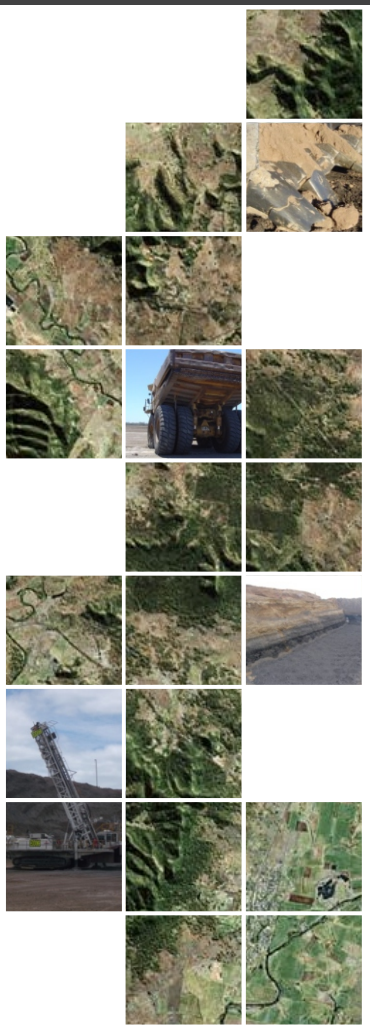
Appendix C – Coal Resource Statement

Coal Resource Statement
FEBRUARY 2017

Prepared For :

PT Rinjani Kartanegara



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DISCLAIMER

PT SMG Consultants Indonesia (SMGC) has prepared this Coal Resource Statement for the exclusive use of PT Rinjani Kartanegara (RK). The report deals with the RK coal concession located in the Loa Janan sub-district of the Kutai Kartanegara Regency, East Kalimantan, Indonesia.

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- the limited scope of the report
- other relevant issues which are not within the scope of the report

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

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

Assumptions

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

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

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

Conditions

Statements in this 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 RK’s plan of business operations, supply levels and costs, potential contractual arrangements and the delivery of equipment, receipt of working capital, anticipated revenues, mineral Resource and mineral Reserve estimates, and projected expenditures.

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.

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

ABBREVIATIONS

AC	Acid Consuming
ad	Air Dried
adb	Air Dried Basis
AF	Acid Forming
AMDAL	"Analisis Mengenai Dampak Lingkungan Hidup" which translates to "Environmental Impact Assessment" and includes 3 sections: ANDAL, RKL and RPL
ANDAL	"Analisis Dampak Lingkungan Hidup" which translates to "Environmental Impact Analysis" and is part of the AMDAL
APBI	"Asosiasi Pertambangan Batubara Indonesia" which translates as "Indonesian Coal Mining Association"
ar	As received
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
CSN	Crucible Swell Number
CV	Measure of energy (kilocalorie) per kilogram
daf	Dry Ash Free Basis
FC	Fixed carbon
gar	Gross As Received basis for coal quality
g/cc	Grams per Cubic Centimetre
ha	Hectare
HE	Hydraulic Excavator
HGI	Hardgrove Grindability Index
HL	Hutan Lindung
HP	Hutan Produksi
Hr	Hour
ICMA	Indonesian Coal Mining Association
IM	Inherent Moisture
IRR	Internal Rate of Return
ITCI	PT ITCI Hutani Manunggal
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 Minerals Council of Australia
Kcal/kg	Unit of energy (kilocalorie) per kilogram
kg	Kilogram
Km	Kilometre
KP	"Kuasa Pertambangan" which translates to "Authority for Mine Workings"
Kt	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
m/s	Metres per second
Mt	Million tonne
Mtpa	Million tonnes per annum
MW	Megawatt
NAF	Non Acid Forming
NAR	Nett As Received
NGO	Non-Governmental Organisation
NPV	Net Present Value
Opex	Operating costs
pa	per annum
PAF	Potential Acid Forming
PP	Pinjam Pakai
PPE	personal protective equipment
RD	Relative Density
RK	PT Rinjani Kartanegara
RKL	Rencana Pengelolaan Lingkungan Hidup
RL	Relative Level (used to reference the height of landforms above a datum level)
ROM	Run-of-Mine
RPL	Rencana Pemantauan Lingkungan Hidup
SCCI	Surveyor Carbon Consulting Indonesia
SE	Specific Energy
SMGC	PT SMG Consultants Indonesia
SNI	Indonesian National Standard
SR	Strip ratio (of waste to ROM coal) expressed as bcm per tonne
SOP	Standard operating procedure
ST	Seam Thickness
t	Tonne
tkm	Tonne kilometre
TM	Total Moisture
t/m3	Tonne per cubic metre
tph	Tonne per hour
TS	Total Sulphur
VM	Volatile Matter

RELEVANT REPORTS AND DOCUMENTS

1. “Coal Resource Statement, April 2016, Prepared for PT Rinjani Kartanegara” by SMGC.
2. Australian Guidelines for Estimating and Reporting of Inventory Coal, Coal Resources and Coal Reserves, 2003.
3. “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code 2012 Edition”, Prepared by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).
4. Preston, KB and Sanders, RH, “Estimating the In Situ Relative Density of Coal”, Australian Coal Geology, Vol 9, pp22-26, May 1993.
5. “Guidebook of Thermal Coal Sub-Bituminous Coal Second Edition”, Koichi Katoh APBI-ICMA 2011.

EXECUTIVE SUMMARY

This independent Resource Report has been prepared by PT SMG Consultants Indonesia (SMGC) to estimate the Coal Resources contained within the PT Rinjani Kertanegara (RK) coal concession area.

This report is current as of the 31st December 2016, the date of the latest topography survey and has been prepared in recognition of the reporting guidelines set by the 2012 Joint Ore Reserves Committee ("The 2012 JORC Code").

The RK Project Area covers 1,933 ha of land, located in the Loa Janan District, Kutai Kartanegara Regency, East Kalimantan Province of Indonesia and is held under an operation production mining business licence (Izin Usaha Pertambangan - IUP Operasi Produksi) granted on the 24th November 2009. The IUP is valid until 24th November 2021.

The IPPKH2 was granted on July 2016 and RK continued drilling work within the area. A total of 62 boreholes have been drilled during July to September. Boreholes were spread on the west side and the south side of the existing mining area. Drilling on the southern side intersected new seams. Totally 246 boreholes have been drilled in the RK Project Area. This includes 134 cored holes and 112 open holes (Figure 4.2). Drilling was carried out by experienced operators using drill rigs capable of HQ coring to 150 m in depth with an average borehole depth of 120 m being drilled. Due to insufficient data, such as no geophysics, or improper surveying, 46 of 246 boreholes cannot be included in the geological model (Table 6.1 and Table 6.2). The RK geological model is developed from 200 boreholes, which reliable data was obtained.

In situ coal Resources for each seam modelled are categorised according to increasing levels of confidence. Measured, Indicated or Inferred categories are determined based on distance from a "Point of Observation". A valid point is defined as a seam intersection that has been surveyed and cored where coal quality has been tested by an accredited laboratory, sample recovery is ≥ 90 % and the borehole is accompanied by valid geophysics.

A total Resource of 15.5 Mt has been calculated for the concession, comprised of 10.3 Mt Measured Category Resources, 3.8 Mt of Indicated Category Resources and 1.4 Mt of Inferred Category Resources (Table 1). This Resource has excluded "mined-out" coal.

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

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

There may be minor discrepancies in the above table due to rounding of tonnes. These are not considered Material by SMGC.
All tonnes shown are calculated using density that has been estimated using Preston-Sanders method.
This table must be presented with the entire Coal Resource Statement from which it was obtained.

This Resource is 4.1 Mt less than the previous Resource report for this area ("Coal Resource Statement, April, 2016"). 1.3 Mt of the loss comes from coal mining activities since the last report. 4.5 Mt of loss from imposing an economically/operationally based Learch Grossman optimised pit limit which has increased the stripping ratio due to backfilling and dump placement. An in situ density adjustment has also been applied using the Preston Sanders method resulting in a loss of 0.3 Mt. Additional exploration resulted in a loss of 1.6 Mt to the existing model areas but finding an extra 3.6 Mt of Resource in new areas. The Resource is also limited by the Concession boundary and by an upper base of weathering (BOW) surface which is a default 1.5 m below the topography. A 0.1 m seam thickness cut-off has also been used. Reported results are limited by available borehole data, as well as available borehole collar and topographical survey data as of the end of December 2016.

