200-250kw),
- A flotation circuit to concentrate the gold and silver sulphides,
- A cyanide leach and carbon adsorption (CIL) circuit,
- A standard elution and electro-winning circuit,
- Gold room, reagents area, small lab and workshop.

Mincore independently reviewed the capital cost estimates associated with constructing a plant with this flow sheet in early 2016<sup>7</sup>. Its review confirmed previous estimates of ~A\$25M. The capital cost breakdown consists of:

Crushing and Grinding	\$2.8M
Leach Circuit	\$7.0M
Engineering	\$1.7M
Electricals, In-directs, Building	\$2.9M
Flotation Circuit	\$2.8M
Infrastructure	\$2.7M
Tails Dam (lifts)	\$1.4M
Roads Upgrade	\$1.5M
Shipping Containers (concentrate)	\$1.5M

This capital cost estimate is low by industry standards. The Mt Carrington Project is the beneficiary of the previous operation. Already on site, and contained within the approved Mining Leases, there exists:

- ✓ 1.5Mt Tailings Dam
- ✓ 750ML Freshwater Dam
- ✓ Site Office,
- ✓ Water treatment (reverse osmosis) plant with a capacity of 0.8ML per day, and
- ✓ Access to State grid power.

Independent estimates value the existing infrastructure at approximately ~A\$20M. This existing infrastructure provides a significant head-start when considering the timeframes and costs associated with building and commissioning a greenfields operation. It is to be noted that the proposed plant sits within the existing original plant footprint, adding further cost saving benefits.

The Scoping Study uses a mining cost of \$4.25/t calculated from an *a priori* calculation of fixed and variable costs for Load and Haul, and Drill and Blast including labour costs, equipment requirements and general costs. The review of mining costs by Mining Plus has confirmed that the operating cost assumptions are appropriate for this level of study.

Processing costs were calculated from an *a priori* calculation of Crushing, Grinding, Flotation and CIP circuit costs using the flow sheet design and information from past mining and metallurgical test work to calculate cost inputs such as consumables. The processing costs are significantly less than the original 2012 Scoping Study as a result of removing tails leaching from the flow sheet.



Operating cost assumptions were revised most recently by Mincore<sup>7</sup> in March 2016. Downward adjustments were made to labour costs (20%) given the softer market currently, and the Project's attractive location near to the towns of Casino and Tenterfield. Power demand was revised downwards after a consideration of the ore characteristics and flow sheet design was conducted. Mining contractor costs, consumables and reagent assumptions were also reviewed and considered appropriate for this level of study.

The total C1 cash cost is estimated to be is A\$27.51/tonne milled.

Mining	~\$12.77/t milled
Processing	~\$9.22/t milled
Administration	~\$2.11/t milled
Labour	~\$3.41/t milled
<b>Total</b>	<b>~\$27.51/t milled</b>

It is envisaged that the project will be operating with contract mining, a workforce of approximately 40 personnel, and the cost benefit of drive-in / drive-out from the nearby residential centres of Casino and Tenterfield.

The net effect from this review has seen the operating cost per tonne milled, for the 800,000 tpa throughput, decrease from A\$32.1/t to A\$27.5/t (-14%). This results in a C1 cash cost of ~A\$750/oz, providing a healthy positive cash flow margin at the strong gold price of over A\$1,600/oz currently.

## 6. Project Funding

White Rock announced (27 June 2016) a binding conditional Term Sheet with Cartesian Royalty Holdings Pte Ltd (CRH), an affiliate of the US-based Cartesian Capital Group, that will assist with the development of the Mt Carrington Project to full commercial production<sup>6</sup>. CRH will provide a future streaming financing of US\$19 million in return for a share of gold and silver production to fund working capital and construction of White Rock's Mt Carrington Project to reach commercial production.

The finance package is intended to help White Rock achieve its strategic goal of becoming a cash-generative gold and silver producer.

<sup>7</sup> Refer ASX Announcement "White Rock's Mt Carrington updated Scoping Study Delivers Justification For Feasibility Study" dated 29 March 2016.

