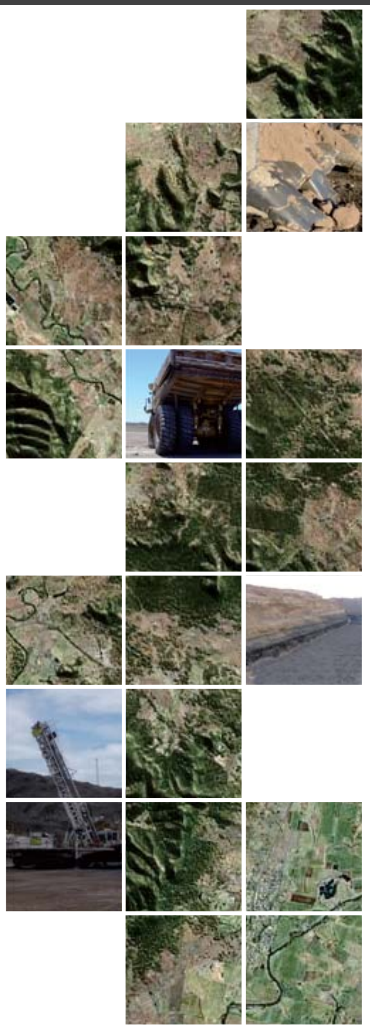
# Qualified Persons Report
# PT Rinjani Kartanegara Coal Concession
# 30 June 2015

**Prepared For :**

## PT Rinjani Kartanegara



PT SMG CONSULTANTS

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# DISCLAIMER

PT SMG Consultants (SMGC) has prepared this report for the exclusive use of PT Rinjani Kartanegara (RJN). The report is intended to serve as a qualified persons report prepared according to the VALMIN Code, on the RJN coal concession located in Kutai Kartanegara Regency, East Kalimantan Province, Indonesia. The report must be read in light of:

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- the limitations and assumptions referred to throughout the report;
- the limited scope of the report; 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 RJN. SMGC accepts no liability for the accuracy or completeness of the information and data provided by RJN 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.

### Assumptions

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

All relevant documentation, 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 document that contain forward looking statements may be identified by the use of forward looking words such as "estimates", “plans”, "intends", "expects", "proposes", "may", "will" and include, without limitation, statements regarding SMGC’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.

It must be noted that the ability to develop infrastructure and bring into operation the proposed mines 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.

### Limitations

No physical oversight or verification has been made for:

- Laboratory practices and standards compliance.

# ABBREVIATIONS

| | |
|---|---|
| ad | air dried, being a basis of measurement of coal quality |
| adb | air dried basis, being a basis of measurement of coal quality |
| AMDAL | 'Analisis Mengenai Dampak Lingkungan' - 'Environmental Impact Assessment' which contains 3 sections: the ANDAL, the RKL and the RPL |
| ANDAL | 'Analisis Dampak Lingkungan' component of the AMDAL that reports the significant environmental impacts of the proposed mining activity |
| ar | as received, being a basis of measurement of coal quality |
| arb | as received basis |
| ARD | Acid Rock Drainage |
| ASTM | American Society for Testing and Materials |
| bcm | bank cubic metre |
| capex | capital costs |
| CCoW | Coal Contract of Work |
| CHPP | Coal Handling and Processing Plant |
| CV | Calorific value – the measure of energy (kilocalorie) per kilogram |
| DCF | Discounted cash flow |
| DGMC | Directorate General of Minerals and Coal within the Ministry of Energy and Mineral Resources |
| FC | Fixed carbon (%) |
| gar | gross as received, being a basis of measurement of coal quality |
| ha | hectare |
| HE | Hydraulic Excavator |
| HGI | Hardgrove Grindability Index |
| h | hour |
| IM | Inherent Moisture |
| IPPKH | 'Izin Pinjam Pakai Kawasan Hutan' which translates to a borrow to use permit in a production forest |
| IRR | Internal Rate of Return |
| IUP | 'Izin Usaha Pertambangan' which translates to 'Mining Business Licence' |
| JORC | The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia |
| kcal/kg | Unit of energy (kilocalorie) per kilogram |
| kg | kilogram |
| km | kilometre |
| kt | kilo tonne (one thousand tonne) |
| kV | kilovolt |
| L | Litre |
| LAS | log ASCII standard |
| lcm | loose cubic metre |
| LIDAR | Light Detection and Ranging |
| LOM | Life of Mine |
| $m^3$ | Cubic Metre |
| m | metre |
| M | Million |
| Mbcm | Million bank cubic metres |
| Mbcmpa | Million bank cubic metres per annum |
| MEMR | Ministry of Energy and Mineral Resources within the central government |
| 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 |
| pa | per annum |
| PAF | Potential Acid Forming |
| PKP2B | 'Perjanjian Kerjasama Pengusahaan Pertambangan Batubara' – same as CCoW |
| PMA | Penanaman Modal Asing – Foreign Investment |
| PPE | Personal Protective Equipment |
| RD | Relative Density |
| RKL | 'Rencana Pengelolaan Lingkungan' - environmental management plan |
| RPL | 'Rencana Pemantauan Lingkungan' - environmental monitoring plan |
| RL | Relative Level - survey reference for height of landforms above a datum level |
| ROM | Run-of-Mine |
| RPL | 'Rencana Pemantauan Lingkungan' - environmental monitoring plan |
| SE | Specific Energy |
| SMGC | PT SMG Consultants |
| SR | Strip ratio (of waste to ROM coal) expressed as bcm per tonne |
| ST | Seam Thickness |
| t | tonne |
| tkm | tonne kilometre |
| TM | Total Moisture |
| t/m3 | tonne per cubic metre |
| tph | tonne per hour |
| TS | Total Sulphur |
| TM | Total moisture (%) |
| USD | United States Dollar |
| VALMIN | The VALMIN Code |
| VM | Volatile Matter (%) |
| WACC | Weighted Average Cost of Capital |

# RELEVANT REPORTS AND DOCUMENTS

1. Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (VALMIN Code)
2. Preston, KB and Sanders, RH, "Estimating the In-situ Relative Density of Coal", Australian Coal Geology, Vol 9, pp22-26, May 1993.
3. Australian Guidelines for Estimating and Reporting of Inventory Coal, Coal Resources and Coal Reserves, 2003.
4. The 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code).
5. Coal Resource Statement for PT Rinjani Kartanegara April 2015 by PT SMG Consultants
6. Coal Reserve Statement for PT Rinjani Kartanegara April 2015 by PT SMG Consultants

# EXECUTIVE SUMMARY

## BACKGROUND

PT SMGC Consultants (SMGC) was engaged by PT Rinjani Kartanegara (RJN) to prepare an updated Qualified Persons Report (QPR) for its coal concession located in Kutai Kartanegara Regency, East Kalimantan Province, Indonesia. This QPR has been prepared in accordance with SMGC's interpretation of the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (VALMIN Code). The report is intended to comply with Practice Note 4C – Disclosure Requirements for Mineral, Oil and Gas Companies of the SGX Catalist Rules. Where Practice Note 4C is in conflict with the VALMIN or JORC Codes the codes have been followed.

Resources and Reserves have been estimated for the concession and are dated 31 March 2015. Resources and Reserves are reported in conformance with the requirements 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 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 RJN concession is held under an Izin Usaha Pertambangan (Operasi Producksi) which was signed on 4 November 2009 and is valid until 21 November 2021. The concession covers an area of 1,933 Ha. The entire concession is classified as Hutan Produksi (Production Forest) and thus a Borrow to Use Permit or 'Izin Pinjam Pakai Kawasan Hutan' (IPPKH) is required from the Indonesian Forestry Department before construction and mining operations can take place. RJN have been issued with an IPPKH over a limited area of approximately 308 Ha including the mine, haul road and other infrastructure. This IPPKH is not sufficient to mine all the Reserves in this estimate, and RJN have already been forced to commence dumping in-pit due to this constraint, resulting in the sterilisation of coal that would otherwise have been economic to mine. Further sterilisation of Reserves will be required during 2015 to enable production to continue until an extension is approved.

RJN informed SMGC that they have submitted an application for an extended IPPKH over the entire concession area and have provided details regarding the status of that application. At the time of preparation of the previous Reserve estimate (dated 31 March 2014), it was expected that the IPPKH extension would be approved by the end of December 2014. At the time of writing this report the IPPKH extension had still not been approved. RJN provided details on the primary reason for the delay in the application process, which was also independently verified by SMGC. RJN stated that they had resolved this issue in early 2015 and provided evidence of this to SMGC. This was also independently verified by SMGC.

Resolution of this issue will allow the application process for the extension to proceed. SMGC have been advised by both RJN and other independent parties that the resolution of this issue significantly increases the confidence in the timeframe for approval of the extension. The timeframe for approval of the extension at the central government level is also supported by recent regulations that specify the timeframe for processing of the application. Based on this information, the latest estimate for approval of the extended IPPKH is 31 July 2015. It should be noted that while SMGC considers that there is a higher level of confidence that the IPPKH extension can be approved by this date, it is still not possible to make any guarantee or warranty that this can be achieved.

SMGC were also provided with records and maps for land acquisition and compensation for the RJN concession. The majority of the area within the current IPPKH boundary has either already been compensated or the cost of compensation has been agreed and down payments made. SMGC is of the opinion that sufficient land has been compensated to allow mining to continue in the short term and that adequate processes appear to be in place to manage land acquisition and compensation.

## GEOLOGY AND EXPLORATION

The RJN 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. 25 coal seams have been intersected in the exploration that has been undertaken to date and several of these seams are characterised by first phase seam splitting.

RJN provided SMGC with all exploration data collected to date. Exploration has been confined to the existing IPPKH boundary and a total of 184 boreholes have been drilled of which 89 were core holes. Only 86 of the core holes with valid down-hole logs and surveyed collar locations were considered in the geological modelling. Other exploration data provided by RJN included Light Detection and Radar (LiDAR) topographical data for the concession, channel sample lithology and laboratory analysis results, and topographic surveys of the mined out pits and dumps as at the end of March 2015.

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 B coal, (ASTM – Guidebook of Thermal Coal page 35).

## MINING OPERATIONS

The RJN mine is an open pit mining operation using excavator and truck mining methods, typical of most Indonesian coal mining operations. Mining of waste and coal is performed by the mining contractor PT Cipta Kridatama (CK). Waste is mined using hydraulic excavators ranging from 100 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 RJN 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. No drill and blast operations have commenced and waste mining is mostly free digging, with some limited ripping of waste. Drill and blast will be necessary as the pit gets deeper. SMGC undertook site visits to the operation during August 2012, October 2013 and April 2015. 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 31 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 then 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 RJN operation is the close proximity of the port stockpile to community housing. While RJN have installed nets between the stockpile and the houses, SMGC is of the opinion that these will not have a large impact on dust and the issues will remain. It is considered likely that RJN will be required to compensate the owners of the houses in this area in the future to address this issue. SMGC have allocated an additional amount of USD 600,000 per annum to operating costs to account for managing this risk. Safety and environmental incident reports and statistics were provided by RJN, 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 RJN concession were completed by SMGC during April 2015. These estimates have been reported in conformance with the 2012 JORC Code and are stated as at 31 March 2015, which is the date of the mined out and dump surveys provided by RJN. The results of these estimates are shown in Table 1.

**Table 1 – Resource and Reserve Estimates for RJN Concession as at 31 March 2015**

| Category | Measured (Mt) | Indicated (Mt) | Inferred (Mt) | TOTAL (Mt) |
|---|---|---|---|---|
| Coal Resources | 14.0 | 4.0 | 4.7 | 22.7 |

*NOTE: The Coal Resources estimates shown are calculated using density estimated on an air dried basis.*

| Category | Proved (Mt) | Probable (Mt) | TOTAL (Mt) |
|---|---|---|---|
| Open Cut ROM Coal Reserves | 3.3 | 1.1 | 4.4 |
| Marketable Coal Reserves | 3.3 | 1.1 | 4.4 |

*NOTE: - The Coal Reserve estimates shown are on an as received basis.*
*- 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 RJN Project Area has been calculated, reviewed and verified by SMGC's Principal Geologist Mr. Mark Manners, 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. Manners 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 RJN Project Area has been calculated, reviewed and verified by Mr. Joshua Cochrane, who is contracted to SMGC 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. Cochrane 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 RJN 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 RJN.

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 increases in real prices over the life of the project. A summary of key project parameters including financial parameters is shown in Table 2.

**Table 2 – Summary of Key Project Parameters**

| Parameter | Value | Unit | Description |
|---|---|---|---|
| Waste Mined | 73 | Mbcm | Total waste mined over LOM including rehandle |
| Coal Produced | 5.9 | Mt | Total coal produced over life of mine |
| Stripping Ratio | 12.1 | bcm:t | Average stripping ratio (excludes rehandle) |
| Maximum Production | 1.1 | Mtpa | Maximum production rate achieved over LOM |
| Years of Production | 7 | years | Number of years of coal production |
| Average CV (gar) | 5,678 | kcal/kg | Average gross as received CV of coal produced |
| Average Coal Price | 69.91 | USD / t | Average coal price received (real terms) |
| Average Operating Cost | 58.48 | USD / t | Average operating cost over LOM FOB vessel |
| Total Capital Expenditure | 9 | USD million | All capital expenditure except ongoing replacement |
| Replacement Capital pa | 0.9 | USD million | Average annual expenditure over life of mine. |
| Royalty Rate | 9.0 | % revenue | Likely increases in 2015, based on FOB barge price |
| Corporate Tax Rate | 25 | % EBT | Indonesian corporate tax rate |
| Rate of Inflation | 2.4 | % pa | Convert between real and nominal cash flows |

It must be noted that the pit design that was used to estimate the Reserves for the RJN concession contains a significant proportion of coal Resources that are not classified as Measured or Indicated. Under the JORC Code, these Resources cannot be converted to and reported as Reserves. While this coal was not reported as a Reserve, this coal is included in the mine plan that was completed for the deposit. Approximately 25 % of the coal in the production schedule is not classified as a Reserve.

The largest area of coal inside the final pit design that is not classified as a Reserve is on the Western part of the pit. The primary reason for this is that the area that could be drilled was limited by the current IPPKH boundary. This area has been included in the pit design as it is considered likely that the final pit design will continue into this area, and that the waste balance and waste haul distances will be more realistic and accurate if this material is included. There is also other coal in the pit design not classified as a Reserve that could not be excluded as this would have resulted in an impractical pit design or was important for the mine plan. The reason that this coal is not reported as a Reserve is because this coal was not sampled and analysed with sufficient core recovery, although there are generally open-hole intersections with geophysics to confirm the existence of the seams.

SMGC notes that any user of this pit design and the associated mine plan should be aware of the contained coal that is not classified as Measured or Indicated and that this should be taken into account in any decisions made based on this analysis.

# QUALIFIED PERSON

This report was prepared on behalf of SMGC by Mr. Keith Whitchurch, BE (Mining), MEngSci, MAusIMM (CP), RPEQ, assisted by the subject specialists whose qualifications and experience are set out in Appendix A of this report. Mr. Whitchurch is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Whitchurch is the President Director of PT SMGC Consultants which is located at Sampoerna Strategic Square, North Tower, 18th Floor. Jl Jenderal Sudirman Kav. 45-46 Jakarta Selatan 12930 Indonesia.

Mr. Whitchurch has in excess of 30 years' 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 2012 Edition of the JORC Code).

PT SMG Consultants were born out of Australia's leading role in global geological and mining software development in the 1960s. The original parent company was founded in Sydney in 1966. In July 2009, PT SMG Consultants was founded in Indonesia. PT SMG Consultants has been established in Indonesia as an independent mining consulting group providing geological, Resource evaluation, mining engineering and mine valuation services to the Resources and financial services industry. SMGC works across the following minerals: Coal, Gold, Manganese, Nickel, Bauxite, Iron Ore and many other bulk commodities and base metals.

# STATEMENT OF INDEPENDENCE

SMGC has been engaged by PT Rinjani Kartanegara on a number of assignments. These prior assignments have included the estimation of Resources and Reserves for the RJN concession and the completion of a Qualified Persons Report (QPR) of the concession which was dated April 2014. The most recent Resource and Reserve estimates were completed in April 2015.

SMGC has been paid professional fees by PT Rinjani Kartanegara for the preparation of this report. The fees paid were not dependent in any way on the outcome of the technical assessment. SMGC is independent from PT Rinjani Kartanegara. No SMGC staff or specialists who contributed to this report have any interest or entitlement, direct or indirect, in the Company, the mining assets under review, or the outcome of this report.

