

Date: 12 February, 2018

Recommendation:	Speculative Buy
<b>Valuation:</b>	
Red Mountain Project	\$0.06
Mt Carrington Project	\$0.02
<b>Total</b>	<b>\$0.08</b>
<b>Price target</b>	<b>\$0.04</b>
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<b>Company Information</b>	
ASX Code	WRM
Last Price (\$)	\$0.01
12-month share low	\$0.01
12-month share high	\$0.02
Shares on Issue (m)	871m
Market Capitalisation	\$13m
Daily Volume	870k

CapIQ, DJC Research

## White Rock Minerals Ltd (WRM)

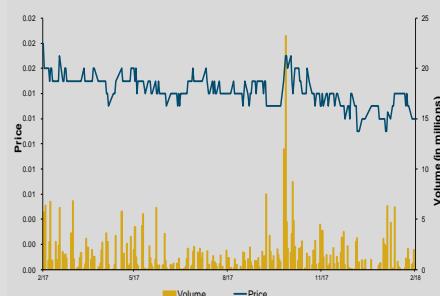
## Aggressive exploration at Red Mountain for 2018

White Rock Minerals Limited (WRM) is a mineral explorer and developer with two major, 100% owned, projects - the advanced, epithermal Mt Carrington gold-silver project in northern NSW, Australia and the Red Mountain VMS polymetallic project in Alaska. Alaska will be the focus for WRM during 2018 as it starts to ramp up an aggressive exploration program for the upcoming Alaskan field season. We believe there is potential for WRM to increase resources and possibly to establish a new, 100% owned, VMS camp just 100km south of Fairbanks.

## KEY POINTS

- **Red Mountain is an advanced project with plenty of upside:** The Red Mountain Polymetallic Project in Alaska, is an advanced, zinc-dominated VMS (volcanogenic massive sulphide) exploration project located within 100km of Alaska's second largest city, Fairbanks (pop. 32,000).
- **Significant maiden resource:** In 2017 WRM completed a maiden resource estimate for Red Mountain of **16.7Mt at 8.9% Zn equivalent** (ZnEq), placing it on a par with projects such as Red River Resources' Thalanga Project in QLD, now in production, and Heron's Woodlawn Project in NSW. We believe a resource double that size would place WRM on a development footing.
- **Aggressive exploration program:** WRM has now defined its exploration program for the forthcoming 2018 Alaskan field season. Beginning in March/April, WRM intend to undertake up to 6,000m of a diamond drilling campaign to expand resources and identify additional areas of mineralisation; undertake high-powered geophysics to refine drill targets on the best of over 30 existing geophysical and geochemical anomalies; undertake further surface mapping sampling to assist in target definition; and, evaluate the potential for gold mineralisation, common in zoned metal systems, but as yet, untested.
- **PFS completed on Mt Carrington:** In December 2017, WRM completed a pre-feasibility Study (PFS) on a gold-only, Stage 1 development. A silver dominated, Stage 2 development is still under consideration, but more work needs to be done to establish its viability.
- **Stage 1 technically and financially viable:** WRM established the viability of the Stage 1 development, with total cashflow of A\$36.7m (undiscounted, pre-tax) over a 4.3 year mine life, at an average annual production rate of 35,000 ozs at an AISC of A\$1,236/oz.
- **Valuation:** We maintain our valuation estimates of \$52.7m for Red Mountain based on previous M&A transaction history in the VMS space and \$17.3m for Mt Carrington, as the increased gold output and longer mine life associated with the Stage 1 of the PFS study is balanced by more uncertainty around the value of the Stage 2, silver-dominant mineralisation.
- **Recommendation:** We place a Speculative Buy recommendation on WRM with a 12-month price target of \$0.04 per share based on a successful exploration program and high associated newsflow from the Red Mountain Polymetallic Project over the course of 2018.