#### Cautionary Statement

*The scoping study referred to in this report is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.*

*In discussing ‘reasonable prospects for eventual extraction’ in Clause 20, the JORC Code 2012 (‘Code’) requires an assessment (albeit preliminary) in respect of all matters likely to influence the prospect of economic extraction including the approximate mining parameters by the Competent Person. While a Scoping Study may provide the basis for that assessment, the Code does not require a Scoping Study to have been completed to report a Mineral Resource.*

*Scoping Studies are commonly the first economic evaluation of a project undertaken and may be based on a combination of directly gathered project data together with assumptions borrowed from similar deposits or operations to the case envisaged. They are also commonly used internally by companies for comparative and planning purposes. Reporting the results of a Scoping Study needs to be undertaken with care to ensure there is no implication that Ore Reserves have been established or that economic development is assured. In this regard it may be appropriate to indicate the Mineral Resource inputs to the Scoping Study and the process applied, but it is not appropriate to report the diluted tonnes and grade as if they were Ore Reserves. While initial mining and processing cases may have been developed during the Scoping Study, it must not be used to allow an Ore Reserve to be developed.*

#### No New Information or Data

*This announcement contains references to exploration results and Mineral Resource estimates, all of which have been cross-referenced to previous market announcements by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.*

#### Forward Looking Statements

*This announcement may contain certain “forward-looking statements” which may not have been based solely on historical facts, but rather may be based on the Company’s current expectations about future events and results. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward looking statements. Such risks include but are not limited to metals price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the Countries and States in which we operate or sell product to, and governmental regulation and judicial outcomes. For a more detailed discussion on such risks and other factors, see the Company’s Annual Reports, as well as the Company’s other filings. The Company does not undertake any obligation to release publically any revisions to any “forward-looking statement” to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as maybe required under applicable securities laws.*

### About Mount Carrington

- The Mt Carrington Project is located in northern NSW, near the township of Drake on the Bruxner Highway, 4 hours' drive south-west of Brisbane. The tenement package comprises 22 mining leases and two exploration licences over a total area of 229km<sup>2</sup> (Figure 5).
- The Mt Carrington Project contains gold-silver epithermal mineralisation associated with a large 250km<sup>2</sup> collapsed volcanic caldera structure. Gold was first discovered in the district in 1853. In 1988 a mining operation at Mt Carrington focussed on extracting open pit oxide gold and silver ore from the Strauss, Kylo, Guy Bell and Lady Hampden deposits. The oxide ore was depleted by 1990, and with metal prices at US\$370/oz gold and US\$5/oz silver, the small scale mine was closed.
- Since 2010, White Rock has successfully expanded the Mineral Resources at Mt Carrington. Indicated and Inferred Mineral Resources total 338,000oz gold and 23.5Moz silver. There are four gold dominant deposits (Strauss, Kylo, Guy Bell and Red Rock), one gold-silver deposit (Lady Hampden) and three silver dominant deposits (White Rock, Silver King and White Rock North). All of these deposits apart from White Rock North are amenable to open pit mining, with mineralisation extending from surface.
- Scoping studies (*ASX Announcements 29 March 2016, 30 September 2015, 16 September 2014 and 31 July 2012*) support the development of a gold-silver operation at Mt Carrington. The material assumptions relating to the scoping study at Mt Carrington are summarised in Annexure A. Using A\$1,600/oz gold and A\$22/oz silver, the Mt Carrington Project forecasts:-
  - ✓ Production\* of 111,000 oz gold and 6.7Moz silver over a mine life of 7 years,
  - ✓ a low capital cost of A\$24.2M,
  - ✓ an NPV<sub>10</sub> of A\$60.6M\* and an IRR of 103%,
  - ✓ free cash flow of A\$100M (undiscounted),
  - ✓ a quick payback of 10 months, and
  - ✓ with a C1 cash cost of A\$755/oz gold and \$A10/oz silver.

\* The Mt Carrington Scoping Study considers a production accuracy of 30%, ranging from 77,000 - 145,000oz of gold and 4,730,000 - 8,784,000oz of silver, and an NPV accuracy of +/-30%, ranging between \$42M and A\$78M. The in-pit Mineral Resource is made up of a combination of Indicated (70%) and Inferred (30%) JORC Resource blocks. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The material assumptions and modifying factors considered to form reasonable grounds for stating the production targets and forecast financial information related to the Mt Carrington Project Scoping Study are contained in Annexure A.





