Independent Qualified Person's Report PT Rinjani Kartanegara Coal Concession FEBRUARY 2017

Prepared For : PT Rinjani Kartanegara





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DISCLAIMER

PT SMG Consultants Indonesia (SMGC) has prepared this Independent Qualified Person's Report for the exclusive use of PT Rinjani Kartanegara (RK). The report is a Technical Assessment of the Rinjani Kartanegara coal concession located in the Kutai Kartanegara Regency of East Kalimantan Province, Indonesia.

The report must be read in light of:

- the report distribution and purposes and audience for which it was intended;
- its reliance upon information provided to SMGC by RK and others;
- the limitations and assumptions referred to throughout the report;
- the limited scope of the report;
- the differences between Singapore laws, regulations and rules (including the listing rules of the Singapore Exchange Securities Trading Limited (SGX)) and Australian laws, regulations and rules (including the listing rules of the Australian Securities Exchange Ltd. (ASX)); and
- other relevant issues which are not within the scope of the report.

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This report has been created using information and data provided by RK. SMGC has undertaken reasonable enquiries and exercised our judgment on the reasonable use of such information and found no reason to doubt the completeness, accuracy or reliability of the information. SMGC accepts no liability for the accuracy or completeness of the information and data provided by RK or any other third party.

This review is made using various assumptions, conditions, limitations and abbreviations. Assumptions are listed on the following page without prejudice to probable omissions.

If you are in any doubt as to the report or the actions you should take, you should consult a professional advisor immediately.



Assumptions

All previous work is accepted as being relevant and accurate where independent checks could not or were not conducted.

All relevant documentation, along with the necessary and available data to make such a review has been supplied.

Key assumptions, some of which were verified by the client, are accepted as described in the relevant sections of the report.

Conditions

Statements in this report that contain forward-looking statements which are not statements of historical fact may be identified by the use of forward-looking words such as "estimates", "plans", "intends", "expects", "proposes", "may", "will" or similar words or phrases and include, without limitation, statements regarding RK's plan of business operations, supply levels and costs, potential contractual arrangements and the delivery of equipment, receipt of working capital, anticipated revenues, mineral Resource and mineral Reserve estimates, and projected expenditures. However, please note that these words are not the exclusive means of identifying forward-looking statements. These statements are based on current expectations and assumptions about future events. Although SMGC believes that these expectations and assumptions are reasonable, these forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may affect the operations, plans and prospects of the proposed mine. As such, the forward-looking statements referred to in this report may not occur and actual results may differ materially from those expressly or impliedly anticipated in these forward-looking statements. SMGC do not intend, and do not assume any obligation, to update any information or forward-looking statements set forth in this report to reflect subsequent events or circumstances.

It must be noted that the ability to develop infrastructure and bring into operation the proposed mine to achieve the production, cost and revenue targets is dependent on a large number of factors that are not within the control of SMGC and cannot be fully anticipated by SMGC. These factors include but are not limited to site mining and geological conditions, variations in market conditions and costs, performance and capabilities of mining contractors, employees and management and government legislation and regulations. Any of these factors may substantially alter the performance of any mining operation.

The appendices referred to throughout and which are attached to this document are considered to be integral to this report. A copy of the appendices must accompany the report or be provided to all users of the report.

The conclusions presented in this report are professional opinions based solely upon SMGC's interpretations of the information provided by RK referenced in this report. These conclusions are intended exclusively for the purposes stated herein. For these reasons, prospective estimators must make their own assumptions and their own assessments of the subject matter of this report. Opinions presented in this report apply to the conditions and features as noted in the documentation, and those reasonably foreseeable. These opinions cannot necessarily apply to conditions and features that may arise after the date of this report, about which SMGC has had no prior knowledge nor had the opportunity to evaluate.



ABBREVIATIONS

AC	Asid Consuming
AUMVA	Acid Consuming
	Australasian Institute of Mineral Valuers and Appraisers
ad	Air Dried
adb	Air Dried Basis
AF	Acid Forming
AMDAL	"Analisis Mengenai Dampak Lingkungan" which translates to "Environmental
	Impact Assessment" and includes 3 sections: ANDAL, RKL and RPL
ANDAL	"Analisis Dampak Lingkungan Hidup" which translates to "Environmental
	Impact Analysis" and is part of the AMDAL
APBI	"Asosiasi Pertambangan Batubara Indonesia" which translates as "Indonesian
	Coal Mining Association"
APL	"Areal Penggunaan Lain" which translates to "non-forest area"
ar	As received
ARD	Acid Rock Drainage
ASIC	Australian Securities and Investment Commission
ASTM	American Society for Testing and Materials
ASX	Australian Stock Exchange
AusIMM	Australasian Institute of Mining and Metallurgy
BE	Bachelor of Engineering
	Bank cubic metre
bcm	
C&C	Clean and Clear certificate issued for the IUP by the MEMR
Capex	Capital costs
CCoW	Coal Contract of Work
CHPP	Coal Handling and Processing Plant
CP	Chartered Professional of the AusIMM
CPI	Competent Person Indonesia for the reporting of Resources and Reserves
	under the KCMI code
CSN	Crucible Swell Number
CV	Calorific Value kilocalorie per kilogram
daf	Dry Ash Free Basis
DGMC	Indonesian Director General of Minerals and Coal
FC	Fixed carbon
g/cc	Grams per Cubic Centimetre
gar	Gross As Received basis for coal quality
ha	Hectare
HGI	Hardgrove Grindability Index
HL	"Hutan Lindung" which translates to "protected forest"
HP	"Hutan Produksi" which translates to "production forest"
HPK	"Hutan Produksi Konversi" which translates to "convertible production forest"
Hr	Hour
ICMA	Indonesian Coal Mining Association
IM	Inherent Moisture
IPPKH	
	"Izin Pinjam Pakai Kawasan Hutan" which translates to "Permit to Borrow and
חחו	Use Forest Land"
IRR	Internal Rate of Return
ITCI	PT ITCI Hutani Manunggal Plantation Company
IUP	"Izin Usaha Pertambangan" which translates to "Mining Business License"



JORC	"Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" prepared by the Joint Ore Reserves Committee of the
	Australasian Institute of Mining and Metallurgy, Australian Institute of
	Geoscientists and Minerals Council of Australia
Kcal/kg	Unit of energy kilocalorie per kilogram
KCMI	"Komite Cadangan Mineral Indonesia" which translates as "Committee on
	Mineral Reserves Indonesia"
kg	Kilogram
Km	Kilometre
KP	"Kuasa Pertambangan" which translates to "Authority for Mine Workings"
Kt	Thousand tonne
kV	Kilovolt
I	Litre
LAS	log ASCII standard
lcm	Loose cubic metre
LIDAR	Light Detection and Ranging
LOM	Life of Mine
m ³	Cubic Metre
m	Metre
Μ	Million
MAusIMM	Member of the Australasian Institute of Mining and Metallurgy
Mbcm	Million bank cubic metres
Mbcmpa	Million bank cubic metres per annum
MEMR	Ministry of Energy and Mineral Resources within the central Indonesian
	government
MEngSc	Master of Engineering Science
m/s	Metres per second
Mt	Million tonne
Mtpa	Million tonnes per annum
MW	Megawatt
NAF	Non Acid Forming
NAR	Nett As Received
NPV	Net Present Value
Opex	Operating costs
ра	per annum
PAF	Potential Acid Forming
PERHAPI	"Perhimpunan Ahli Pertambangan Indonesia" which translates as "Association
	of Indonesian Mining Professionals"
PKPU	"Penundaan Kewajiban Pembayaran Utang" which translates as "Suspension
	of debt payment"
PPE	personal protective equipment
RD	Relative Density
RK	PT Rinjani Kartanegara
RKL	"Rencana Pengelolaan Lingkungan Hidup" which translates to "Environmental
	Management Plan," and is part of the AMDAL
RL	Relative Level (used to reference the height of landforms above a datum level)
ROM	Run-of-Mine
RPEQ	Registered Professional Engineer of Queensland
RPL	"Rencana Pemantauan Lingkungan" which translates to "Environmental Monitoring Plan" and is part of the AMDAL



SE	Specific Energy
SGX	Singapore Exchange Securities Trading Limited
SMGC	PT SMG Consultants Indonesia
SR	Strip ratio (of waste to ROM coal) expressed as bcm per tonne
SOP	Standard operating procedure
ST	Seam Thickness
t	Tonne
tkm	Tonne kilometre
ТМ	Total Moisture
t/m ³	Tonne per cubic metre
tph	Tonne per hour
TS	Total Sulphur
USD	United States Dollars
VALMIN	The Australasian Code for Public Reporting of Technical Assessments and
	Valuations of Mineral Assets (2015 Edition)
VM	Volatile Matter



EXECUTIVE SUMMARY

SMGC Consultants (SMGC) was commissioned by PT Rinjani Kartanegara (RK) to conduct an Independent Qualified Person's Report (IQPR) of the PT Rinjani Kartanegara (RK) coal concession project. The Technical Assessment has been prepared in accordance with SMGC's interpretation of the Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets (VALMIN Code 2015 Edition). The effective date of this report is 27th February, 2017.

Resources and Reserves have been estimated for the concession as of 31st December 2016. Resources and Reserves were reported in accordance with SMGC's interpretation of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code). The scope of work included an economic analysis of the concession; although a valuation was not part of the scope. The scope was also limited to the concession itself and not the holding company, and thus issues relating to the holding company have not been addressed.

TENURE, PERMITS and LAND ACQUISITION

Tenure for the concession is held under an operation production mining business licence (Izin Usaha Pertambangan – IUP Operasi Produksi) which was signed on 24th November 2009 and is valid until 24th November 2021. The area of the concession is 1,933 ha. The entire concession is classified as Production Forest, and thus a Permit to Borrow and Use Forest Land (Izin Pinjam Pakai Kawasan Hutan - IPPKH) is required from the Indonesian Forestry Department before mining operations can take place. RK have been issued two IPPKHs over a limited area of approximately 1,206 ha to include the mine, haul road and other infrastructure. These current permits, referred to as IPPKH1 and IPPKH2 are not sufficient to mine all the Reserves in this estimate.

A portion of the concession along the western boundary of the concession is controlled by PT ITCI Hutani Manunggal Plantation Company (ITCI) and has been excluded from the current IPPKH2. To allow the mine plan to be fully executed, an IPPKH2 expansion will be required into this area. This expansion into the ITCI Area is expected to be agreed with ITCI and granted by the forestry department by December 2017. It should be noted that while SMGC considers that there is a reasonable level of confidence that this IPPKH2 expansion can be approved by this time, it is not possible to make any guarantee that this can be achieved.

SMGC were provided with maps for land acquisition and compensation for the RK concession. The majority of the area required for 2017 has either already been compensated or the cost of compensation has been agreed and down payments made. Negotiation for land compensation in the ITCI and Middle Areas is still in progress and is targeted for completion by December 2017. It is critical for this land compensation to be finalised before January 2018 when mining is scheduled to start in these areas.



J1613 - February 2017 J1613_RK_IQPR_22Mar2017_v16

GEOLOGY AND EXPLORATION

The RK deposit is located within the lower Kutai Basin of East Kalimantan. The area is characterised by relatively flat lying strata and on average the stratigraphy dips 9 degrees to the north-northeast. The Pulaubalang formation is the coal bearing formation in the concession area.

A new drilling program was conducted between July and September 2016. RK drilled an additional 62 boreholes in the IPPKH2 area south and west of the current mining area intersecting 16 new seams. To date, a total of 41 coal seams have been intersected by exploration drilling and several of these seams are characterised by first phase seam splitting.

RK provided SMGC with all exploration data collected to date. Exploration has been confined to the existing IPPKH1 and IPPKH2 boundaries and a total of 246 boreholes have been drilled of which 134 were core holes. Only 200 of the boreholes with valid down-hole logs and surveyed collar locations were considered in the geological modelling. Other exploration data provided by RK included Light Detection and Radar (LiDAR) topographical data for the concession, channel sample lithology, laboratory analysis results, topographic surveys of the mined out pits and dumps as of the end of December 2016.

Coal quality in the area can be summarised as moderate total moisture, low ash content, high sulphur and moderate energy coal. This coal is classified as Sub-bituminous Class A coal, (Guidebook of Thermal Coal Sub-Bituminous Coal Second Edition", Koichi Katoh, APBI-ICMA 2011, page 33).

MINING OPERATIONS

The RK mine is an open pit mining operation using excavator and truck mining methods, typical of most Indonesian coal mining operations. The mining of waste and coal is performed by the mining contractor PT Cipta Kridatama (CK). Waste is mined using hydraulic excavators ranging from 75 tonne class up to 200 tonne class and 50 to 90 tonne capacity class off highway trucks. Softer material and topsoil is mined using smaller 50 tonne excavators and 40 tonne capacity articulated dump trucks. Operations continue for 24 hours per day with two 12 hour shifts. Coal cleaning and mining is supervised by RK using equipment supplied by CK on a wet hire basis. The equipment used for coal cleaning and mining consists of 20 and 30 tonne excavators. Coal is loaded into 20 tonne capacity coal haulage trucks that are operated by a number of smaller subcontractors.

Operations commenced in June 2012 with the stripping of topsoil from the upper benches of the pit. Drill and blast operations have commenced to enhance waste mining productivity. SMGC completed a number of site visits to the operation during August 2012, October 2013, April 2015 and September 2017. While some minor issues were observed during the site visits, these were not major and SMGC is of the opinion that the operation is generally well managed and no significant operational issues were found.

INFRASTRUCTURE AND LOGISTICS

After cleaning and mining, coal is hauled out of the pit using rigid body coal trucks with the majority of coal being hauled directly to the port stockpile. The haul road from the pit to the port stockpile is approximately 32 km long. Once arriving at the port, coal is then either dumped directly into a hopper, or stockpiled on a ROM stockpile and rehandled into the hopper for crushing and stockpiling on the crushed coal stockpile. Coal is loaded from the stockpile onto barges using a standard mechanical reclaim and barge-loading system. Coal is then barged approximately 79 km on the Mahakam River to an anchorage at either Muara Jawa or Muara Berau where a floating crane loads the coal from the barge into a vessel for shipment.



SAFETY, ENVIRONMENT AND COMMUNITY

SMGC has reviewed the standard operating procedures for the site as well as the environmental assessment and management plans and community relations plans. Performance in these areas was also assessed during the site visit. A key risk for the RK operation is the close proximity of the port stockpile to community housing. While RK have installed nets between the stockpile and the houses, SMGC is of the opinion that these will have limited effect in controlling dust in the community. SMGC understands that RK is currently paying compensation to the owners of the houses in this area to address this issue. Based on advice from RK, SMGC have allocated an additional amount of USD 600,000 per annum to operating costs to account for the cost of managing this issue. This amount is considered to be sufficient to cover compensation to the community over the remaining mine life. Safety and environmental incident reports and statistics were provided by RK, and no other issues were observed that are likely to have a significant impact on project performance.

RESOURCES AND RESERVES

Resource and Reserve estimates for the RK concession were completed by SMGC during February 2017. These estimates have been reported in accordance with SMGC's interpretation of the 2012 JORC Code and are stated as of 31st December 2016, which is the date of the mined out and dump surveys provided by RK. The results of these estimates are shown in Table 1.

Status	Quantity (Mt)	TM arb (%)	ASH adb (%)	TS adb (%)	CV adb (kcal/kg)	CV gar (kcal/kg)
Measured	10.3	16.6	5.2	1.90	6,115	5,804
Indicated	3.8	15.1	8.1	2.25	6,081	5,835
Inferred	1.4	14.9	9.3	2.44	5,980	5,742
Total	15.5	16.1	6.3	2.03	6,095	5,806

Table 1 – Resource and Reserve Estimates for RK Concession as of 31st December 2016

*The Coal Resource estimates shown are calculated using in situ density estimated using the Preston-Sanders method.

Marketable Coal Reserve

Coal Resource

Status	Quantity (Mt)	TM arb (%)	ASH arb (%)	TS arb (%)	CV adb (kcal/kg)	CV gar (kcal/kg)
Proved	2.1	18.2	5.2	1.58	5,945	5,698
Probable	0.8	17.3	6.3	1.91	5,986	5,749
Total	2.9	17.9	5.5	1.67	5,956	5,712

*Measured and Indicated Resources are inclusive of Reserves.

Table 1 of the JORC code has been used as a checklist by SMGC in the preparation of this report and this has been attached in each of the Resources and Reserves Statement Reports in Appendix C and Appendix D respectively of this report. Any comments made on the relevant sections of Table 1 have been provided on an 'if not, why not' basis. This has been done to ensure that it is clear to an investor whether items have been considered and deemed of low consequence or have yet to be addressed or resolved.

The information in this report that relates to Coal Resource estimates for the RK project area has been calculated, reviewed and verified by SMGC's Principal Geologist Mr. Abdullah Dahlan, who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person in accordance with the requirements of the 2012



Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code). Mr. Abdullah Dahlan has consented to both the form and context of all extracts from the Resources statements included in this report.

The information in this report that relates to Coal Reserve estimates for the RK project area has been calculated, reviewed and verified by Mr. David Wyllie, who is employed by SMGC as Principal Mining Engineer and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person in accordance with the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code). Mr. David Wyllie has consented to both the form and context of all extracts from the Resources statements included in this report.

The Resource and Reserve reports are contained in Appendix C and Appendix D respectively.

ECONOMIC ANALYSIS

Life of Mine (LOM) plans were developed for the concession to a prefeasibility level of detail. Capital and operating costs were then estimated in real terms for the life of the project. Operating cost estimates were based on actual costs where available, existing contracts for the site and typical costs for coal mines in Kalimantan. Most of the infrastructure for the RK project was already in place as of the date of this report and only a minor amount of infrastructure was still required to complete the project. Capital cost estimates were developed in conjunction with RK.

SMGC is of the opinion that the coal from the concession is readily marketable, although the high sulphur will likely result in some discounts being applied to the coal price compared to other coals with similar energy. The coal is likely to be in demand as a blending coal suitable for combining with the lower energy low sulphur coals that are produced from many mines in East Kalimantan. For the purpose of the study, a forward curve of coal prices was assumed with a starting price for the first quarter based on the recent actual sales price. The assumed forward price curve then falls back in line with a ratio linked to the median value of several published Newcastle index forecasts. A summary of key project parameters including financial parameters is shown in Table 2.

Parameter	Value	Unit	Description
Waste Mined	37	Mbcm	Total waste mined over LOM including rehandle
Coal Produced	3.3	Mt	Total coal produced over life of mine
Stripping Ratio	10.7	bcm:t	Average stripping ratio (excludes rehandle)
Maximum Production	1.2	Mtpa	Maximum production rate achieved over LOM
Years of Production	3	years	Number of years of coal production
Average CV (gar)	5,724	kcal/kg	Average gross as received CV of coal produced
Average Coal Price	48.52	USD / t	Average coal price received FOB barge (real terms)
Average Operating Cost	41.46	USD / t	Average operating cost over LOM FOB barge
Total Capital Expenditure	7	USD million	All capital expenditure
Royalty Rate	5.0	% revenue	Current regulation
Corporate Tax Rate	25	% EBT	Indonesian corporate tax rate
Rate of Inflation	2.4	% pa	Convert between real and nominal cash flows



The pit designs used to estimate Reserves for the RK concession contained a portion of mineable coal tonnes not classified as Measured or Indicated Resources. These coal tonnes comprised of Inferred Resources and Exploration Target coal have been referred to as Other Coal throughout this report. Under the JORC Code, this Other Coal cannot be included in Reserve estimations. While this Other Coal was not reported as a Reserve, it was included in the mine plan developed for the deposit. It made up approximately 14 % of the coal in the production schedule.

Areas of Inferred Resources and Exploration Target coal inside the ultimate pit designs referred to as Other Coal were mainly located in the ITCI (western) and Middle Areas. The primary reasons for this Other Coal classification were the lack of drill access to these areas and insufficient core sample analysis. No access had been granted to the ITCI Area and limited access was allowed in the Middle Area. This Other Coal comprising Inferred Resource and Exploration Target coal has been included in the pit design as it was considered likely the ultimate pit excavation would continue into these areas, and that the waste balance and waste haul distances would be more realistic and accurate if this Other Coal was included. Any user, of this pit design and the associated mine plan should be aware of this Other Coal comprising Inferred Resources and Exploration Target coal. This should be taken into account in any decisions made based on the estimate of Reserves.



1. INTRODUCTION AND TERMS OF REFERENCE

1.1 COMMISSIONING

SMGC Consultants Indonesia (SMGC) was commissioned by PT Rinjani Kartanegara (RK) to conduct an Independent Qualified Person's Report (IQPR) for the RK coal concession project. The Technical Assessment has been prepared in accordance with SMGC's interpretation of the Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets (VALMIN Code 2015 edition). The IQPR as stated in this report is equivalent to the Independent Expert Report as defined in the VALMIN Code.

1.2 SCOPE

The scope of the report is to produce an IQPR for the RK coal concession project in compliance with the VALMIN Code. The IQPR applies to the concession itself and not the holding company, and thus the following factors were not accounted for in this report:

- existing assets and liabilities of the holding company;
- aspects relating to financing for the mine and infrastructure; and
- any legal issues affecting the holding company and not directly related to the validity of the tenement itself.

1.3 PURPOSE

The purpose of this report is to provide an IQPR for the RK coal concession project, thereby assisting the commissioning entity, RK with their reporting obligations under Practice Note 4C - D bisclosure Requirements for Mineral, Oil and Gas Companies of the Singapore Exchange Securities Trading Limited's (SGX) Catalist Rules.