Keith D. Whitchurch

BE Mining (Hons) MEngSci MAusIMM(CP) RPEQ

# 1. INTRODUCTION

## 1.1 OBJECTIVES

PT SMGC Consultants (SMGC) was engaged by PT Rinjani Kertanegara (RJN) to prepare an updated Qualified Persons Report (QPR) for its coal concession located in Kutai Kartanegara Regency, East Kalimantan Province, Indonesia.

This QPR has been prepared in accordance with SMGC's interpretation of the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (VALMIN Code). The report is intended to comply with Practice Note 4C – Disclosure Requirements for Mineral, Oil and Gas Companies of the SGX Catalist Rules. Tenure at RJN consists of a single concession. The Issuer is Sky One Holdings Ltd who owns 100 % of Energy Prima Pte Ltd (a private Singapore Company). Energy Prima Pte Ltd owns 80 % of PT Pilar Mas Utama Perkasa (a PMA Company). PT Pilar Mas Utama Perkasa owns 99.8 % PT Rinjani Kartanegara.

## 1.2 SCOPE

The scope of the project was to prepare an updated Independent Qualified Persons Report for the RJN concession in compliance with the Valmin Code. The QPR applies to the concession itself and not the holding company, and thus the following factors were not accounted for:

- 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.

Resources and Reserves have been estimated for the concession and are stated as at 31 March 2015. Resources and Reserves are reported in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code) as prepared by the Joint Ore Reserves Committee of The Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia.

While estimation of operating costs, capital costs and other economic considerations are included in the scope of work; this report is not a valuation report and does not include an opinion of the value of the concession.

## 1.3 LIMITATIONS

It is important to note when considering this report that exploration information relies on interpretation of a relatively small statistical sample of the deposit being studied; thus a variety of interpretations may be possible from the data available. Investors should note that the statements and diagrams in this report are based on the best information available at the time, but may not necessarily be absolutely correct. Such statements and diagrams are subject to change or refinement as new exploration makes new data available, or new research alters prevailing geological concepts. Appraisal of all the information mentioned above forms the basis for this report.

Possible sources of error are discussed in more detail in the relevant sections of the report. The views and conclusions expressed are solely those of SMGC. When conclusions and interpretations credited specifically to other parties are discussed within the report, then these are not necessarily the views of SMGC.

## 1.4 PRINCIPAL SOURCES OF INFORMATION

The information used in the preparation of this report was primarily supplied by RJN. Representatives of SMGC have visited the site on 3 occasions during August 2012, October 2013, and April 2015. Numerous discussions and meetings between SMGC and RJN have also been undertaken during the period of preparation of this report. Key data provided to SMGC by RJN included the following:

- A copy of the coal mining service contract for the mining contractor and addendums to this contract;
- Copies of the coal hauling contracts for hauling contractors;
- A copy of the tenement documents (IUP);
- A copy of the current Izin Pinjam Pakai Kawasan Hutan (IPPKH), the proposed extension to the IPPKH and key documents pertaining to the application for extension of the IPPKH;
- Copies of other operating and construction permits for the mine;
- Historical production data from June 2012 to March 2015;
- Copies of all shipping certificate data up to early April 2015;
- Topographic survey data for the concession including a LiDAR survey, post clearing surveys, monthly surveys of mined out areas, dumps and actual coal seam roof and floor;
- A complete list of available equipment on site (contractor's and RJN fleets);
- Equipment performance database;
- Information regarding legal status of the concession from discussions with the law firm Ali Budiardjo, Nugroho, Reksodiputro (ABNR); and
- A copy of land compensation payments made for the concession, haul road and port stockpile.

All estimates of tonnes contained in this document are on an as received basis, unless otherwise stated. The methodology for the estimate of in-situ tonnes is described in Section 5.6 of Appendix D.

# 2. RESOURCES, RESERVES AND OTHER COAL

This section discusses the Resources, Reserves and other coal that has been considered in the review of the RJN concession. Resources and Reserves are presented in the format prescribed in “Appendix 7D of the SGX Catalist rules” in Appendix B of this report.

## 2.1 CONCESSION OVERVIEW

Mining operations in the RJN concession commenced in June 2012. SMGC was provided with production records from the start of operations to the end of March 2015. Resources and Reserves have been calculated using mined out surfaces dated 31 March 2015.

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

## 2.2 RESOURCES

An independent estimate of Resources within the RJN concession was prepared by SMGC and Resources are stated as at 31 March 2015. This estimate was reported in compliance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code) as prepared by the Joint Ore Reserves Committee of The Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia. This was the most up to date Resource report at the time of writing this RJN Qualified Persons Report.

The Coal Resource Estimate was compiled by Mr. Mark Manners of SMGC. Mr. Manners 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 2012 JORC code. Mr. Manners consents to the inclusion in this report of the information pertaining to Coal Resources in the form and context in which it appears.

This Resource report is attached in Appendix C and the reader is referred to this document 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 RJN concession including the number of boreholes, borehole locations and spacing, drilling and sampling methods;
- The 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;
- Ore body geometry and dimensions; and
- Ore body modelling techniques and procedures.

The Resource estimate by seam from this report is shown in Table 2.1 and the estimate summary is shown in Table 2.2. Tonnes and quality of Resources for each seam can be found in Appendix C. SMGC considers that this Resource estimate has been prepared and reported in compliance with the JORC code and is reasonable and suitable for the purpose of this study.

### Table 2.1 – Total Resource Tonnage by Seam as at 31 March 2015

| SEAM | MEASURED (Mt) | INDICATED (Mt) | INFERRED (Mt) | By seam (Mt) |
|---|---|---|---|---|
| S5 | 0.0 | 0.0 | 0.4 | 0.4 |
| S10U | 0.0 | 0.0 | 0.1 | 0.1 |
| 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 | 0.0 | 0.1 | 0.1 | 0.2 |
| S30U | 0.3 | 0.2 | 0.1 | 0.6 |
| S30L | 0.3 | 0.2 | 0.1 | 0.5 |
| S40 | 0.4 | 0.1 | 0.0 | 0.5 |
| S40L | 0.0 | 0.0 | 0.0 | 0.0 |
| S50U | 0.0 | 0.0 | 0.0 | 0.0 |
| S50 | 0.4 | 0.1 | 0.0 | 0.5 |
| S50L | 0.0 | 0.0 | 0.0 | 0.0 |
| S100 | 0.1 | 0.1 | 0.1 | 0.3 |
| S200 | 2.0 | 0.4 | 0.3 | 2.8 |
| S300 | 2.5 | 0.5 | 0.4 | 3.3 |
| S400 | 0.9 | 0.1 | 0.2 | 1.1 |
| S500 | 2.8 | 0.5 | 0.5 | 3.8 |
| S600 | 0.9 | 0.2 | 0.2 | 1.2 |
| S700 | 2.2 | 0.7 | 0.9 | 3.8 |
| S790 | 0.1 | 0.1 | 0.0 | 0.1 |
| S800 | 0.7 | 0.5 | 0.3 | 1.5 |
| S900 | 0.3 | 0.2 | 0.3 | 0.7 |
| S1000 | 0.2 | 0.2 | 0.5 | 0.9 |
| S1050 | 0.0 | 0.0 | 0.2 | 0.2 |
| **TOTAL** | **14.0** | **4.0** | **4.7** | **22.7** |

** There may be minor discrepancies in the above table due to rounding of tonnage, these are not considered material by SMGC.*

** All tonnes shown in this table are calculated using density that has been estimated on an air dried basis.*

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

### Table 2.2 – Resource Estimates by Classification Category at 31 March 2015

| | MEASURED Mt | INDICATED Mt | INFERRED Mt | TOTAL Mt |
|---|---|---|---|---|
| **TOTAL** | **14.0** | **4.0** | **4.7** | **22.7** |

** All tonnes shown in this table are calculated using density that has been estimated on an air dried basis.*

## 2.3 RESERVES

An independent estimate of the Reserves within the RJN concession was prepared by SMGC and Reserves are stated as at 31 March 2015. This estimate was reported in compliance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code) as prepared by the Joint Ore Reserves Committee of The Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia. This was the most up to date Reserve report at the time of writing this RJN Qualified Persons Report.

The Coal Reserve estimates were prepared by Mr. Joshua Cochrane who is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Cochrane has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Mr. Cochrane consents to the inclusion in this report of the information pertaining to Coal Reserves in the form and context in which it appears.

The Reserve report is attached in Appendix D and the reader is referred to this document for a detailed discussion of the Reserve estimates 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 ore body;
- Waste dumping requirements and potential Reserves sterilised by dumping;
- Mining loss, dilution and minimum mining thickness factors; and
- Methodology and processes used to estimate Reserves.

The Reserve estimates from these reports are summarised in Table 2.3 and the estimated coal quality of the Reserves from these blocks is shown in Table 2.4. Tonnes and quality of Reserves for each seam may be found in Appendix D. SMGC considers that these Reserve estimates are in compliance with the JORC code and are reasonable and suitable for the purpose of this study. 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 the estimate of in-situ tonnes is described in Section 5.6 of Appendix D.

**Table 2.3 – Summary of Coal Reserves as at 31 March 2015**

| Description | Proved (Mt) | Probable (Mt) | Proved and Probable (Mt) |
|---|---|---|---|
| Open Cut ROM Coal Reserves | 3.3 | 1.1 | 4.4 |
| Marketable Coal Reserves | 3.3 | 1.1 | 4.4 |

**Table 2.4 – Marketable Coal Reserves as of 31 March 2015**

| Seam | Proved (kt) | Probable (kt) | Reserves (kt) | TM (%arb) | Ash (%arb) | TS (%arb) | CV adb (kcal/kg) | CV gar (kcal/kg) |
|---|---|---|---|---|---|---|---|---|
| S40 | 14 | 8 | 22 | 20.4 | 10.2 | 1.9 | 5,671 | 5,201 |
| S40L | 0 | 0 | 0 | 17.6 | 23.3 | 1.8 | 4,615 | 4,334 |
| S50U | 1 | 1 | 1 | 18.1 | 7.5 | 2.1 | 5,851 | 5,453 |
| S50 | 72 | 16 | 88 | 17.7 | 6.8 | 2.9 | 5,977 | 5,612 |
| S100 | 41 | 16 | 57 | 22.1 | 11.8 | 2.1 | 5,424 | 4,779 |
| S200 | 436 | 121 | 558 | 18.0 | 4.9 | 1.8 | 6,144 | 5,758 |
| S300 | 513 | 183 | 696 | 16.6 | 5.7 | 1.7 | 5,982 | 5,719 |
| S400 | 159 | 25 | 184 | 19.7 | 11.5 | 1.4 | 5,395 | 4,994 |
| S500 | 849 | 238 | 1,088 | 17.7 | 4.1 | 1.4 | 6,136 | 5,776 |
| S600 | 245 | 64 | 309 | 15.5 | 11.2 | 3.0 | 5,828 | 5,488 |
| S700 | 959 | 448 | 1,407 | 17.5 | 5.5 | 1.1 | 6,075 | 5,715 |
| **TOTAL** | **3,290** | **1,120** | **4,410** | **17.5** | **5.9** | **1.5** | **6,026** | **5,673** |

*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*

## 2.4 OTHER COAL INSIDE PIT DESIGN

The pit design that was used to estimate the Reserves for the RJN concession contains a significant proportion of Coal Resources that are not classified as Measured and Indicated. Under the JORC Code, these Resources cannot be converted to and reported as Reserves. While this coal was not reported as a Reserve, it must be noted that this coal is included in the mine plan that was completed for the deposit. The quantities of waste and coal in the final pit design by Resource classification are shown in Table 2.5. The tonnes shown are Run of Mine (ROM) after mining loss and dilution parameters have been applied.

**Table 2.5 – Classification of Coal in Final Pit Design**

| Description | Unit | Volume/Tonnes |
|---|---|---|
| **Waste** | **Mbcm** | **71.2** |
| Coal Classified as Measured | Mt | 3.3 |
| Coal Classified as Indicated | Mt | 1.1 |
| Other Coal (not classified as Measured or Indicated) | Mt | 1.4 |
| **Total Coal** | **Mt** | **5.8** |
| Stripping Ratio | bcm:t | 12.2 |

The largest area of coal inside the final pit design that is not classified as Measured or Indicated is in the Western part of the pit. The primary reason for is that the area that could be drilled was limited by the current IPPKH boundary. This area has been included in the pit design as it is considered likely that the final pit design will continue into this area, and that the waste balance and waste haul distances will be more realistic and accurate if this material is included. SMGC notes that any user of this pit design and the associated mine plan should be aware of this coal and that this should be taken into account in any decisions made based on this estimate of Reserves. The proportion of coal not classified as Measured or Indicated in each period of the schedule is shown in Appendix E of the Coal Reserve Statement.

There is also coal not classified as Measured or Indicated in the pit design that could not be excluded as this would result in an impractical pit design or was important for the mine plan. The reason this coal is not classified as Measured or Indicated is because this coal was not sampled and analysed with sufficient core recovery; although there are generally open-hole intersections with geophysics to confirm the existence of the seams.

The tonnes of coal inside the final pit design that are not classified as Measured or Indicated is shown in Table 2.6 for each seam. Plans showing the location of the Resource classification boundaries for each seam are shown in the Resource Statement (Appendix C).

**Table 2.6 – Coal Not Classified as Measured or Indicated in Final Pit Design by Seam**

| Seam | Other Coal* (Mt) | Proportion | Cumulative |
|---|---|---|---|
| S700 | 0.6 | 41% | 41% |
| S300 | 0.3 | 22% | 63% |
| S200 | 0.2 | 17% | 80% |
| S500 | 0.2 | 14% | 94% |
| S100 | 0.0 | 3% | 97% |
| Others | 0.0 | 3% | 100% |
| **TOTAL** | **1.4** | **100%** | |

* Not classified as Measured or Indicated. There may be minor discrepancies in the above table due to rounding, these are not considered material by SMGC.

# 3. INPUTS AND ASSUMPTIONS

## 3.1 LOCATION

The RJN concession is located in Kutai Kartanegara Regency, East Kalimantan Province, Indonesia. The concession is located approximately 41 km Southwest of Samarinda, the capital city of the East Kalimantan Province of Indonesia and is shown in Figure 3.1.

The concession can be reached by the following route:

- 2 hour flight from Jakarta to Balikpapan city in East Kalimantan Province;
- 3 hours by car from Balikpapan to Samarinda; and
- 1 hour by car from Samarinda to the IUP.

## 3.2 CLIMATE AND GEOMORPHOLOGY

The climate in this area of East Kalimantan is classified as a tropical rainforest climate and is characterised by temperatures ranging from minimums of approximately 23 to 24 degrees Celsius to maximums in the low to mid-thirties. Annual rainfall is typically within a range of 2,000 mm to 3,000 mm per annum and there is significant variability in rainfall from month to month.

The topography of the area can be described as consisting of undulating to steep hills. A ridgeline runs from Southwest to Northeast across the concession, with water flowing away from the ridgeline to the Northwest and to the Southeast. The elevation above sea level ranges from approximately 30 m to 140 m.


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Location Plan

Figure No. 3.1

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Design | CE | 15/05/15 | Scale | N T S | Paper | A4 L | |
| Drawn | CE | 15/05/15 | Cad File | J1504_01 Location Plan.dwg | | | |

## 3.3 TENURE

Tenure for the concession is held under an Izin Usaha Pertambangan (IUP) Operasi Produksi. The details of the concession are shown in Table 3.1:

**Table 3.1 – Concession Details**

| IUP | PT Rinjani Kartanegara |
|---|---|
| IUP Type | Operasi Produksi |
| IUP Number | KW KTN 1654 OP |
| Company Name | PT Rinjani Kartanegara |
| Kabupaten | Kutai Kartanegara |
| Province | Kalimantan Timur |
| Commodity | Coal |
| Area | 1,933 Ha |
| Date Granted | 04 November 2009 |
| Expiry | 21 November 2021 (12 years) |
| Extensions* | 2 x 10 years |
| Nett Attributable to Sky One Holdings Ltd | 79.84 % |

**Extensions possible under new mining law (UU Nomor 4 Tahun 2009)*

An independent legal due diligence for the RJN concession was undertaken by the law firm Ali Budiardjo, Nugroho, Reksodiputro (ABNR), and SMGC has also spoken to representatives from ABNR regarding the results of the due diligence. ABNR stated that no issues had been identified with ownership of the concession by PT Rinjani Kartanegara, although some outstanding issues were identified regarding the past transfer of shareholdings. SMGC understands that these issues relate to a minority of the ownership (less than 20 %). The reader is referred to the legal due diligence document completed by ABNR for more details. The RJN concession was listed on the Ministry of Energy and Mineral Resources 'Clean and Clear' list at the time of writing this report.