- The scoping study contemplates a processing circuit capable of treating all ore types. For the gold dominant ore types the optimized pathway consists of a standard milling and flotation circuit producing a rougher concentrate which is subsequently reground and treated in an intensive leach process to recover the precious metals as dore. For the silver dominant ore types the flotation circuit would be upgraded to enable a cleaned concentrate to be produced. Production of a saleable silver concentrate is the most profitable processing pathway for the silver rich deposits.
- The low capital cost is augmented by the presence of already existing key infrastructure from the historic mining operation. This existing infrastructure includes granted mining leases, a 1.5 Mt tailings dam, a 750 mL freshwater dam, site office, the old plant footprint and foundations, a reverse osmosis water treatment plant and access to state grid power. This existing infrastructure has been valued at A\$20M in terms of the savings with respect to a greenfields development scenario.
- The positive results from the scoping studies strongly support the implementation of feasibility studies and future development of the Mt Carrington Project. A number of pre-development optimisation activities are underway in preparation for feasibility studies to be completed in 2017 with development targeted in 2018.
- The Mt Carrington Mining Leases are enveloped by a large portfolio of Exploration Licences with demonstrated potential for epithermal and intrusion-related gold, silver and copper mineralisation. White Rock has generated and refined an extensive exploration target portfolio at Mt Carrington for staged advancement and drill testing for gold and silver concurrent with the development of the current Resource. In addition, more recent work has demonstrated the potential for the project to host significant intrusion-related (porphyry) copper mineralisation.

#### Cautionary Statement

*The scoping study referred to in this report is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised. The material assumptions relating to the scoping study at Mt Carrington are provided in Annexure A.*

*In discussing 'reasonable prospects for eventual extraction' in Clause 20, the JORC Code 2012 ('Code') requires an assessment (albeit preliminary) in respect of all matters likely to influence the prospect of economic extraction including the approximate mining parameters by the Competent Person. While a Scoping Study may provide the basis for that assessment, the Code does not require a Scoping Study to have been completed to report a Mineral Resource.*

*Scoping Studies are commonly the first economic evaluation of a project undertaken and may be based on a combination of directly gathered project data together with assumptions borrowed from similar deposits or operations to the case envisaged. They are also commonly used internally by companies for comparative and planning purposes. Reporting the results of a Scoping Study needs to be undertaken with care to ensure there is no implication that Ore Reserves have been established or that economic development is assured. In this regard it may be appropriate to indicate the Mineral Resource inputs to the Scoping Study and the process applied, but it is not appropriate to report the diluted tonnes and grade as if they were Ore Reserves. While initial mining and processing cases may have been developed during the Scoping Study, it must not be used to allow an Ore Reserve to be developed.*