The topographic surface used in the modelling process is based upon LIDAR topographical survey data in conjunction with the total station surveyed pit area (end of December 2016 'as mined' and ‘as dumped’) surfaces. A Total Station ground survey has been completed for all boreholes used in the geological model within the reported Resource area.

Coal located within the RK concession may be characterised as a moderate total moisture, low ash content, high sulphur and moderate energy coal. Ash content is highly dependent on the seam with ash values ranging from 1.3 % to 42.3 % with a mean of 5.6 % on an air dried basis. This coal is classified as a sub-bituminous class A coal (Coal Rank ASTM-D-388-99, Guidebook of Thermal Coal Sub-Bituminous Coal, Koichi Katoh, page 33).

To fit with best practices this report has been prepared in accordance with SMGC’s interpretation of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code). Estimated Resource figures for this Coal Resource statement are current from the 31st of December 2016 and have been reviewed and verified by SMGC’s Principal Geologist Mr. Abdullah Dahlan, who is a competent person as defined by the 2012 JORC Code. Mr. Dahlan is a Member of the Australasian Institute of Mining and Metallurgy. He has sufficient experience relevant to the style of mineralisation and the type of deposit being evaluated.

1. INTRODUCTION

PT SMG Consultants Indonesia (SMGC) was engaged by PT Rinjani Kartanegara (RK) to prepare an Independent JORC Resource report for the RK Project Area. This JORC Resource report has been prepared by SMGC to disclose an estimate of the Coal Resources within the RK concession area and is current as of 31st December 2016.

The PT Rinjani Kartanegara (RK) coal concession is beneficially controlled and owned 100 % by PT Rinjani Kartanegara. Tenure for the RK Project is held under an operation production mining business licence (Izin Usaha Pertambangan - IUP Operasi Produksi), and appears on the official clean and clear list of the Ministry of Energy and Mineral Resources of Indonesia. A copy of the tenure document is located in (Appendix D). The concession is located in the Loa Janan District, Kutai Kartanegara Regency, East Kalimantan Province of Indonesia and covers an area of 1,933 ha (Figure 1.1). The concession is situated between the major cities of Samarinda and Balikpapan within the East Kalimantan province. Samarinda is the capital city of East Kalimantan and is located about 45 km northeast of RK. Balikpapan is serviced by regular domestic flights and is located approximately 45 km to the south of RK. Access to the concession area takes approximately 1.5 hours from Balikpapan driving north on the Samarinda public road.

This report deals exclusively with the Resources contained within the portions of the area that are bounded by the coal measure extent and the concession boundary. A single IUP covers this area (Appendix D). For provision of this report, both a structural and coal quality model have been generated from validated borehole data and a Resource estimate has been made based upon the guidelines of The 2012 JORC Code published by the Joint Ore Reserves Committee (“JORC”) of the Australasian Institute of Mining and Metallurgy in 2012. Under the report guidelines all geological and other relevant factors for this deposit are considered in sufficient detail to serve as a guide to on-going development and possible future mining.

Resource estimates in this statement deal exclusively with coal contained within the IUP boundary, limited by an upper base of weathering surface, a 0.1 m seam thickness cut-off and a pit optimisation base surface as the bottom limit.

1.1 SCOPE OF WORK

SMGC was commissioned to prepare an updated Coal Resource Report for the RK Project Area.

The scope of work consists of:

Exploration Data:

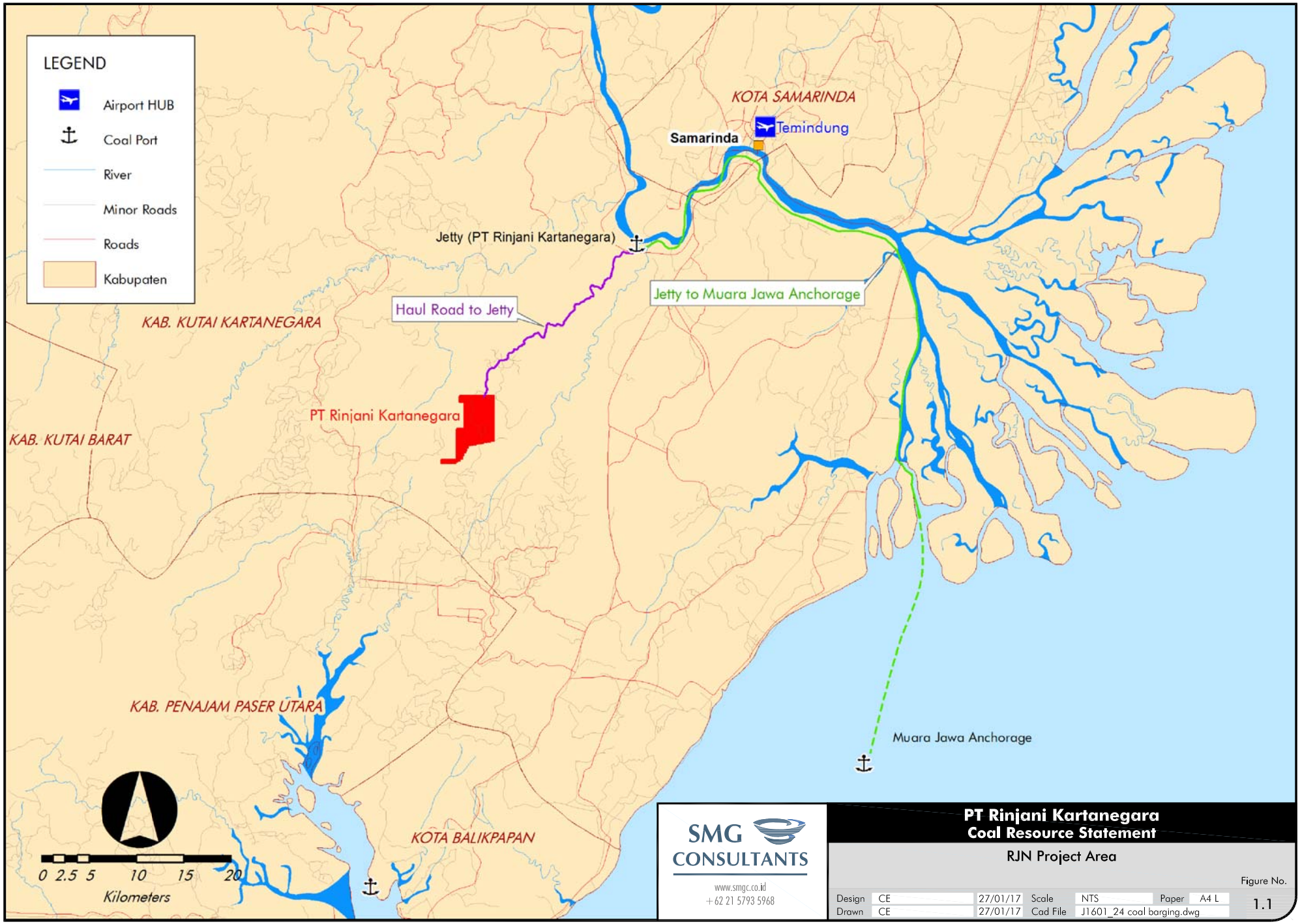
- Review, verify and validate available exploration data provided by RK in assessing drilling data, sampling techniques, geophysical logs and coal quality analytical results
- Site visit

Geological Model:

- Update the Minex borehole database and geological models with recent borehole data
- Re-correlate the borehole data with the updated ply nomenclature where necessary
- Create the seam structure and quality grids in the RK geological model

Coal Resources:

- Categorise the Measured, Indicated, and Inferred Resource categories based on actual points of observation
- Estimate coal Resources and produce a Resource Report for the RK deposit which complies with the JORC Code.



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PT Rinjani Kartanegara
Coal Resource Statement

RJN Project Area

Figure No. 1.1

Design	CE	27/01/17	Scale	NTS	Paper	A4 L	
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1.2 LOCATION

The RK Project concession area is located in the Loa Janan District of the Kutai Kartanegara Regency, East Kalimantan Province of Indonesia. Geographically the concession situated between the major cities of Samarinda and Balikpapan within the East Kalimantan Province. Samarinda is located about 45 km northeast of RK (Figure 1.1) whilst Balikpapan is located approximately 45 km to the south of RK. The concession area can be accessed by a two hour domestic flight from Jakarta to Balikpapan followed by a 1.5 hour trip by car along the Samarinda public road.