SMGC makes no warranty or representation to RJN or third parties (express or implied) in regard to the validity of the tenure for the RJN concession and this study does not constitute a legal due diligence of the concession.

As the holder of an IUP, RJN is subject to all requirements specified in the mining, environmental and forestry laws of Indonesia. This includes the requirement to pay royalties based on coal sales revenue, which is discussed in Section 4.7.5. The IUP document also specifies a number of other obligations that are shown in the tenure document in Appendix E. The estimated operating and capital cost estimates in this report allow for these obligations.

## 3.4 FORESTRY PERMITS

The RJN concession is within an area classified as Hutan Produksi (Production Forest) by the Indonesian Forestry Department and thus a 'Borrow to Use Permit' or Izin Pinjam Pakai Kawasan Hutan (IPPKH) is required before construction and mining operations can take place.

RJN have been granted an IPPKH which covers a limited area of the concession as well as some areas required for the coal haul road and infrastructure. A copy of the IPPKH permit (number SK.705/Menhut-II/2011) for exploitation and the accompanying maps were provided to SMGC and can be seen in Appendix E of this report. The total area granted under this permit is 308.54 Ha which comprises of 167.07 Ha for mining, 74.69 Ha for infrastructure, 34.02 Ha for roads and 32.76 Ha for development.

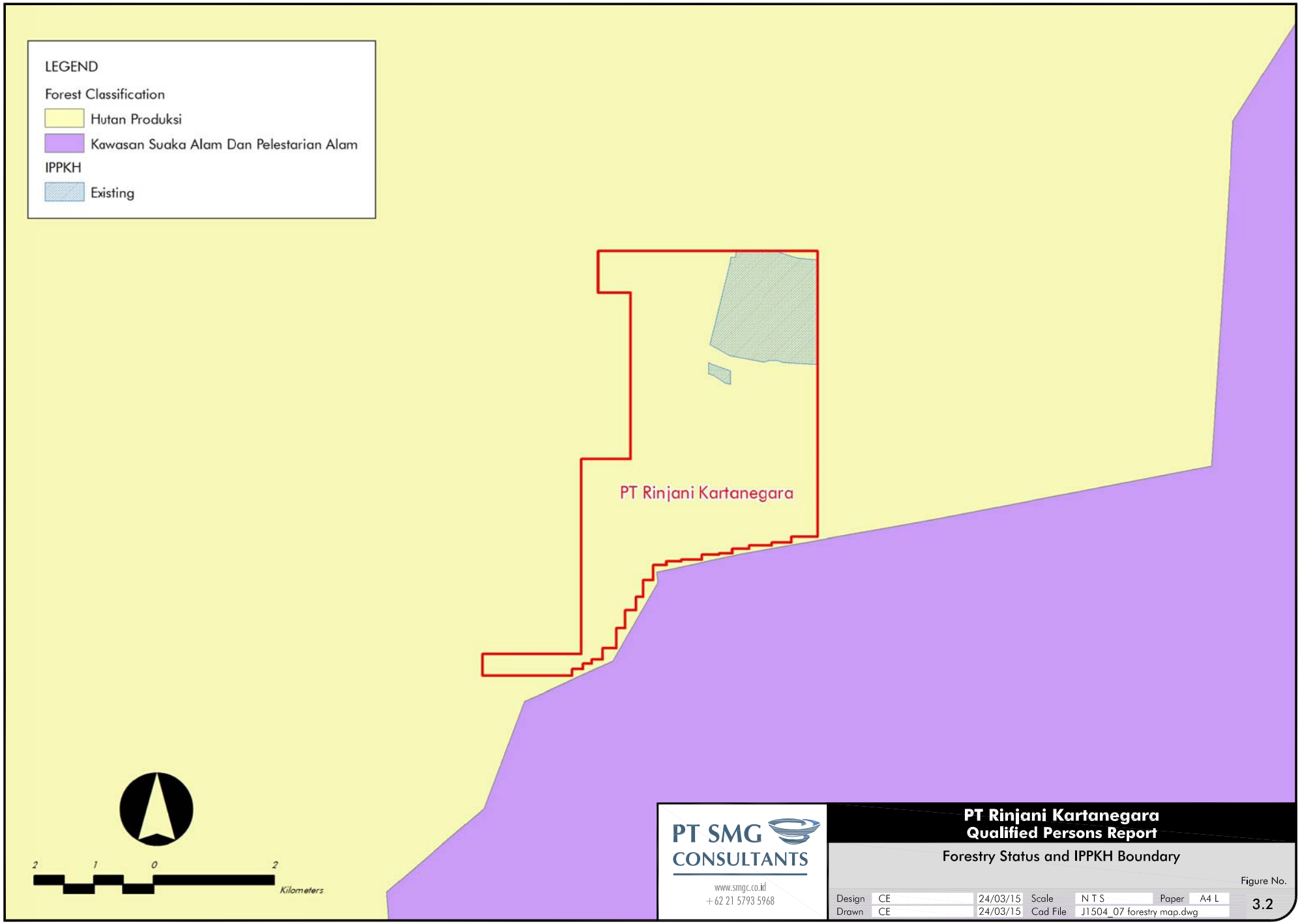
The IPPKH area that has been approved is insufficient for execution of the RJN mine plan. At the time of preparation of the previous Qualified Persons Report (dated April 2014) RJN informed SMGC that they had submitted an application for an extended IPPKH over the entire concession area and provided details regarding the current status of that application. At that time it was expected that the IPPKH extension would be approved by the end of December 2014. The current IPPKH and the new application are shown in Figure 3.2.

At the time of writing this report, the IPPKH extension had still not been approved. RJN provided details of the primary reason for the delay in the application process. This was also independently verified by SMGC, as this is an issue that is also affecting a number of other concessions in East Kalimantan. The details of this issue are not described in this document as this is considered to be confidential.

RJN resolved this issue early in 2015 and provided evidence of this to SMGC. This was also independently verified by SMGC. Resolution of this issue will allow the application process for the extension to proceed, and SMGC have been advised by both RJN and other independent parties that this significantly increases the confidence in the timeframe for approval of the extension. The timeframe for approval of the extension at the central government level is also supported by recent regulations that specify the timeframe for processing of the application. Based on this information, the latest estimate for approval of the extended IPPKH is 31 July 2015. It should be noted that while SMGC considers that there is a higher level of confidence that the IPPKH extension can be achieved by this date, it is still not possible to make any guarantee or warranty that this can be achieved.

During preparation of the previous QPR in April 2014, SMGC estimated that in order to continue mining until the end of December 2014 RJN would be required to extend the existing waste dumps over economic coal and sterilise potential Reserves. As a result of the further delays to the IPPKH extension, RJN needs to enlarge these dumps further and sterilise even more Reserves.

SMGC estimates that approximately 1.0 Mt of Reserve has been sterilised since the previous QPR due to the extension of the existing waste dumps, and due to allowance for waste dumping up until the IPPKH is approved. A detailed discussion of the loss of coal Reserves due to out of pit dumping is contained in Appendix D.

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Forestry Status and IPPKH Boundary

Figure No. 3.2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Design | CE | 24/03/15 | Scale | N T S | Paper | A4 L | |
| Drawn | CE | 24/03/15 | Cad File | J1504_07 forestry map.dwg | | | |

## 3.5 OTHER PERMITS AND DOCUMENTS

Other major permits required for a legal coal mining operation in Indonesia include the following:

- blasting and magazine permits;
- port permits (construction and operation);
- fuel storage and construction permits;
- use of electric power permits;
- building permits; and
- coal transportation permit.

Obtaining these permits is considered to be routine and is mostly undertaken at the local government level. RJN currently has all the necessary permits in place to continue mining operations in the short term. SMGC understands that blasting and magazine permits had been applied for at the time of publishing this report, although the approval had not been granted. There is no foreseeable reason why these permits will not be obtained when they are required.

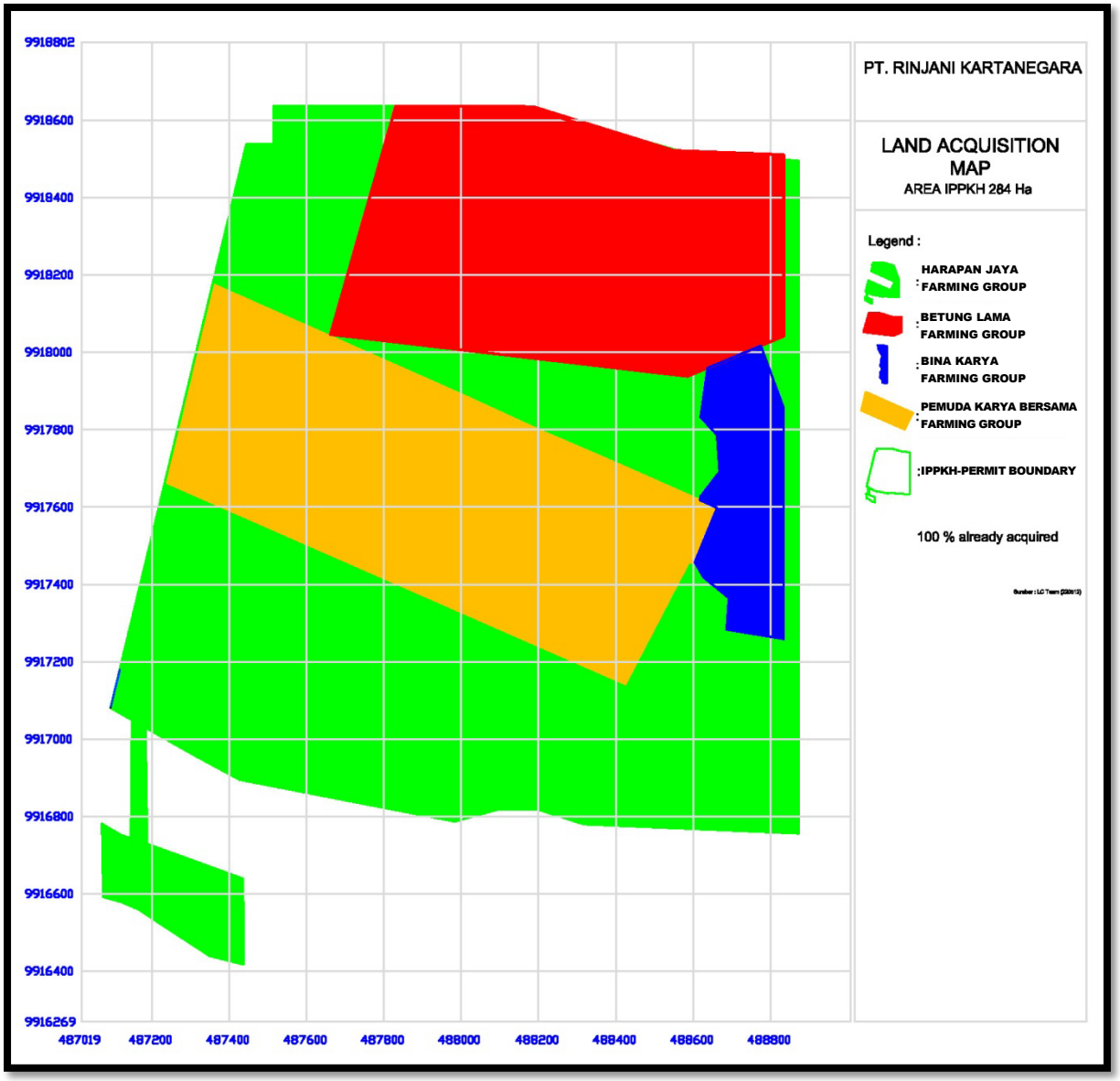
## 3.6 LAND ACQUISITION

Land acquisition and compensation for all the areas affected by mining is also required in order to execute the mining plan. SMGC were provided with records and prices paid for land compensation completed until the end of March 2015. The compensation included payments for land, plantations and structures as well as payments for flooding and dust at the pit area, hauling road and port stockpile. The payment amounts appeared to be reasonable and typical for the area.

SMGC notes that approximately 284 Ha of area within the IUP has either already been compensated, or the cost of compensation has already been agreed and down payments made. The compensated area comprises the entire area within the IUP that is covered by the current IPPKH boundary. A map was provided by RJN which shows the compensated land and the identified owner at the time of writing this report. This is shown in Figure 3.3. SMGC estimates that the total area of compensation required based on the current mine plan is at least 660 Ha, including the areas that have already been compensated. Compensation for the remaining areas can only be completed once the IPPKH has been approved over the entire concession area.

While land acquisition can pose a risk to the operation if not handled prudently, SMGC is of the opinion that sufficient land has been compensated to allow mining to continue in the short term and that adequate processes are in place to manage land acquisition and compensation. This should prevent significant disruption to the operation in the future, although it is not possible to provide any guarantee that no disruptions will be experienced as a result of this issue.

**Figure 3.3 – Land Acquisition Completed to End March 2015**




*Land Acquisition Map provided by RJN*

## 3.7 EXPLORATION HISTORY

RJN commenced initial coal exploration on the concession in 2009. This first stage exploration programme included limited coal outcrop mapping, general borehole drilling and coal quality analysis comprised of 171 boreholes including 76 cored holes and 95 open holes.

The results obtained from the first stage program led to a second, in-fill drilling program being conducted during the period of September 2012 to March 2013, whereby another 13 holes were drilled to improve confidence in both geological structure and coal quality data. The program was implemented and managed by RJN. A channel sampling programme was also implemented during this later period during which 293 samples were taken. The exploration activities included detailed drilling, down-hole geophysical logging, channel sampling and coal quality analysis.

## 3.8 EXPLOITATION HISTORY

Mining operations in the RJN concession commenced in June 2012. SMGC was provided with production records from the start of operations to the end of March 2015. The actual waste mined, coal mined and project cumulative stripping ratio are shown in Figure 3.4 and Figure 3.5.

**Figure 3.4 – Historical Waste Mining Volumes**

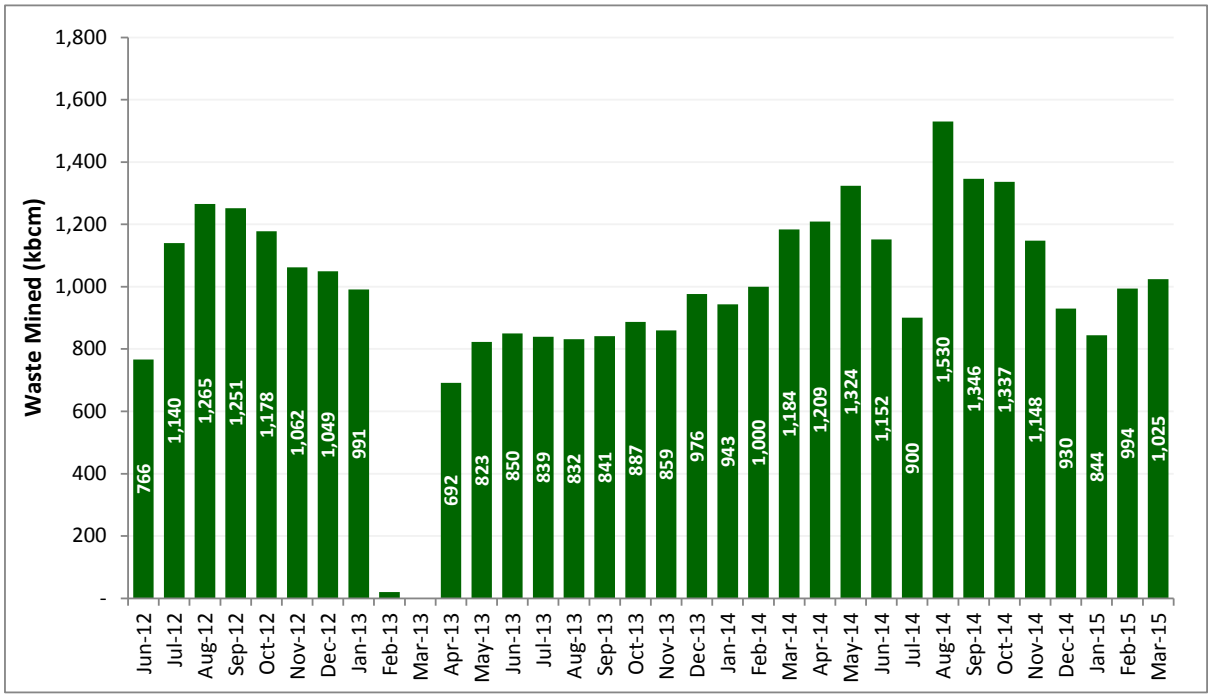
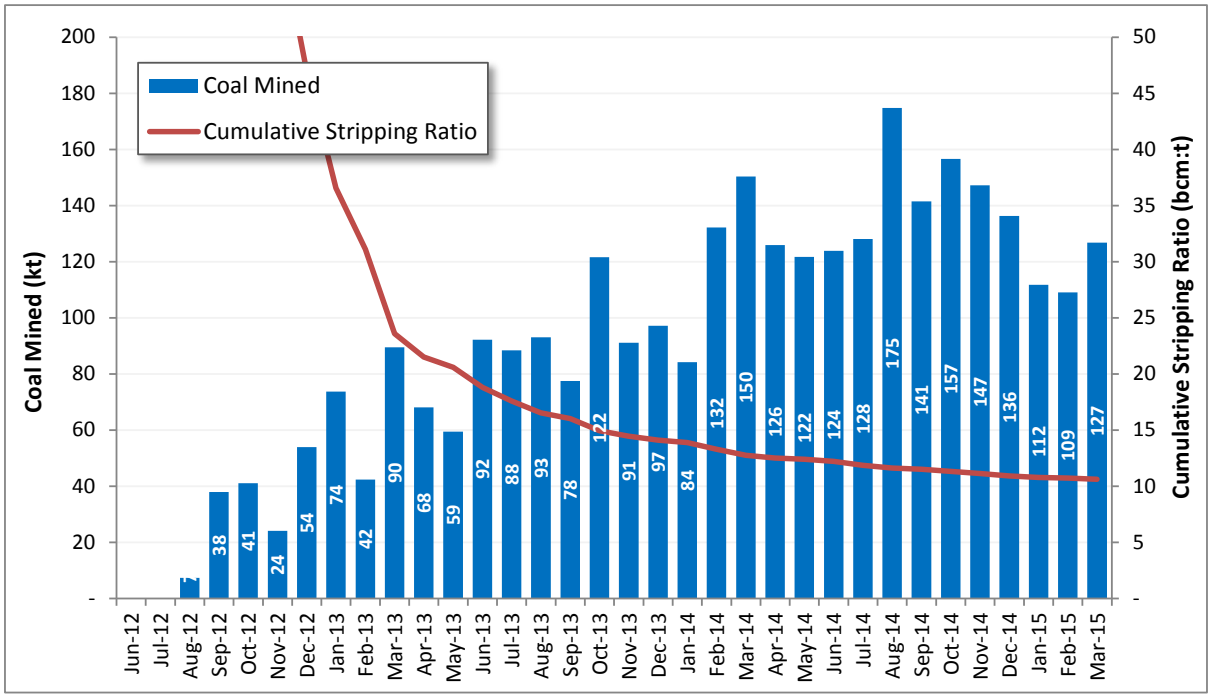