## 12 Month Performance



Source: Capital IQ

## Analyst Details

Paul Adams  
+618 9263 5200  
[padams@djcarmichael.com.au](mailto:padams@djcarmichael.com.au)

## Overview of WRM

- White Rock Minerals Limited (WRM) is a mineral explorer and potential developer with two major, 100% owned, projects. The advanced, epithermal Mt Carrington gold-silver project in northern NSW, Australia and the Red Mountain polymetallic project in Alaska, USA.
- The Red Mountain Polymetallic Project in Alaska, is an advanced, zinc-dominated VMS (volcanogenic massive sulphide) exploration project located within 100km of Alaska's second largest city, Fairbanks (pop. 32,000).
- The Mt Carrington gold-silver project has seen historical production and has existing open pits and remnant infrastructure. Epithermal mineralisation is associated with a large collapsed caldera in the northern region of the New England Fold Belt.
- In December 2017, WRM published a Pre-feasibility Study for Stage 1 (gold only) Mt Carrington, confirming the technical and financial viability of a small-scale gold operation. Additional potential comes from a Stage 2, silver-dominant, open pit operation plus near-mine exploration on other gold-silver deposits.
- In 2017 WRM completed a maiden resource estimate for Red Mountain, placing it on a par with projects such as Red River Resources' Thalanga Project in QLD and now in production, and Heron's Woodlawn Project in NSW, which will be in production.
- Red Mountain will be the focus of the company through 2018 with an aggressive exploration program building on the success achieved in 2017. In 2017 WRM established a **maiden resource estimate for Red Mountain of 16.7Mt at 8.9% Zn equivalent (ZnEq)**.

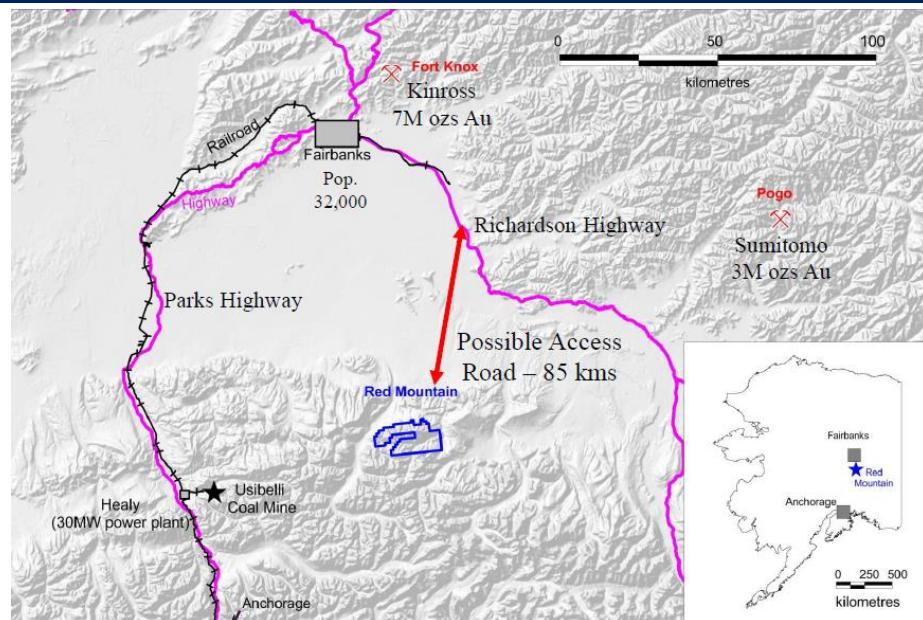


Figure 1. Red Mountain (Alaska)

Source: WRM

## Red Mountain Polymetallic Project

### 2018 field program now defined

- WRM has defined the Red Mountain 2018 field season work program. WRM intend to maximise the available time of the field season to complete an aggressive program of geophysics, geochemistry, geological mapping and two drilling programs aimed at:
  - a) Infilling and extending the known mineralisation envelopes at the two already identified deposits at West Tundra Flats and Dry Creek; and
  - b) Reconnaissance drilling on the best of some 30 targets already identified from new and previous geophysics.
- Given the lack of any modern-day exploration, where techniques have advanced significantly in the last decade, and with no drilling having occurred since the 1990s, we believe the tenement package has significant exploration upside potential.
- The Red Mountain Polymetallic Project ("RMP") tenement package was vastly expanded by WRM during 2016 to encompass a large number of near-surface conductivity anomalies associated with VMS alteration haloes. We believe potential exists to build on the two known deposits and establish a new VMS camp in Alaska.
- Specifically, the intended work program for the 2018 field season consists of:
  - **Up to 6,000m of diamond drilling:** WRM intend to have one diamond drill rig turning throughout the summer field season (May through to October) focused initially on potential thickened intervals within the two known deposits (5-10 holes) and extensional targets defined by early ground geophysical and geochemical surveys (5-10 holes). A total of 15-30 holes will target new areas.
  - **An orientation ground geophysics program over both West Tundra Flats and Dry Creek** will be conducted early in the field season (May-June) to define which ground geophysics techniques can best be applied to the mineralisation in the tenement package. The best techniques can then be applied to the other anomalies within the package to define drill targets.
  - In addition to the orientation work, **1,800 line kms of high-powered airborne EM (electromagnetic) geophysics** is planned, depending on funding, to identify conductivity anomalies within 500m of the surface. WRM intend to combine this with the existing shallow EM to assist in determining those targets with the best potential for large VMS systems (>10Mt).
  - **Mapping and sampling** of the 30 near surface anomalies will be conducted by a dedicated ground reconnaissance crew, including systematic rock chip traverse sampling detailed work on any massive sulphide horizons discovered.
  - High ranking targets outside the existing two deposits will then undergo more **detailed ground work to define drill targets.**
  - Lastly, **drilling will be conducted on the best targets identified (10-15 holes).**
  - WRM also intend to **evaluate the potential for gold mineralisation** in adjacent domains to the VMS mineralisation already identified. Metal zonation in VMS deposits is well known and this has not yet been investigated at Red Mountain.

