



GOLDFIELDS GAS PIPELINE

CALCULATION OF BETA FOR GGP

Public Version of Confidential Submission

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Economic Regulation Authority

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Introduction

GGT has previously submitted that in determining the rate of return for the pipeline, the GGP can be regarded as facing risks similar to those faced by its major customers. In the Amended Draft Decision, the Authority invited GGT to provide further information or support for this proposition. This letter sets out support for that contention, and provides an analysis of the value of beta applicable in this case.

As the Authority is aware, the pipeline was originally developed by WMC, Newmont and BHP. There can be no doubt that those companies were well placed to understand the risks faced by the pipeline owners. This includes an understanding of the relationship between the security of pipeline revenues and the nature of the customers served by the pipeline.

GGT submits that the best evidence of this relationship is provided in correspondence from the GGTJV to the DRD prior to the sales by WMC, Newmont and BHP.

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GGT submits that these statements provide a reasonable basis on which the Authority can conclude that the GGP should be regarded as having a beta reflective of the betas of its customers. On this basis, GGT submits that the proper beta for the GGP is approximately 2.47, rather than the value of 1.33 proposed in the Amended Draft Decision. The analysis for this conclusion is set out in the attachment.

ATTACHMENT: Calculation of beta for GGP by reference to beta of customers

The main customers of GGP currently are WMC Resources Ltd (“WMC”), Newmont Mining Corporation (“Newmont”) and Minara Resources Ltd (“Minara”), representing the vast majority of GGT’s revenues in 2003. These customers are also forecast to be the major users of GGP in the long term.

Given the relatively low proportion of pipeline revenue earned from other users, consideration of other users’ betas is not considered to be a significant input in deriving a reasonable estimate of the beta for the GGP.

(i) Beta for Newmont and Minara

GGT observes the beta of Newmont and Minara to be 1.77 and 3.81 respectively. Their betas have been calculated based on monthly observations of data for the past 5 years. Other assumptions used in the equity beta calculations include:

- debt beta of 0.2
- gearing of 60%
- relevering based on the “Simple Formula”
- adjustment of observed historical betas¹

Company	Asset beta	Relevered (equity) beta
MINARA RESOURCES LTD	1.64	3.81
NEWMONT MINING CORP-CHESS	0.83	1.77

(ii) Beta for WMC

Given WMC contributes a significant proportion of GGT’s revenues, the beta of GGT should be heavily weighted towards the beta of WMC. However, as WMC was only created from the demerger of WMC Limited into Alumina Limited and WMC Resources Ltd in December 2002, it is not appropriate to simply rely on the data available for WMC since it was established.

Empirical evidence suggests that for a beta to be reflective of an asset/security’s true systematic risk, there should be an adequate number of observations. In general, a sample size of 30 or larger is considered appropriate². To obtain more than 30 monthly observations for WMC, 3-5³ years data would be required and WMC has only been trading for 24 months. Daily or weekly observations are not appropriate as the effects of daily fluctuations resulting from, for example, market sentiment, could distort the true risk of the security. This issue is particularly important in the case of WMC Resources, given that its share price has constantly been impacted by takeover speculation.

¹ The beta of a stock can be presented as either an adjusted beta or raw beta. A raw beta is based on the observed relationship between the security’s historical return and the returns on an index. However, researchers have shown that adjusted beta is often a better forecast of future beta than is historical beta. As a consequence, practitioners often use adjusted beta. An adjusted beta is an estimate of a security’s future beta. An adjusted beta is initially derived from historical data, but modified by the assumption that a security’s true beta will move towards the market average of one, over time. The formula used to adjust beta is “0.67 x Raw Beta x 0.33 x 1.0” and commonly used in databases such as Bloomberg. For more information see, *Quantitative Methods for Investment Analysis*, Defusco et al, Association for Investment Management and Research, 2001, p597

² *Quantitative Methods for Investment Analysis*, Defusco et al, Association for Investment Management and Research, 2001, Chapter 6.

³ Data older than 5 years is considered to be of limited relevance given that a company’s operations in those years may not be reflective of current conditions.

Given these considerations, GGT submits that in identifying the beta which is reasonably reflective of the true risk of the GGP, it is preferable to analyse the betas of a basket of mining companies with similar risk profiles to WMC. While the risk profiles will not be exact, they provide a proxy of the non-diversifiable risks a mining company like WMC faces, e.g. commodity price cycles, general economic conditions etc.

The following table illustrates the betas of a basket of companies used to estimate the beta of WMC. Initial analysis of the S&P/ASX 300 Resources companies have been scaled down based on the following criteria:

- market cap greater than A\$500m
- operations predominantly in Australia
- exposure to commodity price cycles
- listed on the ASX
- more than 30 monthly observations are available

Company	Asset beta	Relevered (equity) beta	Operations
NEWCREST MINING LIMITED	1.15	2.57	Gold producer with operations mainly in WA and NSW
ILUKA RESOURCES LIMITED	1.11	2.47	Mineral sands and titanium minerals producer with significant operations in WA
CENTENNIAL COAL COMPANY LTD	0.63	1.26	Thermal and coking coal producer with operations mainly in NSW and Queensland
MACARTHUR COAL LTD	1.21	2.72	Coal producer in Queensland
JUBILEE MINES NL	1.08	2.39	Nickel producer in WA
PORTMAN LIMITED	1.62	3.75	Iron ore producer in WA
CONSOLIDATED MINERALS LTD	0.77	1.63	Manganese explorer and producer in Western Australia. Also produces Chromite
Min	0.63	1.26	
Max	1.62	3.75	
Median	1.11	2.47	
Mean	1.08	2.40	

Using the beta calculation methodology above, the mean and median of the sample betas are 2.40 and 2.47 respectively. GGT believes these values are an appropriate proxy to WMC's beta. GGT notes that that these values sit between the betas of Newmont and Minara of 1.77 and 3.81 as discussed above.

(iii) Conclusion: beta for GGP

On the basis of the above analysis, GGT submits that a beta of 1.33 as proposed in the ADD significantly understates the proper beta for the GGP: In particular, given the significant proportion of GGP revenue derived from the major customers, the beta should be one which reflects the calculated betas of those companies, being WMC (2.40/2.47), Newmont (1.77) and Minara (3.81).

While the average of these betas (adopting the value of 2.40 for WMC) is 2.66; the revenue weighted average is approximately 2.47. GGT submits that the revenue weighted beta of 2.47 should be used in the calculation of the cost of capital of the GGP and that use of any lower value would not properly reflect GGT's cost of capital.