1.4 EFFECTIVE DATE

The Effective Date is the date upon which this IQPR is considered to take effect. The Effective Date for this report is 27th February, 2017.

All time-sensitive data used in this IQPR, including coal prices, exchange rates, cost-of-living indices and others were taken as of this date. Accordingly, this IQPR is valid as of the date of this report and refers to the writer's opinion of the condition of the project at this date.

This IQPR Technical Assessment can be expected to change over time due to political, economic, market and legal factors as well as ongoing exploration, production and development of the concession. Other exploration data, not in the public domain and not made available to the author could also affect the assessment.

1.5 CURRENCY

All references to monetary values in this report are assumed to be in USD unless stated otherwise.



1.6 PRACTITIONER

The Practitioner and Specialist with overall responsibility for this IQPR is Mr. Keith Whitchurch. Mr. Whitchurch has no direct or indirect interest in the properties which are the subject of this IQPR, nor does he hold, directly or indirectly, any shares in RK or any associated company, or any direct interest in any mineral tenements in Indonesia. He is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM), a CP (Min) and an RPEQ. Mr. Whitchurch is employed by SMGC.

Mr. Whitchurch has in excess of 30 years of experience in the mining industry with significant experience in technical reviews, audits and due diligence assessments of mining assets. He has sufficient experience relevant to this style of mineralisation, deposit type, project stage, Valuation and Code requirements, to qualify him as a Specialist (as defined in the VALMIN Code). Mr. Whitchurch's qualifications and experience are set out in Appendix A of this report.

SMGC is independent of RK as defined by SGX mainboard rule 210 (9) (b). Although it has no legal force in Singapore, SMGC is cognisant of the requirements of Australian ASIC regulatory guide RG112 as a standard of best practice. SMGC has made endeavours to comply with RG112 within the context of a Singapore regulatory environment.

No SMGC staff or Specialists who contributed to this report have any interest or entitlement, direct or indirect, in the companies, the mining assets under review, or the outcome of this report. SMGC has been previously engaged by RK on a number of assignments. These prior assignments have included the independent estimation and reporting of Resources and Reserves for the RK concession in accordance with the JORC Code. The most recent independent Resource and Reserve estimates were completed in February 2017 as referenced in Section 1.7 of this IQPR.

SMGC has been paid professional fees by RK for the preparation of this report. The fees paid were not dependent in any way on the outcome of the technical assessment. As required under clause 6.3 of the VALMIN code SMGC discloses that professional fees paid to SMGC including all subcontracted fees by RK for completion of this report including data review, Resource, Reserve and IQPR totalled USD 180,500.

In preparing this report, Mr. Whitchurch was assisted by other subject Specialists and team members whose qualifications and experience are set out in Appendix A of this report.

Internal peer reviews were provided Mr. Kim Knerr and Mr. David Wyllie who are both employees of SMGC and members of the AusIMM.

A draft of this report was provided to RK for inclusion in a draft circular for submission to the SGX. This is a requirement of the SGX and not consistent with the independence requirements of RG112. SMGC confirms RK has not provided any feedback or comment on outcomes of the report.



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1.7 PRINCIPAL SOURCES OF INFORMATION

The principal sources of information used in this study and that underlie the IQPR for the concession included a site visit and the following reports and references:

- 1. "Coal Resource Statement, February 2017, Prepared for PT Rinjani Kartanegara" by SMGC.
- 2. "Coal Reserve Statement, February 2017, Prepared for PT Rinjani Kartanegara" by SMGC.
- "Kajian Geoteknik Rencana Penambangan Batubara di Wilayah Konsesi Blok II PT Rinjani Kartanegara", January 2017, Study Centre for Mineral and Energy Research Institute and Community Service, Veteran's University of National Development Yogyakarta.
- 4. Preston, KB and Sanders, RH, "Estimating the In-situ Relative Density of Coal", Australian Coal Geology, Vol 9, pp 22-26, May 1993.
- 5. "Australian Guidelines for Estimating and Reporting of Inventory Coal, Coal Resources and Coal Reserves", 2003.
- 6. "Guidebook of Thermal Coal Sub-Bituminous Coal Second Edition", Koichi Katoh APBI-ICMA 2011.
- 7. "Optimum Design of Open-Pit Mines", Joint C.O.R.S and O.R.S.A. Conference, Montreal, May 27-29, 1964.
- "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code 2012 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).
- 9. Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets (VALMIN Code 2015 Edition).
- 10. Practice Note 6.3 Disclosure Requirements for Mineral, Oil and Gas Companies, Singapore Stock Exchange, September 2013.
- 11. Regulatory Guide 111 Content of Expert Reports, ASIC, March 2011.
- 12. Regulatory Guide 112 Independence of Experts, ASIC, March 2011.
- 13. Information Sheet 214 Mining and Resources Forward Looking Statements, ASIC.
- 14. ASX Mining Reporting Rules for Mining Entities: Frequently asked Questions, ASX.
- 15. Classification of Coal Resources Using Geostatistics by K. Whitchurch, in Proc. Coal Mining Geostatistics Seminar, University of Queensland, November 1986.
- 16. A Geostatistical Approach to Coal Reserve Classification by K.D. Whitchurch, A.D.S. Gillies, D.C. Cawte and G.D Just, Presented at Pacific Rim Conference, August 1987.

1.8 SITE INSPECTION

Site inspections have been conducted by SMGC in October 2012, October 2013, April 2015, and September 2016. The most recent site visit conducted in September 2016 included inspection of port facilities, haul road, exploration drilling, mine operations, environmental activities and site facilities (see Figure 1.1). This site visit was conducted by Joyanta Chakraborty and Wahyudi Adhiutomo. Mr. Chakraborty and Mr. Adhiutomo are employed by SMGC in the positions of senior mining engineer and senior geologist respectively with Competent Person status in Coal



Reserves and Resources respectively. Their qualifications and experience are summarised in Appendix A.



Figure 1.1 – Site Inspection of RK Project



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1.9 COMPLIANCE WITH THE VALMIN CODE

The VALMIN Code is designed to fit within the Australian regulatory framework comprising the Corporations Act, and various ASIC Regulatory Guidelines and ASX Listing Rules. It is a companion to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC). In line with this relationship, Mineral Resources and Coal Reserves for RK were reviewed in the context of the JORC Code.

VALMIN Practitioners preparing Public Reports in jurisdictions other than Australia are advised by the Code to be aware of and take note of the specific content of relevant Codes, templates, standards and guidelines other than VALMIN.

The Commissioning Entity, RK is listed on the SGX. Consequently, this report must comply with the relevant regulations, guidelines and listing rules for Singapore. Where there is a conflict between this jurisdiction and the VALMIN Code, the following regulatory hierarchy will apply in descending order of precedence:

- Singapore Law;
- SGX Listing Rules; and
- VALMIN Code.

The reader should be aware that this report may not be in compliance with all aspects of the VALMIN Code or ASIC guideline due to incompatibilities between these jurisdictions. In general, ASIC guidelines have been referred to as guides of best practice to be adhered to where possible. Readers are advised to note that it is not necessarily possible to force a Singapore client to adopt a foreign jurisdictions best practice when there is no legal or commercial imperative to do so.



2. DESCRIPTION OF MINERAL ASSET

2.1 LOCATION AND ACCESS

The RK project concession as shown in Figure 2.1 is located in the Kutai Kartanegara Regency, of East Kalimantan Province, Indonesia and covers an area of 1,933 ha. The concession is located approximately 40 km southwest of Samarinda, the provincial capital of East Kalimantan.

Access to the concession area is via a 2 hour domestic flight from Jakarta to Balikpapan followed by a 2 hour car journey along national roads to Samarinda and finally a 1 hour car trip along RK roads to the RK site. The concession is in an area with many operating mines.

2.2 NEIGHBOURS

The RK concession is surrounded by many neighbouring coal mining concessions. This allows some sharing of infrastructure such as haul roads and port facilities with other producers along the haul route. Figure 2.2 shows RK with its regional neighbouring mining concessions.

2.3 MINING TENURE

Tenure for the RK Project is held under an operation production mining business licence (IUP). SMGC has been provided with a copy of the IUP documents for the concession and these are attached in Appendix B.

The details of this concession are shown in Table 2.1. All Mineral Assets considered for this Technical Assessment are contained within the RK concession.

IUP	PT Rinjani Kartanegara		
IUP Type	Operation Production		
IUP Number	540/1654/IUP-OP/MB-PBAT/XI/2009		
Company Name	PT Rinjani Kartanegara		
District (Kabupaten)	Kutai Kartanegara		
Province	Kalimantan Timur		
Commodity	Coal		
Area	1,933 ha		
Date Signed	24 th November 2009		
Expiry	24 th November 2021 (12 years)		
Extensions*	2 x 10 years		

Table 2.1 – Concession Details

*Extensions possible under new mining law (Number 4 Year 2009)

The IUP document states that the IUP holder may apply for 2 extensions of the IUP as per the mining law number 4 of 2009. The mining law states that 2 extensions of 10 year duration may be granted.



The Indonesian Ministry of Energy and Mineral Resources (MEMR) Regulation No. 43 of 2015 regarding Procedures for Evaluation of Issuance of Mineral and Coal Mining Business Licenses (MEMR 43/2015) sets forth the requirements for IUP's to be declared Clean and Clear ("C&C"), meaning they have been validly issued and conform to the requirements of the Mining Law.

By checking on the MEMR website, SMGC was able to independently verify that the RK IUP does have C&C status.

Though reasonable efforts have been made to verify the status of the IUP, SMGC makes no warranty or representation to either RK or third parties (expressly or implied) in regard to the validity of the IUP and documentation. This IQPR does not constitute a legal due diligence of the concession.





Satellite Image from Google Earth, Landsat/Copernicus December 2016



Satellite Image from Google Earth, Landsat/Copernicus December 2016

2.4 FORESTRY STATUS

The RK concession is within an area classified as production forest (Hutan Produksi) by the Indonesian Forestry Department and thus a permit to borrow and use forest land (Izin Pinjam Pakai Kawasan Hutan - IPPKH) is required before construction and mining operations can take place. RK received an IPPKH permit (referred to as IPPKH1) over part of the concession in December 2011. SMGC were provided with a copy of this IPPKH1 permit (number: SK.705/Menhut-II/2011 for exploitation) and the accompanying maps. The total area granted under the IPPKH1 permit is 308.54 ha which comprises:

- 167.07 ha for mining;
- 74.69 ha for infrastructure;
- 34.02 ha for roads; and
- 32.76 ha for development.

This first IPPKH1 was not sufficient to mine all Coal Reserves in the mine plan. To gain access to an additional 898 ha area within the IUP, RK applied for and received an expanded IPPKH referred to as IPPKH2 in July 2016 (number: 50/1/IPPKH/2016). This new IPPKH2 comprised the following elements:

- 682.09 ha for mining;
- 88.33 ha for dumping;
- 2.22 ha for settling ponds;
- 13.48 ha for roads; and
- 111.44 ha for development.

The IPPKH1 and IPPKH2 areas are shown in Figure 2.3.

A portion of the IUP along the western boundary of the concession has still been excluded from the IPPKH2. To allow the mine plan to be fully executed, an additional expansion will be required into this area. This area is controlled by the plantation company PT ITCI Hutani Manunggal (ITCI). Discussions with ITCI management have started with permission being granted for RK personnel to conduct surface mapping exploration activity within the ITCI Area starting 17 February 2017. This surface mapping is already underway. The engagement with the plantation company will need to continue and progress to allow exploration drilling and a business to business agreement to allow mining activity including compensation and then approval from the forestry department. This process to allow RK to conduct mining activity in the ITCI Area is expected to take until December 2017.

It should be noted that while SMGC considers that there is a reasonable level of confidence that the additional IPPKH expansion into the ITCI Area can be approved by this time, it is still not possible to make any guarantee or warranty that this can be achieved. Boundaries for the IPPKH1, IPPKH2 and ITCI controlled areas are shown in Figure 2.3.





3. RESOURCES, RESERVES AND OTHER COAL

This section discusses the Resources, Reserves and Other Coal that have been considered in the Technical Assessment of the RK concession. Resources and Reserves are presented in the format prescribed in "Appendix 7D of the SGX Catalist rules" in Appendix G of this report.

3.1 EXPLORATION HISTORY

RK commenced initial coal exploration on their concession in 2009. This first stage exploration program included limited coal outcrop mapping, general borehole drilling and coal quality analysis. The drilling included of 171 boreholes comprising 76 cored boreholes and 95 open boreholes. The favourable results obtained from this led to a second in-fill drilling program being conducted during the period of September 2012 to March 2013, whereby another 13 cored boreholes were drilled to improve confidence in both geological structure and coal quality data. The program was implemented and managed by RK. A channel sampling programme was also implemented during this later period during which 293 samples were taken.

Following government approval for the IPPKH2 area, a new drilling program was conducted between July and September 2016. RK drilled an additional 62 boreholes in the IPPKH2 area south and west of the current mining area. This drilling included 45 cored boreholes and 17 open boreholes. A total of 16 new seams were intersected by the new drilling. The new seams were intersected by boreholes in the Middle and South Areas of the IUP within the IPPKH2 boundary. Only 4 of these 16 seams had sufficient quality information to be included in the Resource estimation. The remaining seams will require additional drilling and sampling before they can be considered for inclusion in future Resource estimation.

A total of 246 boreholes have been drilled in the RK concession of which 134 were cored holes and 112 were open holes. Due to insufficient data, such as no geophysics, or improper surveying, 46 of these 246 boreholes could not be included in the geological model.

3.2 CONCESSION OVERVIEW

The RK deposit is located within the lower Kutai Basin of East Kalimantan. Formations of this basin which are exposed in and surrounding the RK concession area are the Pulaubalang, Pamaluan, Balikpapan and Kampungbaru formation. The area is characterised by relatively flat lying strata. On average the stratigraphy dips 9 degrees to the north-northeast. The RK concession is positioned on the eastern flank of a regional syncline and is confined between two parallel and adjacent anticline structures. Large scale faulting has not been identified by current field exploration however minor faulting cannot be ruled out based on the current borehole spacing.

The Pulaubalang formation is the coal bearing formation in the concession area. There are 41 named coal seams intersected within the project area. Several of these seams are characterised by first phase seam splitting.

Coal quality in the area can be summarised as moderate total moisture, low ash content, high sulphur and moderate energy coal. This coal is classified as Sub-bituminous Class A, (Guidebook of Thermal Coal Sub-Bituminous Coal Second Edition", Koichi Katoh, APBI-ICMA 2011 page 33).

Mining operations in the RK concession commenced in June 2012. SMGC was provided with production records from the start of operations to the end of December 2016. Resources and Reserves have been calculated using mined out surfaces dated 31st December 2016.



Further exploration is on-going to improve knowledge of the structural setting, stratigraphy and coal quality of the concession area.

3.3 RESOURCES

An independent estimate of Resources within the RK concession was prepared by SMGC. This estimate was reported in compliance with SMGC's interpretation of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012 Edition) as 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).

The most up to date Resource report at the time of writing this report was:

• "Coal Resource Statement, February 2017, Prepared for PT Rinjani Kartanegara" by SMGC.

The Coal Resource Estimate was compiled by Mr. Abdullah Dahlan who is a member of the Australasian Institute of Mining and Metallurgy and is a full time employee of SMGC. He has sufficient experience in coal geology and Resource evaluation to qualify as a Competent Person under the JORC Code. Mr. Dahlan consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

The Resource reports are attached in Appendix C and the reader is referred to these documents for a more detailed discussion of the Resource estimate including the following aspects:

- description of regional and local geology within the concession;
- exploration undertaken to date within the concession including the number of boreholes, borehole locations and spacing, drilling and sampling methods;
- number of core samples taken and core recovery percentages;
- criteria used to define points of observation and classification of Resources;
- coal quality results, relative density of coal, laboratory used and analytical standards;
- orebody geometry and dimension; and
- orebody modelling techniques and procedures.

The Resource estimate by seam from the Resource report are shown in Table 3.1 and the estimated coal qualities are shown in Table 3.2. The tonnes and quality of Resources for each seam can be found in Appendix C. SMGC considers that these Resource estimates have been reported in compliance with the JORC Code and are reasonable and suitable for the purpose of this IQPR. SMGC noted that some exploration potential exists and an Exploration Target range of 1.2 to 4.0 Mt was estimated for seams with drill intercepts but insufficient quality data to qualify for inclusion in the Resource estimation. This potential quantity is conceptual in nature because there has been insufficient exploration to estimate a Coal Resource in this area and it is uncertain if further exploration will result in the estimation of a Coal Resource.



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Seam	Measured	Indicated	Inferred	By Seam
S5	0.0	0.0	0.0	0.0
S10U	0.0	0.0	0.0	0.0
S10L	0.0	0.0	0.0	0.0
S15U	0.0	0.0	0.0	0.0
S15L	0.0	0.0	0.0	0.0
S20	< 0.1	< 0.1	< 0.1	0.1
S30U	0.2	0.1	< 0.1	0.3
S30L	0.2	0.1	0.0	0.3
S40	0.3	< 0.1	0.0	0.4
S40L	0.1	0.0	0.0	0.1
S50U	0.0	0.0	0.0	0.0
S50	0.4	< 0.1	0.0	0.4
S50L	0.0	0.0	0.0	0.0
S100	0.2	< 0.1	< 0.1	0.2
S200	1.4	< 0.1	0.0	1.4
S300	1.7	< 0.1	0.0	1.7
S400	0.6	< 0.1	0.0	0.6
S500	2.0	0.2	0.1	2.3
S600	0.7	0.1	< 0.1	0.9
S700	1.7	0.2	0.1	1.9
S790	< 0.1	0.1	0.1	0.2
S800	0.2	0.3	0.1	0.6
S900	0.0	0.1	0.1	0.2
S1000	0.1	0.1	0.2	0.4
S1050	0.0	0.0	0.0	0.0
S1999	0.0	0.3	0.1	0.4
S2001	0.0	0.0	0.0	0.0
S2100	0.0	0.0	0.0	0.0
S2200	0.0	0.0	0.0	0.0
S2300	0.0	0.0	0.0	0.0
S2400	0.0	0.0	0.0	0.0
S2500	0.0	0.0	0.0	0.0
S3000	0.0	1.2	0.3	1.5
S3100	0.0	0.0	0.0	0.0
S3200	0.0	0.8	0.3	1.1
S3300	0.0	0.0	0.0	0.0
S4000	< 0.1	0.0	0.0	0.0
S4900	0.1	< 0.1	0.0	0.1
S5000	0.4	0.1	< 0.1	0.5
S5100	0.0	0.0	0.0	0.0
S5200	0.0	0.0	0.0	0.0
Total	10.3	3.8	1.4	15.5

Table 3.1 – Resource Estimates a	as of 31 st	December	2016
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There may be minor discrepancies in the above table due to rounding of tonnes. These are not considered Material by SMGC.

All tonnes shown are calculated using in situ density that has been estimated from an air dried basis using the Preston-Sanders method.

This table must be presented with the entire Coal Resource Statement from which it was obtained.



Resource Classification	Coal Quantity (Mt)	TM ar (%)	IM adb (%)	Ash adb (%)	VM adb (%)	FC adb (%)	TS adb (%)	CV adb (kcal/kg)	CV gar (kcal/kg)	RD adb (g/cc)
Measured	10.3	16.6	12.0	5.2	40.8	42.7	1.90	6,115	5,804	1.32
Indicated	3.8	15.1	11.3	8.1	40.5	41.6	2.25	6,081	5,835	1.33
Inferred	1.4	14.9	11.2	9.3	39.6	40.9	2.44	5,980	5,742	1.32
Total	15.5	16.1	11.8	6.3	40.6	42.3	2.03	6,095	5,806	1.32

3.4 RESERVES

An independent estimate of the Coal Reserve within the RK concession was prepared by SMGC as of the 31st December 2016. This estimate was reported in compliance with SMGC's interpretation of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012 edition) as 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).

The most recent Reserve report at the time of writing this IQPR was:

• "Coal Reserve Statement, February 2017, Prepared for PT Rinjani Kartanegara" by SMGC.

The Coal Reserve estimates were prepared by Mr. David Wyllie who is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Wyllie is employed as a Principal Engineer by SMGC. He 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 JORC Code. Mr. Wyllie consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

The Reserve report is attached in Appendix D and the reader is referred to this document for a detailed discussion of the Reserve estimate including the following aspects:

- geological and hydrological factors;
- geotechnical and surface water management factors;
- details of revenue, operating cost and capital cost factors that were used to determine the economic limits of the orebody;
- mining recovery and minimum mining thickness factors;
- mine design and scheduling; and
- methodology and processes used to estimate the Reserve.



The estimate from the Reserve report is summarised in Table 3.3 and the estimated coal quality of the Reserve within the RK concession is shown in Table 3.4. SGMC considers that this Reserve estimate has been reported in compliance with the JORC Code and is reasonable and suitable for the basis of this IQPR. All coal quality analyses were undertaken using ASTM standards. All estimates of tonnes contained in this document are on an as received basis, unless otherwise stated. The methodology for estimating from in situ tonnes to Marketable Coal Reserves is described in Section 5 and 6 of Appendix D.

Table 3.3 – Reserve Estimates as of 31st December 2016

Description	Proved (Mt)	Probable (Mt)	Proved and Probable (Mt)	
Open Cut ROM Coal Reserves	2.1	0.8	2.9	
Marketable Coal Reserves	2.1	0.8	2.9	

This table must be presented with the entire Coal Reserve Statement from which it was obtained.