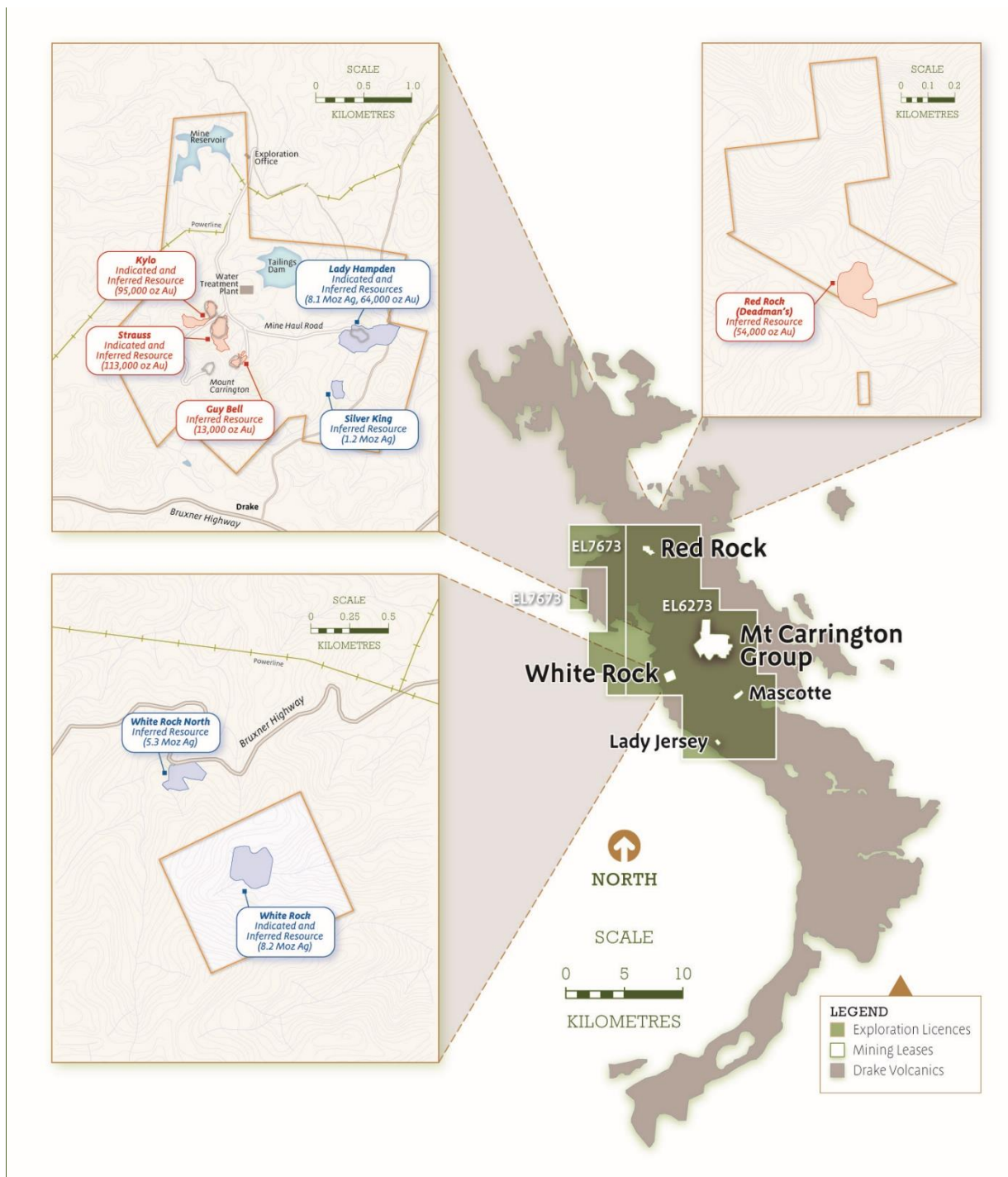
MT CARRINGTON INDICATED & INFERRED MINERAL RESOURCE SUMMARY					
Gold Dominant Resources					
Resource Category	Tonnes	Au (g/t)	Gold Oz	Ag (g/t)	Silver Oz
Indicated	2,830,000	1.3	116,000	3.1	286,000
Inferred	3,810,000	1.3	158,000	2.9	353,000
Indicated & Inferred	6,640,000	1.3	275,000	3.0	639,000
Silver Dominant Resources					
Resource Category	Tonnes	Au (g/t)	Gold Oz	Ag (g/t)	Silver Oz
Indicated	3,550,000	0.3	37,000	72	8,270,000
Inferred	8,950,000	0.1	27,000	51	14,533,000
Indicated & Inferred	12,500,000	0.2	64,000	57	22,803,000
Total Resources					
Total	19,140,000		338,000		23,442,000

#### **Mt Carrington Project - Mineral Resource Summary.**

##### Competent Persons Statement

*The gold and silver Resource figures for White Rock, Red Rock, Strauss, Kylo, Lady Hampden, Silver King and White Rock North have been taken from Resource estimates of February 2012, July 2013 and November 2013 prepared by Ravensgate Minerals Industry Consultants on behalf of White Rock Minerals Ltd and authored by Mr Don Maclean. Mr Maclean is a member of the Australian Institute of Geoscientists and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves." Mr Maclean consents to the inclusion in this report of the matters based on this information in the form and context in which it appears. This information was prepared and first disclosed under the JORC Code 2004 as per ASX releases by White Rock Minerals Ltd on 13 February 2012, 11 July 2013 and 20 November 2013. The Resources figures have not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.*

*The gold and silver Resource figures for Guy Bell have been taken from the Resource estimate of October 2008 prepared by Mining One Pty Ltd on behalf of Rex Minerals Ltd and authored by Dr Chris Gee who is a professional geologist with more than 10 years' experience in resource estimation. Dr Gee is a Competent Person as defined by the JORC Code. Mr Gee consents to the inclusion in this report of the matters based on this information in the form and context in which it appears. This information was prepared and first disclosed under the JORC Code 2004 as per the ASX release by Rex Minerals Ltd on 10 December 2008. The Resources figures have not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.*



**Figure 5. Mt Carrington Project Tenement and Resource Summary**