**Figure 3.5 – Historical Coal Mining Volumes**



RJN informed SMGC that waste mining operations were temporarily halted during February and March 2013 and recommenced during April 2013 as a result of contract discussions between RJN and the mining contractor.

The production data was provided by RJN and is sourced from the monthly contractor joint pit survey volumes combined with truck weighbridge measurements. The total reported waste mined from the project up to the end March 2015 is 33.2 Mbcm and the total reported coal mined for the same period is 3.1 Mt. The stripping ratio for the project over this time period is 10.7 bcm per tonne of coal mined.

# 4. MINING OPERATIONS AND LOGISTICS

## 4.1 LIFE OF MINE PLAN

A Life of Mine (LOM) plan was completed by SMGC for the deposit based on the final pit design developed for the Reserve Estimate. The plan was completed to a prefeasibility study level of detail with the aim of determining that the mining method is practical and that there is sufficient dumping room to contain all the waste mined in the final pit design. This was also used to check if the assumed waste mining costs were reasonable and as the basis for the operating cost estimates in this report.

SMGC recommends that a detailed LOM plan is completed to a feasibility study level as soon as practical. This will increase the level of confidence in the estimated operating costs for the mine and the achievability of the mine plan. However the uncertainty with the timing of the IPPKH extension means that it may not be possible to produce a plan with a high level of confidence until this uncertainty is resolved.

It should also be noted that the mining sequence in the mine plan was developed in this way so that the lower stripping ratio areas in the Western areas of the pit were not mined in the early part of the schedule due to the lack of exploration data in these areas. It is considered likely that significant improvements to the mine plan can be made once more exploration is undertaken in the concession, after the IPPKH extension is awarded. It is likely that it will also be possible to increase production in the early years of the schedule.

The results of the mine plan showing the active mining pits and dumps are documented in Appendix E of the Reserve Estimate (Appendix D). Appendix D of Reserve Estimate (Appendix D) shows the methodology and pit optimisation work leading up to detailed mine planning.

## 4.2 MINING METHOD AND OPERATIONS

The RJN mine is an open pit mining operation using excavator and truck mining methods, which is typical of many Indonesian operations. Mining and hauling of waste 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 RJN 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 to the port stockpile; however in the past a proportion of coal mined has been stockpiled on an intermediate stockpile at the mine site before being rehandled using mobile equipment and then hauled to the port. RJN have stated that they intend to eliminate this practice as much as possible in future operations, and there are no records of any coal being rehandled at the intermediate stockpile since September 2014.

Operations commenced in June 2012 with the stripping of topsoil and the upper benches of the pit. No drill and blast operations have commenced at the RJN mine and waste mining is predominantly free digging, with some ripping of overburden and interburden. Drill and blast will likely be necessary as the pit gets deeper 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.

SMGC reviewed the mining operations during site visits conducted in August 2012, October 2013 and April 2015. 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, although this is expected on free dig material. The running surfaces were in good condition and appeared to be sufficiently well maintained, and water was allowed to drain 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 RJN 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 bunds existed in most locations although these may not have been of adequate height in some places. Adequate signage was in place. No significant issues were observed with surface water management at the time of the site visit and pumps were installed and operating in the main sump in the pit. No water management plan was observed and SMGC have not assessed whether sufficient dewatering infrastructure is in place to handle large rainfall events. 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. This will become a more critical issue as the pit gets deeper.

Photographs showing the condition of the pit during the April 2015 site visit are shown in Figure 4.1.

**Figure 4.1 – Mining Operations at RJN (April 2015)**



## 4.3 MINING CONTRACT

PT Cipta Kridatama (CK) is the primary mining contractor for the RJN operation with a scope of work that includes waste and topsoil mining and haulage, supply of equipment for coal mining (but not haulage), and pit dewatering. CK is a significant Indonesian mining contractor that was originally an equipment rental company associated with PT Trakindo, the authorised dealer of Caterpillar products in Indonesia. CK is generally regarded as an upper tier contractor in Indonesia and they operate equipment for some large companies in Indonesia including PT Arutmin, PT Multi Harapan Utama and PT Mahakam Sumber Jaya. SMGC is of the opinion that CK is capable of performing the tasks required under the scope of work.

SMGC has reviewed the mining contract and recent amendments to the contract. The contract is a typical unit rate contract similar to many other operations. There are some issues identified in the contract that should be addressed as soon as possible including:

1. The production targets in the contract (Contract Schedule 3) are not considered to be realistic based on the latest geological modelling and Resource and Reserve calculations. The target production in this schedule is approximately 2 Mt per annum from 2013 onwards which is not considered possible in the short term, and the stripping ratio and overburden mining targets in this schedule are too low.
2. The pit and dump designs specified in contract (Contract Schedule 5) are not realistic, particularly the amount of dumping room. The volumes contained in this pit design also do not match the production targets specified in Schedule 3. SMGC notes that this is constrained by the current IPPKH boundary which needs to be extended before the deposit can be fully exploited.
3. The amount of waste mining equipment specified in the contract is not sufficient to achieve the production targets, which appears to be a direct result of issues 1 and 2 as described above.

These issues are largely due to the contract being negotiated before a suitable Life of Mine Plan was completed for the concession. SMGC has recommended that the following steps be undertaken to address these issues:

a. A detailed LOM plan (including production targets) needs to be completed and agreed to between RJN and CK as soon as possible. While SMGC has completed a prefeasibility study level LOM plan for the concession; there is still considerable uncertainty regarding the timing of the IPPKH which could affect this plan.
b. The equipment requirements should then be updated and agreed upon, with waste haul distances specified and if possible some incentives for the contractor to achieve these over the life of mine.

RJN stated that they are currently working with the contractor to address these issues and are in the process of implementing these recommendations. The key issue preventing this being finalised is the delay in approval of the IPPKH extension. Given the performance of the project to date, it appears that RJN and CK have been able to successfully worked together to maximise production from the concession despite the uncertainty while waiting for the IPPKH extension to be approved.

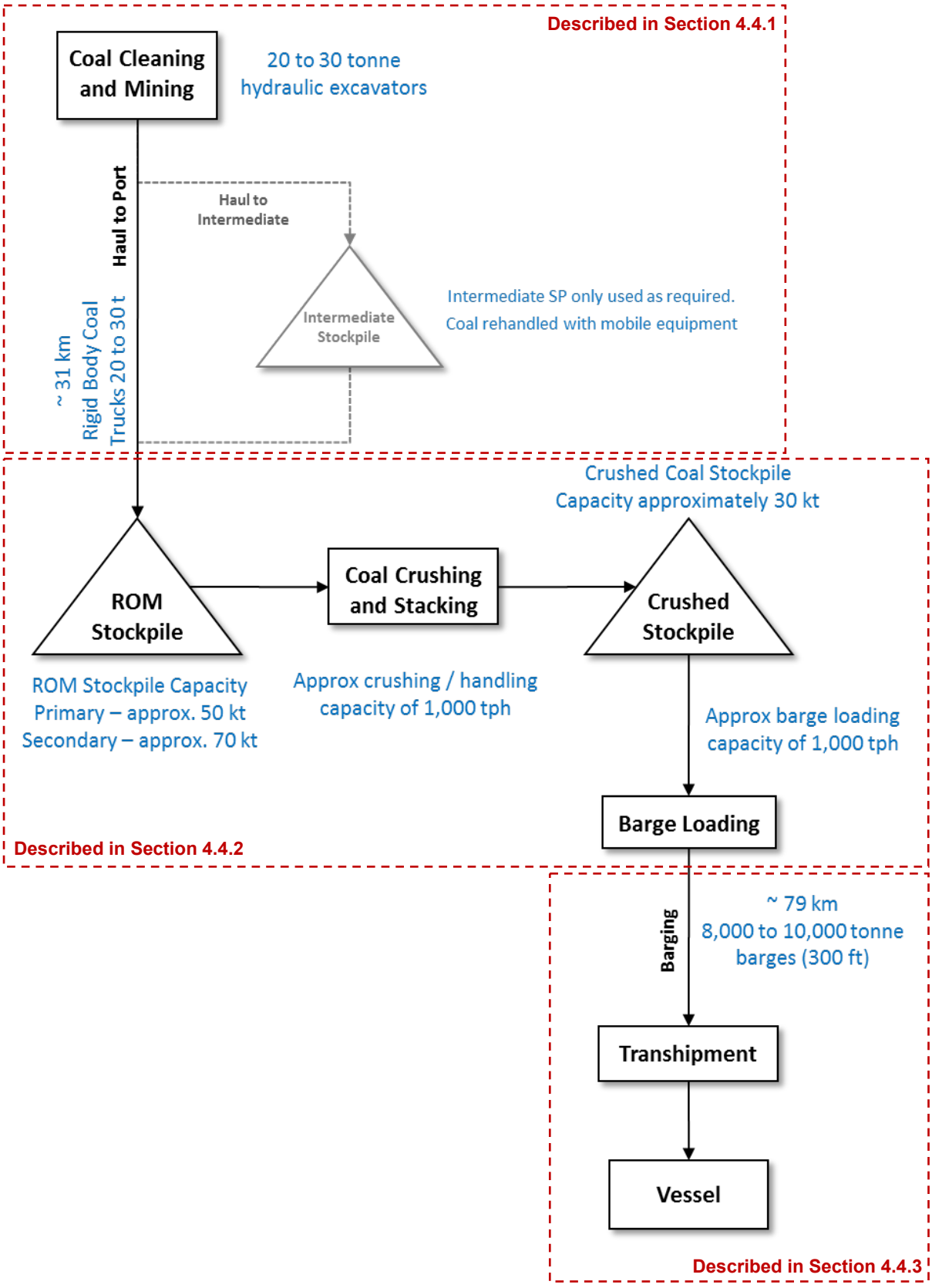
## 4.4 INFRASTRUCTURE AND LOGISTICS

Coal is cleaned and mined using small excavators and hauled out of the pit using rigid body coal trucks. The majority of coal is hauled directly to the port stockpile; however in the past a proportion of coal mined has been stockpiled on an intermediate stockpile at the mine site before being rehandled using mobile equipment and hauled to the port. RJN have stated that they intend to eliminate this practice as much as possible in future operations, and there are no records of any coal being rehandled at the intermediate stockpile since September 2014.

The haul road from the pit to the port stockpile is approximately 31 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 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 RJN 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 4.2.

**Figure 4.2 – Coal Logistics Flow Diagram**



### 4.4.1 Coal Haul Road and Intermediate Stockpile

The coal haul road runs approximately 29 km from the edge of the pit to the port stockpile on the Mahakam River to the Northeast. SMGC assumed that another 2 km of hauling would be required from the mine face to the edge of the pit; giving a total haul distance of 31 km. 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 RJN. The road was included in the original IPPKH application for the mining operation. The haul road is currently operational, and the upgrades to allow hauling in all weather conditions, which were identified as being required in the previous QPR (dated April 2014), have been completed. RJN hauled approximately 1.6 Mt of coal on the haul road during 2014, which is more than 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 RJN 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 RJN is required to take appropriate steps to manage this, including implementing and enforcing suitable road rules for equipment drivers and installing manned crossing points for public road crossings.

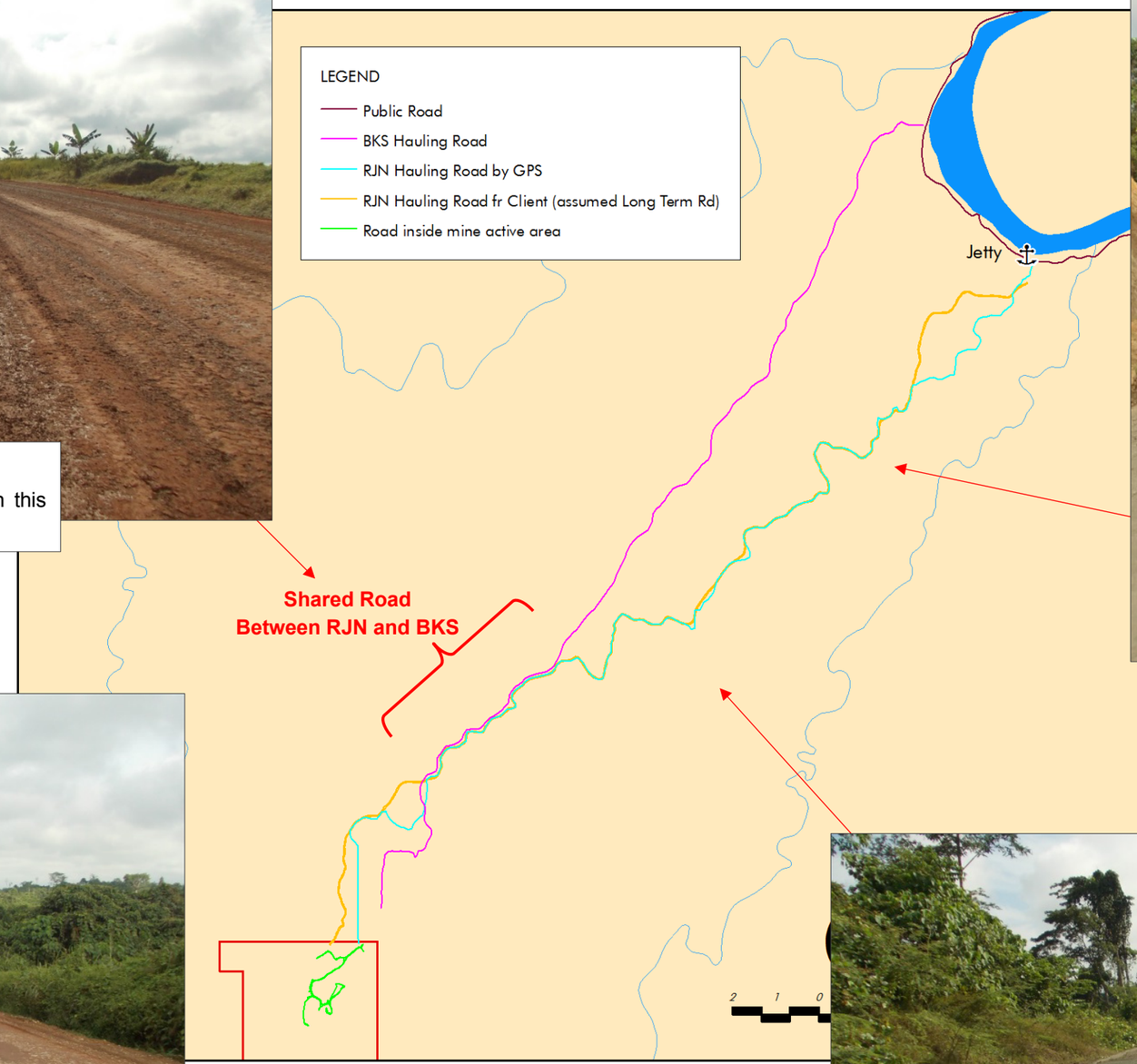
Approximately 6 km of the road length is shared with PT Bara Kumala Sakti (BKS), which is another local coal mining company. RJN informed SMGC that the Izin Pinjam Pakai Kawasan Hutan has been issued for all areas of the haul road where it is required, and SMGC sited the corresponding letter and map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

RJN 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 fee per tonne of coal hauled down the road is USD 1.80 per tonne. A map of the haul road and photographs of significant sections of the road are shown in Figure 4.3.