Table 3.4 – Marketable Coal Reserve Quality Estimates as of 31st December 2016

Coom	Proved	Probable	Reserves	ТМ	Ash	TS	CV adb	CV gar
Seam	(kt)	(kt)	(kt)	(% arb)	(% arb)	(% arb)	(kcal/kg)	(kcal/kg)
S40	10	< 1	10	19.0	2.4	2.25	6,116	5,785
S40L	5	-	5	20.6	5.2	2.82	5,645	5,366
S50	23	-	23	17.3	3.1	3.00	6,170	5,896
S100	30	-	30	21.3	8.2	2.31	5,560	5,179
S200	226	18	244	17.8	4.2	1.80	6,059	5,816
S300	330	11	340	17.2	4.7	1.79	6,045	5,830
S400	142	24	166	20.9	6.3	0.51	5,691	5,357
S500	501	231	732	17.4	6.3	2.19	5,900	5,686
S600	207	93	300	15.7	7.9	3.13	5,958	5,769
S700	594	166	759	19.6	3.7	0.47	5,950	5,668
S790	-	< 1	< 1	15.8	22.2	5.65	4,861	4,680
S800	4	22	26	17.2	10.1	2.76	5,701	5,468
S1999	-	103	103	15.9	9.3	2.58	6,005	5,790
S3000	-	70	70	16.9	6.1	2.01	6,152	5,844
S3200	-	43	43	13.3	6.4	2.00	6,598	6,423
TOTAL	2,071	781	2,851	17.9	5.5	1.67	5,956	5,712

There may be minor discrepancies in the above table due to rounding. These are not considered Material by SMGC. This table must be presented with the entire Coal Reserve Statement from which it was obtained.



3.5 OTHER COAL INSIDE PIT DESIGN

The pit design that was used to estimate the Reserve for the RK concession contained a portion of Inferred Resource and Exploration Target coal that SMGC classified as Other Coal. Under the JORC Code, these coal tonnes cannot be included in Reserve estimations and are described in this document as Other Coal inside the pit design. SMGC recognises that this classification is outside of the JORC Code classifications but also recognises that ignoring the presence of this coal would result in a mine plan that was not realistic.

The major reasons for this Other Coal being excluded from the Reserve estimation were:

- The coal was outside the Measured and Indicated Resource boundaries but inside the pit design. This occurred in the ITCI Area where drilling access was limited by the IPPKH2 boundary. This coal classified as Inferred Resource affected seams, S100, S500, S600, S700, S790, S1999, S3000 and S3200.
- 2. Coal seams had insufficient quality samples analysed to allow a Resource classification. Generally these seams had open borehole intersections to confirm the structure but the lack of quality samples disqualified them from being classified as Resources. Consequently they could not be considered in the estimation of Reserves. This coal, classified as Exploration Target status occurred in seams S50U, S50L, S2001, S2100, S2200, S2300, S2400 and S3100.

This Other Coal was included in the pit design as it was considered likely that the ultimate pit excavation would continue into these areas, and that the pit designs, waste balance and haul distances would be more practical and accurate with its inclusion. Any user of this pit design and the mine plan should take this into account with any decisions made based on this estimate of Reserves.

The quantity of economically mineable coal inside the pit design by seam and classification is shown in Table 3.5. The percent of Other Coal as a portion of the total coal is also shown.



Seam	Total Coal (kt)	Proved Reserve (kt)	Probable Reserve (kt)	Total Reserve (kt)	Other Coal (kt)	Other Coal (%)	Other Coal Status
S40	10.3	10.2	0.0	10.2	0.0	0%	Immaterial quantity
S40L	5.2	5.2	0.0	5.2	0.0	0%	Immaterial quantity
S50U	1.5	0.0	0.0	0.0	1.5	100%	Exploration Target
S50	22.6	22.6	0.0	22.6	0.0	0%	Immaterial quantity
S50L	1.2	0.0	0.0	0.0	1.2	100%	Exploration Target
S100	30.1	30.0	0.0	30.0	0.1	0%	Inferred
S200	243.9	226.0	17.8	243.8	0.2	0%	Immaterial quantity
S300	340.2	329.6	10.5	340.1	0.0	0%	Immaterial quantity
S400	166.2	142.2	24.0	166.2	0.0	0%	Immaterial quantity
S500	786.2	500.6	231.1	731.7	54.5	7%	Inferred
S600	330.5	207.0	93.0	300.0	30.6	9%	Inferred
S700	830.0	593.5	165.7	759.2	70.8	9%	Inferred
S790	7.4	0.0	0.1	0.1	7.2	98%	Inferred
S800	26.1	3.6	22.4	26.1	0.0	0%	No Other Coal
S1999	109.4	0.0	103.5	103.5	5.9	5%	Inferred
S2001	20.4	0.0	0.0	0.0	20.4	100%	Exploration Target
S2100	3.7	0.0	0.0	0.0	3.7	100%	Exploration Target
S2200	10.5	0.0	0.0	0.0	10.5	100%	Exploration Target
S2300	34.1	0.0	0.0	0.0	34.1	100%	Exploration Target
S2400	48.2	0.0	0.0	0.0	48.2	100%	Exploration Target
S3000	143.4	0.0	69.9	69.9	73.5	51%	Inferred
S3100	57.2	0.0	0.0	0.0	57.2	100%	Exploration Target
S3200	93.4	0.0	42.8	42.8	50.6	54%	Inferred
Total	3,322	2,071	781	2,851	470	14%	

SMGC is of the opinion that excluding or setting the volume of this economically mineable coal to zero is inappropriate and would result in unrealistic pit designs and schedules. In effect a mine plan that would fail any test of reasonableness. Thus this material has been included in the production schedules and cash flow modelling.

For inclusion of this Other Coal in the Production Target, SMGC followed guidance on reasonable grounds for Production Targets as described in question 24 of the ASX's "Mining Reporting Rules for Mining Entities: Frequently asked Questions" which refers to *section 8.5 of ASX Guidance Note 31:*

"Where a mining entity is reporting a production target that is based on a portion of inferred mineral resources and/or an exploration target in addition to ore reserves and/or measured and indicated mineral resources, the reporting entity must be satisfied that the respective proportions of inferred mineral resources and the exploration target are not the determining factors in project viability. In addition, the inferred mineral resources and exploration target should not feature as a significant proportion early in the mine plan."



This requirement for reasonable grounds for inclusion of Other Coal in the Production Target is satisfied by the following:

- Other Coal makes up only 14 % of the total Production Target Coal;
- distribution of this Other Coal across the schedule is shown in Figure 4.6 and it is not a significant proportion early in the mine life;
- as a financial sensitivity case, if the Other Coal tonnage is removed so it makes no contribution to revenue, the project economics are reduced but remain positive; and
- this supports the requirement that the inclusion of Other Coal is not the determining factor in project viability.


4. INPUTS AND ASSUMPTIONS

4.1 MINE PLAN AND SCHEDULE

The mine plan and production schedule discussed in this section were developed to a Pre-Feasibility level of detail for the RK concession to support the Reserve Statement and this IQPR. The ultimate pit design is shown in Figure 4.1. This figure shows the ultimate pit designs colour coded by their basal seams S700, S800, S2100, S2400 and S3200. The pits will be referred to by these basal seam names throughout the report. The division of the North, Middle and South Areas is also shown in Figure 4.1. The ITCI plantation Area, west of the IPPKH2 boundary cuts through these North, Middle and South Areas along the western boundary of the concession.

4.1.1 Mining Strategy

The key factors affecting the strategy for the life of mine (LOM) plan have been summarised below:

- mining activities are restricted to the current IPPKH2 until the end of 2017;
- it has been assumed this IPPKH2 will be expanded by December 2017, opening up the ITCI Area in the west of the concession for mining activity;
- the production rate was decreased from the current 1.3 Mtpa to 1.07 Mtpa to allow more time for IPPKH2 expansion and land compensation to be resolved;
- more than 80 % of produced coal comes from the S700 Pit in the North Area;
- the S700 Pit in the North Area has the lowest strip ratio and sulphur content;
- the remaining coal from smaller pits in the North and Middle Areas is of higher strip ratio and higher sulphur;
- for the final land form, filling the S700 Pit void is a priority;
- the general direction of mining is from east to west with in-pit dumping being maximised wherever possible; and
- the mining sequence was designed so that the waste haul distance was minimised as much as practical.

The mining sequence was developed in this way so that the western areas of the pit were not mined in the early part of the schedule, due to the lack of exploration data and IPPKH2 approval in these areas. The overall mining strategy for the RK concession can be seen graphically in the stage plans included in the Life Mine Plan which is included as Appendix G of the Reserve report (Appendix D of this report).





4.1.2 Mining Method

The mining operation is proposed as an open pit mine using truck and excavator methods which are common practice in Indonesia. Waste material will be hauled to dumps in close proximity to the pits and to in-pit dumps where possible. The mining method was chosen to satisfy the following criteria:

- maximise equipment productivity by allowing a steady state mode for loading units wherever possible;
- simplify access ramps for waste and coal haulage;
- minimise waste haul distance and out-of-pit waste haulage in order to minimise mining costs;
- build smaller and lower elevation out-of-pit dumps; and
- minimise overall disturbed area by using mined out areas for in-pit dumping.

This mining method provides steady state operation until pit completion. It is already in place for Pit S700 at RK. The method will continue for Pit S700 with the smaller pits using it where possible. An indicative long section and plan of this mining method are shown in Figure 4.2 and Figure 4.3.

Figure 4.2 – Haulback Mining Method – Indicative Long Section











4.1.3 Production Schedule

A LOM plan was completed for the deposit based on the ultimate pit design. The LOM plan included a production schedule, waste balance and preliminary equipment calculations. This work was conducted at a pre-feasibility level of detail to ensure the mining operation was practical, achievable and there was sufficient dumping room to contain all the waste mined in the ultimate pit design. This LOM plan was also used to confirm the assumed waste mining costs were reasonable. Waste haul distances were estimated to calculate the waste mining costs for the operation.

The main aspects for each year of the schedule are summarised below:

- In 2017, mining continues in the current S700 Pit in the North Area. Mining advances to the west with dumping in-pit to the east. The advancing pit crest will reach the current IPPKH2 boundary by the end of December 2017.
- In 2018 mining will start in Pit S2400 in the Middle Area. Mining direction will be from east to west, with initial dumping to an out-of-pit dump to the east until in-pit dumping room is available. This Pit S2400 will provide some flexibility if the IPPKH2 expansion is delayed. Once the IPPKH2 expansion is approved, mining in the Pit S800 can also start and mining in Pit S700 can continue advancing westward into the ITCI Area beyond the current IPPKH2 boundary.
- 2019 is the final year of the mine plan. During this year, Pit S700 continues mining until depleted. Pits S2001 and S3200 are started later in the year to allow back filling into the S700 Pit void.

The strategy and results of the mine plan showing the active mining pits and dumps are documented in the LOM plan report which is included as Appendix G of the Reserve report (Appendix D of this report). Face positions for the mine schedule are also contained in this LOM plan report.

The physical quantities of waste and coal and product qualities for the LOM production schedule are shown in Table 4.1.



Description	Unit	TOTAL	2017-Q1	2017-Q2	2017-Q3	2017-Q4	2018	2019
MINING								
Disturbed Area	На	264	15	15	11	11	83	129
Topsoil	kbcm	709	82	66	79	69	219	195
In Situ Waste	kbcm	35,468	4,122	3,286	3,968	3,438	10,928	9,727
Rehandle	kbcm	1,064	124	99	119	103	328	292
Total Waste	kbcm	36,532	4,245	3,385	4,087	3,541	11,255	10,018
Waste Haul Distance	km	1.5	1.3	1.2	1.4	1.4	1.3	1.8
Coal to ROM	kt	3,322	254	281	281	254	1,070	1,182
Stripping Ratio	bcm:tonne	10.7	16.2	11.7	14.1	13.5	10.2	8.2
Coal Hauled to Port	kt	3,322	254	281	281	254	1,070	1,182
Mined Calorific Value (adb)	kcal/kg	5,972	6,049	5,982	5,973	5,924	5,908	6,020
Mined Calorific Value (gar)	kcal/kg	5,724	5,751	5,738	5,720	5,686	5,657	5,784
% Proved and Probable	%	86	99	100	100	100	90	69
Haul Distance to Port	km	32.3	32.3	32.3	32.3	32.3	32.3	32.3
SHIPPING								
Coal Barged	kt	3,322	254	281	281	254	1,070	1,183
Total Sulphur	% adb	1.76	1.71	1.50	1.30	1.59	1.81	1.94
CV Barged (adb)	cal/g	5,972	6,049	5,982	5,973	5,925	5,908	6,020
CV Barged (gar)	cal/g	5,724	5,751	5,738	5,720	5,686	5,657	5,784

Table 4.1 – LOM Schedule



Waste mining, coal mining and stripping ratio are shown in Figure 4.4 and Figure 4.5. The stripping ratio generally trends downward over the life of mine. This is due to the mining direction to the west which is up-dip for the coal seam structure. Consequently, the coal depth and strip ratio decreases as mining advances to the west.



Figure 4.4 – Waste Mining

Figure 4.5 – Coal Mined and Stripping Ratio





The estimated calorific value on a gross as received basis and total sulphur on an air dried basis from the production schedule are shown in Figure 4.6 and Figure 4.7. These charts show there is some variation in these parameters over the life of mine. This is not expected to result in significant issues with marketability of the coal in terms of CV, but the sulphur content will have to be managed through blending.



Figure 4.6 – Calorific Value (kcal/kg gar)

There is an increase in the total sulphur in the last years of the schedule. These higher sulphur values are mainly coming from the Middle Area pits. The blending of coal from these pits will have to be managed closely to avoid penalties for high sulphur. The Indonesian coal price benchmark formula for February 2017 was used to analyse the effect of sulphur content on coal price. If the sulphur content increases by 20 % above the average scheduled sulphur content to 2.11 % (adb), the coal price would be discounted by USD 1.32 or 2.25 %. Further drilling and sampling in this area is recommended to better understand the sulphur properties. The investigation of more specialised coal markets for these high sulphur coals is also recommended.



Figure 4.7 – Total Sulphur (% adb)



J1613 - February 2017 J1613_RK_IQPR_22Mar2017_v16 The total quantity and proportion of coal not classified as Measured or Indicated in the production schedule is shown in Figure 4.8. This lower confidence Inferred Resource and Exploration Target coal is referred to as Other Coal and makes up 14 % of the total coal in the mine plan. Most of this Other Coal is coming from the deeper seams in the North Area and the Middle Area pits. Where possible, this coal has been pushed to the back of the schedule to allow time for additional drilling to improve the confidence of the coal.





4.1.4 Waste Balance and Dumps

A waste dumping balance was completed for the life of mine plan and the stage plans are shown in the Life of Mine Plan included as Appendix E of the Reserve Statement in Appendix D. A waste swell factor of 1.2 was assumed for all waste over the life of mine. The waste haul distance was estimated for each period of the plan by plotting approximate haul strings from the centroid of each mining block to the centroid of the corresponding dump. The average haul distances by period are shown in Figure 4.9.

Waste hauls remain steady until the final year. In the final year, the average haul distance increases due to mining from the S2001 and S3200 pits in the Middle Area. Waste from these pits will be hauled to the Pit S700 void. Filling of this void has been stated as a priority for the ITCI plantation company.





Figure 4.9 – Waste Haul Distance by Period

4.2 MINING OPERATIONS

The RK open pit mining operation has been in operation since 2012. It uses excavator and truck mining methods, which is typical of many Indonesian operations. The mining and hauling of waste is performed by the mining contractor PT Cipta Kridatama (CK). CK is a significant Indonesian mining contractor associated with PT Trakindo, the authorised dealer of Caterpillar products in Indonesia. CK is generally regarded as an upper tier contractor in Indonesia. SMGC is of the opinion that CK is well capable of performing the work under the contract.

Waste is mined using hydraulic excavators ranging from 75 tonne class up to 200 tonne class and 50 to 90 tonne capacity class off highway trucks. Softer material and topsoil is mined using smaller 50 tonne excavators and 40 tonne capacity articulated dump trucks. Operations continue for 24 hours per day with two 12 hour shifts.

Coal cleaning and mining is supervised by RK using equipment supplied by CK on a wet hire basis. The equipment used for coal cleaning and mining consists of 20 and 30 tonne excavators. Coal is loaded into 20 tonne capacity coal haul trucks that are operated by a number of smaller subcontractors. The majority of coal is hauled directly from the pit to the port stockpile. There is an intermediate stockpile at the mine site where coal maybe placed from the pit before being rehandled and hauled to the port. This practice is being minimised as much as possible to avoid the additional rehandling cost. This rehandled coal made up 1 % of the coal hauled in 2016.

Operations commenced in June 2012 with the stripping of topsoil and the upper benches of the pit. Drill and blast operations commenced 2015 in order to maintain equipment productivity for waste mining. Drill and blast will be the responsibility of the contractor and these costs are included in the unit rates for waste mining. Blasting is contracted to PT DNX Indonesia.



SMGC reviewed the mining operations during site visits conducted in August 2012, October 2013, April 2015 and September 2016. Waste mining excavators observed on the site visit were set up reasonably well and observed fill factors and productivity were also considered to be good. The running surfaces were in good condition and well maintained with water draining away from the mine face. While some queuing was observed, generally the excavators and trucks were relatively well matched.

Coal mining operations were closely supervised by RK with quality control and pit spotters employed and in place to monitor the operation. SMGC also reviewed the coal cleaning and mining procedures and considers these to be adequate and were being followed at the time of the visit. The pit haul roads observed on the site visit were in good condition and were relatively well maintained compared to similar operations. The dump running surfaces were also in reasonable condition and appeared to be well maintained. There was adequate support equipment on the dump and a large length of dumping face was available.

Safety windrows existed in most locations and adequate signage was in place. No significant issues were observed with surface water management ongoing at the time of the site visit. A single 90 litre per second Pioneer pump was installed and operating in the main sump of the pit. The mining contactor has 6 of these pumps. This is not considered a high risk at the current stage of the mine life as the pits are relatively shallow and there are many alternative mining locations available if the deepest pits were to be flooded.

Photographs showing the condition of the pit during the September 2016 site visit are shown in Figure 4.10 to Figure 4.14.



Figure 4.10 – S700 Pit Facing West – Mining on Top Benches





Figure 4.11 – Uncovering Coal with Supporting Dozer

Figure 4.12 – Cleaning coal







Figure 4.13 – Haul Road with Windrow and Traffic Signs

Figure 4.14 – Pioneer 90 Litre per Second Dewatering Pump





4.3 COAL HANDLING, LOGISTICS AND PROCESSING

Coal is cleaned and mined using small excavators and hauled out of the pit using rigid body coal trucks. As stated earlier, the majority of coal is hauled directly to the port stockpile.

Coal is hauled approximately 32 km from the coal face to the port on the Mahakam River. On arrival at the port, coal is either dumped directly into a hopper, or stockpiled on a ROM stockpile and rehandled into the hopper for crushing and stockpiling on the crushed coal stockpile. Coal is then loaded from the crushed coal stockpile onto barges using a standard mechanical reclaim and barge-loading system. Coal is barged approximately 79 km on the Mahakam River to an anchorage at either Muara Jawa or Muara Berau where a floating crane loads the coal from the barge into a vessel for shipment.

All coal handling infrastructure is already in place and operational at the RK concession. The major infrastructure components of the coal logistics system are discussed in more detail in this section of the report. The overall process flows and equipment types are shown in Figure 4.15.



Figure 4.15 – Coal Logistics Chain



4.4 COAL HAUL ROAD

The coal haul road runs approximately 32 km from the coal face to the port stockpile on the Mahakam River to the northeast. SMGC drove the length of the haul road during the site visits.

SMGC understands that the coal haul road was previously a logging road that was acquired by RK. The road was included in the original IPPKH application for the mining operation. The haul road is currently operational in all weather conditions. RK hauled approximately 1.3 Mt of coal on the haul road during 2016, which is sufficient to meet the requirements for the estimated production over the remaining life of mine.

No significant community infrastructure exists along the length of the road, and thus interaction with vehicles and traffic from the community is not expected to be a larger issue for RK than it is for other coal mine operators in the area. This is usually a key safety and community relations issue for most coal haulage roads and RK is required to take appropriate steps to manage this, including implementing and enforcing suitable road rules for equipment drivers and installing attended crossing points for public road crossings.

Approximately 6 km of the road length is shared with PT Bara Kumala Sakti (BKS), which is another local coal mining company. RK informed SMGC that the IPPKH has been issued for all areas of the haul road where it is required, and SMGC sited the corresponding letter and map from the forestry department.

RK also informed SMGC that approximately 9 km of the haul road was owned by third parties who required a fee to be paid for use of the road. The total third party fee per tonne of coal hauled down the road is USD 1.36 /t.

4.4.1 Port and Jetty

The port stockpile and jetty facilities are located on the southern bank of the Mahakam River and are adjacent to another barge loading facility that is owned by PT Indo Perkasa. Construction of the port stockpiles, coal processing and handling facilities and barge loading conveyor has been completed and the infrastructure is operational. The reported maximum capacities of the components of the port stockpile and jetty are shown in Figure 4.16. These were supplied by RK and have not been verified directly by SMGC. Key capacities are:

٠	Primary ROM stockpile:	50,000 tonnes
٠	Crushing Circuit:	1,000 tph (2 x 500 tph crushers)
٠	Crushed Coal Stockpile:	30,000 tonnes
•	Barge-loading Conveyor:	1,000 tph

The layout of the plant and photographs taken at the time of the site visits are shown in Figure 4.16. The coal handling plant was observed to be in good condition. A secondary ROM stockpile has also been constructed at the port with a capacity of up to 70,000 tonnes, which brings the total port stockpile capacity up to 150,000 tonnes. The secondary ROM stockpile is considered a backup stockpile in case the primary stockpile is full. Coal from this stockpile needs to be hauled to the crusher using trucks and thus the operating cost of coal handled through this stockpile is significantly higher. SMGC assumed that future operating costs of the port would be higher than current actual costs if some coal is rehandled through this stockpile, as well as increased maintenance costs as the plant ages. It should be noted that other small mining operations in the area are using the secondary ROM stockpile for storing and crushing coal.