1.3 TENURE

Tenure for the RK project is held under an Operation Production mining business licence (Izin Usaha Pertambangan - IUP Operasi Produksi). SMGC has been provided with a copy of the IUP documents for the concession and these are attached in Appendix D.

The details of this concession are shown in Table 1.1 and all Resources reported in this statement are contained within this concession.

Table 1.1 – Concession Details

IUP	PT Rinjani Kartanegara
Type	Operation Production IUP
Number	540/1654/IUP-OP/MB-PBAT/XI/2009
Company Name	PT Rinjani Kartanegara
Kabupaten	Kutai Kartanegara
Province	Timur Kalimantan
Resource	Coal
Area	1,933 ha
Date Signed	24th November 2009
Expiry	24th November 2021
Validity	12 years

SMGC makes no warranty or representation to either RK or third parties (express or implied) in regard to the validity of the IUP and documentation. This Resource Report does not constitute a legal due diligence of the concession.

The RK area is classified as HP by the Indonesian Forestry Department and therefore requires a Permit to Borrow and Use Forest Area (Izin Pinjam Pakai Kawasan Hutan - IPPKH) before construction and mining operations can take place (Figure 7.8). RK has an IPPKH that allows them to “Borrow and Use” the Production Forest (HPK) area for mining purposes and infrastructure over a portion of the concession area. This will need to be extended in order to access all of the Resources. The existence of HP has no Material impact on Resource estimates provided that the cost of obtaining an IPPKH for HP forest does not exclude the Resource from ‘eventual economic extraction’.

Whilst this Resource Statement does not constitute a legal due diligence of the concession a check has been made to identify that the IUP is included within the “Clean and Clear” list issued by the Director General of Mineral Resources for the Indonesian Government.

1.4 SITE VISIT

On September 19th 2016, one of SMGC's senior geologists, Wahyudi Adhiutomo, who is also a Competent Person for Coal Resources, visited the RK site as per the scope of work and performed the following activities:

- observed ongoing exploration activities in the western area of the IPPKH2; and
- carried out discussions with key department staff for gathering information on existing system and practices.

1.5 RESULTS LIMITATIONS AND STANDARDS

It is important to note when considering this report that geological information usually consists of a series of small points of data on a large blank canvas. The true nature of any body of mineralisation is never known until the last tonne of ore has been mined out, by which time exploration has long since ceased. 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 fragmentary 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. 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.

Resource figures in this report deal exclusively with coal contained within the RK Project concession boundary and have been limited by an upper weathering surface and the lower minable limits determined by an economically/operationally optimised pit shell "GEO04". The pit optimisation base was designed to give a view of the reasonable prospects of technical and economic extraction of the coal in the RK concession.

The RK structure and quality model have been built using RK borehole information and in-pit channel sampling points. The coal sequence in the RK area contains 41 seams, most of which are reasonably well defined, understood and consistently encountered by current drilling. Four seams exhibit a single generation of splitting. The seams are named S10, S15, S30, and S2000. Also there are 2 father seams with son seams as splits; S40 and S50. The geology of the area appears to be generally simple to moderate with some significant variation in seam thicknesses. Waste interburden units were generally of a consistent thickness across the deposit; however seam wash outs or non-development of seams may still be present.

The coal sequence in the area contains 41 seams. 22 of 41 seams have enough coal quality data to allow for quality modelling and resource estimation. Coal quality results reported in Table 6.5 have been generated from input values obtained from cored boreholes. These were predominantly HQ-3 (61.1 mm) sized holes. All coal analysis has been performed by an accredited laboratory (PT Geoservices, Samarinda).

Resources have been sub-divided into Measured, Indicated and Inferred categories (Table 8.1) and are intended for the exclusive use of RK.

1.5.1 JORC Table 1

This Coal Resource Report was prepared according to SMGC's interpretation of 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 Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia. Under the report guidelines all geological and other relevant factors for this deposit are considered in sufficient detail to serve as a guide to on-going development and mining.

In the context of complying with the Principles of the Code, JORC Table 1 of the JORC Code (Appendix B) has been used as a checklist by SMGC in the preparation of this report and 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 order and grouping of criteria in JORC Table 1 reflects the normal systematic approach to exploration and evaluation. Relevance and Materiality are the overriding principles which determine what information should be publicly reported and SMGC has attempted to provide sufficient comment on all matters that might materially affect a reader's understanding or interpretation of the results or estimates being reported. It is important to note that the relative importance of the criteria will vary with the particular project and the legal and economic conditions pertaining at the time of determination.

In some cases it may be appropriate for a Public Report to exclude some commercially sensitive information. A decision to exclude commercially sensitive information would be a decision for the company issuing the Public Report, and such a decision should be made in accordance with any relevant corporations regulations in that jurisdiction.

In cases where commercially sensitive information is excluded from a Public Report, the report would provide summary information (for example the methodology used to determine economic assumptions where the numerical value of those assumptions is commercially sensitive) and context for the purpose of informing investors or potential investors and their advisers.

2. GEOLOGY OF THE RK PROJECT

2.1 REGIONAL GEOLOGY

The Indonesian Archipelago is a complex geological collection of continental blocks, with active and extinct volcanic arc's, young and mature ocean basins and multiple subduction complexes. It is now at the centre of three major tectonic plates, the Eurasia, Pacific and Australian plates. The present day configuration of the Kutai Basin is a good example of extension and inversion tectonic deformation and marks the outcome of a series of tectonic episodes. Extensional tectonics and rifting in the early Tertiary resulted in accommodation space for sedimentary deposition. During this time the Barito, Kutai and Tarakan basins formed as part of a large interconnected area of subsidence and sedimentation linked to the opening of the Makassar Straits and Philippine Sea. The event resulted in the deposition of a vast series of alluvial and deltaic sediments, including the Pamaluan, Pulaubalang, Balikpapan and Kampungbaru formations. Basin fill was supplied from the erosion of sediments along the northwest Kalimantan margin (the Kuching High). Sedimentary deposition was fairly continuous since its inception and formations prograde to the east. Deposition occurred both spatially and temporally, syn-depositional facies include lacustrine, fluvial, marginal marine and marine environments. Sediment depocenters were laterally interconnected by intricate narrow connections. Deltaic deposition continues to the present day and is now focused around the Mahakam Delta. The Delta is located to the northeast of the RK concession and is frequently targeted for hydrocarbon exploration. Rifting was terminated in the middle Eocene accompanied by a compressional tectonic shift. From the Eocene to the present day the basin has experienced progressive west to east inversion, a result of multiple collisions of microplates with subducting boundaries along the northwest margin of Kalimantan.

The RK concession area is located within the lower Kutai Basin of East Kalimantan. The Kutai Basin is a deep Tertiary aged sedimentary basin covering about 165,000 km^2; it extends to 15 km in depth. The basin can be divided into two separate regions an upper and lower basin segmented by a period of uplift in the early Miocene. The upper basin is located inland and west towards the Kalimantan central ranges and the lower basin is located east, towards the coast of East Kalimantan. The lower Kutai Basin is defined both north and south by contiguous basins and two major north-northwest trending structural features. The Tarakan Basin and the Sangkulirang fault system exist to the north and the Barito Basin and Adang fault system exist to the south. The basin is bound in the north and south by regions exhibiting thin shallow water complexes of Tertiary carbonates and relatively coarse siliciclastic. Major structural elements show a distinctive north-northeast trend, swinging northeast in the areas of Kutai Barat, possibly in response to earlier cretaceous tectonic events that formed the core of Borneo (The Kucing High and Central Kalimantan Ranges). Generally, basin development occurred in two cycles. The first cycle comprised of deep sedimentation, possibly into a fore-arc basin setting during pre-Tertiary to Oligocene time. The source of the sediments is thought to be the Kucing High to the northwest, north and south (Mangkalit Ridge and Sunda Shelf respectively). The second phase of deposition commenced in the Miocene and continues to this day, at present sedimentation is focused in the Samarinda Delta, located at the mouth of the Mahakam River.