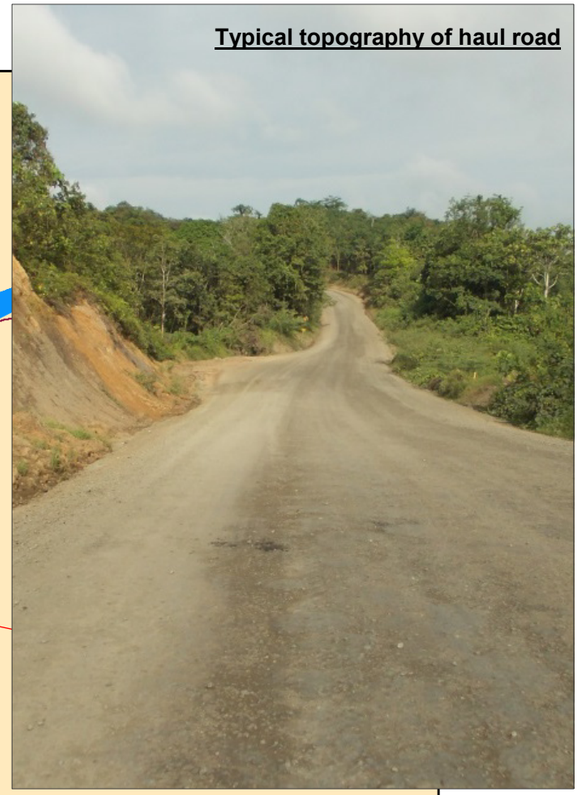
**Figure 4.3 – Coal Haul Road**

**Shared Section of Road**

RJN stated that the roadway will be shared on this section of the haul road.




**Typical topography of haul road**



**RJN Coal Haul Road**

SMGC did not observe any significant issues with the construction of the haul road. The topography is undulating but with relatively gentle slopes. Road width was sufficient and drainage and culverts were being installed to manage water where required. The road was generally in good condition during the most recent site visit.

### 4.4.2 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 4.2. These were supplied by RJN and have not been verified directly by SMGC. Key capacities are:

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

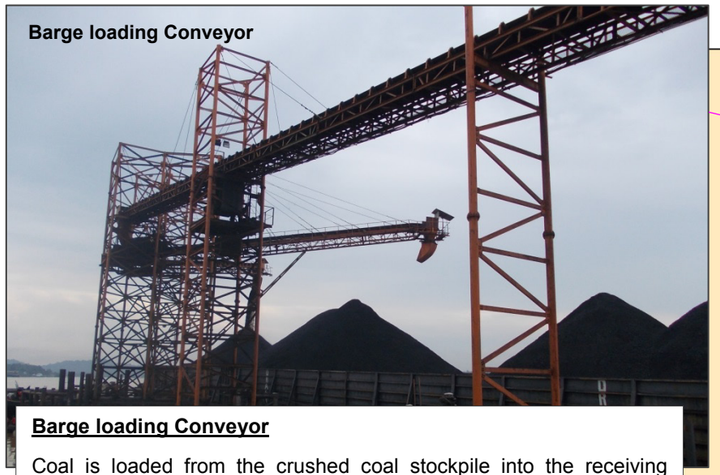
The layout of the plant and photographs taken at the time of the site visits are shown in Figure 4.4. The coal handling plant was observed to be in good condition. A secondary ROM stockpile has also been constructed at the port with a capacity of up to 70,000 tonnes, which brings the total port stockpile 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 will be higher than current actual costs to allow for some rehandling 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 Mt per year. RJN produced and shipped approximately 1.6 Mt during 2014, which demonstrates that the plant is capable of achieving the planned production.

RJN 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.

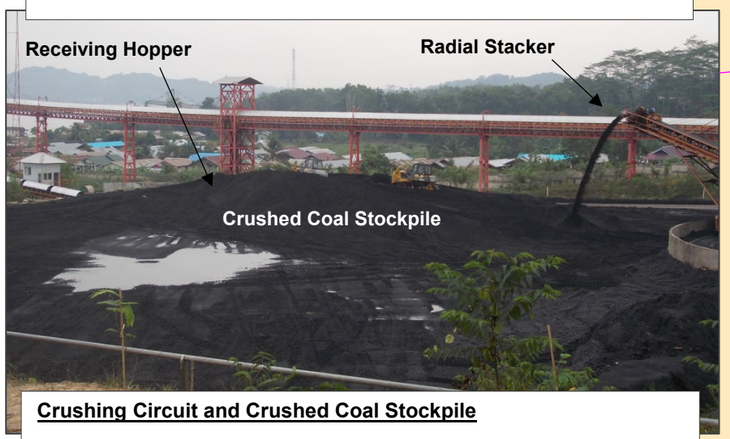
There is also an issue with the proximity to the community at the port stockpile. This issue is discussed further in Section 5.1. It may be necessary to purchase additional land and houses at the port area. If this is required, then the capital cost will likely be higher than the estimated USD 0.2 million allocated in capital expenditure to complete the facility, although this would provide opportunity to increase the area of the stockpile. 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.

**Figure 4.4 – Layout of Port Stockpile and Jetty**



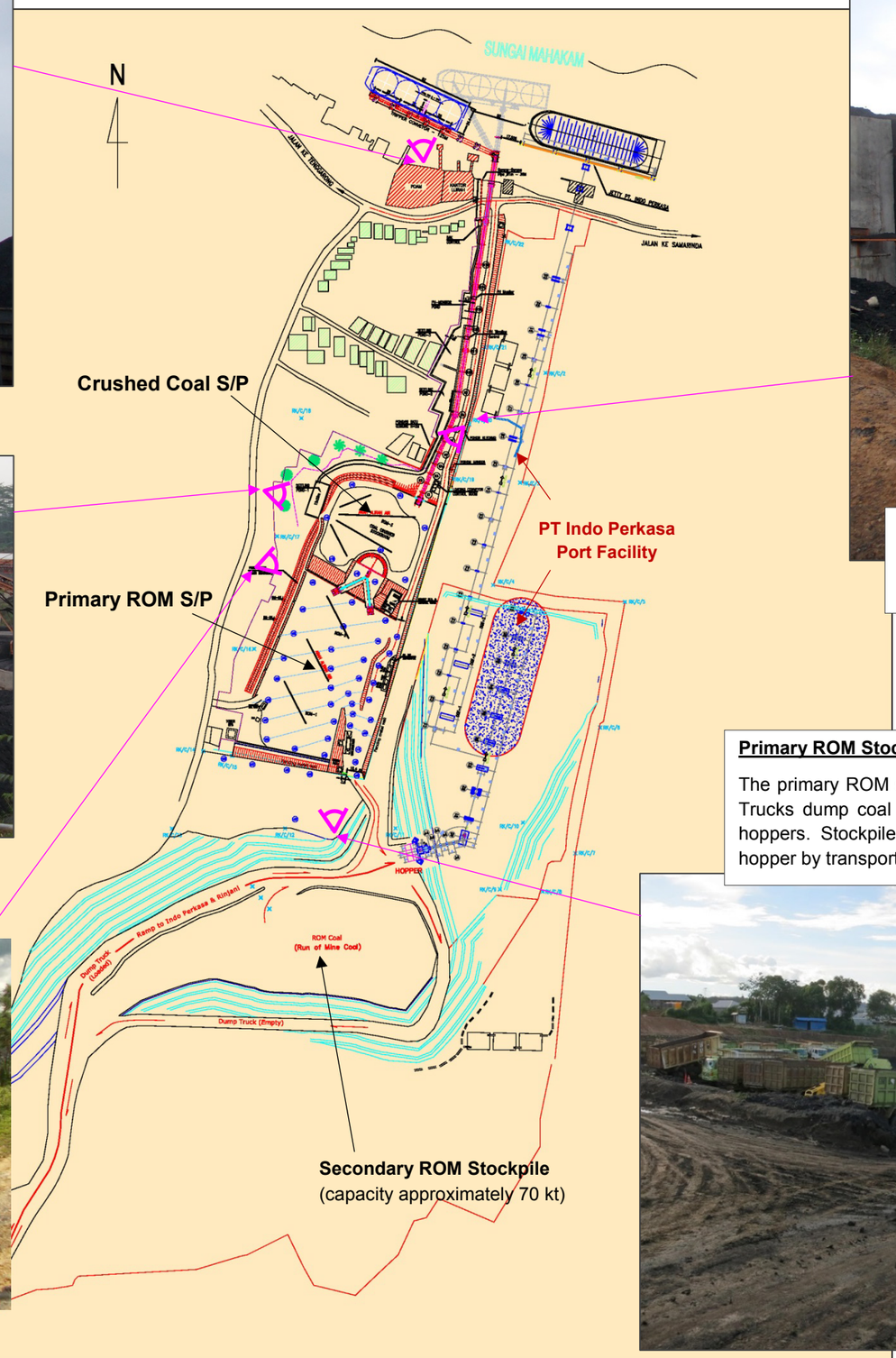

**Barge loading Conveyor**

Coal is loaded from the crushed coal stockpile into the receiving hopper using dozers and conveyed to the barge loading jetty on the Mahakam River. Maximum capacity of the conveyor is 1,000 tph.




**Crushing Circuit and Crushed Coal Stockpile**

Coal is loaded into 2 hoppers from the ROM stockpile where it is screened, crushed and conveyed to a radial stacker for stacking on the crushed coal stockpile. Maximum capacity of the circuit is 1,000 tph.

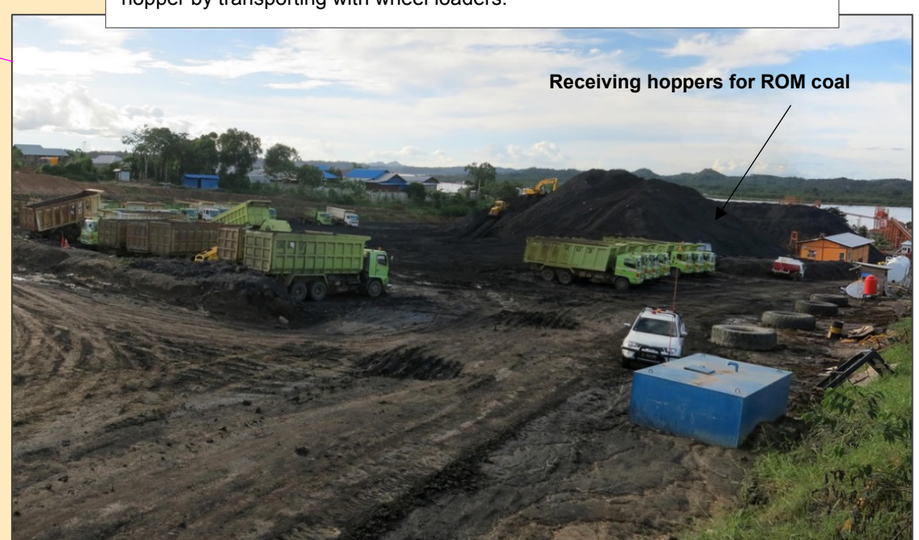




**Receiving Hopper for Product Coal**

This shows the receiving hopper below the crushed coal stockpile, as well as independent sampling of coal.

**Primary ROM Stockpile at Port**

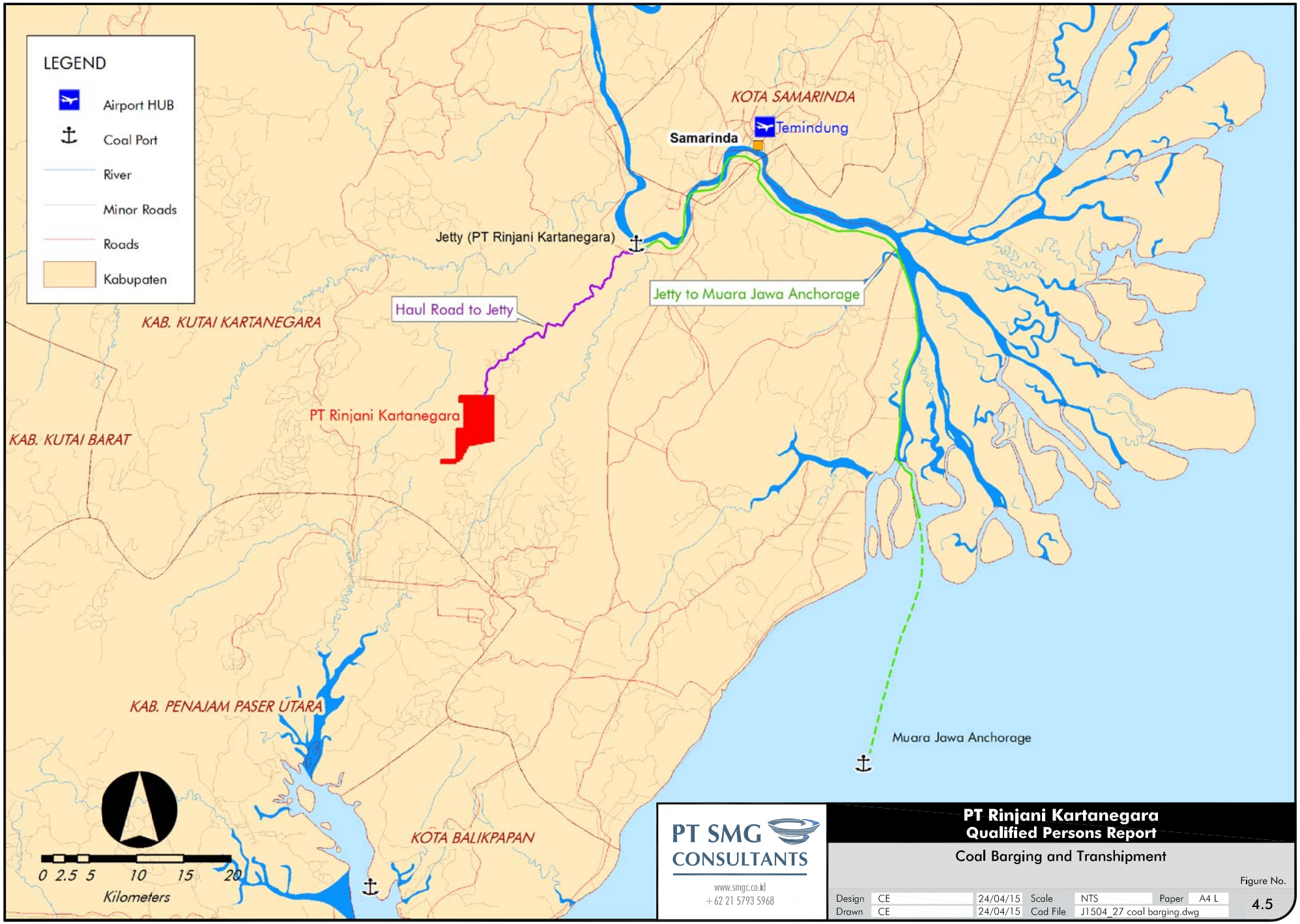
The primary ROM stockpile has a reported capacity of approximately 50 kt. Trucks dump coal on the floor of the stockpile or directly to the receiving hoppers. Stockpiled coal is stacked using a loader, and loaded into the hopper by transporting with wheel loaders.



### 4.4.3 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.

A map of the coal barging route and transhipment anchorages is shown in Figure 4.5.