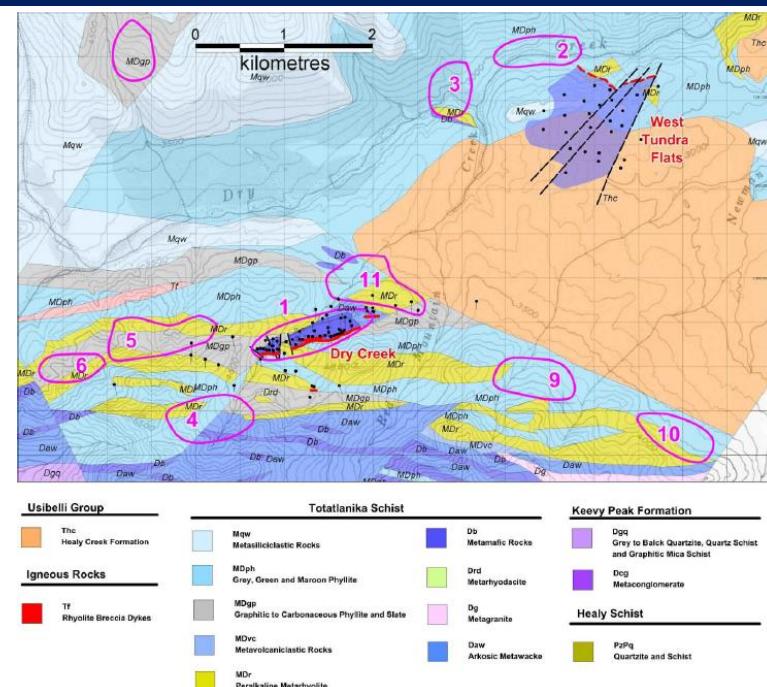


Figure 2. Existing Red Mountain deposits and proximal regional targets Source: WRM