The early second phase of deposition was most importance for coal formation in the Kutai Basin. It comprises a series of Miocene and Pliocene prograding deltaic fans and alluvial deposits with the primary provenance being the Kucing High area to the west of the Kutai Basin. Coal was deposited in lacustrine and marginal marine syn-rift successions, usually a few meters thick although 8-15 m beds do occur in some of Southeast Kalimantan. Approximately 43 regional seams have been identified within Southeast Kalimantan.

In the deltaic beds of Samarinda seams range between 1.5 to 13 m in thickness. Formations of this basin which are exposed in and surrounding the RK, IUP area are the Pulaubalang Formation (Tmpb), Pamaluan Formation (Tomp), Balikpapan (Tmbp) and Kampungbaru Formation (Tpkb). The Pulaubalang Formation is the coal bearing formation within the RK concession area (Figure 2.1 and Figure 2.2).

Kampungbaru Formation (Tpkb)

This formation is comprised of quartz sandstone with intercalations of claystone, siltstone, polymictic conglomerate, lignite peat and iron oxides. Coal seams occur in the lower parts of the formation. Quartz sandstones are well sorted, friable and are fine to medium grained with feldspar and fine carbon flake impurities. Claystones are tuffaceous and occur in thin layers that contain small clay nodules up to 1 cm across. Siltstones are greenish grey, locally alternating with 3 cm thick beds of peat. Polymictic conglomerate beds occur in the lower part of the sequence and are comprised of basalt and quartz clasts alternating upward and fining into poorly sorted sandstones. The unit is interpreted to have been deposited in a fluvial and terrestrial depositional environment. Microfossils in limestones indicate deposition occurred during the late Miocene and Pliocene. Thickness ranges between 250 - 280 m but in parts can be up to 800 m thick. This formation is overlain unconformably by alluvium.

Balikpapan Formation (Tmbp)

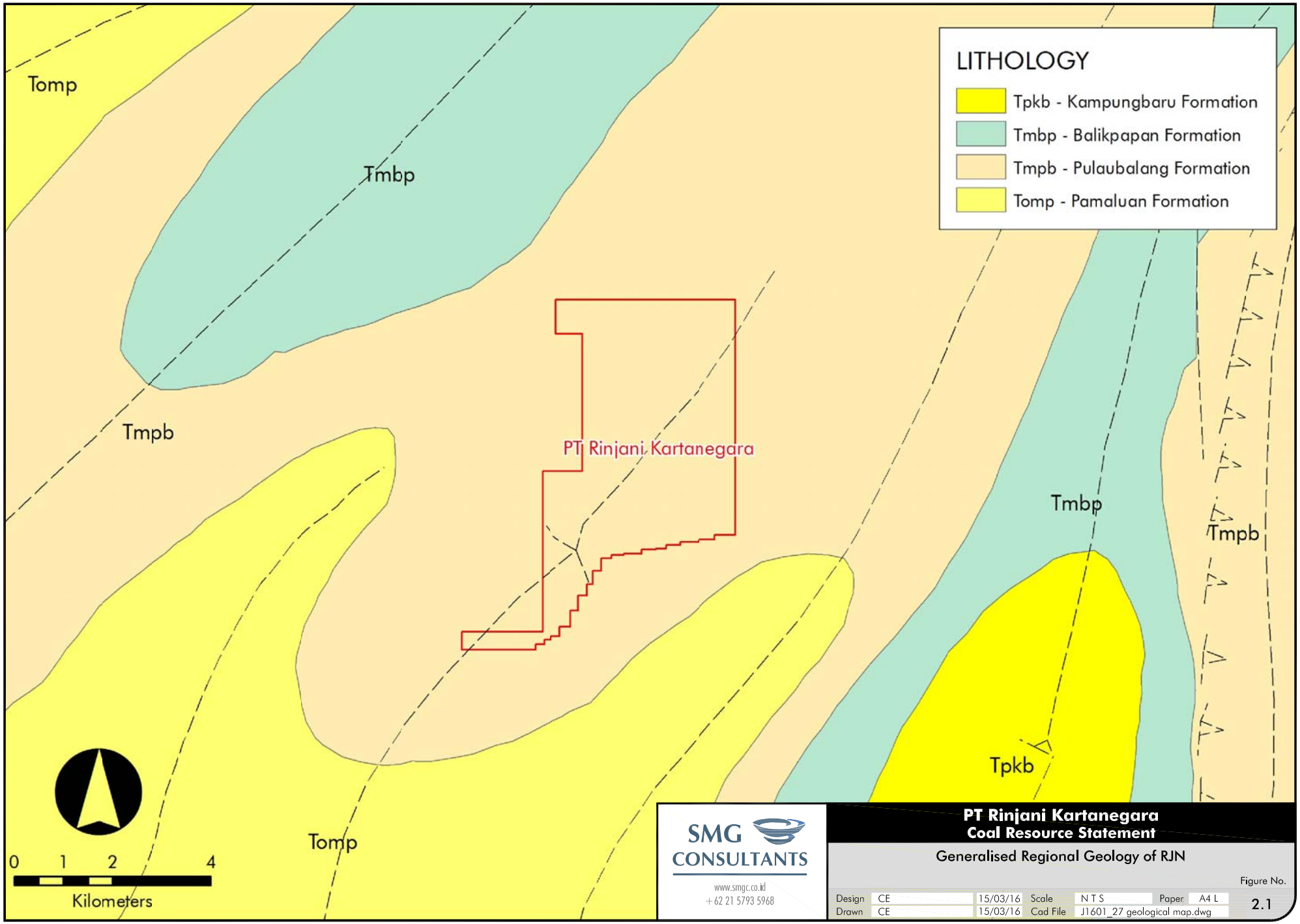
This formation is composed of alternating sandstone and clay intercalations with silt, shale, limestone and coal. Quartz sandstone is white to yellowish, bedding thickness is about 1 - 3 m and contains coaly beds between 5 and 10 cm thick. Calcareous sandstones are brown, with graded bedding, cross bedding and are 20 - 40 cm thick. Sandstones contain small foraminifera, intercalated by thin layer of carbonaceous material. Clays are grey-blackish and locally contain plant remains. Iron oxides have permeated the cracks of vadose layers. Sandy limestones contain large foraminifera and molluscs which point to a lower or middle Miocene age. The depositional environment is interpreted as a regressional delta front to delta plain. The formation is between 1.0 and 1.5 km thick.

Pulaubalang Formation (Tmpb)

This formation comprises alternating greywacke and quartz sandstone intercalations with limestone, claystone, coal and dacitic tuff. Greywacke, greenish grey, compact, beds 50 - 100 cm thick. Quartz sandstone are reddish grey, locally tuffaceous and calcareous with bedding thicknesses between 15 - 60 cm. Limestone, yellowish to light brown, contains large foraminifera, either as intercalation or as lenses in quartz sandstone, thickness of beds between 10 - 40 cm. Limestone exposed in the Loa Haur River contains abundant large foraminifera, such as Austrotrillina howchini, Borelis sp., Lepidocyclina sp., Miogypsina sp., which indicates a middle Miocene age and terrestrial to shallow marine depositional environment. Claystone, blackish grey thickness of beds (1 - 2 cm) locally intercalates with coal, some of them to 4 m thick. Dacitic tuff (white) occurs as thin intercalations in quartz sandstones.

Pamaluan Formation (Tomp)

This formation is composed of well bedded quartz sandstone intercalated with claystone, shale, limestone and siltstone. Quartz sandstone is the major constituent of the formation and is blackish grey to brownish in colour, fine to medium grained well sorted, sub rounded, compact, carbonaceous and or calcareous. Locally sandstones are cross bedded and laminated. Beds are 1 - 2 m thick. Shales are brownish grey to dark grey; bedding is about 10 - 20 cm thick. Grey limestones are massive, medium to coarse-grained and are locally bedded. Limestones contain large foraminifera. Siltstone is blackish to dark grey.