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Coal Barging and Transhipment

Figure No. 4.5

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Design | CE | 24/04/15 | Scale | NTS | Paper | A4 L | |
| Drawn | CE | 24/04/15 | Cad File | J1504_27 coal barging.dwg | | | |

## 4.5 OTHER INFRASTRUCTURE

During the October 2013 site visit, it was observed that a number of other infrastructure items on the RJN mine site were temporary in nature and more permanent facilities needed to be constructed. Since that time, the following infrastructure was either in-place or under construction:

- permanent fuel storage and distribution facilities with adequate bunds;
- oil and other hydrocarbon storage facilities;
- explosives magazine (still under construction as at April 2015);
- permanent workshop for contractor (still under construction as at April 2015); and
- RJN workshop and offices.

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 0.8 % (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 product coal qualities are summarised in Table 4.1. All qualities are reported on an as received basis unless otherwise specified.

**Table 4.1 – Product Coal Quality**

| **Total Moisture** (% arb) | **Ash** (% arb) | **Volatile Matter** (% arb) | **Total Sulphur** (% arb) | **Calorific Value** (kcal/kg adb) | **Calorific Value** (kcal/kg gar) |
|---|---|---|---|---|---|
| 17.5 | 5.9 | 37.8 | 1.5 | 6,026 | 5,673 |

### 4.6.2 Marketability

The moderate energy of RJN 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.

SMGC does not see any reason why there will be any difficulties marketing the coal from the RJN 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.

### 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 RJN 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 RJN using the forecast export prices described in this section; however RJN 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.

### 4.6.4 Sales Price

SMGC have assumed a forward curve of coal prices for the purpose of calculating royalties and operating costs for the project. These coal prices were also used as input to the financial model and to demonstrate the feasibility of the project under this particular scenario. 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.

The forward curve assumed current coal prices in the first period (2015) and increasing real coal prices over the remainder of the schedule. This is based on the view that thermal markets have softened in the past few years with weaker global markets and an oversupply of seaborne trade. This situation is expected to reverse over the medium to long term with increasing real prices. It is considered possible that this situation could correct over the medium term and result in increasing real prices.

The total cumulative increase in real coal prices 2015 and 2019 is assumed to be approximately 25 %, and the assumed coal prices used in the economic modelling are shown in Table 4.2. The assumed coal price forward curve is based on a gross as received calorific value of 5,500 kcal/kg. Prices were adjusted proportionally to CV in the actual schedule as shown.

**Table 4.2 – Sales Price Forecast (Real terms as at end March 2015)**

| Description | Unit | 2015(a) | 2015(b) | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|
| Forecast Price Base CV | USD / t | 58 | 58 | 63 | 67 | 71 | 74 | 74 |
| Shipped CV (gar) | kcal/kg | 5,690 | 5,615 | 5,623 | 5,684 | 5,671 | 5,683 | 5,760 |
| Forecast Price Received | USD / t | 60 | 59 | 64 | 69 | 73 | 76 | 78 |

** Forecast prices are stated FOB vessel.*

*** 2015(a) is 1 April 2015 to 31 July 2015, and 2015(b) is 1 August 2015 to 31 December 2015*

## 4.7 OPERATING COST FACTORS

SMGC has estimated the operating and capital costs for the project using the mine plans described in Appendix E of Coal Reserve Statement (Appendix D of this report).

### 4.7.1 Operating Cost Components

SMGC were not provided with the full detailed actual operating costs for the operation since production commenced in August 2012 as these costs were not available in a suitable format for analysis in this study. Actual operating costs for some key aspects of the operation were provided. Operating costs were estimated based on actual costs where these were available, the existing contracts for the site and also from typical costs for coal mines in Kalimantan. The operating cost components that were considered in this study are described in Table 4.3.

**Table 4.3 – Description of Operating Cost Components**

| Cost Component | Description | Type | VAT Applicable |
|---|---|---|---|
| Waste Mining | ▪ Clearing and grubbing of all trees and vegetation<br>▪ Removal or burning of the cleared vegetation<br>▪ Mining and hauling of topsoil to stockpile or direct to rehabilitation area.<br>▪ Pushing and spreading of topsoil on dump or on the rehabilitation area.<br>▪ Dozer ripping and drill and blast as required<br>▪ Loading and hauling of overburden and interburden from active mine face to the dump<br>▪ Maintain access roads and pit and dump haul roads<br>▪ Operating of support equipment including dozers, graders and water trucks<br>▪ Dewatering of pits and active mining faces to out of pit settling ponds<br>▪ Supervision of operation and technical support including short term planning and surveying | Variable Contractor | Y |

**Table 4.3 (continued) – Description of Operating Cost Components**

| Cost Component | Description | Type | VAT Applicable |
|---|---|---|---|
| Dewatering and Water Treatment | ▪ Construct, manage and clean settling ponds and diversion drains to ensure water discharge is in compliance with regulatory requirements<br>▪ Addition of lime to discharge water | Fixed | N |
| Environmental and Rehabilitation | ▪ Reshaping of dumps to final landform<br>▪ Planting and re-vegetation<br>▪ Measurement and monitoring of rehabilitation performance | Variable Owner | N |
| Coal Mining | ▪ Cleaning coal to minimise dilution<br>▪ Ripping coal and pushing up thin seams if required<br>▪ Loading of coal into haulage trucks<br>▪ 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<br>▪ Maintenance of coal haulage road<br>▪ Fees for use of third party owned section of road (9 km of the total length of 31 km) | Variable Contractor | Y |
| Port Stockpile and Barge Loading | ▪ Receiving coal from trucks and stacking to port stockpile<br>▪ Loading of coal through feeders and onto barges<br>▪ Rehandle of coal at port as required<br>▪ Quality sampling and analysis | Variable Owner | N |
| Barging | ▪ Barging crushed coal from port to transhipment point using 8 kt (300 ft) tug and barge sets<br>▪ Reasonable queuing and wait time at the barge loader and transhipment point | Variable Contractor | Y |
| Transhipment | ▪ Transfer of coal from barge to vessel<br>▪ Survey costs for the shipment<br>▪ Stevedoring | Variable Contractor | Y |
| Miscellaneous Operations | ▪ Limited demurrage for vessels and barges<br>▪ Various day works and other miscellaneous tasks | Variable Owner | N |
| VAT | ▪ Value Added Tax at 10% | Variable Contractor | N |
| Royalty | ▪ Royalty payment to government as part of PKP2B contract | Government | N |
| Local Government Fee | ▪ Fee paid to local government per tonne of coal produced | Variable Owner | N |
| Site Overheads | ▪ Salaries and Wages for all Employees<br>▪ Camp and Accommodation Costs<br>▪ Light Vehicles<br>▪ Security<br>▪ Medical Facilities<br>▪ Community Development<br>▪ Dust and Noise Compensation Payments<br>▪ Other Fixed Site Costs | Fixed | N |
| Corporate Overheads | ▪ All corporate overhead costs allocated to site | Fixed | N |

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.

### 4.7.2 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 waste mined, coal mined, coal hauled and coal barged. These types of contracts are in operation at the RJN mine and actual contracts have been used where available for estimating many of the 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 contractual rise and fall formula assuming a long term fuel price of USD 1.05 per litre delivered to site. The contractor unit rates used for the operating cost estimates are shown in Table 4.4. These rates are in real terms as at the first period in the schedule.

**Table 4.4 – Contractor Unit Rates (real terms)**

| Description | Unit | Unit Rate | Basis of Estimate |
|---|---|---|---|
| Waste Mining | USD/bcm | 2.32 | Actual current contract rates adjusted for rise and fall (NOTE: this rate is specified in a contract addendum that was agreed to in April 2015) |
| Waste Overhaul | USD/bcm/100m | 0.077 | Actual contract rates adjusted for rise and fall for waste haulage above 1,000 m |
| Coal Mining | USD/tonne | 0.85 | Actual coal mining costs from site calculated using equipment rental costs, productivity measured from monthly claims and fuel consumption |
| Coal Haulage to Port | USD/tonne km | 0.216 | - Actual haulage contract rates (USD 0.129/tkm)<br>- Estimated road maintenance costs: (USD 0.029/tkm) (derived from equipment productivity calculations)<br>- Fees for use of 3rd party roads: (USD 0.058/tkm) |
| Barging | USD/tonne km | 0.035 | Broad Assumption based on Typical Industry Costs |
| Transhipment | USD/tonne | 1.80 | Broad Assumption based on Typical Industry Costs for Long Term Transhipment Contracts in East Kalimantan in the current market |

It has been assumed that some waste rehandle will be required over the life of mine. This will be required due to rehandle of temporary in-pit ramps as well as for recovering from geotechnical failures. Waste rehandle of 3 % of in-situ waste was assumed for the project. Value Added Tax (VAT) of 10 % is applied to all variable contractor costs as currently required by Indonesian regulations for an IUP. The waste mining rate includes drill and blast costs.

### 4.7.3 Variable Owner Costs

Variable owner costs vary with changes in physical quantities in the mine plan and are attributable to RJN. These have been calculated using the unit rate principle, with unit rates estimated either from actual costs for RJN, or from actual costs from other operations adjusted for the conditions and processes on the site. The unit rates are shown in Table 4.5 and are in real terms as at the first period in the schedule.

**Table 4.5 – Owner Unit Rates (real terms)**

| 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 | 1.11 | Actual port operating costs for operations to date with an additional allowance for higher future maintenance and rehandle costs |
| Miscellaneous Operations | USD/tonne | 0.50 | Broad Assumption based on Typical Industry Costs |

### 4.7.4 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 RJN 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 assists in reducing operating costs. The average annual fixed costs used in this valuation as well as the range over the life of mine are shown in Table 4.6 and are in real terms as at the first period in the schedule.

**Table 4.6 – Fixed Costs (real terms)**

| Type | 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** |

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.

### 4.7.5 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:

- 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

At the time of writing this report, that there are a number of proposals under discussion within the Indonesian government to increase the rate of royalties for IUPs, and SMGC considers that it is likely that these increases will be implemented in regulations in the near future. The most likely outcome is that the royalty rate will be increased to 9 % of the coal price for coal between 5,100 and 6,100 kcal per kg (adb), and this rate was assumed in the economic modelling. It was also assumed that the royalty could be applied to the coal price as sold FOB barge rather than FOB vessel, which is possible under current regulations.

The royalty rate and calculation of operating cost is shown in the following table:

**Table 4.7 – Royalty and Local Government Fee (real terms)**

| Description | Unit Rate | Unit | Average LOM Value (Units per tonne) | Operating Cost (USD per tonne) |
|---|---|---|---|---|
| Royalty | 9% | % of Sales Price | 66.22 | 5.96 |
| Local Government Fee | 0.10 | tonne | 1 | 0.10 |

The rate of Royalty paid for coal from the RJN concession has been calculated on an annual basis, based on the calorific value of the coal in that 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 9 % 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 RJN who stated that this is based on actual costs at the time of writing the report.

## 4.8 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.

An important factor that influences the waste mining cost is the waste haul distance. Waste haul distance assumptions for this cost estimate are based on the life of mine plans that are discussed in Appendix E of the Reserve Estimate (Appendix D of this report). The waste haul distances estimated for these mine plans assume that waste can be hauled on roads dumped across the lowwall. SMGC notes that the ability to dump ramps across the lowwall has yet to be proven for a significant distance at the RJN operation as most dumping to date has been on the highwall. If this cannot be achieved, waste haul distances may be longer, particularly over the period 2016 to 2019. This may increase production costs by up to USD 1.00 to USD 1.25 per tonne over these years.

It should also be noted that the waste haul distance is also dependent on maintaining a good standard of mining operations. Dewatering practices must be of a high standard and good discipline must be maintained so that the easier upper benches are not mined in preference to the more difficult lower benches where the proportion of wedge material is higher. Delays in mining the lower benches could have the impact of increasing the effective length of the mining face, resulting in more overburden being hauled out and increased waste haul distances.

The operating costs per tonne on an annual basis over the life of mine are shown in Figure 4.6 and Table 4.8. The most significant operating cost is waste mining, which is typical of most mid to high energy open cut coal mining operations in Indonesia. Table 4.8 shows the total estimated operating costs for each period over the LOM plan.

**Figure 4.6 – Operating Cost over Life of Mine (real terms)**

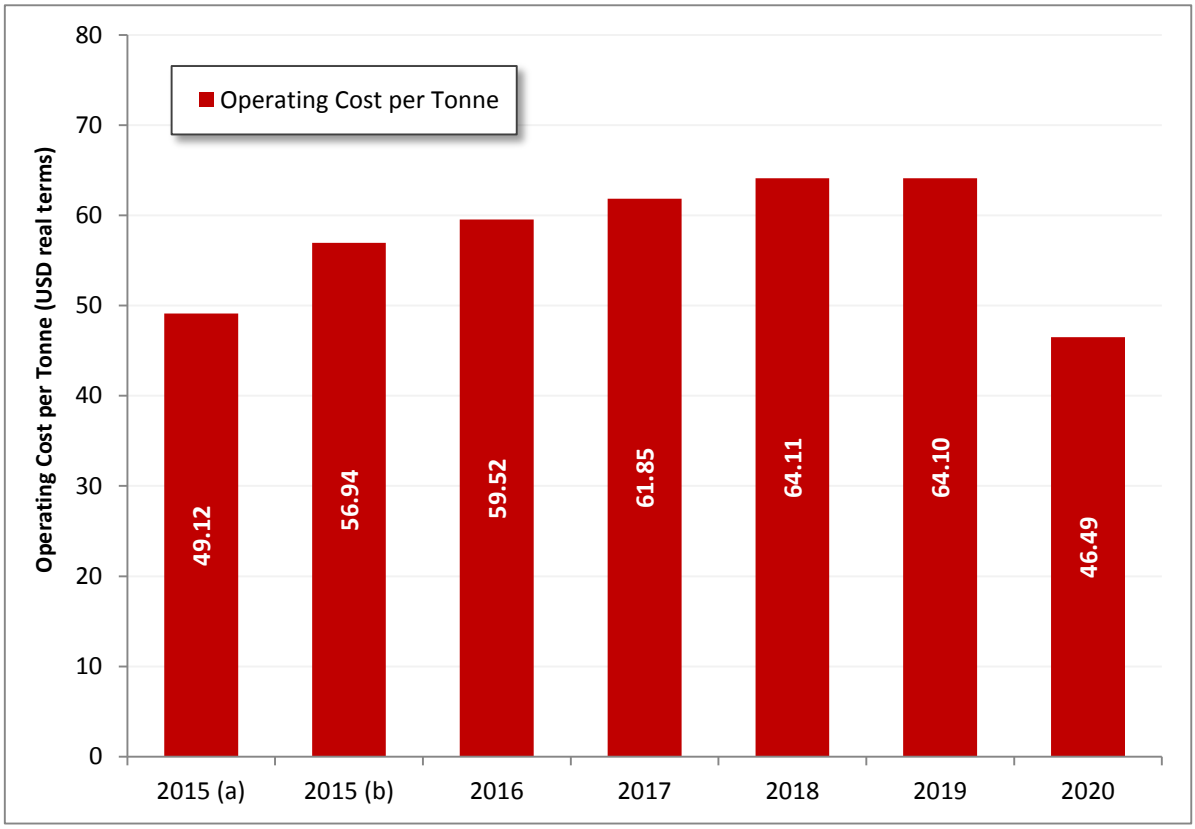


**Table 4.8 – Operating Costs per Tonne over LOM (real terms at end March 2015)**

| Description | Unit | 2015 (a) | 2015 (b) | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|
| Waste Mining | USD per tonne | 23.99 | 30.56 | 33.08 | 34.84 | 36.51 | 35.48 | 20.22 |
| Coal Mining | USD per tonne | 0.87 | 0.87 | 0.86 | 0.85 | 0.85 | 0.85 | 0.80 |
| Haul to Port Stockpile | USD per tonne | 6.85 | 6.86 | 6.74 | 6.69 | 6.69 | 6.69 | 6.27 |
| VAT Pit to Port | USD per tonne | 3.17 | 3.83 | 4.07 | 4.24 | 4.40 | 4.30 | 2.73 |
| SUBTOTAL PIT TO PORT | USD per tonne | 34.89 | 42.12 | 44.73 | 46.62 | 48.45 | 47.32 | 30.02 |
| Port Stockpile and Bargeloading | USD per tonne | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 |
| Barging | USD per tonne | 2.77 | 2.77 | 2.77 | 2.77 | 2.77 | 2.77 | 2.77 |
| Transhipment | USD per tonne | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 |
| VAT Port to Ship | USD per tonne | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 |
| SUBTOTAL PORT TO SHIP | USD per tonne | 6.13 | 6.13 | 6.13 | 6.13 | 6.13 | 6.13 | 6.13 |
| Environment and Rehabilitation | USD per tonne | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| Miscellaneous Operations | USD per tonne | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| SUBTOTAL OTHER | USD per tonne | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 |
| Royalty | USD per tonne | 5.07 | 5.00 | 5.43 | 5.90 | 6.21 | 6.55 | 6.64 |
| Local Government Fee | USD per tonne | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| SUBTOTAL GOVERNMENT COSTS | USD per tonne | 5.17 | 5.10 | 5.53 | 6.00 | 6.31 | 6.65 | 6.74 |
| Dewatering and Water Treatement | USD per tonne | 0.12 | 0.16 | 0.13 | 0.13 | 0.14 | 0.18 | 0.16 |
| Salaries and Wages | USD per tonne | 0.89 | 1.14 | 0.96 | 0.95 | 1.00 | 1.30 | 1.14 |
| Camp and Accommodation | USD per tonne | 0.10 | 0.13 | 0.11 | 0.11 | 0.11 | 0.15 | 0.13 |
| Light Vehicles | USD per tonne | 0.17 | 0.22 | 0.19 | 0.19 | 0.20 | 0.26 | 0.22 |
| Medical Facilities | USD per tonne | 0.04 | 0.05 | 0.04 | 0.04 | 0.05 | 0.06 | 0.05 |
| Community Development | USD per tonne | 0.17 | 0.22 | 0.19 | 0.19 | 0.20 | 0.26 | 0.22 |
| Other | USD per tonne | 0.58 | 0.75 | 0.63 | 0.62 | 0.65 | 0.85 | 0.75 |
| Corporate Overheads | USD per tonne | 0.21 | 0.27 | 0.22 | 0.22 | 0.23 | 0.30 | 0.27 |
| SUBTOTAL FIXED COSTS | USD per tonne | 2.29 | 2.95 | 2.48 | 2.45 | 2.57 | 3.36 | 2.95 |
| **TOTAL OPERATING COST** | **USD per tonne** | **49.12** | **56.94** | **59.52** | **61.85** | **64.11** | **64.10** | **46.49** |

## 4.9 CAPITAL COSTS

As of the date of this report most of the infrastructure for the RJN project was already in place and operating with only a minor amount still required for the project. The estimated capital expenditure required for the remainder of the project life is shown in Table 4.9.