Based on the information provided, SMGC is of the opinion that the capacity of the port and jetty should be sufficient to achieve the production targets set in the mine plan of up to 1.2 Mtpa. RK produced and shipped approximately 1.4 Mt during 2016, which demonstrates that the plant is capable of achieving the planned production.

RK did not provide any details on how blending is undertaken at the port. Limited stockpile room at the port may mean that the mine schedule will need to be carefully controlled so that different coal types (low, medium and high sulphur and high ash) will need to arrive at the port in the correct proportions so that the coal can be blended to achieve customer specifications. If there is significant variation in the amount of each coal type produced over time, then the secondary stockpile or intermediate stockpiles may need to be used which will increase operating costs.

There is also an issue with the proximity to the community at the port stockpile. This issue is discussed further in Section 5.1. It may be necessary to purchase additional land and houses at the port area. If this is required, additional capital expenditure would be needed to complete the facility. This would provide the opportunity to increase the stockpile area. Any additional capital expenditure on this facility is unlikely with the current short mine life. SMGC has allocated an amount in operating costs for management of the dust and noise in this area. Water management and treatment facilities at the port appeared to be sufficient and no issues are anticipated.





4.4.2 Barging and Transhipment

Once coal is loaded on to barges, it is barged on the Mahakam River to either the Muara Jawa or Muara Berau anchorages for transhipment to a mother vessel. A large volume of coal is currently barged on the Mahakam River and this is considered to be a low risk part of the operation, although it is possible that there will be congestion issues on the Mahakam River in the future, particularly at key bridge locations. No other issues with barging and transhipment are anticipated.

Barging and transhipment costs have not been included in the financial modelling of this project, because the analysis was done on a FOB barge basis. A map of the coal barging route and transhipment anchorages is shown in Figure 4.17.





4.5 OTHER INFRASTRUCTURE

During the September 2016 site visit, the status of various site infrastructure projects was observed. Figure 4.18 to Figure 4.23 show the progress of these items.

Figure 4.18 – New Fuel Storage Facility Waiting on Permit



Figure 4.19 - Fuel Storage and Distribution Facility Completed



Figure 4.20 - Oil and Other Hydrocarbon Storage Facility Completed with No Bund









Figure 4.22 - Building Materials on Site Ready for Construction of New Workshop



Figure 4.23 – Construction of New RK Site Office





It should be noted that the proximity of the mine site to Samarinda means that the facilities required are not large as many workers can be based in Samarinda and it is relatively easy to transport fuel, consumables and other supplies to the site.

4.6 MARKET ASSESSMENT

4.6.1 Marketable Product Quality and Beneficiation

Other than crushing to a 50 mm top size, no beneficiation of the coal is undertaken. SMGC has assumed that total moisture of the product coal will increase by 0.9 % (as received basis) over the total moisture estimated from the geological model. Some variation in coal quality is expected over the life of the mine, although this is unlikely to affect the marketability of the coal. The average LOM product coal quality is summarised in Table 4.2, with all qualities reported on an as received basis unless otherwise specified.

Total Moisture (% arb)	Ash (% arb)	Volatile Matter (% arb)	Total Sulphur (% arb)	Calorific Value (kcal/kg adb)	Calorific Value (kcal/kg gar)
17.9	5.5	37.7	1.67	5,956	5,712

Table 4.2 – Product Coal Quality

4.6.2 Marketability

The moderate energy of RK coal is an attractive property in the market, and there are no issues with marketing the coal at the current time. The total sulphur is considered to be slightly higher than other coals of similar energy, and this is reflected in a discount applied to the coal compared to coals of similar energy and lower total sulphur. The Indominco IM East benchmark marker coal has similar qualities but slightly lower sulphur than RK coal. Using the MEMR published benchmark coal prices for February 2017, the average RK quality coal was indexed at a discount of USD 0.43 /t or 1 % less than the published comparable Indominco IM East coal price.

SMGC does not see any reason why there will be any difficulties marketing the coal from the RK concession as a thermal coal in the future. This coal is considered to be an attractive coal for blending with lower energy and lower total sulphur coals which are abundant in the area, and markets are expected to be available for this coal type over the life of mine. The variability in coal quality over the life of the mine is not expected to cause any significant issues since the coal will most likely be blended with other coals, provided that the variation is understood and planned for in advance.



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4.6.3 Marketing Regulatory Issues

While SMGC does not see any significant issues with marketing this type of coal in the longer term, there are a number of issues with the new Indonesian mining law (Law on Mineral and Coal Mining No. 4 of 2009) and associated regulations that have the potential to affect marketing and selling of coal from coal concessions. Some aspects of the new law that may affect marketing of coal from the RK concession are discussed in this section.

Domestic Marketing Obligation

In order to secure coal supply for domestic use, the new mining law allows for a Domestic Market Obligation (DMO) where the central government is able to control production and export of mining products. Regulation No. 34 of 2009 issued by the Ministry of Energy and Mineral Resources (MEMR) detailed the procedures for the DMO.

The regulation states that the DMO for each concession holder is to be set on an annual basis by the MEMR based on the demands of domestic consumers. To qualify as domestic consumers, consumers must be parties who will actually use the coal as raw material or fuel i.e. they must be end users and not intermediaries such as coal traders.

At the time of writing this report, DMO's had only been specified for selected mining companies and not widely implemented. SMGC has priced coal sold from RK using the forecast export prices described in this section; however RK is potentially subject to a DMO under the new mining law. It is not possible to determine at this stage if this regulation will have any real impact on actual coal prices received.

Minimum Pricing Regulation

The Indonesian government has regulated benchmark prices for coal and other minerals to serve as the floor price for government royalty calculations. If actual coal sales are higher than the benchmark price, then the royalty is based on the actual price; whereas if the actual price is lower than the benchmark price then the benchmark price is used to calculate royalty. The requirements are detailed in Regulation No. 17 of 2010 issued by the MEMR. The benchmark price is applicable to both long term sales and spot sales.

At the current time the government's approach is that the benchmark price is only to be used to calculate royalties for the purpose of preventing transfer pricing. This situation is expected to continue; however it is possible under the new mining law that regulations could be issued such that benchmark prices would determine the minimum price for actual sales, which may affect marketing and sales.



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4.6.4 Sales Price

After five years of falling prices to levels close to USD 50 /t, the Newcastle coal index recovered sharply in the second half of 2016 to peak at values above USD 100 /t. Prices have since fallen back to USD 80 /t levels. This extreme volatility makes it difficult to forecast future price levels.

SMGC have assumed a forward curve for coal prices with a starting price for the first quarter based on the average actual sales price of December 2016 and January 2017. The assumed forward price curve then falls back in line with a ratio linked to the median value of several published Newcastle index forecasts. Figure 4.24 shows these published forecasts and the median value used for this linkage.





The coal prices used in the economic modelling are shown in Table 4.3. The assumed coal price forward curve shown is for delivery FOB Barge at the RK port facility. The forecast price at a base calorific value (CV) of 5,615 kcal/kg gar is shown along with the shipped CV and forecast prices received adjusted to reflect the variation in the shipped CV during the scheduled mine life. The prices presented in Table 4.3 start off significantly higher than last year's estimate but then fall back close to previous levels over the remaining mine life.

						/	
Description	Unit	2017-Q1	2017-Q2	2017-Q3	2017-Q4	2018	2019
Forecast Price* @ Base CV gar	USD / t	58	53	53	53	46	43
Shipped CV gar	kcal/kg	5,751	5,738	5,720	5,686	5,657	5,784

54

54

60

USD / t

* Forecast prices are stated FOB barge.



Forecast Price Received

44

53

46

The prices assumed in this study are intended strictly for this purpose only and shall in no way be construed to constitute the basis for a valuation of the project. While these prices are considered to be reasonable for the purpose of this study and represent one possible future outcome; it must be noted that forward prices are influenced by a large number of factors which cannot be controlled nor accurately predicted. It is likely that actual future coal prices will be significantly different from these assumptions.

4.7 OPERATING COSTS

SMGC has estimated the operating and capital costs for the project using the mine plan described in Appendix E of Coal Reserve Statement (Appendix D of this report). Overall operating costs have increased since the previous IQPR. This is primarily due to higher strip ratios in the new mine plan supported by higher coal prices. The operating costs considered in this study are described in Table 4.4. Operating costs were estimated based on actual costs where these were available, existing contracts for the site and also from typical costs for coal mines in Kalimantan.



Cost Component	Description	Туре	VAT Applicable
Waste Mining	 Clearing and grubbing of all trees and vegetation Removal or burning of the cleared vegetation Mining and hauling of topsoil to stockpile or direct to rehabilitation area Pushing and spreading of topsoil on dump or on the rehabilitation area Dozer ripping and drill and blast as required Loading and hauling of overburden and interburden from active mine face to the dump Maintaining roads for access, pits and dumps Operating of support equipment including dozers, graders and water trucks Dewatering of pits and active mining faces to out of pit settling ponds Supervision of operation and technical support including short term planning and surveying 	Variable Contractor	Y
Dewatering and Water Treatment	 Construct, manage and clean settling ponds and diversion drains to ensure water discharge is in compliance with regulatory requirements Addition of lime to discharge water 	Fixed	N
Environmental and Rehabilitation	 Reshaping of dumps to final landform Planting and re-vegetation Measurement and monitoring of rehabilitation performance 	Variable Owner	N
Coal Mining	 Cleaning coal to minimise dilution Ripping coal and pushing up thin seams if required Loading of coal into haulage trucks Constant supervision of loading operations to minimise dilution and coal losses 	Variable Contractor	N
Coal Transport to Port	 Transport coal from pit to port stockpile by truck Maintenance of coal haulage road Fees for use of third party owned section of road (9 km of the total length of 32 km) 	Variable Contractor	Y
Port Stockpile and Barge Loading	 Receiving coal from trucks and stacking at port stockpile Loading of coal through feeders and onto barges Rehandle of coal at port as required Quality sampling and analysis 	Variable Owner	N
Miscellaneous Operations	 Limited demurrage for barges Various day works and other miscellaneous tasks and fees 	Variable Owner	N
VAT	 Value Added Tax at 10 % 	Variable Contractor	N

Table 4.4 – Description of Operating Cost Components



Cost Component	Description	Туре	VAT Applicable
Royalty	 Royalty payment to government as part of IUP obligation 	Government	Ν
Local Government Fee	 Fee paid to local government per tonne of coal produced 	Variable Owner	Ν
Site Overheads	 Salaries and Wages for all employees Camp and accommodation Costs Light vehicles Security Medical facilities Community development Dust and noise compensation payments Other fixed site costs 	Fixed	Ν
Corporate Overheads	 All corporate overhead costs allocated to site 	Fixed	Ν

Table 4.4 (continued) – Description of Operating Cost Components

All operating cost components have been categorised according to the method of calculation. Each operating cost type and the calculation methodology is described in this section. The operating cost types are:

- Variable Contractor;
- Variable Owner;
- Fixed; and
- Royalties and Government Costs.

4.7.1 Variable Contractor Costs

Variable contractor costs vary with changes in physical quantities in the mine plan and are attributable to contractors. It is typical practice for many coal mines in Indonesia to enter into a unit rate contract with mining contractors, where a rate is specified for a number of physical quantities which are physically measured on a periodic basis including area cleared, waste mined, coal mined, coal hauled and haul distance. RK has secured such contracts with some local contractors and the actual contracts have been used where available in estimating many of contractor operating costs for this project. Where contracts were not available or not appropriate typical industry costs were used.

The unit rates from the contracts have been adjusted using the rise and fall formula in the contact applying the following assumed fuel price delivered to the site and exchange rate:

- Fuel Price: IDR 6,800 per litre (delivered to site)
- Exchange Rate: IDR 13,400 per USD

The contractor unit rates used for the operating cost estimates and as the basis for the economic evaluation in this study are shown in Table 4.5. These rates are in real terms as at the first period in the schedule.



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Description	Unit	Unit Rate	Basis of Estimate
Waste Mining	USD/bcm	*	 Actual current contract rate adjusted for rise and fall as of September 2016 to January 2017. This has been re-negotiated to include some claw back provisions linked to coal price index thresholds.
Waste Overhaul	USD/bcm/100 m	*	- Actual contract rates adjusted for rise and fall for waste haulage above 1,000 m.
Coal Mining	USD/tonne	0.64	 Actual coal mining costs from site calculated using equipment rental costs, productivity measured from monthly claims and fuel consumption. Reduced from previous estimate due to improved contractor performance.
Coal Haulage to Port	USD/tonne km	0.186	 Includes: Actual haulage contract rates Estimated road maintenance costs (derived from equipment productivity calculations). Fees for use of 3rd party roads

Table 4.5 – Contractor Unit Rates (real terms)

Adjusted for assumed fuel price and exchange rate.

* Commercially sensitive information excluded from this Public Report.

The physical quantities subject to these unit rates are shown in the production schedule in Table 4.1. Value Added Tax (VAT) of 10 % has been applied to all variable contractor costs.

4.7.2 Variable Owner Costs

Variable owner costs vary with changes in physical quantities in the mine plan and are attributable to RK. These have been calculated using the unit rate principle, with unit rates estimated either from actual costs for RK, or from actual costs from other operations adjusted for the conditions and processes on the site. The unit rates are shown in Table 4.6 and are in real terms as of the first period in the schedule.

Description	Unit	Unit Rate	Basis of Estimate
Environmental	USD/tonne	0.15	Broad assumption based on typical industry costs
Port and Barge-loading	USD/tonne	1.40	Based on historical actual port operating costs
Miscellaneous	USD/tonne	2.19	Broad assumption based on typical industry costs

* Adjusted for assumed fuel price and exchange rate



4.7.3 Fixed Costs

Fixed costs are assumed to be independent of production rates, although realistically there will be some changes in these costs as the size of the operation changes. Fixed cost estimates are based on costs in similar operations in Kalimantan, with feedback from RK stating that these are reasonable. These fixed costs are considered to be low compared to many other operations; however the amounts described are considered achievable in the lowest cost operations where overheads are minimised. The use of a competent contractor and the proximity of the site to major population centres and suppliers also assist in reducing operating costs. The average annual fixed costs used in this IQPR are shown in Table 4.7 and are in real terms as of the first period in the schedule.

Туре	Description	Average Amount (USD millions pa)
Operational	Dewatering and Water Treatment	0.15
Site Overheads	Salaries and Wages	1.07
	Camp and Accommodation Costs	0.12
	Light Vehicles	0.21
	Medical Facilities	0.05
	Community Development	0.21
	Dust and Noise Compensation	0.60
	Other	0.10
	SUBTOTAL	2.51
Corporate Overheads	Corporate Overheads	0.25
TOTAL		2.76

Table 4.7 – Fixed Costs (real terms)

Dewatering and water treatment is considered to be fixed for the purpose of this study, as the volume of water treated and the size of settling ponds will not vary significantly with different production rates. The costs here are driven by the amount of open area and the volume of rainfall inside the pit and dump catchment areas.



4.7.4 Royalties and Government Costs

Under current regulations, royalty costs are variable and depend on the quality of the coal. The current regulated royalty rates are based on the calorific value on an air dried basis and are shown below:

٠	CV (adb) > 6100 kcal/kg:	7 % of sale price
•	CV (adb) < 6100 and > 5100 kcal/kg:	5 % of sale price
•	CV (adb) < 5100 kcal/kg:	3 % of sale price

In previous years, there have been proposals under discussion within the Indonesian government to increase the rate of royalties for IUP's. These proposals lost momentum with the extended down turn in the coal industry. In the previous IQPR it was assumed this higher royalty rate (9 %) would come into effect. SMGC now considers it is unlikely that these increases will be implemented in regulations unless a sustained period of elevated coal prices occurs.

The rate of Royalty paid for coal from the RK concession has been calculated based on the calorific value of the coal for each period. The calorific value is between 5,100 kcal/kg and 6,100 kcal/kg for each period of the project life and thus a royalty of 5 % of the sale price has been applied. The royalty rate has been applied on the price FOB barge.

An additional USD 0.10 per tonne has also been allocated for local government costs. This assumption was supplied by RK who stated that this is based on actual costs at the time of writing the report.

4.7.5 Operating Cost Estimate

Operating costs were calculated for each of the operating cost components described in the preceding sections by multiplying the variable costs by the appropriate physical values from the LOM plan and adding these to the fixed costs for each period.

The average operating costs per tonne over the LOM are shown in Table 4.8 and Figure 4.25 in order of most significant to least significant. This shows that the most significant operating cost is waste mining, which is typical of most open cut coal mining operations.

Description	Units	Value	Proportion
Waste Mining	USD / tonne	23.08	55.7%
Coal Haul to Port	USD / tonne	6.00	14.5%
VAT	USD / tonne	2.97	7.2%
Royalty	USD / tonne	2.43	5.9%
Overheads	USD / tonne	2.36	5.7%
Miscellaneous	USD / tonne	2.19	5.3%
Port and Barge Loading	USD / tonne	1.40	3.4%
Coal Mining	USD / tonne	0.64	1.5%
Environmental	USD / tonne	0.15	0.4%
Dewatering	USD / tonne	0.14	0.3%
Local Government Fee	USD / tonne	0.10	0.2%
TOTAL OPERATING COSTS	USD / tonne	41.46	100 %

Table 4.8 – Average LOM Operating Costs (real)







Operating costs per tonne over the LOM for each period are shown in Figure 4.26 in real terms.



Figure 4.26 – Operating Cost over LOM (real)



The full schedule of operating costs over the life of mine is shown in Table 4.9 and Table 4.10.

Description	Units	Total	2017- Q1	2017- Q2	2017- Q3	2017- Q4	2018	2019
Waste Mining	USD 000's	76,673	8,813	6,783	8,780	7,606	21,890	22,802
Coal Mining	USD 000's	2,126	163	180	180	163	685	757
Coal Hauling to Port stockpile	USD 000's	19,923	1,524	1,684	1,684	1,524	6,416	7,091
SUBTOTAL PIT TO PORT	USD 000's	98,722	10,500	8,647	10,643	9,292	28,990	30,650
Port Stockpile & Barge Loading	USD 000's	4,651	356	393	393	356	1,498	1,656
SUBTOTAL PORT TO MV	USD 000's	4,651	356	393	393	356	1,498	1,656
Environmental	USD 000's	498	38	42	42	38	160	177
Miscellaneous	USD 000's	7,291	127	140	140	127	3,209	3,547
Local Government Fee	USD 000's	332	25	28	28	25	107	118
VAT	USD 000's	9,872	1,050	865	1,064	929	2,899	3,065
SUBTOTAL VAT & OTHER	USD 000's	17,994	1,241	1,075	1,275	1,120	6,376	6,908
Royalty	USD 000's	8,060	761	757	755	679	2,483	2,626
SUBTOTAL GOVERNMENT CHARGES	USD 000's	8,060	761	757	755	679	2,483	2,626
Dewatering and Water Treatment	USD 000's	450	37	37	38	38	150	150
Salaries and Wages	USD 000's	3,210	264	267	270	270	1,070	1,070
Camp and Accommodation Costs	USD 000's	360	30	30	30	30	120	120
Light Vehicles	USD 000's	630	52	52	53	53	210	210
Medical Facilities	USD 000's	150	12	12	13	13	50	50
Community Development	USD 000's	630	52	52	53	53	210	210
Other	USD 000's	2,100	173	175	176	176	700	700
Corporate Overheads	USD 000's	750	62	62	63	63	250	250
SUBTOTAL FIXED COSTS	USD 000's	8,280	681	688	696	696	2,760	2,760
TOTAL OPERATION COSTS	USD 000's	137,707	13,537	11,561	13,762	12,142	42,106	44,599



Description	Units	Average	2017-	2017-	2017-	2017- Q4	2018	2019
Wooto Mining			Q1	Q2	Q3	-	20.46	10.00
Waste Mining	USD / tonne	23.08	34.69	24.16	31.27	29.94	20.46	19.28
Coal Mining	USD / tonne	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Coal Hauling to Port Stockpile	USD / tonne	6.00	6.00	6.00	6.00	6.00	6.00	6.00
SUBTOTAL PIT TO PORT	USD / tonne	29.72	41.33	30.79	37.90	36.57	27.10	25.91
Port Stockpile & Barge Loading	USD / tonne	1.40	1.40	1.40	1.40	1.40	1.40	1.40
SUBTOTAL PORT TO BARGE	USD / tonne	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Environmental	USD / tonne	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Miscellaneous	USD / tonne	2.19	0.50	0.50	0.50	0.50	3.00	3.00
Local Government Fee	USD / tonne	0.10	0.10	0.10	0.10	0.10	0.10	0.10
VAT	USD / tonne	2.97	4.13	3.08	3.79	3.66	2.71	2.59
SUBTOTAL VAT & OTHER	USD / tonne	5.42	4.88	3.83	4.54	4.41	5.96	5.84
Royalty	USD / tonne	2.43	2.99	2.70	2.69	2.67	2.32	2.22
SUBTOTAL GOVERNMENT CHARGES	USD / tonne	2.43	2.99	2.70	2.69	2.67	2.32	2.22
Dewatering and Water Treatment	USD / tonne	0.14	0.15	0.13	0.13	0.15	0.14	0.13
Salaries and Wages	USD / tonne	0.97	1.04	0.95	0.96	1.06	1.00	0.90
Camp and Accommodation Costs	USD / tonne	0.11	0.12	0.11	0.11	0.12	0.11	0.10
Light Vehicles	USD / tonne	0.19	0.20	0.19	0.19	0.21	0.20	0.18
Medical Facilities	USD / tonne	0.05	0.05	0.04	0.04	0.05	0.05	0.04
Community Development	USD / tonne	0.19	0.20	0.19	0.19	0.21	0.20	0.18
Other	USD / tonne	0.63	0.68	0.62	0.63	0.69	0.65	0.59
Corporate Overheads	USD / tonne	0.23	0.24	0.22	0.22	0.25	0.23	0.21
SUBTOTAL FIXED COSTS	USD / tonne	2.49	2.68	2.45	2.48	2.74	2.58	2.33
TOTAL OPERATION COSTS	USD / tonne	41.46	53.28	41.17	49.01	47.79	39.36	37.71

Table 4.10 – Operating Costs per Product Tonne over LOM (Real)



4.8 CAPITAL EXPENDITURE

Most of the infrastructure required for the RK concession is already in place and operating. Remaining capital expenditure for the mine has been estimated based on discussions with RK and on typical industry costs in Indonesia. The estimated capital costs remaining for the concession are shown in Table 4.11.