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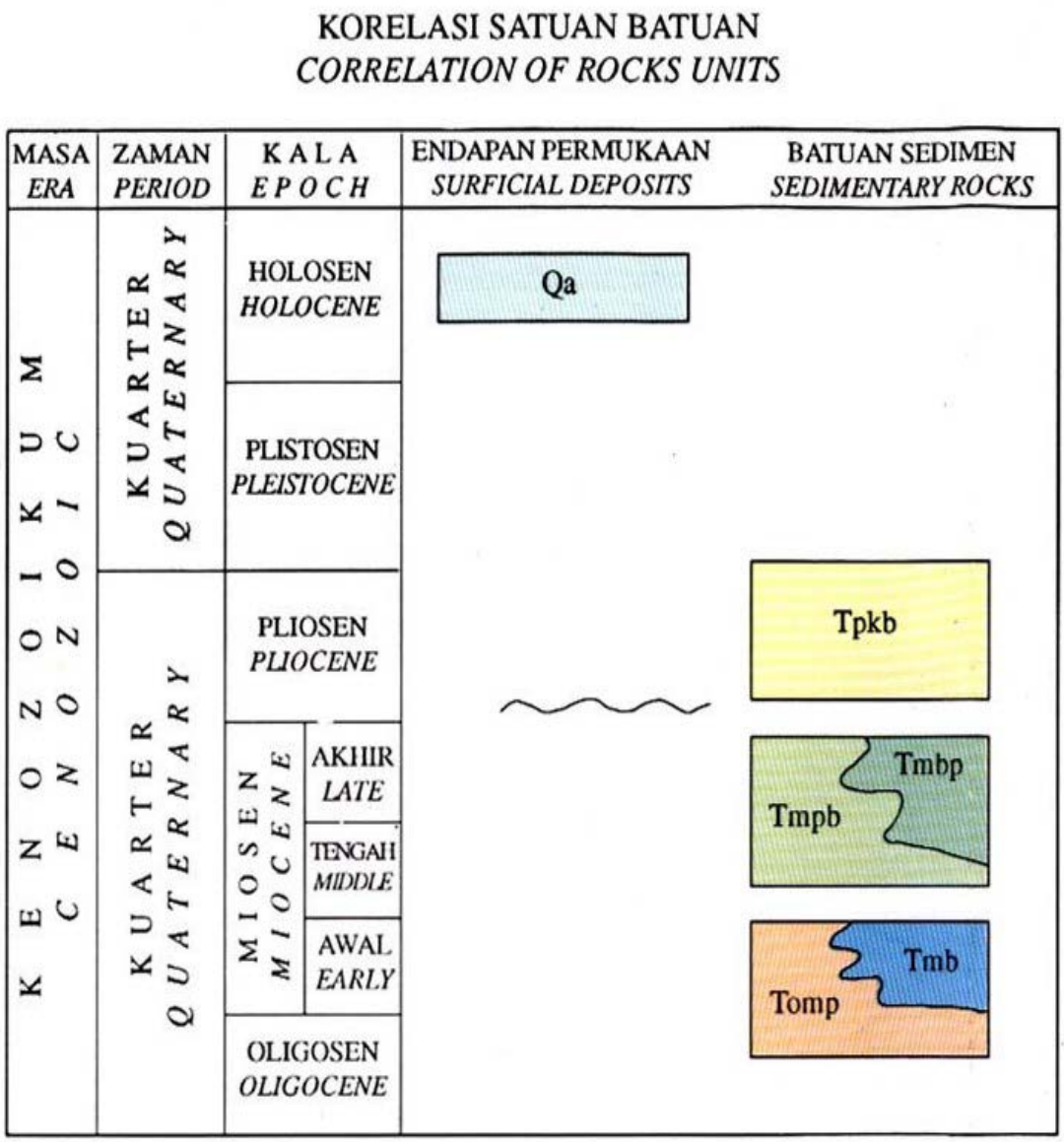
PT Rinjani Kartanegara
Coal Resource Statement

Generalised Regional Geology of RJN

Figure No. 2.1

Design	CE	15/03/16	Scale	N T S	Paper	A4 L	
Drawn	CE	15/03/16	Cad File	J1601_27 geological map.dwg			

Figure 2.2 – Generalised Stratigraphic Column of the RK Area



2.2 STRUCTURAL GEOLOGY

Based on the Geological Regional Map, regional structures include synclinal and anticlinal fold structures. The basin age suggests folding is closely associated with tectonic activity which occurred around the time of deposition. There is no known major fault system developed in this region.

2.3 LOCAL GEOLOGY

The coal bearing lithology within the RK concession area is the Pulaubalang Formation (Figure 2.1). Coal seams strike in a roughly east-west direction at RK with a maximum dip of 10°. There are 41 named seams intersected within the Project Area, four seams exhibit a single generation of splitting. The seams are named S10, S15, S30, and S2000 (Table 2.1). Also there are 2 father seams with son seams as splits; S40 and 50 (Table 2.2). Raw and split models were produced to achieve a conventional model of the supplied data. Splitting of the seams was undertaken in stages to ensure that all the named plies from RK geological personnel were included in the final geological database. A thickness summary of coal seam splits can be seen in Table 2.3. The table only reports input and estimated (split) seam picks from the borehole database, not interpolated seam thicknesses. Cross sections of the model can be seen in Figure 7.1 to Figure 7.4.

Table 2.1 – RK Local Seam Split Sequence

Seam	Seam Split	Percentage
S10	S10U	54
	S10L	46
S15	S15U	54
	S15L	46
S30	S30U	62
	S30L	38
S2000	S1999	67
	S2001	33

Table 2.2 – RK Local Father and Son Seams

Father	Son Above	Son Below
S40	-	S40L
S50	S50U	S50L

Table 2.3 – RK Seam Thickness Summary

Seam	Thickness (m)			Number of Records
	Mean	Maximum	Minimum	
S5	2.0	2.8	1.2	20
S10U	0.5	0.8	0.2	8
S10L	0.4	0.7	0.1	8
S15U	0.1	0.3	0.0	15
S15L	0.1	0.3	0.0	15
S20	0.3	0.9	0.0	17
S30U	1.1	1.7	0.0	24
S30L	0.7	1.4	0.0	24
S40	0.4	1.0	0.0	55
S40L	0.1	0.4	0.0	54
S50U	0.1	0.8	0.0	57
S50	0.5	1.4	0.0	58
S50L	0.0	0.4	0.0	58
S100	0.3	1.5	0.0	76
S200	1.3	2.2	0.0	127
S300	1.5	3.3	0.0	163
S400	0.5	1.1	0.0	150
S500	1.9	2.7	0.0	164
S600	0.5	1.0	0.0	162
S700	1.2	2.3	0.0	140
S790	0.2	0.5	0.0	53
S800	0.4	1.1	0.0	49
S900	0.3	0.9	0.0	36
S1000	0.2	0.5	0.0	31
S1050	0.2	0.5	0.0	26
S1999	0.4	0.4	0.0	6
S2001	0.2	0.4	0.0	6
S2100	0.2	0.5	0.1	6
S2200	0.1	0.3	0.0	6
S2300	0.1	0.3	0.0	5
S2400	0.2	0.7	0.0	5
S2500	0.3	0.5	0.2	6
S3000	0.5	1.0	0.0	13
S3100	0.2	0.4	0.0	13
S3200	0.4	0.6	0.0	13
S3300	0.1	0.6	0.0	12
S4000	0.3	0.5	0.0	6
S4900	0.4	0.8	0.0	19
S5000	1.5	1.9	1.0	17
S5100	0.3	0.3	0.3	1
S5200	0.3	0.3	0.3	1
Summary	**0.8**	**3.3**	**0.0**	**1725**

3. EXPLORATION HISTORY

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

In 2016, the IPPKH2 has approved by government. During July 2016 to September 2016 RK drilled an additional 62 boreholes within IPPKH2 area (45 core holes, 17 open holes).

All holes with geophysics were used for structural modelling in this report. Only holes with greater than 90 % core recovery were considered for use as points of observation in the quality model. No outcrops or bulk samples were used as points of observation in the Resource estimation process.

4. EXPLORATION DATA TYPES

RK provided SMGC with all exploration data that has been used to calculate estimated Resources figures for this report. Data sets supplied to SMGC include the following:

1. Borehole collar surveys
2. Borehole lithology logs
3. Borehole geophysical logs
4. Coal quality data from sampled boreholes
5. Core photographs
6. Light Detecting and Ranging (LIDAR) topographical survey data
7. Ground survey topographical data
8. Channel sample lithology depths
9. Channel sample analysis results

4.1 SURVEY

4.1.1 Benchmarks and Borehole Pick Ups

RK used PT Karvak to set GPS-surveyed benchmarks in order to control all survey work within the project area. The benchmarks were surveyed using Geodetic GPS Dual Frequency equipment and were referenced to existing benchmarks.