**Table 4.9 – Capital Cost Estimates (real terms as at end March 2015)**

| Description | Capital Expenditure (USD millions) |
|---|---|
| Land Compensation | 1.5 |
| Permits and licenses | 0.7 |
| Exploration and Technical Studies | 0.4 |
| Buildings and Infrastructure | 0.4 |
| Mine Closure Costs (at end of mine life) | 5.0 |
| **SUBTOTAL** | **8.2** |
| Contingency (15 %) | 1.0 |
| **TOTAL** | **9.2** |

SMGC reviewed the forecast RJN 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 4.10.

**Table 4.10 – Basis for Capital Cost Estimates**

| Description | Basis for Estimate |
|---|---|
| Land Compensation | Actual costs incurred to date for the mine site, haul road and port area are approximately IDR 43 billion. The future estimate is for the remaining area required in the IUP once the proposed IPPKH is approved. The rate per hectare for this area is based on the actual rate paid inside the IUP for land already compensated. |
| Permits and Licenses | This is the estimated cost required for the IPPKH extension as well as other minor permits including blasting permits. |
| Exploration and Technical Studies | This includes all costs associated with exploration drilling, geological and geophysical activities, technical reviews and assessments. The remaining capital expenditure includes a preliminary estimate of the cost of additional exploration and technical studies required that will allow the area to the West of the current IPPKH to be exploited. |
| Buildings and Infrastructure | This includes the buildings and infrastructure that need to be constructed or are under construction as at the date of this report including :<br>• Workshop, warehouse and office facilities<br>• Explosive magazine<br>• Other site facilities |
| Mine Closure Costs | A broad estimate was used of approximately USD 7,500 per hectare of disturbed area over the life of mine. This cost will be incurred at the end of the mine life. |

An allowance also needs to be made for ongoing replacement capital costs. The estimated amount of replacement capital required over the life of the mine is approximately USD 0.9 million per annum.

## 4.10 COMMERCIAL ASSUMPTIONS

### 4.10.1 Taxes and Depreciation

The RJN project is subject to prevailing laws and regulations on taxation. As such a company 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 RJN project were depreciated over an 8 year period and used to offset earnings for the purpose of tax calculations. The depreciation schedule was calculated using nominal capital costs, and then deflated using the assumed inflation rate to calculate real cash flows. 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.

### 4.10.2 Working Capital

Working capital has been included in the financial model and requirements peak at approximately USD 10 million in nominal terms in 2018. This was estimated using the following assumptions:

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

### 4.10.3 Inflation Rate

Operating and capital costs were estimated in real terms as at 31 March 2015. These costs were then converted to nominal terms using an inflation rate of 2.4 % per annum for input to the financial model. Cash flows in the financial model were modelled using both nominal and real bases.

## 4.11 ECONOMIC EVALUATION

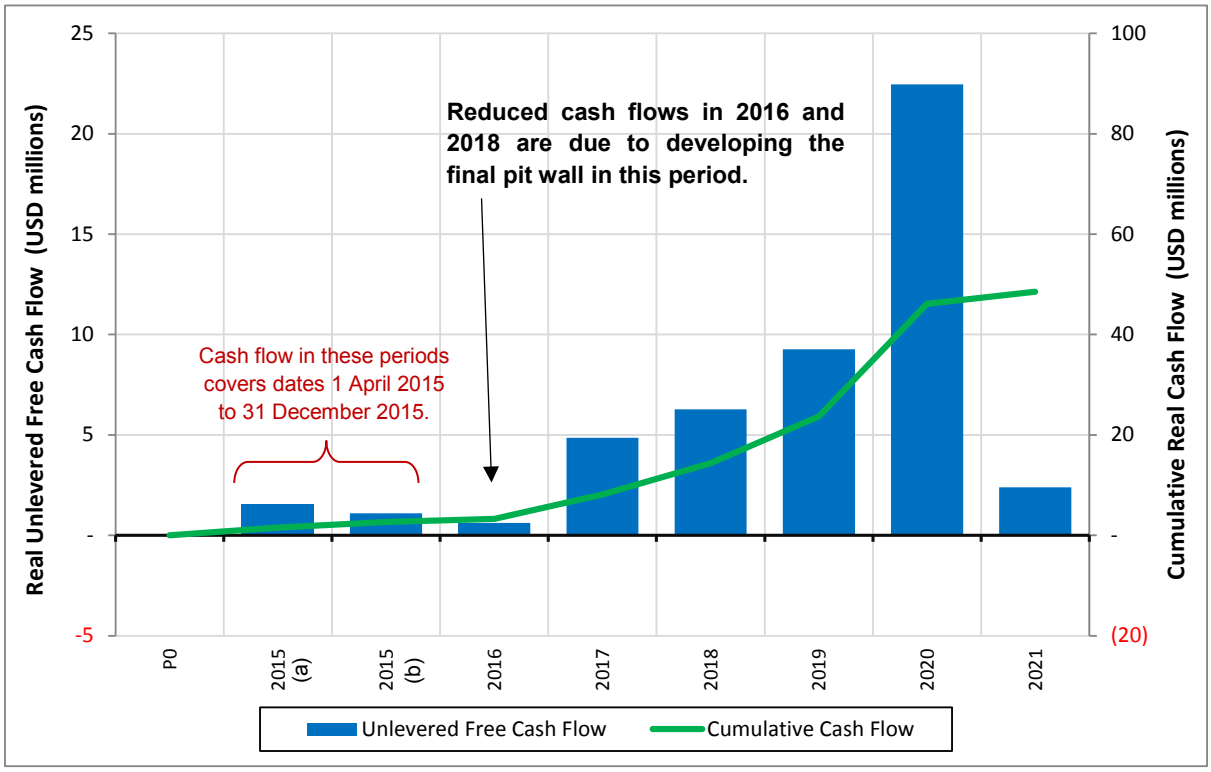
An economic model was developed to confirm that the project is economically feasible after the application of all modifying factors. Using the capital costs, operating costs and sales price assumptions combined with the life of mine plan, the economic model show the project to be economically feasible.

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. SMGC notes that there is a significant drop in project cash-flows in 2016. This is a result of the pit being developed to the final highwall during this time and a significant amount of pre-strip being incurred. This is offset by the higher cash flows in the remaining years of the schedule, particularly in the last year of production (2020) when the stripping ratio is lowest.

SMGC is of the opinion that this is not the optimal way to mine the remainder of the concession; however the mining sequence in the mine plan was developed in this way so that the lower stripping ratio areas in the Western areas of the pit were not mined exclusively in the early part of the schedule, due to the lack of exploration data in these areas. It is considered likely that improvements to the project cash flow can be achieved with modifications to the mine plan once more exploration is undertaken in the concession. This can be done after the IPPKH extension is awarded.

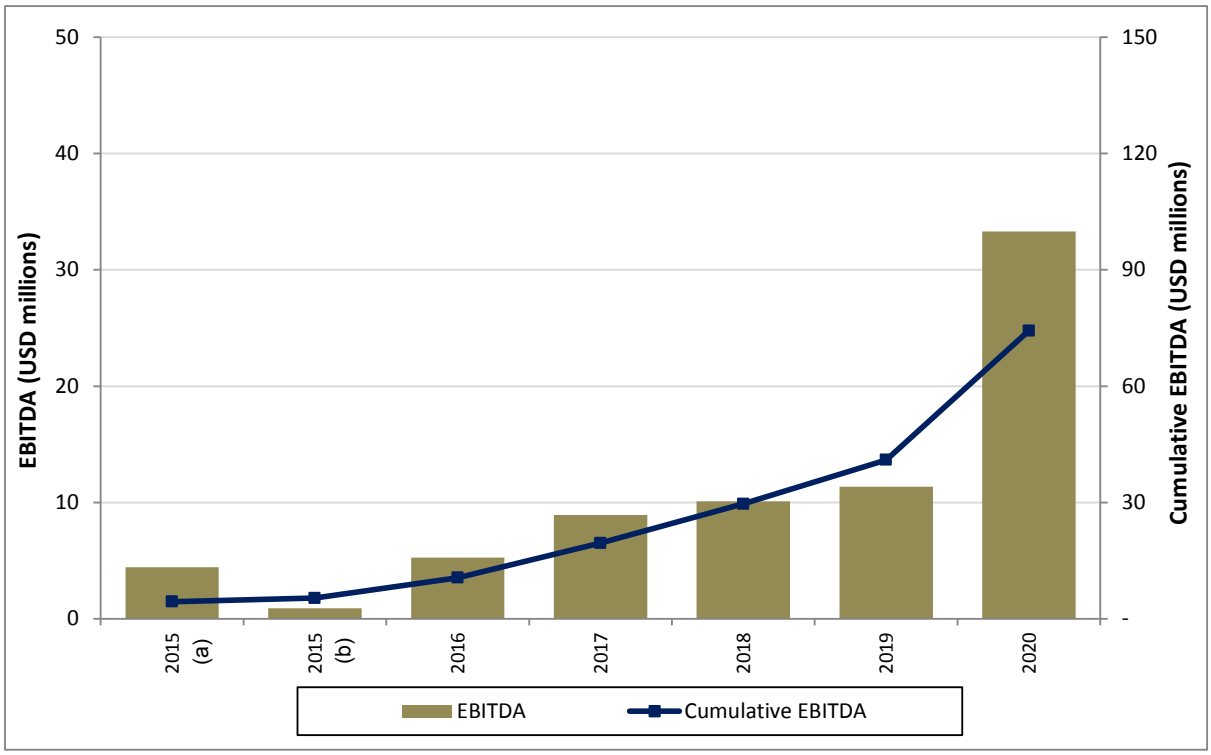
A chart with real cash flows over the life of mine is shown in Figure 4.7 and the real EBITDA graph for the life of mine is shown in Figure 4.8. A summary table of the financial model is shown in Table 4.11. No discount factor has been applied to cash flows in the financial model.

**Figure 4.7 – Cash Flows over Life of Mine**




Period P1 (2015a) is from 1 April 2015 to 31 July 2015
Period P2 (2015b) is from 1 August 2015 to 31 December 2015

**Figure 4.8 – EBITDA over Life of Mine**




Period P1 (2015a) is from 1 April 2015 to 31 July 2015
Period P2 (2015b) is from 1 August 2015 to 31 December 2015

## Table 4.11 – Financial Model Results (Real terms on an Undiscounted Basis)

| Period | | | | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | | | TOTAL | 2015 (a | 2015 (b | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| Physicals | Waste Mined | Mbcm | 73.3 | 4.0 | 5.2 | 14.9 | 14.9 | 14.9 | 11.1 | 8.2 | - |
| | Coal Mined | Mt | 5.8 | 0.4 | 0.4 | 1.1 | 1.1 | 1.1 | 0.8 | 0.9 | - |
| | Stripping Ratio | bcm:t | 12.5 | 9.8 | 12.9 | 13.3 | 13.3 | 13.9 | 13.5 | 9.3 | - |
| | Coal Shipped | Mt | 5.9 | 0.4 | 0.4 | 1.1 | 1.1 | 1.1 | 0.8 | 0.9 | - |
| | Coal Stocks | Mt | | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | - | - |
| | CV Shipped (gar) | kcal/kg | 5,679 | 5,703 | 5,605 | 5,624 | 5,687 | 5,670 | 5,684 | 5,765 | - |
| Revenue | Coal Price Received | USD/tonne | 69.9 | 60.0 | 59.2 | 64.0 | 69.3 | 72.7 | 76.5 | 77.5 | - |
| | Revenue | USD (millions) | 410.6 | 24.2 | 23.2 | 71.5 | 78.0 | 78.2 | 62.8 | 72.6 | - |
| Operating Cost | Pit to Port | USD (millions) | 252.2 | 14.1 | 16.5 | 50.0 | 52.5 | 52.1 | 38.9 | 28.1 | - |
| | Port to Ship | USD (millions) | 36.0 | 2.5 | 2.4 | 6.8 | 6.9 | 6.6 | 5.0 | 5.7 | - |
| | Royalty | USD (millions) | 35.0 | 2.0 | 2.0 | 6.1 | 6.6 | 6.7 | 5.4 | 6.2 | - |
| | Other Variable Costs | USD (millions) | 4.4 | 0.3 | 0.3 | 0.8 | 0.8 | 0.8 | 0.6 | 0.7 | - |
| | Overheads | USD (millions) | 15.9 | 0.9 | 1.2 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | - |
| | TOTAL | USD (millions) | 343.5 | 19.8 | 22.3 | 66.5 | 69.7 | 68.9 | 52.7 | 43.6 | - |
| EBITDA | | USD (millions) | 67.1 | 4.4 | 0.9 | 5.1 | 8.4 | 9.2 | 10.2 | 29.1 | - |
| Cash Margin | | USD per tonne | 11.4 | 10.9 | 2.3 | 4.5 | 7.4 | 8.6 | 12.4 | 31.0 | - |
| Depreciation | | USD (millions) | 11.3 | - | 0.2 | 0.4 | 0.6 | 0.7 | 0.7 | 8.6 | - |
| Tax Losses Carried Forward | | USD (millions) | | - | - | - | - | - | - | - | - |
| Taxable Income | | USD (millions) | 55.8 | 4.4 | 0.6 | 4.6 | 7.7 | 8.6 | 9.4 | 20.4 | - |
| Corporate Tax | | USD (millions) | 14.0 | 1.1 | 0.2 | 1.2 | 1.9 | 2.1 | 2.4 | 5.1 | - |
| EARNINGS AFTER TAX | | USD (millions) | 41.9 | 3.3 | 0.5 | 3.5 | 5.8 | 6.4 | 7.1 | 15.3 | - |
| Earnings per Tonne | | USD per tonne | 7.1 | 8.2 | 1.2 | 3.1 | 5.2 | 6.0 | 8.6 | 16.4 | - |
| Add Back Depreciation | | USD (millions) | 11.3 | - | 0.2 | 0.4 | 0.6 | 0.7 | 0.7 | 8.6 | - |
| Change in Working Capital | | USD (millions) | | - | 1.9 | -1.9 | -1.0 | -0.2 | 1.5 | -1.5 | 8.1 |
| Capital Expenditure | | USD (millions) | 11.6 | 1.7 | 1.6 | 1.3 | 0.6 | 0.6 | - | - | 5.8 |
| **UNLEVERED FREE CASHFLOW** | | **USD (millions)** | **48.5** | **1.6** | **1.1** | **0.6** | **4.9** | **6.3** | **9.3** | **22.5** | **2.4** |

## 4.12 OTHER FACTORS

SMGC is not aware of any other environmental, legal, marketing, social or government factors which may hinder the economic realisation of the Coal Reserves other than those disclosed in this report.