Description	Remaining (USD millions)
Land Compensation	0.4
Permits and licenses	0.7
Exploration and Technical Studies	0.4
Mine Closure Costs (at end of mine life)	4.4
SUBTOTAL	5.9
Contingency (15 %)	0.9
TOTAL	6.8

Table 4.11 – Capita	Cost	Estimates	(real)
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SMGC reviewed the forecast RK capital expenditure data that was provided and considers the overall amount to be reasonable for a mine of this size. The basis of estimation for the major items of capital expenditure is shown in Table 4.12.

Description	Basis for Estimate
Land Compensation	Almost the entire area required for 2017 has already been compensated. The estimated remaining area required beyond 2017 is 230 ha. An estimated rate per ha has been assumed based on previous settlements. This remaining land compensation is in progress and targeted for completion September 2017. It is anticipated the ITCI land will be covered by a rate per tonne included in the operating costs.
Permits and Licenses	This is the estimated cost required for the IPPKH2 expansion as well as other minor permits.
Exploration and Technical Studies	This includes all costs associated with exploration drilling, geological and geophysical activities, technical reviews and assessments particularly in the expanded IPPKH2 Area.
Mine Closure Costs	 Includes approximately: USD 4,500 per hectare for disturbed area over the life of mine; USD 700,000 to rehabilitate infrastructure areas; USD 2 million to fill S700 Pit void in ITCI Area; and USD 1 million reclamation guarantee has been excluded.
Contingency	15 % contingency has been added to capital cost estimates to allow for items, conditions, or events for which the state, occurrence, or effect is uncertain.

Table 4.12 – Basis for Capital Cost Estimates

No allowance has been made for ongoing replacement capital costs because the remaining mine life under the current mine plan is only 3 years. This situation may change with approval of the IPPKH2 expansion and subsequent exploration drilling program. All capital cost estimates discussed in this section are presented in real terms as at the start of the first period.



4.9 COMMERCIAL ASSUMPTIONS

4.9.1 Taxes and Depreciation

The RK project is subject to prevailing laws and regulations on taxation. As such a company a tax rate of 25 % has been applied to earnings from the concession. Value Added Tax (VAT) of 10 % has also been applied to all contractor costs. The VAT is not recoverable as at the current time regulations do not allow VAT to be applied to sales of coal.

For the purpose of calculating tax, infrastructure costs for the RK project were depreciated over a 7 year period and used to offset earnings for the purpose of tax calculations. The depreciation schedule was calculated using real capital costs. The tax calculations did not take into account any depreciation of existing assets or any losses carried forward from prior to the date of this study.

4.9.2 Working Capital

Working capital has been included in the financial model and requirements average approximately USD 6 million in real terms over the life of mine. This was estimated using the following assumptions:

- Accounts Receivable Days: 45
- Inventory Days: 25
- Accounts Payable Days: 30

4.9.3 Discount Rate

The nominal after tax discount rate used for this Technical Assessment was 10.0 %. This was considered equivalent to a real discount rate of 7.4 % at an assumed inflation rate of 2.4 %.

4.9.4 Inflation Rate

All financial analysis results are reported in real terms unless otherwise stated. An assumed 2.4 % inflation rate was used to derive the real discount rate using the Fisher equation.

4.9.5 Assets and Liabilities

As this Technical Assessment applies to the underlying coal deposit and proposed mining operations in the RK concession rather than the holding company, any existing liabilities and assets have not been accounted for in this IQPR.



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4.10 ECONOMIC EVALUATION

An economic model was developed to confirm that the project is economically feasible after the application of all modifying factors. Using the capital costs, operating costs and sales price assumptions combined with the life of mine plan, the economic model shows the project to be economically feasible.

A graph with real cash flows over the life of mine is shown in Figure 4.27 and the real EBITDA graph for the life of mine is shown in Figure 4.28. A summary table of the financial model is shown in Table 4.13. No discount factor has been applied to cash flows shown in these graphs and table.

The economic assumptions used in the financial evaluation of the mining operation are considered to be reasonable and are consistent with current mining industry practices in Kalimantan. Opportunities to optimise the mining schedule were limited because the sequence was mostly dictated by IPPKH permitting issues restricting exploration and mining activities. Early in the schedule the higher strip ratios are offset by higher coal prices and later in the schedule when these prices decline, the strip ratio also reduce allowing relatively stable positive cash flows to be maintained for every period of the schedule.

The economics of the project are helped by tolling of third party coal from neighbouring mines for use of the haul road and barge loading port facilities. The value of this additional revenue stream was based on assumptions provided by RK. These included an estimated quantity of 8 kt per month and a rate of \$5.00 per t. This quantity has reduced since the last IQPR.

The economic model, resulting cash flow and EBITA graphs shown in Figure 4.27 and Figure 4.28 include the mining of other coal not classified as Reserves toward the end of the schedule. This proportion of other coal mined by period is shown in Figure 3.5 of the Life of Mine Plan (Appendix E) of the Reserve report (Appendix D). If this other coal is not mined, the economics of the project are reduced but remain positive.



Figure 4.27 – Cash Flows over Life of Mine



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Figure 4.28 – EBITDA over Life of Mine



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Year		TOTAL	2017-Q1	2017-Q2	2017-Q3	2017-Q4	2018	2019	2020	
Physicals	Waste Mined	Waste Mined Mbcm		4.2	3.4	4.1	3.5	11.3	10.0	
	Coal Mined	Mt	3.3	0.3	0.3	0.3	0.3	1.1	1.2	
	Stripping Ratio	bcm:t	11.0	16.7	12.1	14.6	13.9	10.5	8.5	
	Coal Shipped	Mt	3.3	0.3	0.3	0.3	0.3	1.1	1.2	
	Coal Stocks	Mt	-	0.0	0.0	0.0	0.0	0.0	-	
	CV Shipped (gar)	kcal/kg	5,724	5,751	5,738	5,720	5,686	5,657	5,784	
Revenue	Coal Price Received	USD/tonne	48.5	59.9	53.9	53.7	53.4	46.4	44.4	
	Revenue	USD (millions)	162.5	15.3	15.3	15.2	13.7	50.1	53.0	
Operating Cost	Pit to Port	USD (millions)	98.7	10.5	8.6	10.6	9.3	29.0	30.6	
	Port to Barge	USD (millions)	4.7	0.4	0.4	0.4	0.4	1.5	1.7	
	Royalty	USD (millions)	8.1	0.8	0.8	0.8	0.7	2.5	2.6	
	Other Variable Costs	USD (millions)	8.1	0.2	0.2	0.2	0.2	3.5	3.8	
	Other Fixed Costs	USD (millions)	8.3	0.7	0.7	0.7	0.7	2.8	2.8	
	VAT	USD (millions)	9.9	1.0	0.9	1.1	0.9	2.9	3.1	
	TOTAL	USD (millions)	137.7	13.5	11.6	13.8	12.1	42.1	44.6	
EBITDA		USD (millions)	24.8	1.8	3.7	1.4	1.5	8.0	8.4	
Cash Margin		USD per tonne	7.5	7.0	13.1	5.1	6.1	7.5	7.1	
Depreciation		USD (millions)	5.9	0.0	0.0	0.1	0.1	0.3	5.4	
Tax Losses Carried Forward		USD (millions)	-	-	-	-	-	-	-	
Taxable Income		USD (millions)	18.9	1.7	3.6	1.4	1.5	7.7	2.9	
Corporate Tax		USD (millions)	4.7	0.4	0.9	0.3	0.4	1.9	0.7	
EARNINGS AFTER TAX		USD (millions)	14.2	1.3	2.7	1.0	1.1	5.8	2.2	
Earnings per Tonne		USD per tonne	4.3	5.2	9.7	3.7	4.4	5.4	1.9	
Add Back Depreciation		USD (millions)	5.9	0.0	0.0	0.1	0.1	0.3	5.4	
Change in Working Capit	al	USD (millions)	8.6	1.6	0.0	0.2	0.7	0.4	-0.3	5.9
Capital Expenditure		USD (millions)	6.8	1.3	0.1	0.5	0.2	0.3	0.4	4.1
UNLEVERED FREE CAS	SHFLOW	USD (millions)	21.9	1.7	2.7	0.9	1.7	6.2	6.9	1.8

Table 4.13 – Financial Model Results (Real terms on an Undiscounted Basis)



4.11 SENSITIVITY ANALYSIS

Sensitivity of project NPV was tested against variation in the following factors:

- capital expenditure;
- operating costs;
- nominal discount rate; and
- sales price.

SMGC notes that the discount rate will vary for different users depending on individual requirements and how the project is financed. Using an assumed real discount rate of 7.4 % yielded an NPV of USD 19 million.

The input factors were tested over a reasonable range of values while keeping all other factors constant. The results of the sensitivity analysis are shown in Figure 4.29 and Figure 4.30. This analysis shows that the project is most sensitive to variation in sales price, followed by operating costs, capital costs and discount rate. This is typical of many coal projects with a short mine life. If the coal price sensitivity is extrapolated further, the NPV drops to zero when the coal price is reduced by 19 %. If the Sulphur content was to increase by 20 %, the subsequent discount applied to the coal price would reduce the NPV to USD 16 million.



Figure 4.29 – Project Sensitivity Tornado Chart





Figure 4.30 - Project Sensitivity



5. ENVIRONMENT, SAFETY AND COMMUNITY RELATIONS

SMGC reviewed safety, environmental and community relations factors for the RK concession, haul road and port by undertaking the following:

- 1. review of the environmental impact assessment and management plans (AMDAL);
- 2. brief review of the site standard operating procedures; and
- 3. site visits and inspections of environmental and safety management infrastructure and procedures undertaken in October 2012, October 2013, April 2015 and September 2016.

While most issues were being managed adequately at the time of review, SMGC notes that the potential issue with the proximity of local community housing to the port stockpile area still remains.

SMGC does not see any other safety, environmental or community issues that are considered to have a Material impact on the project or will affect the performance of the operation in the longer term. It should be noted that this study does not constitute a detailed due diligence of environmental and community issues. SMGC cannot provide any guarantee or warranty that significant environmental or community issues will not affect the operation in the future. Key aspects of environmental and community relations issues are discussed in this section.

5.1 ENVIRONMENTAL AND SAFETY ASPECTS

SMGC reviewed the AMDAL documents and the environmental procedures for the site, and inspected the environmental infrastructure during the site visit. It was noted that RK were awarded a green rating for environmental management from the governor of East Kalimantan in May 2016. Some of the key environmental issues with the RK project include:

<u>Water Discharge</u>: runoff from dumps, stockpiles and roads and water pumped from pits has the potential to pollute local rivers, creeks and vegetation if sediment loads are high or if water is acidic. This is generally managed on site through the use of bunds, drains and sediment ponds to allow small particles to settle out and pH level treatment. Regular monitoring of water discharge points is required under government regulations.

SMGC observed the water management infrastructure during the site visits, and inspected the records of water monitoring and testing for both acidity and sediment loads. There were no obvious issues observed during the most recent site visit, and reasonable procedures appeared to be in place and were being followed.

During a previous site visit, SMGC was shown some results from laboratory analysis for Net Acid Generation (NAG) that showed that there was some material on the site that was potentially acid forming, with the most likely acid forming material being the coal. No evidence was found of acidic water being released from site and it appeared that the current procedures are effective in managing this issue.

SMGC recommends that more work is undertaken in any future exploration to identify if there is any potentially acid forming material in the overburden or interburden, so that this material can be identified in the geological model and mine plans. If any acid forming waste is identified, this should be dumped separately and encapsulated to prevent any long term acid mine drainage problems.

Settling ponds in the pit and port areas are shown in Figure 5.1 and Figure 5.2. Recorded levels for Total Suspended Solids (TSS) and pH were all within acceptable levels (TSS < 100 mg/l; pH 5.5 - 9.0). On the day of the site visit the pit discharge outlet was in need of some maintenance and the water discharging appeared muddy.











Figure 5.2 – Port Settling Ponds



Dust and Noise: from mine operations, haulage, crushing, stockpiling and coal handling have the potential to impact the local environment, particularly if villages and local communities are located within close proximity to mining and coal handling operations. Dust is generally managed by using water trucks on haul roads, and by spraying water or dust suppressant chemicals.

Dust, and to a lesser extent noise, is considered to be a significant risk for RK at the port stockpile and barge-loading facility. The stockpile, crushing infrastructure and conveyors are located in close proximity to community housing, as can be seen in Figure 5.3. While RK have installed nets between the stockpile and the houses, SMGC is of the opinion that these will have limited effect in reducing dust levels in the community.

SMGC understands that RK is currently paying compensation to the owners of the houses in this area to address this issue. Based on advice from RK, SMGC have allocated an additional amount of USD 600,000 per annum to operating costs to account for the cost of managing this issue. This amount is considered to be sufficient to cover either compensation to the community or the cost of land acquisition over the life of the mine.



Figure 5.3 – Proximity of Community to Port Stockpile



Land Clearing and Revegetation: A large area of land will be cleared and disturbed as part of the RK mining operation. Much of this area is secondary growth forest. It is planned to rehabilitate and revegetate this disturbed area by mining and handling topsoil separately so it can be restored to rehabilitation areas. RK have a procedure for handling topsoil separately and this was observed being practiced on previous site visits, as shown in Figure 5.4. Topsoiled and revegetation areas were also observed and appeared to be satisfactory.







Mine closure plans for the updated mine plan have yet to be completed. SMGC does not foresee any significant issues with this aspect of the operation. A reasonable allowance has been made in both capital and operating costs for environmental management, rehabilitation and mine closure.

<u>Hydrocarbon Management</u>: significant stores of fuel and oils are located at the RK mine and discharge of these to the environment could result in significant damage. SMGC observed the facilities during a site visit in September 2016 and it was noted that the bunds and storage infrastructure was adequate for fuel, but the oil drum storage area lacked bunding. Fuel and oil storage facilities are shown in Figure 5.5.



Figure 5.5 – Hydrocarbon Storage

Safety: SMGC was provided with a sample of RK's Standard Operating Procedures (SOP's). These procedures were considered adequate for the operation provided that they are communicated and implemented effectively. The SMGC personnel who joined the site visit were given an induction before going into the mine, and good induction procedures appeared to be in place. The site risk assessment was presented during this site visit. No accidents were recorded for the 2.5 million work hours conducted at the RK site during 2016.

No hazardous situations were observed during the site visit, and clear signage was observed in the pit and on the haul roads. An example of signage is shown in Figure 5.6.



Figure 5.6 – Signage in Pit



5.2 COMMUNITY RELATIONS ASPECTS

Maintaining a good relationship with local communities is a key requirement for the success of any mining operation. Efforts must be implemented to develop community programs in coordination with the local government. RK informed SMGC that the following items were planned or had already been completed with regards to its community relations obligations:

- provision of local employment (almost 90 % of employees are from East Kalimantan);
- provision of education facilities and assistance (a new school has already been constructed);
- provision of health facilities (future plans);
- assistance with purchase of garbage truck; and
- assistance with sustainable small scale business opportunities including traditional market development and agriculture.

Allocation has been made in operating costs to support community development and corporate social responsibility programs. SMGC is unaware of any significant community relations factors that will affect this Reserve estimate other than the issue of dust and noise at the port stockpile, as discussed in the preceding section.



6. **RISK FACTORS**

There are a range of risk factors which may affect the future operations and the financial performance of the RK project. A number of these operating risks are matters specific to the project, while many are beyond the control of the project management. Key areas of risk with the project that have been identified are discussed in the following sections.

6.1 **RESOURCES AND RESERVES**

The majority of the coal included in the mine plans is classified as either a Measured or Indicated Resource and can thus be classified as a Proved or Probable Resource. However approximately 14 % of the coal in the mine plan is not classified in these categories due to either a lack of exploration drilling, particularly in the western part of the pit, or due to insufficient core samples being taken for the coal seams. The area to the west of the pit was not drilled as it is outside the current IPPKH2 and the coal seams were extrapolated into this area. It is considered possible that further exploration and technical studies may result in a reduction or an increase of Reserves.

<u>RISK RATING</u>: Moderate (could have significant impact on project performance).

6.2 GEOTECHNICAL

Several geotechnical studies have been undertaken for the RK concession covering pit and dump areas. RK provided procedures for the construction of waste dumps based on these geotechnical recommendations. The implementation of these procedures will need to be continuously monitored to ensure compliance. Ongoing condition monitoring, including groundwater pressure in the lowwall is also recommended.

The most significant areas of risk are the stability of the highwall, lowwall and dumps in the deepest part of the pit, which is up to 110 m deep. SMGC is of the opinion that geotechnical issues are being managed adequately so the project risk is rated at low to moderate.

<u>RISK RATING</u>: Low to Moderate (could have a minor to significant impact on project performance).

6.3 COAL PRICES AND REVENUE

Future coal price is the factor that most affects project value. The global thermal coal market experienced a significant downturn in prices over the past 5 years followed by a sharp recovery in the second half of 2016. Prices have since pulled back from this peak exceeding USD 100 /t (Newcastle index) to levels of USD 80 /t. It is difficult to predict if prices will hold at this level or fall back to previous lows. Coal prices are influenced by many factors, most of which are outside of RK's control.

SMGC has assumed that coal prices will hold through 2017 before falling back close to previous low levels by 2019. If these forecast coal prices are not realised and coal prices fall below these levels, there would be a significant reduction in Coal Reserves and a substantial reduction in the value of the project. While it is likely that the project will remain feasible, coal prices lower than assumed would require a significant redesign of pits, lowering of production targets and a significant revision of Reserves and mine plans.

<u>RISK RATING</u>: Moderate to High (could have significant to large impact on project performance).



6.4 MINING APPROVALS, TENURE AND PERMITS

The IPPKH2 was awarded in July 2016. This permit provides sufficient area for mining at a rate of 1.05 Mtpa until the end of 2017. To allow the mine plan to be executed beyond this date will require an additional expansion of the IPPKH2 into the western area of the concession. This area is controlled by the plantation company ITCI. Discussions with ITCI management have started with permission being granted for RK personnel to conduct surface mapping from 17 February 2017. This engagement with the plantation company will need to continue and progress to allow exploration drilling and a business to business agreement to allow mining activity including compensation and then approval from the forestry department. It is expected to take until the end of 2017 for this process to be completed and allow RK to conduct mining activity in the ITCI Area.

This timing is based on information provided by RK and it is not possible to be certain when this approval will be granted and so it remains a risk to the project. If the final IPPKH2 expansion into the ITCI Area is not awarded by the estimated end of 2017, execution of the mine plan will be delayed.

RISK RATING: Moderate to High (could have significant to large impact on project performance).

6.5 OPERATING AND CAPITAL COSTS

Another area of uncertainty in the modifying factors applied in this study relates to the operating costs for the RK mine. Operating cost estimates have as much as possible been based on actual costs experienced at the site and the existing mining contracts that are in place. Any real increase in operating costs in the medium to long term is likely to result in a significant reduction in Coal Reserves.

SMGC notes that the RK has renegotiated a further reduction in waste unit rates. These negotiations included a claw back provision where RK will pay a premium on top of the new standard waste rate when various coal index thresholds are exceeded.

Most of the project infrastructure is already in place for the RK concession and capital expenditure is not considered a major area of uncertainty for the project. Variation in future capital expenditure from the assumptions in this study is not considered likely to have a significant impact on Coal Reserves.

RISK RATING: Moderate (could have a significant impact on project performance).



6.6 POLITICAL AND REGULATORY RISK

Overall the political situation in Indonesia is stable, with the country undergoing significant transformation over the past 14 years to become one of the largest democracies in the world. However there are regulatory risks associated with mining in Indonesia, particularly with the new mining law (No. 4 of 2009) that was introduced in 2009. The implementing regulations are still being developed and implemented and there are a number of aspects of the new law where significant uncertainties remain.

Some aspects of the new law where changes or new regulations may affect the RK concession include but are not limited to:

- increases in royalty rates and conditions;
- domestic market obligations;
- export taxes;
- minimum pricing regulations; and
- foreign ownership restrictions.