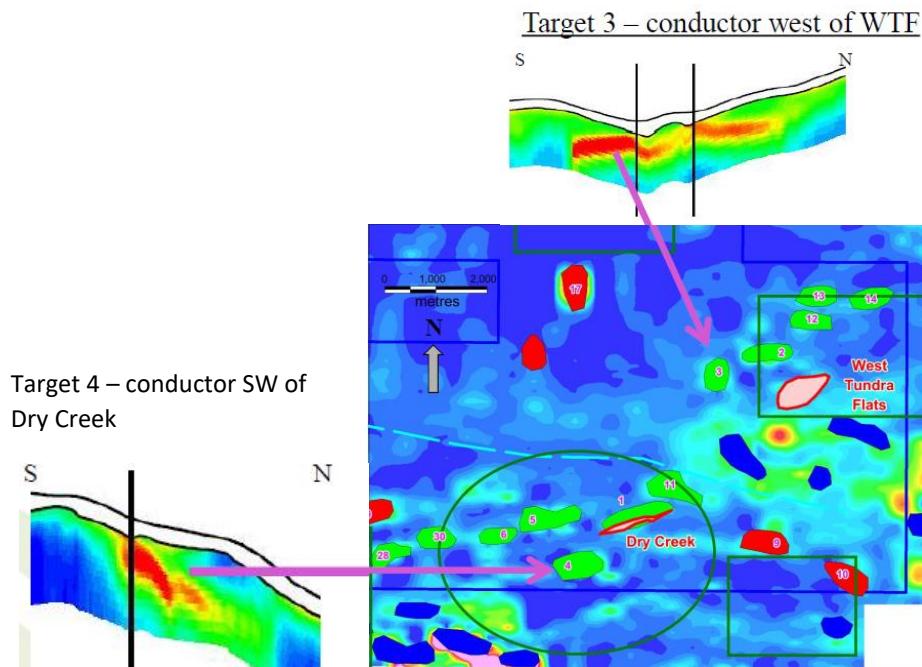


Figure 3. New targets to be explored in 2018

Source: WRM

### Exploration Funding

WRM had cash of \$2.2m as at the end of December 2017. An equity drawdown facility of \$7.2m has been arranged through Kentgrove Capital in terms determined by WRM and at their election. We believe WRM has the necessary funds, or access to funds, to begin the aggressive drilling program at Red Mountain.

## VMS systems in Yukon-Tanana Terrane

There are several VMS deposits in the Yukon-Alaska region that can be compared with Red Mountain. Perhaps the most interesting is the Kudz-Ze-Kayah deposit (KZK) owned and operated by the private company, BMC Minerals plc. Like Red Mountain, KZK is a polymetallic VMS system containing zinc-lead-copper-silver-gold in two major separate but proximal zones – ABM and Krakatoa – with the other deposits also within, and adjacent to, the KZK project area. BMC aim to put KZK into production in 2021 after a two-year project build.

Like Red Mountain, the major zones at KZK are relatively flat lying and outcrop or sub-crop on surface in an area overlain by glacial till. Mining is anticipated to be via both open pit and underground methods.

JORC Resource	Unit	KZK (ABM)	Red Mountain (HG)
Tonnes	(Mt)	19.2	9.1
Zinc	%	6.3	8.8
Lead	%	1.9	2.6
Copper	%	0.9	0.1
Silver	g/t	148	157
Gold	g/t	1.4	0.9
<b>Zinc equivalent</b>	<b>%</b>	<b>14.21</b>	<b>12.28</b>
Pre-prod capex	US\$m	298	
Processing rate	Mtpa	2.0	
LOM	years	9.3	
Operating margin	%	45.0	
NPV (after tax, 7%)	US\$m	594	
IRR	%	38	

Figure 4. Resource comparison between KZK and Red Mountain with KZK PFS metrics Source; DJC and company reports

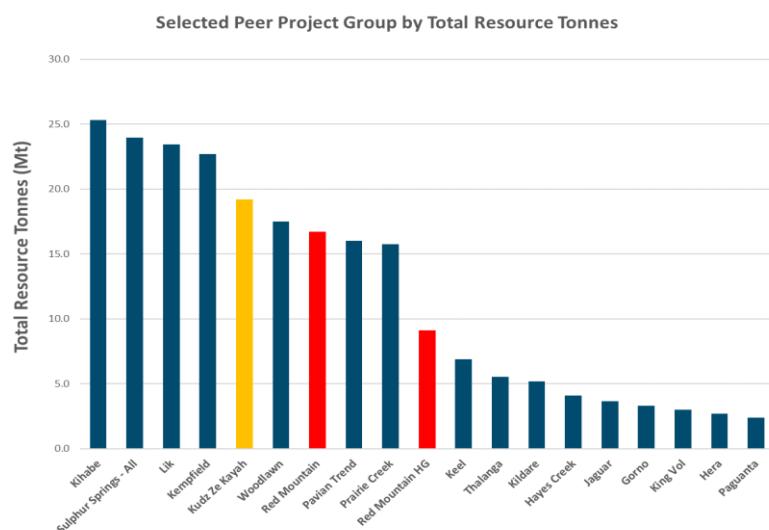


Figure 5. Red Mountain vs KZK and other VMS deposit peers

Source: company reports

Using KZK as a reference, we believe the Red Mountain total and HG resource needs to double from current levels, to around 30Mt and 18Mt respectively, to place Red Mountain onto a development footing. We would assume that capex and opex costs for Red Mountain would not be too dissimilar from those of KZK and this therefore gives a reasonable indication of the resource size and metrics necessary see Red Mountain move to the next level and generate real value for WRM shareholders. BMC Minerals has raised US\$100m in debt and equity to fund project development.