Borehole collars, mining surfaces and channel sample locations to date have been surveyed using standard Total Station techniques employed by the RK internal survey team during the course of successive drilling and sampling campaigns. Surveys have been reviewed by SMGC. Boreholes with a difference of > +/- 2 m from the topography surface were compared to raw survey data. DPC survey team re-surveyed boreholes which had discrepancies to ensure the borehole collars were corrected to the topographic data. The surveyed borehole locations for RK match well with the topographic data.

4.2 TOPOGRAPHIC SURVEY

The topography used in the current RK Geological Model is derived from Light Detecting and Ranging (LIDAR) remote sensing data in conjunction with the mined out surface survey as of the end of December 2016. The original Lidar topography was generated by PT Karvak across the RK Project Area in July 2011. The topographic surface used for all Resource estimation techniques is current as of 31st December 2016.

4.3 BOREHOLE DATA AND DRILLING TECHNIQUES

The 2016 drilling programme was carried out using six man-portable top-drive hydraulic drill rigs contracted from PT Mataram Inti Bumi (MIB) (Figure 4.1). The rigs used were three Jakro 200 and three Jakro 250 units which are capable of HQ3 coring up to 130 m and 170 m in depth respectively. All drills were operated by experienced personal. All boreholes were collared vertically.

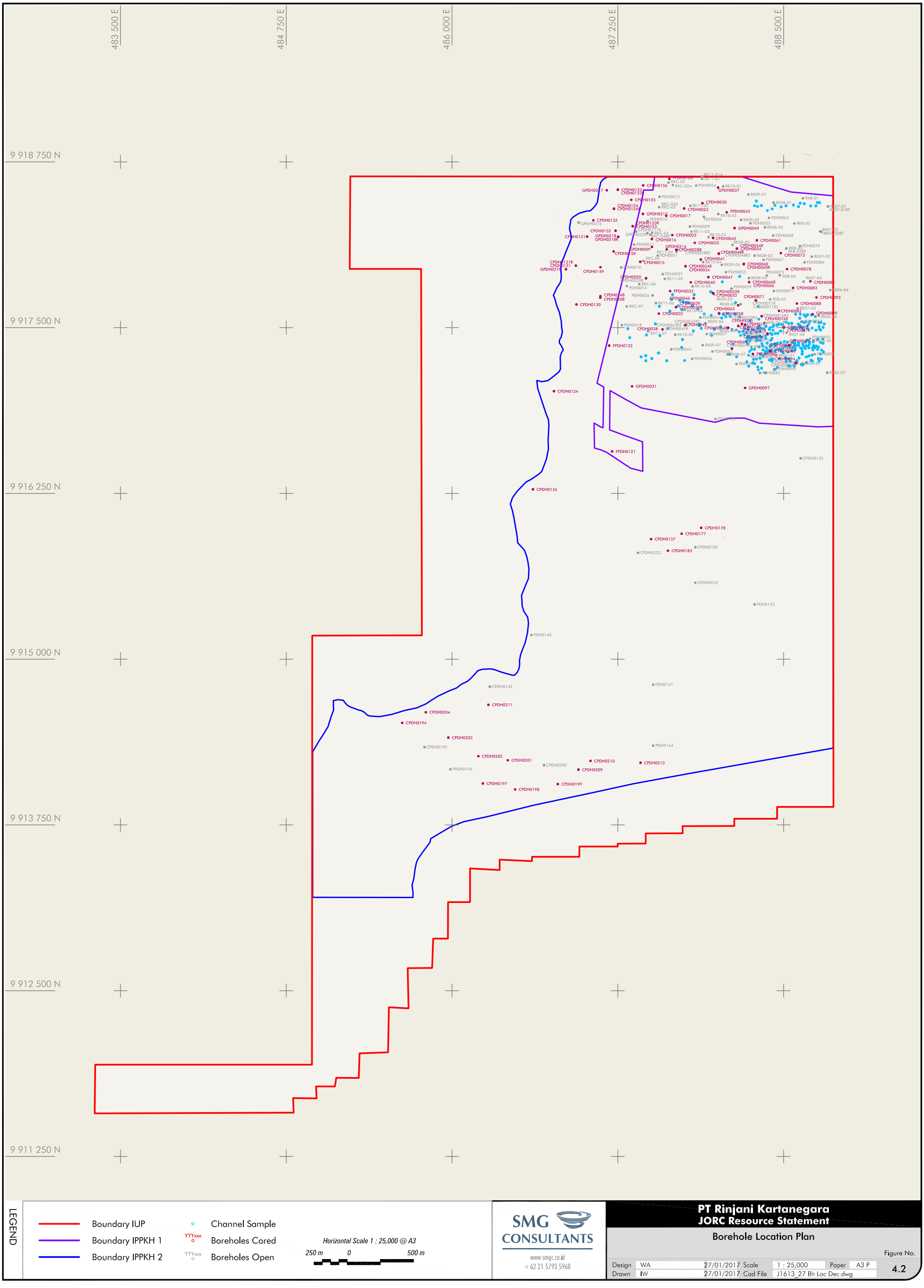
All drills were manned by fully qualified geologists (working in shifts); core logging was completed in the drill splits before being removed to core trays. Core was also checked in the splits for optimal recovery (90 % or above). For open holes, chips were collected at 1 m intervals for lithology logging. Photographing of core in the splits and the trays was performed on a routine basis. Boreholes were geophysically logged at the completion of drilling and cored sections were checked to ensure coal seam recovery was as required (≥ 90 %). If recovery was found to be less than 90 % within the coal seam section, the hole was re-drilled to collect a sample with greater than 90 % recovery. Geophysical logging was employed on the completion of drilling to gain a full understanding of the down-hole stratigraphic properties. All coal intervals were corrected to down-hole geophysical logs after being verified and validated by SMGC.

A total of 246 boreholes have been completed in the Project Area (Figure 4.2). This includes 134 cored holes and 112 open holes. Due to insufficient data, such as no geophysics, or improper surveying, 46 of 246 boreholes cannot be included in the geological model (Table 6.1 and Table 6.2). The RK geological model is developed from 200 boreholes, which reliable data was obtained.

Only 131 of 134 cored holes have core recoveries greater than 90 %, valid down-hole logs, and surveyed collar locations were considered in the resource estimation as point of observation. All lithology and geophysical data recorded for the boreholes was verified and validated by SMGC.

No additional drilling has been completed for the RK area since September 2016 (Figure 4.1).

Figure 4.1 – Drilling Rig at RK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9 912 500 N
9 911 250 N
CPDH0156
GPDH0037
CPDH0155
CPDH0030
CPDH0023
FPDH0043
GPDH0215
CPDH0017
CPDH0132
CPDH0153R
CPDH0153
CPDH0152
CPDH0151
GPDH0218
GPDH0218R
CPDH0022
CPDH0016
GPDH0049
CPDH0061
CPDH0035
GPDH0214
CPDH0028R
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CPDH0034
CPDH0048R
CPDH0073
GPDH0009
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CPDH0066
CPDH0083
CPDH0148
CPDH0208
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CPDH0052R
CPDH0052
CPDH0071
CPDH0093
CPDH0039
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CPDH0082
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CPDH0079
CPDH0038
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CPDH0194
CPDH0203
CPDH0195
PDH0144
CPDH0202
CPDH0201
CPDH0200
CPDH0210
CPDH0213
FPDH0196
CPDH0209
CPDH0197
CPDH0198
CPDH0199
LEGEND
Boundary IUP
Boundary IPPKH 1
Boundary IPPKH 2
Channel Sample
YYYxxx
Boreholes Cored
YYYxxx
Boreholes Open
Horizontal Scale 1 : 25,000 @ A3
250 m
0
500 m
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JORC Resource Statement
Borehole Location Plan
Figure No.
4.2
Design WA 27/01/2017 Scale 1 : 25,000 Paper A3 P
Drawn IW 27/01/2017 Cad File J1613_27 Bh Loc Dec.dwg

4.4 SAMPLING TECHNIQUES

Borehole sampling has been carried out initially on a ply by ply basis with later sampling on a full seam basis. The ply by ply sampling established minimal differences in quality parameters throughout the seam thickness and therefore seam sampling was adopted. Sampling of the coal seams and other material followed the standard sampling procedure and is described as follows:

- Open core barrel inner split tube and remove sample from the barrel
- Transfer the core to the PVC split or core box
- Determine the core depth (“From” and “To”) from the drill depth
- Reconstruct the core in the split to allow for any gaps
- Determine the core recovery
- Wash down using water and a cloth and/or brush prior to logging if covered by mud or oil
- Complete geological logging and take requisite photographs. Only needed photographs of structure or any abnormal features. The photograph should show information of borehole ID, From, To, and Depth
- The division of samples follows the simple scheme of sample all coal, sample separately any contained bands and take 10 cm of coal roof and floor samples (Table 4.1)
- The plastic bag should be doubled to again minimise moisture loss. Inserting one bag in another so that they are doubled
- Label the sample by ID card, the label should give information about the Sample Number, Hole Number, From/To depth, and Project Code. Placing the label ID card inside the small re-sealable plastic bag before putting it into the sample bag
- Seal the sample bag with tape and write the sample number; on the plastic bag
- Dispatch sample to accredited laboratory

The current sampling technique is considered sufficient to represent that part of the deposit that has been sampled. Core sample recoveries have been checked by comparison of measured sample length vs geophysical data logs however for future programs it is suggested samples be weighed and weight checked as an additional check to verify recovery. All correlations have been made to ensure that sample intervals match seam intervals and that these intervals are in agreement with down-hole geophysical logs.

Table 4.1 – The Scheme of Coal Sample

DESCRIPTION	INTERVAL THICKNESS	SAMPLING PROCEDURE USED
Sediment Roof	-	-
Coal Roof	0.10 m	Sampling 0.10 m of ply top material as a single sample
Coal body	***	If parting thickness is less then 0.10 m then sample with the coal body
	<0.10 m	
	***	
Coal Floor	0.10 m	Sampling 0.10 m of ply bottom material as a single sample
Sediment Floor	-	-
Interburden	?	
Sediment Roof	-	-
Coal Roof	0.10 m	Sampling 0.10 m of ply top material as a single sample
Coal body	***	If parting thickness is greater than 0.10 m then exclude from the coal sample and analyse separately.
	>0.10 m	
	***	
Coal Floor	0.10 m	Sampling 0.10 m of ply bottom material as a single sample
Sediment Floor	-	-

*** *Note that the coal body is sampled in 1.0 m plys*

4.5 DOWN-HOLE GEOPHYSICS

Down-hole geophysical logs were completed during both drilling programmes by PT Surtech Indonesia (PTSI). Geophysical logging provides information on the coal seams intersected and helps better define horizon boundaries and marker horizons used to correlate the subsurface geology. The presence or absence of geophysical logging is one of the criteria used in the determination of whether or not the borehole is valid as a point of observation for Resource calculations.

Logging was performed on 233 of the 246 boreholes (including cored and open holes) which equates to approximately 95 % of all holes having geophysical data. Seam picks and lithologies have all been corrected for geophysics.

The logging equipment used by the logging contractors includes the following:

- Digital Logging System
- Probe: Dual Density Gamma/Calliper
- Winch: Motorised 4 conductor winch system
- Portable generator, laptop computer, printer and spares

Under normal conditions, coal-bearing sections for each borehole are logged at the completion of drilling. On some occasions, poor ground conditions have led to collapsed borehole sections restricting the ability to log the entire hole upon completion in the usual manner. In these cases collapsed portions have been re-drilled, with density and gamma logging then being accomplished by lowering the geophysical probe through the drill string. Measurements are then taken by pulling the drill string up slightly so that the hole remains stable but the probe is sufficiently exposed to take acceptable readings of the rock mass.

After the completion of logging, logs were compiled and plotted in Acrobat pdf format and digital data has been stored as LAS files.

Data is backed up on site and a copy is kept off site at the operations office in Jakarta. A review of the lithological seam picks showed that these matched the geophysical logs indicating that the depth corrections of the original lithology logs have been done correctly. This data was used for validation and verification of the coal seam correlations made by SMGC.

4.6 COAL ANALYSIS

Coal quality sampling undertaken by RK geologists, with the analysis testing for the borehole samples being completed by PT Geoservices Coal Laboratories in Samarinda.

PT Geoservices reports that its Samarinda laboratory is accredited to ISO 17025 standards and that quality control is maintained by daily analysis of standard samples and by participation in regular "round robin" testing programs. No duplicates from core samples were analysed for quality assurance and quality control purposes. As far as SMGC are aware, PT Geoservices is independent of SMGC, RK and all related companies.

A range of international standard methods have been used by PT Geoservice's in their coal analysis tests. Reporting of quality variables has been done on an air-dried, as received and dry ash free basis. American Society for Testing and Materials (ASTM) methods has been used for all quality variables with the exception of Relative Density. Australian Standards (AS) has been used for determination of Relative Density.

Whilst no inspection of the facility was carried out, the following has been assumed based on reviews of other PT Geoservices laboratories in Indonesia and their ISO17025 accreditation:

- The laboratory is well set up for basic processing of exploration drilling samples
- It is also suited to process production and barging samples
- Sample preparation and analytical equipment is fit for purpose
- Staff are suitably qualified and experienced in typical coal laboratory procedures
- Analysis is carried out in compliance with procedures that are routinely subjected to checks and balances, both internally and with other laboratories

The following tests were undertaken as standard on all coal samples:

- Total Moisture (TM)
- Inherent Moisture (IM)
- Ash Content (AS)
- Volatile Matter (VM)
- Fixed Carbon (FC)
- Total Sulphur (TS)
- Calorific Value-air dried basis (CV adb)
- Calorific Value-gross as received, (CV ar)
- Hardgrove Grindability Index (HGI)

Of the boreholes that have been sampled in the RK area, 134 of the total 246 contain quality data (Table 6.4). All 134 of these holes have associated geophysical data logs, however only 131 have appropriate collar surveys and only these 131 holes have been used in the quality modelling process. All valid samples were collected based on samples containing Ash and In situ Moisture records.

A channel sampling programme was also conducted by RK geologists in conjunction with consultants from PT Surveyor Carbon Consulting Indonesia (SCCI). During this programme 292 samples were taken with the analysis testing being completed by SCCI Laboratories in Samarinda. This laboratory is nationally (KAN) accredited but doesn't have current international accreditation and SMGC is unsure whether quality control is maintained by daily analysis of standard samples and by participation in regular "round robin" testing programs. No duplicates were analysed for quality assurance and quality control purposes. As far as SMGC are aware, SCCI is independent of SMGC, RK and all related companies. These samples were not used in the quality modelling process due to queries SMGC have around the validity of the analysis results based upon comparison to borehole samples taken in the same area and tested at PT Geoservices.

The proximate analysis results from the samples taken in the cored holes and channel sampling programme in the area (Table 6.5) show the coals to have moderate total moisture ranging from 6.9 % to 28.0 % with a low average ash content of 5.6 %. On a "Seam-Basis" the coal has high total sulphur ranging between 0.2 % and 7.9 % and the average of air dried Calorific Value (ad) is 6,109 Kcal/kg. This coal is classified as a class A Sub-bituminous coal, (Coal Rank ASTM-d-388-99, Guidebook of Thermal Coal Sub-Bituminous Coal, Koichi Katoh, page 33).

4.7 CHANNEL SAMPLING PROGRAMME

As previously mentioned a channel sampling programme was also conducted by RK geologists during 2013 in conjunction with consultants from PT Surveyor Carbon Consulting Indonesia (SCCI). During this programme 292 samples were taken, logged and surveyed with the analysis testing being completed by SCCI Laboratories in Samarinda. All channel samples were used in creation of the structural model, but no analysis results were used in the generation of the quality model due to variations between these and validated borehole results in close proximity.

5. EXPLORATION POTENTIAL

The IPPKH2 was granted on July 2016 and RK continued drilling work within the area. A total of 62 boreholes have been drilled during July to September. Boreholes were spread on the west side and the south side of the existing mining area.

The area to the west of IPPKH2 is owned by PT ITCI Hutani Manunggal (ITCI) and used for industrial timber plantations. Discussions with ITCI management have started with permission being granted for RK personnel to conduct surface mapping exploration activity within the ITCI area starting 17 February 2017. This surface mapping is already underway. The engagement with the plantation company will need to continue and progress to allow exploration drilling and a business to business agreement to allow mining activity including compensation and then approval from the forestry department.