<u>RISK RATING</u>: Moderate (could have a significant impact on project performance).

6.7 ENVIRONMENTAL AND SOCIAL RISKS

The most significant environmental and social risk is the proximity of the local community to the port stockpile, as described in Section 5.1. An allowance has been made for this in operating cost, and the risk rating assigned reflects this, otherwise the rating would be higher.

Other environmental and social risks have been identified and management plans are either in place or being developed. It is possible that failure to comply with the environment criteria or failure to maintain good relationships with the local community will have an impact on project value. Other than the issue at the stockpile, these risks are not considered to be greater for RK than for other coal mines operating in Indonesia. The absence of any significant villages or rivers inside the production area means that risk is considered to be relatively low.

RISK RATING: Moderate (could have a significant impact on project performance).

6.8 OPERATIONAL RISK

The proposed coal mining operations will be subject to numerous risks: natural (weather, flooding, natural disasters), geological (variations in coal seam thickness and quality, variations in rock thickness and geotechnical stability), and operational (contractor performance, poor mining practice which may increase strip ratio, equipment failure, accidents).

Such unforeseen natural, geological and operating events have the potential to result in being unable to meet production targets; to increase reported unit costs and to require additional capital to rectify the situation.

Engagement with an experienced mining contractor such as CK, with well establish management systems helps to mitigate these potential operating risks.

<u>RISK RATING</u>: Low to Moderate (could have a minor to significant impact on project performance).



6.9 LAND COMPENSATION

The current compensated land in the North Area covers most of the area required for 2017. To allow mining to continue into 2018 and 2019 will required negotiations with the ITCI plantation company in the west to be resolved and settled by the end of 2017 and individual land owners in the Middle Area to be settled by September 2017.

Land compensation in the ITCI Area west of the current IPPKH2 will need to be resolved well before the end of 2017. These discussions are currently underway, with permission already granted for surface mapping exploration. A negotiated business to business agreement with ITCI needs to be finalised as soon as possible to allow sufficient time for the subsequent approval from the forestry department before the end of 2017.

The other area requiring land compensation settlement is the Middle Area (see Figure 2.2). At the time of writing, no compensation had been settled in this area of the concession. Mining is scheduled to start in the Middle Area in early 2018. Some initial talks were started to allow limited drilling in this area.

Land acquisition can pose a risk to the operation if not handled prudently. With RK's commitment to this target and engagement at multiple levels, SMGC consider it is reasonable to expect the remaining land compensation to be settled in time to allow mining to start in these areas by early 2018. However there is no guarantee that this deadline will be achieved and so it remains as a risk to the project. A reasonable level of compensation has been included in the financial modelling for the project.

RISK RATING: Moderate to High (could have significant to large impact on project performance).



7. POTENTIAL OPPORTUNITIES

Exploration in the RK concession has been restricted by the IPPKH2 and land compensation issues. Consequently, no drilling has been conducted in the ITCI area due to the IPPKH2 boundary and limited drilling has been allowed in the Middle and South Areas due to land compensation. Once these issues are resolved, a more comprehensive exploration program will improve knowledge of the structural setting, stratigraphy and coal quality of these areas.

Only 4 out of the 16 seams intercepted in the Middle and South Areas had enough coal quality information to be included in the Resource estimation. With additional drilling and quality sampling, these unclassified seams may qualify for inclusion in future Resource estimations. The Resource Statement in Appendix C declares an Exploration Target range of 1.2 to 4 Mt for these seams. This potential quantity is conceptual in nature because there has been insufficient exploration to estimate a Coal Resource in this area and it is uncertain if further exploration will result in the estimation of a Coal Resource.



8. CODE COMPLIANCE

This Technical Assessment is made as of the effective date 27th February, 2017 and has been prepared in accordance with SMGC's interpretation of the Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets (VALMIN Code edition 2015). The VALMIN Code has been prepared by the VALMIN Committee, a joint committee of The Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG), with the participation of the Minerals Council of Australia (MCA) and other key stakeholder representatives. SMGC has made endeavours to ensure that where there is a conflict between the requirements of Singapore Law, SGX listing rules and the VALMIN Code last.

Keith D. Whitchurch BE Mining (Hons) MEngSc MAusIMM(CP) RPEQ

The signatory to this report Mr. Keith Whitchurch, BE (Mining) MEngSci MAusIMM CP (Min) RPEQ PERHAPI is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Whitchurch is principal consultant of PT SMG Consultants Indonesia which is located at Agro Plaza – 16th Floor, Jalan H. R. Rasuna Said Kav. X/2 No. 1, Kuningan, Jakarta Selatan, 12950, Indonesia.

Mr. Whitchurch has in excess of 30 years of experience in the mining industry with significant experience in technical reviews, audits and due diligence assessments of mining assets. He has sufficient experience which is relevant to the style of mineralisation and types of coal deposits under consideration, and to the activity he is undertaking, to qualify him as a Competent Person (as defined in the JORC Code), Practitioner and Specialist (as defined in the VALMIN Code).



Appendix A – Contributors to Report



Keith Whitchurch -SMGC - Principal Consultant

- Qualifications:BE (Mining Hons), MEngSc (Research).MAusIMM (CP), RPEQ; PERHAPI CPI.Contribution:Practitioner and Specialist with overall responsibility for this IQPR.
- Experience: Keith has over 30 years of experience in open cut coal mining in the areas of geological modelling, reserves evaluation, pit optimisation, mine design, equipment selection, mine scheduling, backfill design and planning, project costing and economics. Over the last 10 years Keith has specialised on the Indonesian mining industry as team leader on numerous projects including technical, due diligence and corporate aspects of coal, gold, nickel, iron ore and uranium.

Kim Knerr -SMGC - Principal Mining Engineer

Qualifications: BE (Mining - Hons)

MAusIMM, PERHAPI CPI.

Contribution: Review of Resources, Reserves, report and audit of report findings.

Experience: Kim has 28 years of experience in open cut mining operations globally and with delivering strategic results in the minerals industry. He has completed numerous projects on a wide range of commodities including coal, base metals and precious metals.

David Wyllie – SMGC - Principal Mining Engineer

Qualifications:	BE (Mining)			
	Quarry Manager's Certificate of Competency (Western Australia)			
	MAusIMM, PERHAPI CPI.			
Contribution:	Oversight of mine plans, preparation of cost estimates, report writing and Competent Person for Coal Reserves.			
Experience:	David is a Mining Engineer with broad experience spanning more than 30 years across Australia, Indonesia and the Americas. This experience includes mine planning, operations, blasting services, site management, mining consulting and mine planning software implementations.			



Abdullah Dahlan – Principal Geologist

Qualifications:	BE (Geology)
	MAusIMM; PERHAPI CPI
Contribution:	Competent Person for Coal Resources.
Experience:	Abdullah has over 15 years of experience in the coal and gold mining industries including, exploration mapping, resource definition drilling, grade control, exploration program planning and supervision, project development, production monitoring, pit reconciliation and Resource estimation.

Ruth Sitorus – SMGC - Mining Engineer

Qualifications: BE (Mining)

MAUSIMM, PERHAPI CPI

Contribution: Pit design, Reserve database and scheduling.

Experience: Ruth is a mining engineer with over 10 years of experience in coal and nickel mining in Indonesia. Her experience includes open cut mine planning and design, reserves evaluation, pit optimisation, mine scheduling, backfill design and planning, project costing and economics.

Joyanta Chakraborty – Senior Mining Engineer

Qualifications: BE (Mining),

MAusIMM, PERHAPI CPI

Contribution: Site Visit

Experience: Joy has over 15 years of experience in open cut coal mining in the areas of operations, Reserves estimation, pit optimisation, mine design, equipment selection, mine scheduling, project costing and economics. Joy has worked 5 years in India and a total of 10 years in Indonesia. Joy holds Competent Person status for Coal Reserves.

Wahyudi Adhiutomo - Senior Geologist

Qualifications: BE (Geology)

MAusIMM, PERHAPI CPI

Contribution: Site Visit

Experience: Wahyudi has been working in the Indonesia coal mining industry for over 10 years. His experience includes exploration, geological modelling, Resource estimation, mine planning, due diligence, mining studies, estimation and reporting of Mineral Resources in accordance with the KCMI and JORC Codes. Wahyudi holds Competent Person status for Coal Resources.



Appendix B – Tenure Documents





BUPATI KUTAI KARTANEGARA

TENTANG

PERSETUJUAN IZIN USAHA PERTAMBANGAN OPERASI PRODUKSI KEPADA PT. RINJANI KARTANEGARA 540/1654/IUP-OP/MB-PBAT/XI/2009

BUPATI KUTAI KARTANEGARA

Membaca	: Surat Direktur PT. RINJANI KARTANEGARA Nomor : 55/RK-SMD/ XI/2009 tanggal 04 Nopember 2009 Perihal Permohonan Penyesuaian Status KP untuk menjadi IUP
Menimbang	: Bahwa Berdasarkan hasil evaluasi kegiatan Izin Usaha Pertambangan (IUP) Operasi Produksi PT. RINJANI KARTANEGARA telah memenuhi syarat untuk diberikan persetujuan IUP Opersi Produksi.
Mengingat	 1. Undang - Undang Nomor 23 Tahun 1997 tentang Pengelolaan Lingkungan Hidup (LN Tahun 1997 Nomor 68, TLN 3699); 2. Undang - Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah (LN Tahun 2004 - Namas 125 TELN 4427);
	2004 Nomor 125, TLN 4437) sebagaimana telah diubah dengan Undang - Undang Nomor 8 Tahun 2005 tentang Penetapan Peraturan Pemerintah Pengganti Undang - Undang Nomor 3 Tahun 2005 tentang Perubahan atas Undang - Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah menjadi Undang - Undang (LN Tahun 2005 Nomor 108, TLN 4585);
	3. Undang - Undang Nomor 25 Tahun 2007 Tentang Penanaman Modal (LN Tahun 2004 Nomor 67, TLN 4724);
	4. Undang - Undang Nomor 6 tahun 2007 Tentang Penataan Ruang (LN Tahun 2007 Nomor 68, TLN 4725);
	5. Undang - Undang Nomor 4 Tahun 2009 Tentang Pertambangan Mineral dan Batubara (LN Tahun 2009 Nomor 4, TLN 4959);
	6. Peraturan Pemerintah Nomor 27 Tahun 1999 Tentang Analisis Mengenai Dampak Lingkungan Hidup (LN Tahun 1999 Nomor 59, TLN 3838);
	7. Peraturan Pemerintah Nomor 38 Tahun 2007 Tentang Pembagian Urusan Antara Pemerintah Pusat Pemerintah Daerah Propinsi, Pemerintah Daerah Kabupaten atau Kota (LN Tahun 2007 Nomor 82, TLN 4737);
	8. Peraturan Pemerintah Nomor 26 Tahun 2008 Tentang Rencana Tata Ruang Wilayah Nasional (LN Tahun 2008 Nomor 48, TLN 4833);
	 Sesuai Edaran Direktorat Jenderal Mineral, Batubara dan Panas Bumi Nomor : 03.E/31/DJB/2009 Tanggal 30 Januari 2009 tentang Perizinan Pertambangan dan Batubara Sebelum Terbitnya Peraturan Pemerintah Sebagai Pelaksana Undang-Undang Nomor 4 Tahun 2009.
	 Surat Edaran Direktorat Jenderal Mineral, Batubara dan Panas Bumi Nomor : 1053/30/DJB/2009 Tanggal 24 Maret 2009 Perihal Izin Usaha Jasa Pertambangan.

MEMUTUSKAN:

Menetapkan

: KEPUTUSAN BUPATI KUTAI KARTANEGARA TENTANG PERSETUJUAN IUP OPERASI PRODUKSI KEPADA PT. RINJANI KARTANEGARA

KESATU

: Memberikan Izin Usaha Pertambangan Operasi Produksi kepada :

Nama Perusahaan	: PT. RINJANI KARTANEGARA
Nama Direktur	: NORDIANSYAH NASRIE
Pemegang saham perusahaan	dengan mencantumkan
Nilai/Persentase saham	
Nama Pemegang saham	: NORDIANSYAH NASRIE
Pekerjaan pemegang saham	: Swasta
Alamat	: Taman Laguna Blok H2/39 RT.004 RW.002
	Kel. Jati Karya, Kec. Jati Sampurna, Bekasi
Kewarganegaraan	• / • • /
Pemegang Saham/Negara	
Asal Perusahaan	: Indonesia
Alamat	: Jl. Cendana Gg. Jamrud 678 No. 5
	Samarinda
Komoditas	: Batubara
Lokasi Pertambangan	: Loa Janan dan Loa Kulu
Desa	: Bakungan dan Jembayan
Kecamatan	: Loa Janan dan Loa Kulu
Kabupaten/Kota	: Kutai Kartanegara
Provinsi	: Kalimantan Timur
Kode Wilayah	: KW-KTN 2009 1729 OP
Luas	: 1.933 Ha

Dengan Peta dan daftar koordinat WIUP yang diterbitkan oleh Bupati Kutai Kartanegara sebagaimana tercantum dalam lampiran I dan Lampiran II keputusan ini

Lokasi Pengolahan dan pemurnian. Pengangkutan dan penjualan. Jangka waktu berlaku IUP OP: 12 (Duabelas) Tahun Jangka waktu Tahap Kegiatan (sesuai komoditas tambang): a. Konstruksi Selama 2 Tahun

b. Produksi Selama 10 Tahun

KEDUA : Pemegang IUP Operasi Produksi mempunyai hak untuk melakukan kegiatan konstruksi, produksi, pengangkutan dan penjualan serta pengolahan pemurnian dalam WIUP untuk jangka waktu 12 (Duabelas) tahun dan dapat diperpanjang 2 (dua) kali (sesuai dengan komoditas tambang sesuai Undang - Undang Nomor 4 Tahun 2009) Terhitung mulai tanggal ditetapkannya keputusan ini sampai dengan tanggal 24 Nopember 2021

- : IUP Operasi Produksi ini dilarang dipindahtangan kan kepada pihak lain tanpa persetujuan **KETIGA** Bupati Kutai Kartanegara.
- : PT. RINJANI KARTANEGARA sebagai pemegang IUP Operasi Produksi dalam KEEMPAT melaksanakan kegiatan mempunyai hak dan kewajiban sebagaimana tercantum dalam Lampiran III Keputusan ini.
- : Selambat-lambatnya 60 (enam puluh) hari kerja setelah diterbitkannya Keputusan ini sudah **KELIMA** harus menyampaikan rencana kerja dan anggaran biaya kepada Bupati Kutai Kartanegara .

Lampiran III Hak dan Kewajiban

A. Hak

- 1. Memasuki WIUP sesuai dengan peta dan daftar koordinat.
- 2. Melaksanakan kegiatan IUP Operasi Produksi (Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan) sesuai dengan ketentuan peraturan perundang-undangan
- 3. Membangun fasilitas penunjang kegiatan IUP Operasi Produksi (Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan) didalam maupun diluar WIUP.
- 4. Dapat menghentikan sewaktu waktu kegiatan IUP Operasi Produksi (Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan) disetiap bagian atau beberapa bagian dengan alasan bahwa kelanjutan dari kegiatan IUP Operasi Produksi (Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan) tersebut tidak layak atau praktis secara komersial maupun karena keadaan kahar, keadaan yang menghalangi sehingga menimbulkan penghentian sebagian atau seluruh kegiatan usaha pertambangan.
- 5. Mengajukan permohonan pengusahaan mineral lain yang bukan merupakan asosiasi mineral utama yang diketemukan dalam WIUP.
- 6. Mengajukan pernyataan tidak berminat terhadap pengusahaan mineral lain yang bukan merupakan asosiasi mineral utama yang diketemukan dalam WIUP.
- 7. Memanfaatkan sarana dan prasarana umum untuk keperluan kegiatan IUP Operasi Produksi (Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan) setelah memenuhi ketentuan peraturan perundang-undangan.
- 8. Dapat melakukan kerjasama dengan perusahaan lain dalam rangka penggunaan setiap fasilitas yang dimiliki oleh perusahaan lain baik yang berafiliasi dengan perusahaan atau tidak sesuai dengan ketentuan peraturan perundang-undangan.
- 9. Dapat membangun sarana dan prasarana pada WIUP lain setelah mendapat izin dari pemegang IUP yang bersangkutan.

B. Kewajiban

- 1. Memilih yuridiksi pada Pengadilan Negeri tempat dimana lokasi WIUP berada.
- 2. Selambat lambatnya 6 bulan setelah ditetapkannya keputusan ini pemegang IUP Operasi Produksi harus sudah Melaksanakan dan menyampaikan laporan pematokan batas wilayah IUP Operasi Produksi kepada Bupati Kutai Kartanegara.
- 3. Hubungan antara pemegang IUP Operasi Produksi dengan pihak ketiga menjadi tanggung jawab pemegang IUP Sesuai ketentuan perundang-undangan.
- 4. Melaporkan Rencana investasi.
- 5. Menyampaikan rencana reklamasi.
- Menyampaikan rencana pasca tambang. б.
- Menempatkan jaminan penutupan tambang (sesuai umur tambang). 7.
- 8. Menyampaikan RKAB selambat lambatnya pada bulan Nopember yang meliputi rencana tahun depan dan realisasi kegiatan setiap tahun berjalan kepada Bupati dengan tembusan kepada *) Menteri dan Gubernur apabila IUP diterbitkan Bupati/Walikota.
- 9. Menyampaikan laporan kegiatan triwulanan yang harus diserahkan dalam jangka waktu 30 (tiga puluh) hari setelah Akhir dari Triwulan takwim secara berkala kepada Bupati dengan tembusan kepada: *) Menteri dan Gubernur apabila IUP diterbitkan Bupati/Walikota
- 10. Apabila ketentuan batas waktu Penyampaian RKAB dan pelaporan sebagaimana dimaksud pada angka 8 (delapan) dan 9 (Sembilan) tersebut di atas terlampaui, maka kepada pemegang IUP Operasi Produksi akan diberikan peringatan tertulis.
- 11. Menyampaikan laporan produksi dan pemasaran sesuai ketentuan peraturan perundang undangan.
- 12. Menyampaikan Rencana Pengembangan dan Pemberdayaan Masyarakat sekitar wilayah pertambangan kepada Bupati Kutai Kartanegara.
- 13. Menyampaikan RTKL setiap tahun sebelum penyampaian RKAB kepada Bupati Kutai Kartanegara.
- 14. Memenuhi ketentuan perpajakan sesuai ketentuan peraturan perundang-undangan.
- 15. Membayar iuran tetap setiap tahun dan membayar royalty sesuai ketentuan peraturan perundang-undangan.
- 16. Menempatkan jaminan reklamasi sebelum melakukan kegiatan produksi dan Rencana Penutupan Tambang sesuai ketentuan peraturan perundang-undangan.
- 17. Menyampaikan RPT (Rencana Penutupan Tambang) 2 tahun sebelum kegiatan produksi berakhir.
- 18. Mengangkat seorang Kepala Teknik Tambang yang bertanggung jawab atas IUP Operasi Produksi (Konstruksi, Produksi, Pengolahan Pemurnian dan Pengangkutan Penjualan), Keselamatan dan Kesehatan Kerja Pertambangan serta pengelolaan Lingkungan Pertambangan
- 19. Kegiatan produksi dimulai apabila kapasitas produksi terpasang mencapai 70% yang direncanakan.