## ASX-listed Peer Group comparison

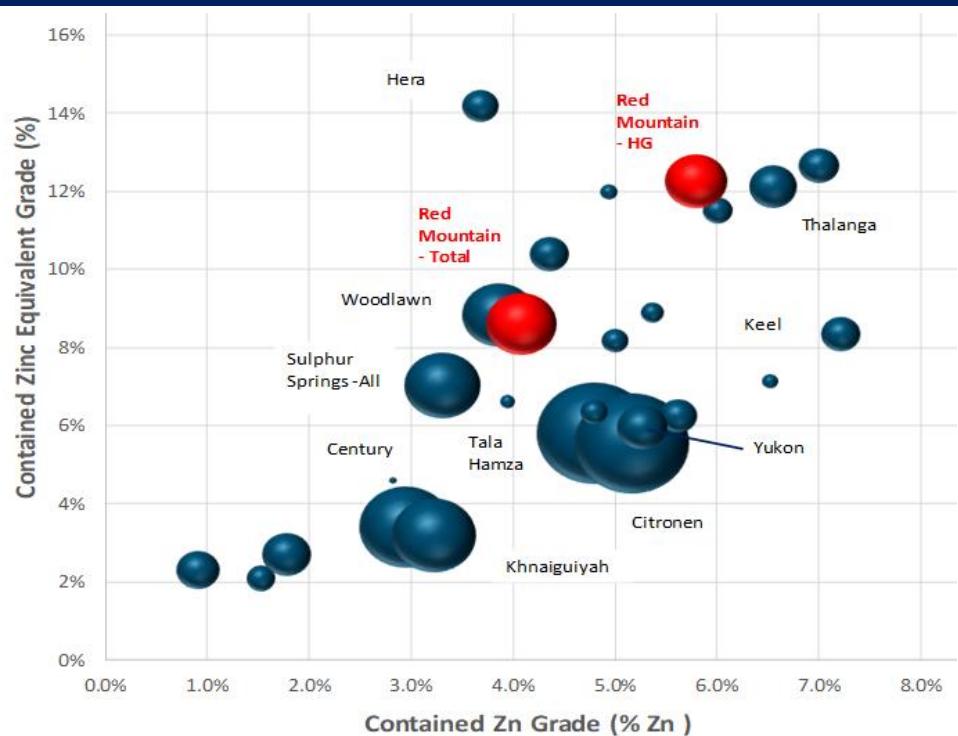


Figure 6. Zn vs ZnEq grade in Peer projects to Red Mountain company reports

Source: SNL, DJC,

We maintain our Valuation at \$52.7m, or \$0.06 per share, as in our September 2017 report based on previous transactions in the VMS space and a peer review of similar sized projects.

## Mt Carrington Gold-Silver Project

### Pre-feasibility confirms viability

WRM completed its pre-feasibility study on its Mt Carrington gold-silver project in December 2017. The study considered a two-stage approach with Stage 1 concentrating on the gold-only mineralisation. The silver mineralisation would come in stage 2 which was not included in the pre-feasibility study as additional metallurgical testwork is required to confirm recovery rates.

The Mt Carrington JORC resource contains 341,000 ozs of gold and 23.2 million ozs of silver. Mt Carrington has a maiden JORC reserve of 159,000 ozs upon which the prefeasibility Study is based. High-level metrics for the Stage 1 PFS include:

- Total reserves : 159,000 ozs
- Total Tonnes in reserves : 3.47Mt
- Gold grade : 1.43 g/t
- Gold recovery : 82%
- Recovered gold : 147,300 ozs
- Recovered grade : 1.17 g/t
- Life-of-mine (LOM) : 4.3 years
- Average gold production : 35,000 ozs
- LOM strip ratio : 2.67
- Processing rate : 1.0Mtpa
- Initial CAPEX : A\$35.7m
- Site operating cost : A\$46.23 per tonne ore milled
- C1 cash cost : A\$1,078 per oz produced
- AISC : A\$1,236 per oz produced
- Cashflow generated : A\$36.7m, undiscounted, pre-tax
- IRR : 34.0%

Stage 1 would consist of mining and processing the Strauss and Kylo deposits with total resources of 188,000 oz from 4.1Mt at 1.4g/t gold. Potential exists to make additional gold discoveries and add ounces to the LOM from the All Nations Zone (2 targets) and from the Pioneer Zone which included the Perseverance Prospect with 400m of undrilled strike potential.