## 4.13 CONFIDENCE IN MODIFYING FACTORS AND RECOMMENDATIONS

Significant areas of uncertainty in the Coal Resources and the modifying factors applied to the Coal Reserves are discussed in this section.

### 4.13.1 Izin Pinjam Pakai Kawasan Hutan

As discussed in Section 3.4, RJN has been forced to dump waste in-pit due to the constraint of the existing IPPKH boundary. This has resulted in the sterilisation of coal that would have otherwise been economic to mine. The mine plan and Reserve Estimate also assume that more in-pit dumping will be required during 2015 and this has been accounted for in the final pit design and mine plan.

For the purpose of this study SMGC has assumed that the new IPPKH will be awarded by 31 July 2015. While this timing is based on information provided by RJN and updates as to the status of the approval process, it is not possible to be certain when this approval will be granted. SMGC notes that significant progress has been made in the process of obtaining approval for the extension.

If this approval is not achieved by the estimated date of 31 July 2015, RJN will be required to either stop production to prevent further sterilisation of Reserves, or continue in-pit dumping and further reduce Reserves remaining in the concession. The timing of the extension also has a significant impact on production rates and waste haulage distance for the concession.

### 4.13.2 Geotechnical Factors

Geotechnical studies have been undertaken for the RJN concession and pit, although these are considered to be of a preliminary nature and are not specific to the final pit design. No geotechnical study has been undertaken for the pit lowwall. SMGC recommends that further geotechnical analysis is undertaken for the final pit designs prior to implementation to ensure that there is an adequate factor of safety for the actual pit walls. It is also recommended that precautions are taken against build-up of groundwater pressure in the lowwall.

The most significant areas of risk are the stability of the highwall and the lowwall in the deepest part of the pit, which is up to 130 m deep. SMGC notes that the final pit walls will not be developed for several years and SMGC is of the opinion that in this case this uncertainty does not preclude the estimation of Coal Reserves in the concession.

### 4.13.3 Geological Structure

While no significant geological structures or coal washouts have been observed in the exploration or mining to date, it is still possible that some structures exist in the deposit. These potential structures are considered unlikely to have a material impact on the volumes of coal and waste in the deposit; however it is possible that potential structures could have implications for the stability of pit walls, particularly in the deeper parts of the pit. SMGC recommends that geotechnical mapping and monitoring systems are put in place from the commencement of mining and that any structure identified in the mining operation is analysed and the impact on pit wall stability analysed immediately.

## 4.14 CLASSIFICATION

The JORC Code allows a Measured Resource to be accepted as a Proved Reserve and an Indicated Resource to be accepted as a Probable Reserve. To convert a Resource to a Reserve it must be demonstrated that extraction could reasonably be justified after applying reasonable assumptions. A level of uncertainty in any one or more of the Modifying Factors may result in a Measured Resource being converted to a Probable Reserve. A high level of uncertainty in any one or more of the Modifying Factors may preclude the conversion of the affected Resource to a Reserve.

In the opinion of SMGC the uncertainties in the modifying factors applied to the Coal Reserves are not sufficiently material to prevent the classification of areas deemed Measured Resources to be areas of Proved Reserves for the purpose of this study. Similarly in the opinion of SMGC the uncertainties in the modifying factors are also not sufficiently material to prevent the classification of areas deemed Indicated Resources to be areas of Probable Reserve.

# 5. ENVIRONMENT, SAFETY AND COMMUNITY RELATIONS

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

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

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 and that this may result in potential problems or increased costs in the future. During previous site visits, SMGC also observed that RJN's facilities for storage of hydrocarbons were inadequate, and that many of the facilities on site were temporary and more work was needed to bring these to an adequate standard. SMGC notes that a significant amount of work has been completed in upgrading these facilities since the last site visit, and the risk of a serious incident with hydrocarbon management has been significantly reduced.

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 FACTORS

SMGC reviewed the AMDAL documents and the environmental procedures for the site, and inspected the environmental infrastructure during the site visit. It is noted that no environmental incidents had been reported for the site during 2015, although it was not possible to ascertain whether this was due to good performance or lack of reporting.

SMGC observed that procedures and records existed for regular monitoring and reporting of water discharge at both the pit and port locations, which was a significant improvement from previous site visits. Some of the key environmental issues with the RJN project include:

A. Water Discharge from Site: 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 managed on the site through the use of bunds, drains and sediment ponds to allow small particles to settle out of the water. 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. Facilities and stock were also in place for the addition of lime to discharge water to reduce acidity, as well as the addition of aluminium sulphate which is a chemical flocculant that assists in speeding up the settling of fine suspended particles in discharge water.

   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 as 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 area and at the port are shown in Figure 5.1.

**Figure 5.1 – Settling Ponds and Water Treatment at Mine and Port**

B. 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 RJN 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 5.2. While RJN have installed nets between the stockpile and the houses, SMGC is of the opinion that these will not have a large impact on dust and the issues will remain.

SMGC understands that RJN is currently paying compensation to the owners of the houses in this area to address this issue. Based on advice from RJN, 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 5.2 – Proximity of Community to Port Stockpile**

C. Land Clearing and Revegetation: A large area of land will be cleared and disturbed as part of the RJN mining operation, although much of this area is secondary growth forest. It is planned that the disturbed area will be rehabilitated and revegetated by mining and handling topsoil separately, and restoring the topsoil to rehabilitated sites. RJN have a procedure for handling topsoil separately and this was observed being practiced at the site, as shown in Figure 5.3. Topsoiled and re-vegetation areas were also observed and appeared to be satisfactory.

**Figure 5.3 – Topsoil Handling and Rehabilitation**

Topsoil dumping on reshaped waste dump.

Rehabilitation area 3 weeks after planting.

Re-vegetated area 2 years after mining.

D. Hydrocarbon Management: significant stores of fuel and oils are located at the RJN mine and discharge of these to the environment could result in significant damage. SMGC observed the facilities during a site visit in October 2012 and it was noted that the bunds and storage infrastructure was inadequate in both the fuel and oil storage stockpiles. Improvements to this infrastructure were observed during the second site visit in October 2013 with concrete bunds and a concrete floor constructed for the fuel storage area, although the height of the bunds may not have been adequate for the amount of fuel stored on the site. Further improvements were observed during the site visit in April 2015 and these facilities now appear to be at a suitable standard except for oil storage at the mine, which still needs an adequate enclosure and bunding. The fuel and oil storage facilities are shown in Figure 5.4.

**Figure 5.4 – Hydrocarbon Storage**


Fuel storage


Oil storage

Mine closure plans for the updated mine plan have yet to be completed; however 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.

## 5.2 SAFETY

SMGC was provided with the Standard Operating Procedures (SOPs) of both RJN and CK. While a number of these procedures appeared to be developed at other operations, there is no reason why they could not be successfully implemented at the RJN site. Based on the brief review, these procedures should be adequate for the operation provided that they are communicated and implemented effectively. The SMGC personnel who undertook the site visit were given an induction before going into the mine, and good induction procedures appeared to be in place.

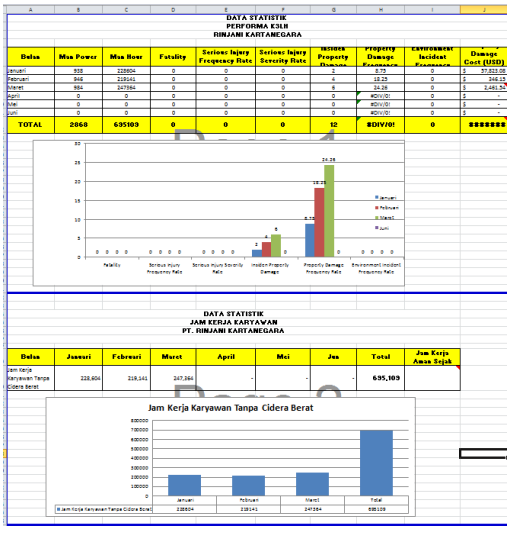
SMGC did not view any site risk assessments or risk register, and these items should be completed as soon as practical if not already done so. Key safety risks for the site are considered to include:

- vehicle interaction on pit and coal haulage roads;
- drill and blast (if undertaken in the future); and
- geotechnical failure.

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 5.5.

**Figure 5.5 – Signage in Pit and Safety Reporting**


Signage in Pit


Safety Statistics and Reporting

During the October 2013 site visit, SMGC noted that no safety incident reporting system or safety performance statistics appeared to be in place or were observed at the time of the site visit. During the April 2015 site visit, RJN staffs were able to provide safety incidents and statistics for the operation, and safety statistic signage was observed at the operation. This is considered a significant improvement to the safety system for the mine.

## 5.3 COMMUNITY RELATIONS FACTORS

Maintaining a good relationship with local communities is a key requirement for the success of any coal mining operation. Efforts must be implemented to develop community programs in coordination with the local government. Another key issue is provision of employment opportunities for the local community. It is good practice for mining operations to source as much of the workforce as possible from local communities to sustain employment in the region and involve the local community in the operation. It is recognised however that to have the required skills mix in the operation that a number of the workforce will have to be brought in from other areas.

RJN informed SMGC that the following items were planned or had already been completed with regards to its community relations obligations:

- provision of local employment (already completed);
- provision of education facilities and assistance (a new school has already been constructed);
- provision of health facilities (future plans);
- provision and upgrading of infrastructure (RJN has already upgraded public roads in their operating area); and
- assistance with sustainable small scale business opportunities (future plans).

Interaction between the community and mining operations is also a key issue that needs to be carefully managed, particularly between private vehicles and haul trucks on the coal road. SMGC did not observe any conditions at the RJN operation that are considered to be worse than most other mining operations in Indonesia.

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 sections.

# 6. PROJECT RISKS

There are a range of risk factors which may affect the future operations and the financial performance of the RJN coal mine. 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 25 % of 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 IPPKH 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.

A reconciliation of modelled coal vs. actual production and shipping was undertaken for coal mined to date from the concession using the geological model developed for estimating Resources. The results from this reconciliation were not conclusive, most likely due to errors in the estimation of the Base of Weathering surface as described in Section 4.2 in Appendix D. While the mining loss and dilution parameters are considered to be reasonable for the purpose of this study, the uncertainty in the reconciliation results increases the risk that mining losses will be greater than forecast and Reserves lower than anticipated.

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

## 6.2 GEOTECHNICAL

Geotechnical studies have been undertaken for the RJN concession and pit, although these are considered to be preliminary studies. SMGC recommends that further geotechnical analysis is undertaken for the final pit designs to ensure that there is an adequate factor of safety for the actual pit designs.

The most significant areas of risk are the stability of the highwall and lowwall in the deepest part of the pit, which is up to 130 m deep; although this only affects the lowest margin and least profitable coal in the pit.

RISK RATING: 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 has recently experienced instability and the future balance of supply is difficult to predict accurately. Coal prices are influenced by many factors, most of which are outside of RJN's control.

If forecast coal prices are not realised and there is a fall in long term prices, there would be a substantial reduction in the value of the project. While it is unlikely that the project will become uneconomic, substantially lower coal prices could require a redesign of pits, lowering of production targets and a significant revision of mining plans.

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

## 6.4 MINING APPROVALS, TENURE AND PERMITS

While most permits are already in place, the key permit still required to achieve the target project outcomes is the extension to the IPPKH. This is considered critical to achieving the mine plans outlined in this report. Any delays in obtaining the extended IPPKH will affect the production schedule and the mine plan. This would have the effect of possibly delaying revenue and increasing operating costs, which would have a significant impact on the value of the concession. Other tenure risks for the RJN concession are considered to be relatively low.

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

## 6.5 OPERATING AND CAPITAL COSTS

Operating costs assumptions in the study are based on existing and recently renegotiated contracts and actual costs where available, while other costs are based on typical operations in Kalimantan. SMGC notes that there has been significant variation in contractor rates in the years preceding this valuation. Some contractor unit rates rose dramatically in the period 2008 to 2012 as mines expanded, spare contractor capacity was low and there were long equipment lead times. Since 2012 many contracts have been renegotiated at much lower rates and new contracts are more competitive.

While the unit rates in this analysis are considered to be sustainable for both contractors and mine owners in the long term, any occurrence of operating costs higher than the forecast costs would have a significant impact on the value of the concession. A partial mitigation against increases in contractor rates is the linkage of price trends of oil and thermal coal.

Capital expenditure risk is considered to be low as most of the infrastructure required for the mine is already in place, and land compensation has already made significant progress.

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 RJN 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.

RISK RATING: 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 RJN 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.

RISK RATING: Low to Moderate (could have a minor to significant impact on project performance)

## 6.9 LAND COMPENSATION

Acquiring the land required for a project and identifying and compensating land owners is a significant issue with most operations in Indonesia. SMGC is not aware of any specific land compensation issues with the RJN concession at the current time and land acquisition and compensation processes appear to be effective. However it is considered possible that delays to land compensation and associated interruptions to the project may occur in the future and that this may have an impact on project performance.

RISK RATING: Low (could have a minor impact on project performance)

# 7. CODE COMPLIANCE

This qualified persons report has been prepared in accordance with the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (VALMIN Code), prepared by the VALMIN Committee, a joint committee of The Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists and the Mineral Industry Consultants Association with the participation of the Australian Securities and Investment Commission, the Australian Stock Exchange Limited, the Minerals Council of Australia, the Petroleum Exploration Society of Australia, the Securities Association of Australia and representatives from the Australian finance sector.

Keith D. Whitchurch

BE Mining (Hons) MEngSc MAusIMM(CP) RPEQ

The signatory to this report Mr. Keith Whitchurch, BE (Mining) MAusIMM is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Whitchurch and is the President Director of PT SMGC Consultants which is located at Sampoerna Strategic Square, North Tower, 18th Floor. Jl Jenderal Sudirman Kav. 45-46 Jakarta Selatan 12930 Indonesia.

Mr. Whitchurch has in excess of 30 years' 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 2012 Edition of the JORC Code).

# Appendix A – Contributors to Report

**Keith Whitchurch – Principal Mining Engineer**

| | |
|---|---|
| Qualifications: | B.E. (Mining - Hons), MEngSc (Research) |
| | MAusIMM (CP); RPEQ |
| Contribution: | Oversight and Supervision of Project |
| Experience: | Keith has over 30 years' 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 – Principal Mining Engineer**

| | |
|---|---|
| Qualifications: | B.E. (Mining - Hons) |
| | MAusIMM |
| Contribution: | Report review and audit of report findings. |
| Experience: | Kim has 28 years' 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. |

**Joshua Cochrane – Principal Mining Engineer**

| | |
|---|---|
| Qualifications: | B.E. (Mining - Hons) |
| | MAusIMM |
| Contribution: | Oversight of mine plans, preparation of cost estimates and report writing, Competent Person for Coal Reserves |
| Experience: | Joshua has over 15 years' experience in open cut mining across coal, laterites and mineral sands in technical roles and operational management. Joshua has spent the last 9 years in Indonesia in a variety of senior technical and operational roles. |

**Mark Manners – Principal Geologist**

| | |
|---|---|
| Qualifications: | B.Sc. (Geology) |
| | MAusIMM |
| Contribution: | Competent Person for Coal Resources |
| Experience: | Mark has over 30 years experience working as a geologist in Australia and Indonesia and has been based in Jakarta since 2006. His experience includes geological modelling and Resource estimation in a wide range of projects ranging from grass roots exploration to development work on major open-cut mines. |

## Appendix B – 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 incompliance 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 | Gross Attributable to Licence | | Net Attributable to Issuer | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | Tonnes (millions) | Grade | Tonnes (millions) | Grade | Change from previous update (%) | |
| **Reserves** | | | | | | | |
| Proved | Coal | 3.3 | Subbituminous B | 2.6 | Subbituminous B | - 44 % | Change to due to production and sterilisation from dumping. |
| Probable | Coal | 1.1 | Subbituminous B | 0.9 | Subbituminous B | + 12 % | Increase due to minor changes in pit design. |
| Total | Coal | 4.4 | Subbituminous B | 3.5 | Subbituminous B | - 36 % | - |
| **Resources** * | | | | | | | |
| Measured | Coal | 14.0 | Subbituminous B | 11.2 | Subbituminous B | - 8 % | Change to due to production. |
| Indicated | Coal | 4.0 | Subbituminous B | 3.2 | Subbituminous B | - | No change. |
| Inferred | Coal | 4.7 | Subbituminous B | 3.8 | Subbituminous B | - 2 % | |
| Total | Coal | 22.7 | Subbituminous B | 18.2 | Subbituminous B | - 5 % | Discrepancy due to rounding |

* Measured and Indicated Resources are inclusive of Reserves

**Name of Qualified Person:** _____

**Date:** _____

**Professional Society Affiliation / Membership:** _____