- 20. Permohonan perpanjangan IUP untuk kegiatan produksi harus diajukan 2 (dua) tahun sebelum berakhirnya masa izin ini dengan disertai pemenuhan persyaratan.
- 21. Kelalaian atas ketentuan tersebut pada butir 20, mengakibatkan IUP Operasi Produksi berakhir menurut hukum dan segala usaha pertambangan dihentikan. Dalam jangka waktu paling lama 6 (enam) bulan sejak berakhirnya Keputusan ini Pemegang IUP Operasi Produksi harus mengangkat keluar segala sesuatu yang menjadi miliknya, Kecuali benda-benda bangunan-bangunan yang dipergunakan untuk kepentingan umum.
- 22. Apabila dalam jangka waktu sebagaimana dimaksud dalam butir 21, pemegang IUP Operasi Produksi tidak melaksanakan maka barang /asset pemegang IUP menjadi milik pemerintah.
- 23. Pemegang IUP Operasi Produksi harus menyediakan data dan keterangan sewaktu waktu apabila dikehendaki oleh Pemerintah.
- 24. Pemegang IUP Operasi Produksi membolehkan dan menerima apabila pemerintah sewaktu waktu melakukan pemeriksaan.
- 25. Pemegang IUP Operasi Produksi tidak boleh melakukan segala kegiatan pertambangan bila lokasi IUP Operasi Produksi masuk dalam Kawasan Budidaya Kehutanan (KBK) dan atau Hutan Produksi (HP) sebelum memiliki izin Pinjam Pakai kawasan dari Menteri Kehutanan RI.
- 26. Menerapkan kaidah pertambangan yang baik.
- 27. Mengelola keuangan sesuai dengan system akuntansi Indonesia.
- 28. Melaporkan pelaksanaan pengembangan dan pemberdayaan masyarakat secara berkala.
- 29. Mengutamakan pemanfaatan tenaga kerja setempat, barang dan jasa dalam negeri sesuai ketentuan peraturan Peraturan perundangan.
- 30. Mengutamakan pembelian dalam negeri dari pengusaha lokal yang ada di daerah tersebut sesuai ketentuan peraturan perundang undangan.
- 31. Mengutamakan seoptimal mungkin penggunaan perusahaan jasa pertambangan lokal dan/atau nasional.
- 32. Dilarang melibatkan anak perusahaan dan/atau afiliasinya dalam bidang usaha pertambangan di WIUP yang diusahakannya kecuali dengan izin Menteri.
- 33. Melaporkan data dan pelaksanaan penggunaan jasa penunjang.
- 34. Menyerahkan selluruh data hasil kegiatan IUP kepada Bupati.* dengan tembusan kepada:
- *) Menteri dan Gubernur apabila IUP diterbitkan bupati/walikota
- 35. Menyampaikan proposal sekurang kurangnya menggambarkan aspek teknis, keuangan, produksi dan Pemasaran serta lingkungan sebagai persyaratan pengajuan permohonan perpanjangan IUP Operasi Produksi.
- 36. Memberi ganti rugi kepada pemegang hak atas tanah dan tegakan yang terganggu akibat kegiatan IUP Operasi Produksi:
- 37. Mengutamakan pemenuhan kebutuhan dalam negeri (DMO) sesuai ketentuan peraturan perundang undangan
- 38. Penjualan produksi kepada afiliasi harus mengacu pada harga pasar.
- 39. Kontrak penjualan jangka panjang (minimal 3 tahun) harus mendapat persetujuan terlebih dahulu dari Menteri
- 40. Perusahaan wajib mengolah produksinya di dalam negeri.
- 41. Pembangunan sarana dan prasarana pada kegiatan konstruksi antara lain meliputi :
 - a. Fasilitas fasilitas dan peralatan pertambangan.
 - b. Instalasi dan peralatan peningkatan mutu mineral/batubara.
 - c. Fasilitas fasilitas Bandar yang dapat meliputi dok-dok, pelabuhan-pelabuhan, dermaga-dermaga, jembatan-jembatan, tongkang-tongkang, pemecah-pemecah air, fasilitas-fasilitas terminal, bengkelbengkel, daerah-daerah penimbunan, gudang-gudang, dan peralatn bongkar muat.
 - d. Fasilitas-fasilitas transportasi dan komunikasi yang dapat meliputi jalan-jalan, jembatan-jembatan, kapalkapal, feri-feri, tempat-tempat pendaratan pesawat, hangar-hangar, garasi-garasi, pompa-pompa BBM, fasilitas-fasilitas radio dan telekomunikasi, serta fasilitas-fasilitas jaringan telegraph dan telepon.
 - e. Perkotaan yang dapat meliputi rumah-rumah tinggal, toko-toko, sekolah-sekolah, rumah sakit, teater-teater dan bangunan lain, fasilitas-fasilitas dan peralatan pegawai kontraktor termasuk tanggungan pegawai tersebut.
 - f. Listrik, fasilitas-fasilitas air dan buangan dan dapat meliputi pembangkit-pembangkit tenaga listrik (yang dapat berupa tenaga air, uap, gas atau diesel), jaringan-jaringan listrik, dam-dam, saluransaluran air, sistem-sistem penyediaan air dan sistem-sistem pembuangan limbah (tailing), air buangan pabrik dan air buangan rumah tangga.
 - g. Fasilitas-fasilitas lain, yang dapat meliputi namun tidak terbatas, bengkel-bengkel mesin, bengkelbengkel pengecoran dan reparasi.
 - h. Semua fasilitas tambahan atau fasilitas lain, Pabrik dan peralatan yang dianggap perlu atau cocok untuk operasi pengusahaan yang berkaitan dengan WIUP atau untuk menyediakan pelayanan atau melaksanakan aktifitas-aktifitas pendukung atau aktifitas yang sifatnya insidentil.

KEENAM : Terhitung sejak 90 (sembilan puluh) hari kerja persetujuan rencana kerja dan anggara Biaya sebagaimana dimaksud dalam diktum kelima Remegang IUP Operati Produksi sa harus memulai aktifitas dilapangan

KETUJUH : Tanpa Mongurangi ketentutan peraturan peraturan perundang-undang n maka IUP dapat diberhentikan sementara, dieabut, stau dibatalkan, apalisha pemegang IUP Operasi Produksi tidak memenuhi kewajiban dan larangan sebagaimana dimaksud dalam diktum Ketiga, Keempat dan Kelima dalam Keputusan ini.

KEDELABAN : Keputusan Bupati Kutai Kartanegara ini mulai berlaku pada tanggal ditetapkan dan apabila terdapat kekeliruan akan diperbaiki sebagaimana mestinya.

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CRADONE

 Dopin Renal Biro Human/Kepala, Biro Keuangan/Kepala Biro P Negeri, Setjan Departempin Emorgi datu Sundor Bara Minaral.
 Sekretaris Direktorat Jendurik Minaral, Bubbatashin Rimas Bumi.
 Biroktur Penthinan Program Minaral, Batubara dan Panas Bumi. ARUN TANP PELS 40/26/MB-PBAT/1V/2010 TELAH DEENKSA KEBENARANNYA DAN ESUA DENGAN ASLINYA CELE APRIL 2010 DIN SPETALENNAS HERTAMBANGAN DAN ENERGI DIN BERKABUTANEN KUTAI KARTANEGARA Ъ, NIP. 19570317. 198001. 1, 001

Tembusan:

- 1. Menteri Brergildan Sumber Deya Mineral
- 2. Menteri Keuangan
- Sckretaris Jenderel Departement Bacryi dan Sumber Daya Mineral
 Inspektur Jenderel Departement Energi dan Sumber Daya Mineral

- Direktur Jenderil Pajak Böpistomen Keuangan
 Direktur Jenderil Perbentidurnan, Departemen Keuangan
- 7. Direktur Jenderal Bendapatan Dierah, Departemen Dalam Negeri
- Gubernur Kalimaatan Timur. Bupati Kutai Kartaheigara 8.
- 9.
- sna Luar

- 14. Direktur Pembinaan Pengusahaan Mineral dan Bandara.
- 15. Direktor Bajak Burni dan Bangunan Departumpen Kerangga.
- 16. Kepste Bines Pertamburgen dan Sumber Daya Misseel Propinsi Kalimentan Timur.
- 17. Kepala Dinas Portambangan dan Emergi Kabupaten Kutai Kartanogara
- 18. DIRENT PT. RENJANI KARTANEGARA



LAMPIRAN II KOORDINAT WILAYAH IZIN USAHA PERTAMBANGAN OPERASI PRODUKSI

: PT. RINJANI KARTANEGARA Nama Perusahaan

Lokasi

- Provinsi : Kalimantan Timur
- Kabupaten : Kutai Kartanegara
- Kecamatan : Loa Janan dan Loa Kulu

: 1.933 Ha

- Komoditas : Batubara
- Luas

- Kode Wilayah

: KTN 2009 1654 OP

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No. Titik	E	Bujur	Timur			Lintang	(LU/LS)	
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3.	116	52	19.36	5	0	44	32.63	LS
4.	116	52	19.30		0	46	02.65	LS
5.	116	51	53.04		0	46	02.65	LS
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10.	116	51	48.20		0	47	56.40	LS
11.	116	51	54.00		0	47	56.40	LS
12.	116	51	54.00		0	47	53.43	LS
13.	116	51	58.61		0	47	53.43	LS
14.	116	51	58.61		0	47	51.20	LS
15.	116	52	04.40		0	47	51.20	LS
16.	116	52	04.40		0	47	45.11	LS
17.	116	52	11.69		0	47	45.11	LS
18.	116	52	11.69		0	47	34.26	LS
19.	116	52	16.44		0	47	34.26	LS
20.	116	52	16.44		0	47	24.45	LS
21.	116	52	22.39		0	47	24.45	LS
22.	116	52	22.39		0	47	17.17	LS
23.	116	52	26.10		0	47	17.17	LS
24.	116	52	26.10		0	47	08.25	LS
25.	116	52	31.60		0	47	08.25	LS
26.	116	52	31.60		0	47	00.08	LS
27.	116	52	38.59		0	47	00.08	LS
28.	116	52	38.59		0	46	57.85	LS
29.	116	52	46.46		0	46	57.85	LS
30.	116	52	46.46		0	46	56.96	LS
31.	116	52	58.21	1	0	46	56.96	LS
32.	116	52	58.21	(0	46	54.43	LS
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37.	116	53	14.41	0	46	52.97	LS
38.	116	53	14.41	0	46	51.16	LS
39.	116	53	23.32	0	46	51.16	LS
40.	116	53	23.32	0	46	49.38	LS
41.	116	53	35.66	0	46	49.38	LS
42.	116	53	35.66	0	46	47.74	LS
43.	116	53	46.36	0	46	47.74	LS
44.	116	53	46.36	0	46	44.77	LS
45.	116	54	00.00	0	46	44.77	LS
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Appendix C – Coal Resource Statement



Appendix D – Coal Reserve Statement



Appendix E – VALMIN Definitions and Glossary



Definitions taken from Section 14 of the VALMIN Code

- **Code Principles** means the fundamental principles of the VALMIN Code, which are Competence, Materiality and Transparency.
- **Commissioning Entity** is the organisation, company or person that commissions a Public Report.
- **Competence** or being **Competent** requires that the Public Report is based on work that is the responsibility of suitably qualified and experienced persons who are subject to an enforceable professional Code of Ethics. Also see Clause 3.2 for guidance on Competence.
- **Effective Date** means the date upon which the Technical Assessment or Valuation is considered to take effect. This may be different from the Valuation Date or the date upon which an event (such as preparation, transaction or site visit) actually occurred or is recorded.
- **Independence** or being **Independent** requires that there is no present or contingent interest in the Assets, nor is there any association with the Commissioning Entity or related parties that is likely to lead to bias. Also see Clause 0 for guidance on Independence.
- Independent Expert Report means a Public Report as may be required by the Corporations Act, the Listing Rules of the ASX or other security exchanges prepared by a Practitioner who is acknowledged as being independent of the Commissioning Entity. Also see ASIC Regulatory Guides RG 111 and RG 112 as well as Clause 5.5 of the VALMIN Code for guidance on Independent Expert Reports.
- **Market Value** means the estimated amount of money (or the cash equivalent of some other consideration) for which the Mineral Asset should exchange on the date of Valuation between a willing buyer and a willing seller in an arm's length transaction after appropriate marketing wherein the parties each acted knowledgeably, prudently and without compulsion. Also see Clause 8.1 for guidance on Market Value.
- **Materiality** or being **Material** requires that a Public Report contains all the relevant information that investors and their professional advisors would reasonably require, and reasonably expect to find in the report, for the purpose of making a reasoned and balanced judgement regarding the Technical Assessment or Mineral Asset Valuation being reported. Where relevant information is not supplied, an explanation must be provided to justify its exclusion. Also see Clause 3.2 for guidance on what is Material.
- **Mineral Asset** means all property including (but not limited to) tangible property, intellectual property, mining and exploration Tenure and other rights held or acquired in connection with the exploration, development of and production from those Tenures. This may include the plant, equipment and infrastructure owned or acquired for the development, extraction and processing of Minerals in connection with that Tenure.

Most Mineral Assets can be classified as either:

 (a) Early-stage Exploration Projects – Tenure holdings where mineralisation may or may not have been identified, but where Mineral Resources have not been identified;



- (b) Advanced Exploration Projects Tenure holdings where considerable exploration has been undertaken and specific targets identified that warrant further detailed evaluation, usually by drill testing, trenching or some other form of detailed geological sampling. A Mineral Resource estimate may or may not have been made, but sufficient work will have been undertaken on at least one prospect to provide both a good understanding of the type of mineralisation present and encouragement that further work will elevate one or more of the prospects to the Mineral Resources category;
- (c) Pre-Development Projects Tenure holdings where Mineral Resources have been identified and their extent estimated (possibly incompletely), but where a decision to proceed with development has not been made. Properties at the early assessment stage, properties for which a decision has been made not to proceed with development, properties on care and maintenance and properties held on retention titles are included in this category if Mineral Resources have been identified, even if no further work is being undertaken;
- (d) Development Projects Tenure holdings for which a decision has been made to proceed with construction or production or both, but which are not yet commissioned or operating at design levels. Economic viability of Development Projects will be proven by at least a Pre-Feasibility Study;
- (e) **Production Projects** Tenure holdings particularly mines, wellfields and processing plants that have been commissioned and are in production.
- **Practitioner** is an Expert as defined in the Corporations Act, who prepares a Public Report on a Technical Assessment or Valuation Report for Mineral Assets. This collective term includes Specialists and Securities Experts. Also see Clause 2 for guidance on Practitioners.
- **Production Target** means a projection or forecast of the amount of Minerals to be extracted from particular Tenure for a period that extends past the current year and the forthcoming year.
- Public Report means a report prepared for the purpose of informing investors or potential investors and their advisers when making investment decisions, or to satisfy regulatory requirements. It includes, but is not limited to, Annual Reports, Quarterly Reports, press releases, Information Memoranda, Technical Assessment Reports, Valuation Reports, Independent Expert Reports, website postings and Public Presentations. Also see Clause 5 for guidance on Public Reports.
- **Reasonableness** implies that an assessment which is impartial, rational, realistic and logical in its treatment of the inputs to a Valuation or Technical Assessment has been used, to the extent that another Practitioner with the same information would make a similar Technical Assessment or Valuation. Also see Clause 4.1 for guidance on Reasonableness and Reasonableness Test.
- **Reasonable Grounds Requirement** has the meaning referred to in sections of the Corporations Act and sections of the Australian Securities and Investments Commission Act 2001 that require statements about future matters to be based on reasonable grounds (as of the date of making the statement) or else they will be taken to be misleading.

Reasonableness Test is defined in clause 4.1(b).



- **Recognised Professional Organisation** means any professional organisation listed on the VALMIN website as a Recognised Professional Organisation (refer to www.valmin.org/competent.asp)
- **Representative Specialists** are persons who are the nominated representative(s) of a legally constituted body, and who supervise the preparation of a Public Report and accept responsibility for it on behalf of that body. Representative Specialists are Specialists.
- Securities has the meaning as defined in the Corporations Act.
- Securities Expert are persons whose profession, reputation or experience provides them with the authority to assess or value Securities in compliance with the requirements of the Corporations Act, ASIC Regulatory Guides and ASX Listing Rules.
- **Specialist** are persons whose profession, reputation or relevant industry experience in a technical discipline (such as geology, mine engineering or metallurgy) provides them with the authority to assess or value Mineral Assets.
- Specialist Report is defined in Clause 5.5.
- **Technical Assessment** is an evaluation prepared by a Specialist of the technical aspects of a Mineral Asset. Depending on the development status of the Mineral Asset, a Technical Assessment may include the review of geology, mining methods, metallurgical processes and recoveries, provision of infrastructure and environmental aspects.
- **Technical Assessment Report** involves the Technical Assessment of elements that may affect the economic benefit of a Mineral Asset.
- **Technical Value** is an assessment of a Mineral Asset's future net economic benefit at the Valuation Date under a set of assumptions deemed most appropriate by a Practitioner, excluding any premium or discount to account for market considerations.
- **Tenure** is any form of title, right, licence, permit or lease granted by the responsible government in accordance with its mining legislation that confers on the holder certain rights to explore for and/or extract agreed minerals that may be (or is known to be) contained. Tenure can include third-party ownership of the Minerals (for example, a royalty stream). Tenure and Title have the same connotation as Tenement.
- **Transparency** or being **Transparent** requires that the reader of a Public Report is provided with sufficient information, the presentation of which is clear and unambiguous, to understand the report and not be misled by this information or by omission of Material information that is known to the Practitioner.
- **Valuation** is the process of determining the monetary Value of a Mineral Asset at a set Valuation Date.
- Valuation Approach means a grouping of valuation methods for which there is a common underlying rationale or basis.
- Valuation Date means the reference date on which the monetary amount of a Valuation in real (dollars of the day) terms is current. This date could be different from the dates of finalisation of the Public Report or the cut-off date of available data. The Valuation Date and date of finalisation of the Public Report **must** not be more than 12 months apart.



- Valuation Methods means a subset of Valuation Approaches and may represent variations on a common rationale or basis.
- Valuation Report expresses an opinion as to monetary Value of a Mineral Asset but specifically excludes commentary on the value of any related Securities.

Value means the Market Value of a Mineral Asset. See definition of Market Value.


Appendix F – VALMIN SMGC Checklist



VALMIN Code, 2015 Edition – SMGC Check List

Section 1 - Introduction

Sub-Section	Requirement	Commentary
1.1 Purpose	 The resulting Public Reports must be reliable. AusIMM Members must adhere to the VALMIN Code regardless of where or for whom the Public Reports are prepared or the location of the Mineral Assets under consideration. 	 As discussed in the Disclaimer. As discussed under Section 1.9. The reader should be aware that this report may not be in compliance with all aspects of the VALMIN Code or ASIC guideline due to incompatibilities between jurisdictions. In general ASIC guidelines have been referred to as guides of best practice to be adhered to where possible.

Section 2 - VALMIN Practitioners

Sub-Section	Requirement	Commentary
	A Practitioner/Specialist must:	As discussed under Section 1.6 of this report.
	• Be Competent in, and have had at least five years of recent and relevant industry experience in relation to, the specific Mineral Asset to be reported upon.	
2.2 Requirements of	• Have at least five years of recent and relevant experience in Technical Assessment, and where a Valuation is being prepared, have at least an additional five years (totalling a minimum of ten years) of recent and relevant experience in the valuation of Mineral Assets.	
Practitioner	• Be a member of a Professional Organisation with an enforceable professional Code of Ethics and understand that a violation of the VALMIN Code may result in an investigation in accordance with the rules of the Professional Organisation.	
	 Be familiar with the VALMIN Code, the JORC Code, the relevant requirements of the Corporations Act, the public policies of ASIC, the ASX or other recognised Securities exchanges, and court decisions that may be relevant to the Public Report being prepared. Have relevant experience of Mineral Assets at the exploration status and development 	



Sub-Section	Requirement	Commentary
	stage of the Mineral Asset being reported upon.	
	 Determining what constitutes relevant experience can be difficult and common sense must be exercised. 	
	• Where there is a clear division of responsibilities, each person must accept responsibility and sign for their own contribution.	
	 Where a Securities Expert participates in the Valuation, they must hold appropriate financial licences. 	

Section 3 - Code Principles

Sub-Section	Requirement	Commentary
3.1 Competence	 Responsibility The Practitioner must be involved in the preparation of the Public Report and may be required to seek assistance from other relevant professionals. Practitioners must be able to demonstrate to the Commissioning Entity and those entitled to receive a Public Report that they are sufficiently Competent to either prepare or contribute to the Public Report. 	 As discussed under Section 1.6 and Section 8 of this report.
3.2 Materiality	 Responsibility All assumptions must be set out clearly in the Public Report, including appropriate reference to confidential information that is not disclosed as described in Clause 6, regarding: (i) Material, technical and commercial parameters; (ii) the risks associated with those assumptions; and (iii) the Valuation Approaches and Valuation Methods used. Any departures from the VALMIN Code must not have a Material effect on the Technical Assessment or Valuation and must be disclosed and justified in the Public Report. Where it is impossible or impracticable to obtain sufficiently accurate or reliable data, this must be stated in the Public Report. 	 All assumptions have been clearly set out in the report including Material technical and commercial parameters (Section 4) with their associated risks (Section 6). No information was declared as confidential to SMGC. Some commercially sensitive information has been excluded from this Public Report. This IQPR did not include a Valuation. No departures from the VALMIN Code have a Material effect on the Technical Assessment. It was possible to obtain sufficiently accurate and reliable data to make the Technical Assessment for RK.



Sub-Section	Requirement	Commentary
	Determination Practitioners must ensure that all Material information is considered.	All Material information has been considered for this IQPR.
3.3 Transparency	 Responsibility Both the process and Public Report must be as Transparent, objective and rigorous as the data and other Material information available to the Practitioner will allow. Conclusions of the Public Report depend on the key assumptions that the Practitioner must reasonably disclose and discuss. Methodology used must be clearly set out in Public Report. 	 The process used and IQPR itself are as transparent, objective and rigorous as the available information and data allowed to support the Technical Assessment. Conclusions were based on key assumptions discussed throughout the report. The Technical Assessment used a cash flow analysis method.

Section 4 – Additional Requirements

Sub-Section	Requirement	Commentary
	Responsibility	The reasonableness of various assumptions, process and and the reasonableness of the reasonable of the reasonab
	The Reasonableness Test means the Practitioner must :	conclusions are discussed throughout the report.
	 (i) perform an impartial assessment to determine if the overall Valuation Approach, Valuation Method and Valuation, or Technical Assessment used is reasonable; 	Section 3.5 discusses the reasonable grounds for inclusion of
	(ii) meet the Reasonable Grounds Requirement;	Other Coal in the LOM plan and financial model.
4.1 Reasonableness	 (iii) make a positive statement that the inputs, assumptions, Valuation Approaches, Valuation Methods and Technical Assessment or Valuation meet the Reasonable Grounds Requirement; and 	Liability is discussed in the Disclaimer.
	(iv) not disclaim liability for the Valuation Approach, Valuation Method and Valuation, or Technical Assessment.	
	Determination	
	 Public Report must not be provided unless a suitably objective Reasonableness Test is applied. 	