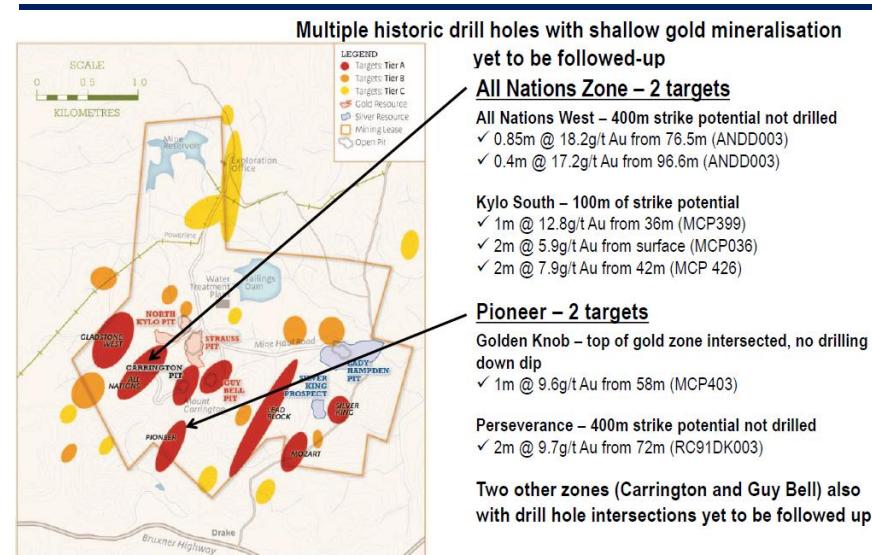


Figure 7. Additional potential at Mt Carrington

Source: WRM

## Silver in Stage 2

Stage 2 of the Mt Carrington Scoping Study envisaged mining the silver dominant zones at Lady Hampton and White Rock deposits. The staged development approach would see these deposits mined post the gold stage which would allow for additional metallurgical testwork, design of the optimum silver flow sheet and development of concentrate sales contracts with traders and smelters. The silver resources were not part of the PFS released in December 2017 due to continuing metallurgical and process flow sheet studies.

WRM state that the additional capital required to upgrade the processing flow sheet for silver production would be funded from the internal cashflows generated from the gold-only Stage 1.

Current silver resources in the Indicated category amount to 3.5Mt at 73g/t silver for 8.2 million ounces.

## Mt Carrington peer group analysis and valuation

We used a combination of M&A transaction analysis and average peer group EV/resource Oz metrics to derive a value of the Mt Carrington deposit of A\$17.3m, or 1.9c per share based on the full gold and silver, two stage development scenario, as considered in the updated 2016 Scoping Study.

The December 2017 PFS has established the technical and financial viability of the Stage 1 gold-only development scenario, with increased gold production over a longer Stage 1 mine life than in the Scoping Study, leaving the Stage 2 silver dominant development as potential upside. This can only be quantified after further metallurgical testwork and process design work is completed and indicative off-take agreements for the silver concentrate can be obtained. The timing of this will be dependent on obtaining sufficient funding to complete this work.

The PFS has established that on a capital intensity (capex per oz of production) and on AISC metrics, Mt Carrington sits mid-group amongst its peer projects at just under A\$1,000 per oz and A\$1,236/oz, respectively.