Sub-Section	Requirement	Commentary
Sub-Section 4.2 Independence	Requirement Responsibility • Practitioners must familiarise themselves and must conform to the relevant statutory and regulatory definitions and requirements of independence in the relevant jurisdictions. • The Corporations Act and ASIC Regulatory Guidelines are to the effect that Practitioners must be, and must appear to be, Independent when preparing reports for certain transactions. Disclosure • Practitioners must disclose in the Public Report any interest that could be seen as compromising their Independence. Such disclosures must: (i) be made as early as possible to the Commissioning Entity; (ii) be prominently included in the Public Report; (iii) include declaration of any previous reports that the Practitioner has prepared relating to the Mineral Assets being assessed or valued; and 	 As discussed under Section 1.6 of this report. SMGC is independent of RK as defined by SGX mainboard rule 210 (9) (b). Although it has no legal force in Singapore, SMGC is cognisant of the requirements of Australian ASIC regulatory guide RG112 as a standard of best practice. SMGC has made endeavours to comply with RG112 within the context of a Singapore regulatory environment.
	(iv) not absolve the Practitioner from any legal requirement to be Independent.	

Section 5 – Public Report

Sub-Section	Requirement	Commentary
5.1 Intent of Public Report	• The Practitioner must state in the Public Report its specific purpose (and that of any subsidiary reports), its terms of reference and if there are any limitations on its use for other purposes.	 As discussed under Section 1 of this report.



Sub-Section	Requirement	Commentary
	Clear, Concise and Effective	• The report has been written to be clear, concise and effective.
	• Practitioners must be aware of the wording and presentation requirements of the relevant jurisdiction.	
	 Detailed technical information and data must be included in the Public Report if it is Material to the Technical Assessment or Valuation. 	• Detailed technical information has been included where Material.
	Information	
	• A Public Report must contain all the information that the Commissioning Entity (and others, including investors and their professional advisors) would reasonably require and expect to find to make an informed decision about the subject of the Public Report.	 The report includes all information reasonably required and expected for an IQPR.
	• The Practitioner must be familiar with the content requirement of the relevant jurisdiction.	Compliance with SGX Practice note 6.3 Disclosure
	Sources	Requirements for Mineral, Oil and Gas Companies has been tabulated in Appendix H.
	 The Practitioner must state the sources of all Material information and data used in preparing a Public Report. 	 Principle sources of information are provided in Section 1.7 of
5.2 Report Content	• Subject to any confidentiality, regulatory requirements and consents, references to the relevant published and unpublished reports and records must be provided.	this report.
	 The Practitioner must be familiar with the consent requirements of the relevant jurisdiction. 	Consent requirements are covered in the Disclaimer.
	• Practitioners must not rely uncritically on the data and information.	
	• They must undertake suitable checks, enquiries, analyses and verification procedures considered by the Practitioners as meeting the Reasonable Grounds Requirement for the soundness of the inputs that lead to the conclusions drawn in a Public Report.	 Where possible information and data were verified.
	• The data and information must not have been rendered invalid due to the passage of time and circumstance at the date of the Technical Assessment or Valuation.	
	Responsibility	The Practitioner Specialist accepts overall responsibility for the
	• The Specialist must accept responsibility for assessing the technical data and information, interpretations, discussions and conclusions, forecasts and parameters used in a Technical Assessment or Valuation of a Mineral Asset.	contents of the report (see Section 1.6) including contributions by other subject matter Specialists.



Sub-Section	Requirement	Commentary
	 For Mineral Asset Valuations undertaken by the Specialist, the Specialist must also accept responsibility for the Valuation Approach, Valuation Methods and Public Report conclusion. 	
	• Technical Assessments and Valuations of Mineral Assets may be a collaborative effort. Where there is a clear division of responsibilities, each person must accept responsibility for their own contribution.	
	• The Practitioner must clearly state within the Public Report under what conditions the work of other third parties has been relied upon and identify such other persons.	
5.5 Independent Expert/Specialist Report	• When an Independent Expert Report requires a Technical Assessment and/or Valuation of Mineral Assets (the Specialist Report), the Specialist Report must be prepared by a Specialist.	As discussed in Section 1.6.

Section 6 – Commissioning a Public Report

Sub-Section	Requirement	Commentary
6.1 Written Engagement	• When a Practitioner is not an employee of the Commissioning Entity, they must enter into a written agreement with the Commissioning Entity.	 An agreement in the form of a proposal and acceptance has been signed between the Practitioner and the Commissioning Entity.
6.2 Scope	• The written agreement with the Commissioning Entity must cover the scope and purpose of the Public Report.	The written agreement does cover the scope of this Report
	 Fees or the provision of further work to the Practitioner must not be dependent on the: (a) conclusions of the Technical Report; or (b) success or failure of the reason for which the Public Report was commissioned. 	As discussed under Section 1.6 of this report
6.3 Cost	 Time and cost constraints must not compromise the fundamental principles and requirements of the VALMIN Code. Any restrictions negatively affecting the depth of analysis or the extent of detail required must be recorded in the Public Report. The cost of providing the Public Report must be disclosed. 	



Sub-Section	Requirement	Commentary
6.4 Provision of previous Reports	 The Practitioner must seek from the Commissioning Entity the results of any Public Report it commissioned with respect to the Technical Assessment or Valuation of the Mineral Assets in question that could reasonably be considered to be Material. This should include any reports previously commissioned and completed but not made public. If any Material Public Report is not presented to a Practitioner, the Commissioning Entity must ensure that the Practitioner is aware of the omission. The Practitioner must ensure that any resultant reports are qualified accordingly. 	 All the necessary reports were supplied to the Practitioner as listed under Section 1.7 of this report. The Commissioning Entity has acknowledged that all reports have been provided.
6.5 Confidential Information	 A Practitioner must obtain written confirmation from the Commissioning Entity as to whether any information is confidential. Practitioner must take reasonable steps to gain access to all relevant confidential information from the Commissioning Entity. The Practitioner must then inform any other involved professional of any confidential information requirements. The Practitioner must review what aspects of the information needs to be disclosed in the Public Report. 	 The Commissioning Entity has acknowledged that all information has been provided and none was classified as confidential to SMGC. Some commercially sensitive information has been excluded from this Public Report.

Section 7 – Technical Assessment

Sub-Section	Requirement	Commentary		
7.1 Study Terminology	 The terminology used in a Public Report must be consistent with the Definitions and Glossary. 	 Report terminology is consistent with VALMIN Definitions and Glossary attached in Appendix E. 		
7.2 Tenure Status	 Status of Tenure is necessary and must be based on a sufficiently recent inquiry to ensure that the information is accurate for the purposes of the Public Report in question. A Practitioner must determine whether this inquiry is to be conducted by a Specialist or another suitably qualified party, but Tenure that is Material must be or recently have been verified independently of the Commissioning Entity. A Public Report must contain a list of all Material Tenure that is prepared by or on behalf of the Practitioner, unless that information is provided in an accompanying report. 	 As discussed under Section 2.3 of this report. IUP document is attached in Appendix B. 		



Sub-Section	Requirement	Commentary		
	Quality and Reasonableness	As discussed under Section 3 of this report.		
7.3 Mineralisation,	• The Specialist must comment on the quality and Reasonableness of any Mineral Resource or Ore Reserve estimates.			
	• The extent to which they have been reported in accordance with applicable statutory requirements, applicable Listing Rules and the JORC Code must be presented.			
Mineral Resources and Ore Reserves	• Exploration Targets involve forward-looking statements, which must meet the Reasonable Grounds Requirement.			
	Correlation and Causation			
	• Where a comparison has been made with geological situations at other known Mineral occurrences, and there is no causal relationship, such as continuity of geological structures, this must be stated.			
	• A Public Report that deals with current or proposed mining and processing must include:	As discussed under Section 4 of this report.		
	 a description of mining or recovery methods with the relevant forecast and realised mining or recovery statistics; 			
	 (ii) a description of plant, technology and operating practices, together with actual or forecast process plant recoveries from mill feed to marketable products; and 			
	(iii) if relevant, reasons to support any recommendation to reopen facilities that are either on care and maintenance or have been abandoned.			
7.4 Mineral Extraction	• Production Targets involve forward-looking statements, which must meet the Reasonable Grounds Requirement.			
	Practices			
	• Any existing or proposed operating, environmental and social practices must be reviewed to establish the technical, economic, environmental and social feasibility of the operation.			
	Other Factors			
	• A Public Report must disclose any Material existing or potential obstacles to exploring, developing or mining activity related to the Mineral Asset.			



Sub-Section	Requirement	Commentary		
7.5 Capital and Operating Costs	Estimates Where a Public Report includes information relating to projected costs, the Specialist must apply the Reasonableness Test to capital and operating costs and make any adjustments if necessary.	• As discussed under Section 4.7 and Section 4.8 of this report.		
7.6 Revenue	 Assumptions Where a Public Report includes information relating to forecast revenue, it must set out a reasonable basis for price-related assumptions applying to any product(s) derived from the Mineral Asset. A Practitioner must apply the Reasonableness Test to revenue assumptions and make any adjustments if necessary. 	As discussed under Section 4.6.4 of this report.		

Section 8 – Valuation

Sub-Section	Requirement	Commentary		
8.1 Basis of Value	 A Public Report must disclose the basis of value. The basis of value is a statement of the fundamental measurement assumptions of a valuation. A Valuation Report must state the nature of the Value(s) determined and their Valuation Date(s). As the Values of Mineral Assets are likely to fluctuate over time, a Practitioner must ensure that the opinion expressed and the Valuation provided is consistent with circumstances as of the Valuation Date. 	Not applicable to this Technical Assessment.		
8.2 Common Valuation Approaches	• The selection of the Valuation Approach and underlying Valuation Method used is the responsibility of a Practitioner and must not be influenced by the Commissioning Entity or other parties.	 Not applicable to this Technical Assessment. 		
8.3 Appropriate Valuation Approach	 If it is impractical to use two Valuation Approaches, the Practitioner must clearly and unambiguously outline the reasons for not doing so. A Practitioner must make use of Valuation Methods that are suitable for the Mineral Assets under consideration. Selection of an appropriate Valuation Method will depend on such factors as the: 	 Not applicable to this Technical Assessment. 		



Sub-Section	Requirement	Commentary		
	(a) nature of the Valuation;			
	(b) development status of the Mineral Assets; and			
	(c) extent and reliability of available information.			
	• The Practitioner must disclose and discuss in the Public Report the Valuation Method(s) used, having regard to each of these factors so that another Practitioner can understand the procedure and arrive at a similar conclusion within reasonable bounds.			
8.4 In Situ Values	 Consistent with the JORC Code, in ground (in situ) values must not be reported in a Public Report. 	Not applicable to this Technical Assessment.		
8.5 Use of Ore Reserves and Mineral Resources	 All Ore Reserves and Mineral Resources must be considered in a Technical Assessment or Valuation. It may sometimes be appropriate to include other classifications (Non-Proved and Non-Probable), but these must, subject to the Reasonableness Test: (a) meet the minimum reporting requirements of the ASX Listing Rules and guidance, the ASIC Regulatory Guidelines and guidance, and the JORC Code; (b) not include Exploration Targets that have not been converted to Production Targets; (c) be scheduled for extraction behind Proved and Probable Ore Reserves, where practical to do so; (d) include a statement by the Specialist that confirms the appropriateness of the Modifying Factors along with a description of their level of certainty relative to those of a Feasibility Study or Pre-Feasibility Study; and (e) be discounted in a manner that is commensurate with the increased uncertainty. 	Not applicable to this Technical Assessment.		
8.6 Range	 A range of values (high/most likely/low) must be determined and stated in a Public Report to reflect any uncertainties in the data and the interaction of the various assumptions made; however, the range should not be so wide as to render the conclusion of the Public Report meaningless. A Public Report should also include a sensitivity analysis showing the effects of changing the most significant assumptions. In all cases, a most likely outcome should be identified. Any reasons for not doing so must be stated in the Public Report. 	 Not applicable to this Technical Assessment. 		



Sub-Section	Requirement	Commentary	
8.7 Market Premium or Discount	• When a premium or discount is used in determining a Market Value, a Practitioner must state how these have been taken into account.	Not applicable to this Technical Assessment.	

Section 9 – Financial Modelling

Sub-Section	Requirement	Commentary		
9.1 Taxation and Royalties	• The basis for using income tax and other taxes, royalties, cost escalation, inflation and exchange rates in a cash flow model for Valuation purposes must be stated in the Public Report.	 As discussed under Section 4.9 of this report. 		
9.4 Forecasts	• Financial models use forecast assumptions. Such forecasts may be considered forward- looking statements and therefore the Practitioner must be familiar with the relevant requirements about such statements.	As discussed under Section 4.6.4 of this report.		

Section 10 – Other

Sub-Section	Requirement	Commentary		
10.1 Site Inspection	• If an inspection is not made, the Specialist must be satisfied that there is sufficient current information available to allow an informed evaluation to be made without an inspection and must declare the reasons for not undertaking a site visit.	 As discussed under Section 1.8 of this report. 		
	• Any decision not to conduct an inspection must be made by the Specialist and not by the Commissioning Entity and the reason must be disclosed in the Public Report.			
10.3 Records	• A Practitioner must keep records for a minimum of seven years of all correspondence and discussions with the Commissioning Entity, a list of all documents referred to in the Public Report and, subject to confidentiality agreement provisions, copies of all Material source documents.	 Records of documents and correspondence will be kept for at least 7 years. 		



Sub-Section	Requirement	Commentary		
10.4 Indemnities	 A Practitioner should obtain an indemnity from the Commissioning Entity under which they will be compensated for any liability: (a) resulting from their reliance on information provided by the Commissioning Entity that is Materially inaccurate or incomplete; and (b) relating to any consequential extension of workload through queries, questions or public hearings arising from the Public Report. Such an indemnity does not absolve a Practitioner from critically examining the information provided. A Public Report must disclose the nature and Material details of any such indemnity. 	 The Commissioning Entity has provided acknowledgement that indemnity will be provided. 		

Section 12 – Declarations

Sub-Section	Requirement	Commentary		
12.1 Standard	 A Practitioner must declare in a Public Report that the report has been prepared in accordance with the VALMIN Code or indicate those areas where the report is not and explain why this is so. The name of the Practitioner responsible for the Public Report must be included and the Practitioner must sign off on the Public Report. The Public Report must be based on and fairly reflect the information and supporting documentation prepared by a Practitioner. A Commissioning Entity issuing a Public Report shall disclose the name of the Practitioner, state whether the Practitioner is a permanent employee of the company and, if not, name the Practitioner's employer. The report shall be issued with the written consent of the Practitioner as to the form and context in which it appears. Documentation detailing Technical Assessment and Valuation of Mineral Assets on which a Public Report on the Technical Assessment or Valuation is based must be prepared by, or under the direction of and signed by, a Practitioner. 	 As discussed under Section 1.9 of this report. The Practitioner has signed-off the report in Section 8. The report has been based on and fairly reflects the information and supporting documentation prepared by the Practitioner. Details of the Practitioner are provided in Sections 1.6 and 8. Consent by the Practitioner is covered in the Disclaimer. 		



Sub-Section	Requirement	Commentary As discussed under Appendix A of this report. 		
12.3 Qualifications and Organisations	 A Public Report must state a Practitioner's name, qualifications, memberships of Professional Organisations, relevant experience and any requisite licence details. Practitioners must identify the nature and contribution of each author to the Public Report. 			
12.4 Sign-Off	 A Practitioner must not sign a Public Report unless the Commissioning Entity has confirmed in writing that: (a) full, accurate and true disclosure of all Material information has been made to the Practitioner; (b) all necessary access to the Commissioning Entity's personnel and records has been assured; (c) whether any information from the Commissioning Entity is confidential; and (d) the integrity of the Practitioner and the conclusion of the Public Report have not been compromised. The Practitioner must be provided with a draft of the Public Report so that the Practitioner can consent in writing to the form and context in which the Practitioner's report will appear. 	 The Commissioning Entity has provided acknowledgement that all Material information and data has been provided. A draft of the public report must be provided to the Practitioner so consent can be given in writing before publication. 		



J1613 - February 2017 J1613_RK_IQPR_22Mar2017_v16 Appendix G – Appendix 7D of The SGX Catalist Rules



SUMMARY OF RESERVES AND RESOURCES

Cross-referenced from Rules 440, 441, 704(35), 705(7), 1014(2), 1204(23) and Practice Note 4C

The following information is provided for each asset of the issuer. The format of this table is not in compliance with the JORC Code and should not be disclosed separate to this report.

1. Summary of Mineral Reserves and Resources

Name of Asset/Country: PT Rinjani Kartanegara/Indonesia

Category	Mineral Type		oss Attributable N to Licence ⁽¹⁾		Net Attributable to issuer		Remarks
		Tonnes (millions)	Grade	Tonnes (millions)	Grade	Change from previous update ⁽²⁾ (%)	
Reserve	es ⁽⁵⁾						
Proved	Coal	2.1	Subbituminous A	1.7	Subbituminous A	50 %	Change due to production, new exploration and revised mine plan
Probable	Coal	0.8	Subbituminous A	0.6	Subbituminous A	- 39 %	Change due to production, new exploration and revised mine plan
Total	Coal	2.9	Subbituminous A	2.3	Subbituminous A	7 %	Change due to production, new exploration and revised mine plan
Resourc	ces ^(3 & 5)						
Measured	Coal	10.3	Subbituminous A	8.2	Subbituminous A	- 9 %	Change due to production, remodelling after new exploration and in-pit dumping
Indicated	Coal	3.8	Subbituminous A	3.0	Subbituminous A	6 %	Change due to production, remodelling after new exploration and in-pit dumping
Inferred	Coal	1.4	Subbituminous A	1.1	Subbituminous A	- 70 %	Change due to production, remodelling after new exploration and in-pit dumping
Total	Coal	15.5	Subbituminous A	12.4	Subbituminous A	- 21 %	Change due to production, remodelling after new exploration and in-pit dumping

Notes:

(1) Licence refers to PT Rinjani Kartanegara Production Operation IUP.

(2) Previous Coal Reserves and Coal Resources estimates were reported as at 31st December 2015.

(3) Resources are inclusive of Reserves.

(4) The results presented are rounded to reflect the accuracy of the estimates. Minor discrepancies are due to rounding and are not considered Material by SMGC.

(5) Resources and Reserves are reported in accordance with SMGC's interpretation of the JORC Code 2012 Edition.

Name of Qualified Person: Keith Whitchurch

Date: As of 31st December 2016

Professional Society Affiliation / Membership: BE(Hons) MengSci MAusIMM CP(min) RPEQ PERHAPI



Appendix H – SGX Disclosure Requirements for Mineral, Oil and Gas Companies



Practice Note 6.3 Disclosure Requirements for Mineral, Oil and Gas Companies

Qualified Persons Report Section 5.4

SI. No.	Criteria	Explanation
(a)	Title page	Front cover.
(b)	Table of contents	As provided in page i - v
(c)	Executive summary	As provided in page 12 - 16
(d)	 Introduction Full name, and if applicable, the partner/director in charge of the report; professional qualifications, years of relevant experience, Professional Society Affiliations and Membership (including details of a recognised professional association) of the qualified person and the address of the qualified person's firm/company Statement of independence by the qualified person, if the report is prepared by an independent qualified person who meets the requirements in Rule 210(9)(b) Aim of the report Scope of the report Statement on the use of the report Basis of the report - including data sources, data validation and reliance on other experts Standard used Whether a site visit has been undertaken (if so, when the site visit was undertaken and by whom and if a site visit has not been undertaken a 	 As discussed in Section 1.6 and Section 8. As provided in Section 1.6. As discussed in Section 1.3. As discussed in Section 1.2. As discussed in the Disclaimer. As discussed in Section 1.6 and Section 1.7. As discussed in Section 1.1. As discussed in Section 1.8.
(e)	 satisfactory reason as to why not). Property description, size, location, access, natural and cultural environment listing applicant's/issuer's assets and liabilities, including the following summary table of assets: Nature and extent of listing applicant's/issuer's rights of exploration or extraction Asset name/ Country Issuer's interest (%) Development Status Licence expiry date Licence area Type of mineral Remarks 	 The tenure is held under an Operation Production IUP. As discussed in Sections 2.1 and 2.3. RPG's Interest 79.84 % As discussed in Section 2.3.
	• Description of the economic conditions for the working of the licenses, concessions or similar, with details of the duration and other principal terms and	As discussed in Section 2.3 and Section 2.4.



(i) Resource and reserve estimates and exploration results, as applicable, in accordance with the relevant Standard, including a summary of reserves and resources in the form of Appendix 7.5 (or 7D for Catalyst) • Resource report - Appent (k) • Planned extraction method, • As discussed in Section Appendix D. (k) • Processing method, • As discussed in Section Appendix D. • Considerations including social, environmental, health and safety factors that may affect exploration and/or exploitation activities; and production schedule, if applicable • As discussed in Section (I) Financial analysis of the operations, taxes, liabilities, marketing if applicable • As discussed in Section 1.7. (p) Date and signature page • As listed in Section 8. (q) Illustrations — of sufficient clarity to graphically present the material within the text. Maps must include a legend to explain • Included throughout the	
any production historySection 4.1 of Appendix(g)Geological and geophysical setting, type and characteristics of the deposit/accumulationAs discussed in Sect Appendix C.(h)Exploration data including drilling and sampling, sample analysesAs discussed in Appendix(i)Mineral processing and metallurgical testing, if applicable as applicable, in accordance with the relevant Standard, including a summary of reserves and resources in the form of Appendix 7.5 (or 7D for Catalyst)As discussed in Section Appendix 7D - Appendix(k)• Planned extraction method, • Capital costs, • Operating costs, • Operating costs, • Considerations including social, environmental, health and safety factors that may affect exploration and/or exploitation activities; and production schedule, if applicable• As discussed in Section • As discussed in Se	
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the material within the text. Maps must include a geographical reference system and scale bar for clarity. Technical drawings must include a legend to explain	
features within the diagram.	report.
(r) Appendices and glossary of terms used, if required • Definitions and glossary in Appendix E.	y are included