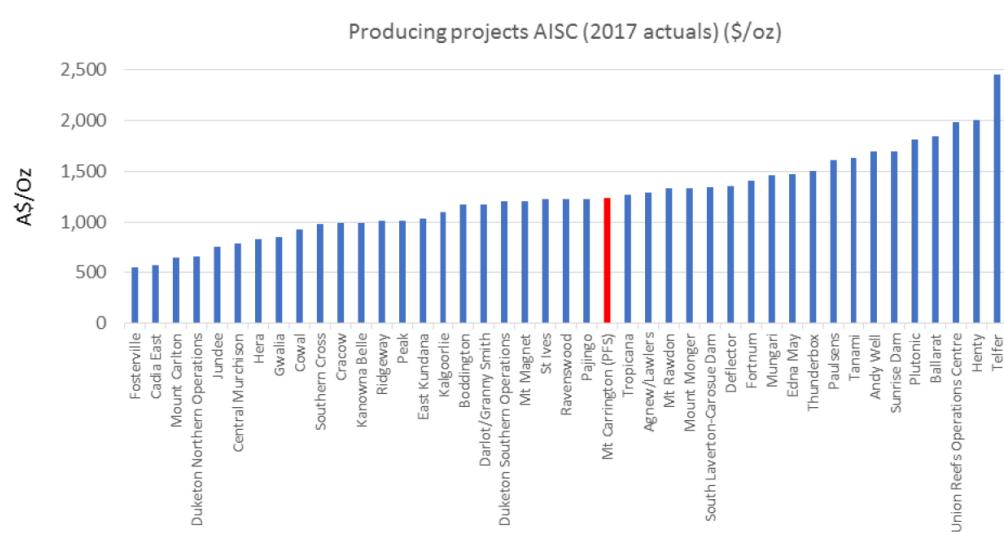


Figure 8. Producers AISC actuals vs Mt Carrington PFS ASIC

Source: WRM

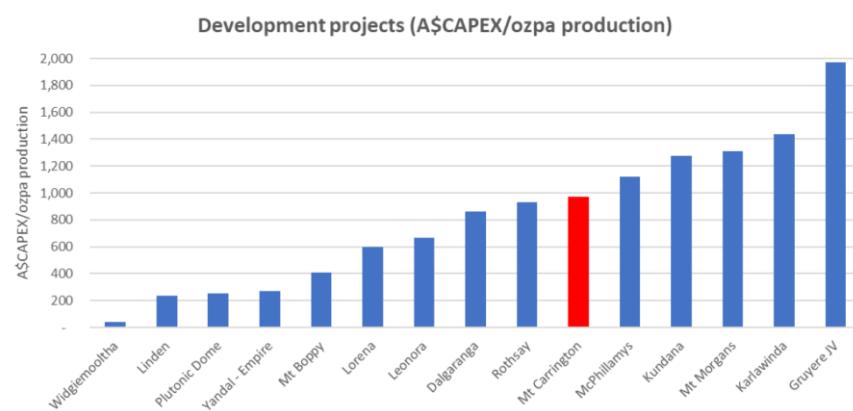


Figure 9. Capital Intensity of ASX-listed development projects

Source: WRM

We maintain our valuation of Mt Carrington at \$17.3m as in our September 2017 report, as the increased gold output and longer mine life associated with the Stage 1 of the PFS study is balanced by more uncertainty around the value of the Stage 2, silver-dominant mineralisation.

Private Client Dealing		Email	Telephone
Hugo McChesney	Institutional Adviser	<a href="mailto:hmcchesney@djcmichael.com.au">hmcchesney@djcmichael.com.au</a>	+61 8 9263 5214
Chad South	Head of Retail Advisory	<a href="mailto:csouth@djcmichael.com.au">csouth@djcmichael.com.au</a>	+61 8 9263 5225
Tim Bennett	Investment Adviser	<a href="mailto:tbennett@djcmichael.com.au">tbennett@djcmichael.com.au</a>	+61 8 9263 5351
Matthew Blake	Executive Director - Investment Adviser	<a href="mailto:mblake@djcmichael.com.au">mblake@djcmichael.com.au</a>	+61 8 9263 5248
Eve Broadley	Investment Adviser	<a href="mailto:ebroadley@djcmichael.com.au">ebroadley@djcmichael.com.au</a>	+61 8 9263 5324
Gregory Chionh	Investment Adviser	<a href="mailto:gchionh@djcmichael.com.au">gchionh@djcmichael.com.au</a>	+61 8 9263 5302
Andrew Cox	Investment Adviser (Equities & Derivatives)	<a href="mailto:acox@djcmichael.com.au">acox@djcmichael.com.au</a>	+61 8 9263 5237
Toby Jefferis	Investment Adviser (Equities & Derivatives)	<a href="mailto:tjefferis@djcmichael.com.au">tjefferis@djcmichael.com.au</a>	+61 8 9263 5217
Michael Marano	Investment Adviser	<a href="mailto:mmarano@djcmichael.com.au">mmarano@djcmichael.com.au</a>	+61 8 9263 5238
Zac Paul	Investment Adviser	<a href="mailto:zpaul@djcmichael.com.au">zpaul@djcmichael.com.au</a>	+61 8 9263 5272
Adam Russo	Investment Adviser	<a href="mailto:arusso@djcmichael.com.au">arusso@djcmichael.com.au</a>	+61 8 9263 5290
Derek Steinepreis	Investment Adviser	<a href="mailto:dsteinepreis@djcmichael.com.au">dsteinepreis@djcmichael.com.au</a>	+61 8 9263 5292
Chris Jones	Dealers Assistant	<a href="mailto:chris.jones@djcmichael.com.au">chris.jones@djcmichael.com.au</a>	+61 8 9263 5265
Julie Martino	Dealers Assistant	<a href="mailto:jmartino@djcmichael.com.au">jmartino@djcmichael.com.au</a>	+61 8 9263 5260
Paul Rebelo	Dealers Assistant	<a href="mailto:prebelo@djcmichael.com.au">prebelo@djcmichael.com.au</a>	+61 8 9263 5399
Vanessa Scott	Dealers Assistant	<a href="mailto:vscott@djcmichael.com.au">vscott@djcmichael.com.au</a>	+61 8 9263 5325
Wealth Management		Email	Telephone
Brad Clarke	Wealth Adviser	<a href="mailto:bclarke@djcmichael.com.au">bclarke@djcmichael.com.au</a>	+61 8 9263 5224
Paul Elkington	Wealth Adviser	<a href="mailto:pelkington@djcmichael.com.au">pelkington@djcmichael.com.au</a>	+61 8 9263 5285
Daniel Fonseca	Wealth Adviser	<a href="mailto:dfonseca@djcmichael.com.au">dfonseca@djcmichael.com.au</a>	+61 8 9263 5296
Domenic Macri	Wealth Adviser	<a href="mailto:dmaci@djcmichael.com.au">dmaci@djcmichael.com.au</a>	+61 8 9263 5263
Nick Casale	Portfolio Administration Manager	<a href="mailto:ncasale@djcmichael.com.au">ncasale@djcmichael.com.au</a>	+61 8 9263 5215
Research		Email	Telephone
Paul Adams	Director - Head of Research	<a href="mailto:padams@djcmichael.com.au">padams@djcmichael.com.au</a>	+61 8 9263 5234
Michael Eidne	Director - Research	<a href="mailto:meidne@djcmichael.com.au">meidne@djcmichael.com.au</a>	+61 8 9263 5213
Michael Ron	Research Analyst	<a href="mailto:mron@djcmichael.com.au">mron@djcmichael.com.au</a>	+61 8 9263 5264
Corporate Finance		Email	Telephone
David Bosio	Managing Director & Head of Corporate Finance	<a href="mailto:dbosio@djcmichael.com.au">dbosio@djcmichael.com.au</a>	+61 8 9263 5210
Matthew Hall	Director – Corporate Finance	<a href="mailto:mhall@djcmichael.com.au">mhall@djcmichael.com.au</a>	+61 8 9263 5291
Oliver Morse	Director – Corporate Finance	<a href="mailto:omorse@djcmichael.com.au">omorse@djcmichael.com.au</a>	+61 8 9263 5257
Carly Terzanidis	Manager - Corporate Finance	<a href="mailto:ccircosta@djcmichael.com.au">ccircosta@djcmichael.com.au</a>	+61 8 9263 5268
Administration		Email	Telephone
Cadell Buss	Chief Executive Officer	<a href="mailto:cbuss@djcmichael.com.au">cbuss@djcmichael.com.au</a>	+61 8 9263 5204
Belinda Roychowdhury	Administration Manager	<a href="mailto:broychowdhury@djcmichael.com.au">broychowdhury@djcmichael.com.au</a>	+61 8 9263 5216
Gabrielle Bouffler	Head of Risk and Compliance	<a href="mailto:gbouffler@djcmichael.com.au">gbouffler@djcmichael.com.au</a>	+61 8 9263 5221
Janelle Whyte	Chief Financial Officer	<a href="mailto:jwhyte@djcmichael.com.au">jwhyte@djcmichael.com.au</a>	+61 8 9263 5241
Michelle Perrett	Assistant Accountant	<a href="mailto:mperrett@djcmichael.com.au">mperrett@djcmichael.com.au</a>	+61 8 9263 5220
Kerry Morrice	Administration Assistant	<a href="mailto:kmorrice@djcmichael.com.au">kmorrice@djcmichael.com.au</a>	+61 8 9263 5279

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RCAN1464

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The Author of this report made contact with the **White Rock Resources Limited** for assistance with verification of facts, admittance to business sites, access to industry/company information. No inducements have been offered or accepted by the company.

The recommendation made in this report is valid for four weeks from the stated date of issue. If in the event another report has been constructed and released on **White Rock Resources Limited**, the new recommendation supersedes this and therefore the recommendation in this report will become null and void.

### Recommendation Definitions

SPECULATIVE BUY – Potential 10% or more outperformance, high risk

BUY – Potential 10% or more outperformance

HOLD – Potential 10% underperformance to 10% over performance

SELL – Potential 10% or more underperformance

Period: During the forthcoming 12 months, at any time during that period and not necessarily just at the end of those 12 months.

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