RK will complete geological mapping to ensure seam continuity in the timber plantation area. The western side of the existing borehole data is the most likely prospect area to do further exploration but a business to business agreement with ITCI must be in place (Figure 5.1).

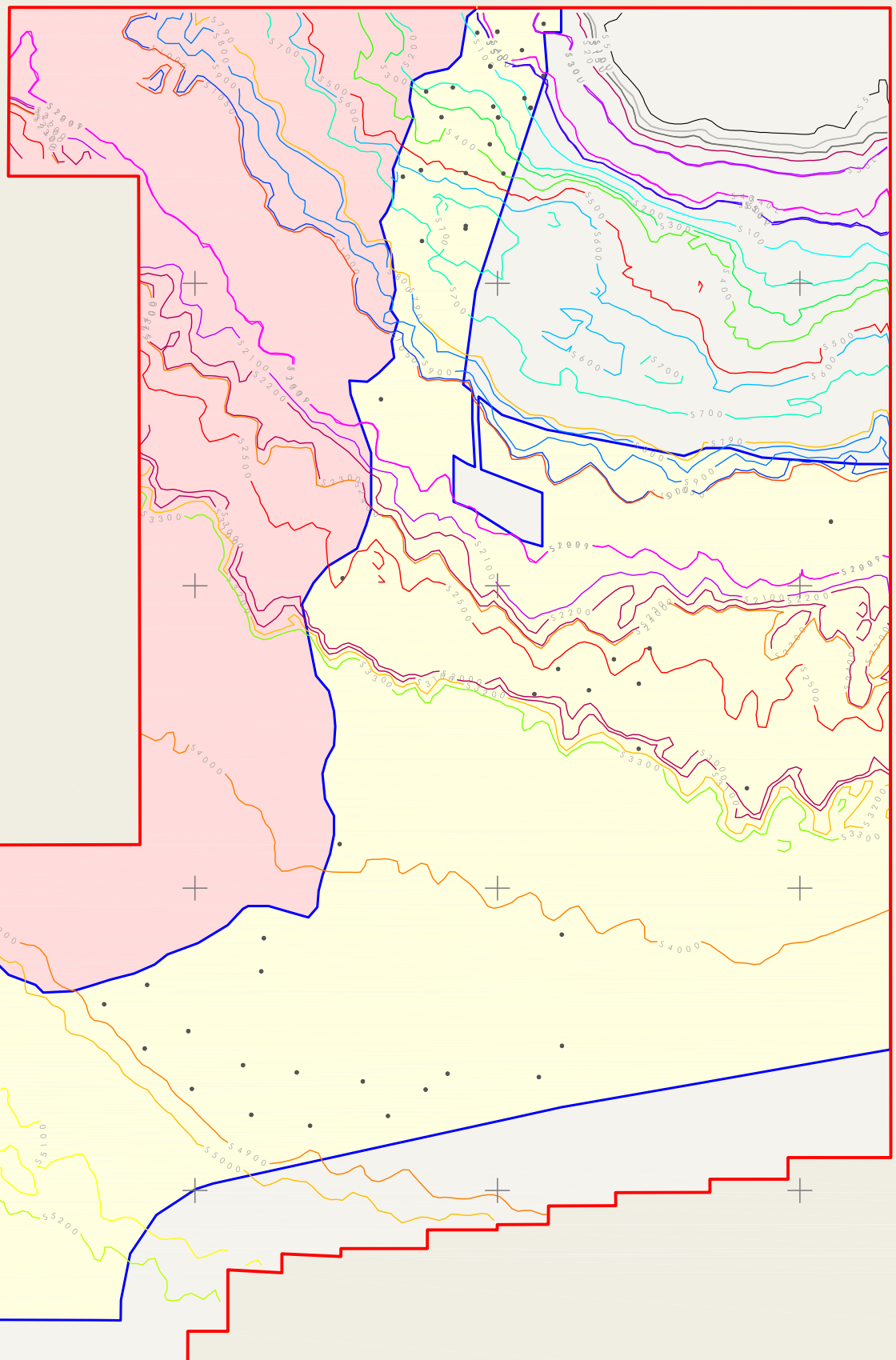
A total of 16 new seams have been intersected by the new boreholes. The new seams were intersected by boreholes in the middle to southern IUP within the IPPKH boundary.

Further exploration will need to be carried out for the middle to southern portion of the concession (within and to the west of the IPPKH area) to improve knowledge of the structural setting, stratigraphy and coal quality of this area.

Only 4 out of 16 seams intercepted by the latest drilling program had sufficient coal quality information to be included in the Resource estimation. The most prospective of these seams with insufficient quality data included S50U, S50L, S2001, S2100, S2300, S2400, S2500 and S3100. With additional drilling and quality sampling, these unclassified seams may qualify for inclusion in future Resource estimations. An Exploration Target has been estimated for these seams ranging from 1.2 Mt to 4.0 Mt. This potential quantity is conceptual in nature because there has been insufficient exploration to estimate a Coal Resource in this area and it is uncertain if further exploration will result in the estimation of a Coal Resource.

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N



LEGEND

Boundary IUP
Boundary IPPKH 2
Outcrop Line
The 2016 Boreholes
Required IPPKH

Horizontal Scale 1 : 25,000 @ A3

250 m 0 500 m

north

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JORC Resource Statement

Exploration Potential Maps

Figure No. 5.1

Design	WA	30/01/2017	Scale	1 : 25,000	Paper	A3 P	
Drawn	IW	30/01/2017	Cad File	J1613_30 Outcrop Map.dwg			

6. GEOLOGICAL MODEL

6.1 GENERAL

A geological model for the RK Project Area was generated using Minex Geologic Modelling Software. The Minex General or Growth method was used for all structural modelling.

In order to generate a model using the Minex seam modelling software, information such as the deposit stratigraphy (including the weathering surface), interpolator for seam thickness, surface, trend and interpolation for the various surfaces must all be understood and defined. The model is composed of information from several datasets that were supplied to SMGC including topographical and collar survey data, borehole lithology data, geophysical records and coal quality data that was entered into a geological database. The borehole database is called (J1613_RK2.B3*) and it exists in split and un-split (raw) format. It includes all RK drilling data provided up to the end December 2016.

The model generated exists in a ply format. It includes topography and base of weathering surfaces as well as seam structure, coal quality and distance grids. A review of data was undertaken to ensure its validity prior to use in the modelling process.

Validated collar surveys, lithology data and geophysical logs are required as a minimum for a borehole to be used in the modelling process. 246 boreholes have been drilled in the RK Project Area. Due to insufficient data, such as no geophysics, or improper surveying, 46 of 246 boreholes cannot be included in the geological model (Table 6.2). A total of 200 validated boreholes (see Table 6.1) have been drilled across the deposit and included in the RK Structural Geological Model. The lithological data from an additional 292 surveyed channel samples have also been included and used to assist with the Structural Geological Model.

A total of 131 of these validated boreholes have sufficient coal quality analyses to act as significant Points of Observation for the Resource estimation. A valid point has been defined as a seam intersection that is surveyed and cored, where quality analysis has been acquired, sample recovery is ≥ 90 % and the hole is accompanied by valid survey and geophysics.

Validation of the points of observation to this standard helps to honour the exploration data for the deposit and enhances integrity of the Resource Model.

- The total number of boreholes drilled was 246
- The number of open holes was 112
- The number of cored holes was 134
- The number of boreholes with valid collar survey's recorded using total station survey equipment was 213
- The number of boreholes with geophysical logs was 233
- Total number of valid boreholes and channel samples included in the Structural Geological Model is 492; consist of 200 valid boreholes and 292 channels samples
- Total Number of Points of Observation for the Coal Resource Estimate is 131

Table 6.1 – Boreholes Status

Borehole Status	Cored Borehole	Open Borehole	Total
Total Boreholes Drilled	**134**	**112**	**246**
Boreholes that have no geophysics	3	3	6
Boreholes that have no survey		33	33
Boreholes that have no survey AND no geophysics		7	7
Total Boreholes not used	**3**	**43**	**46**
Total Boreholes Used for Modelling	**131**	**69**	**200**

Table 6.2 – Boreholes with Insufficient Data

Boreholes					
RH11-07	RK07-02RF	RK09-01	RK10-06	RKB-01	RKC-05
RK05-07	RK07-03	RK09-04	RK10-07	RKB-03	RKC-07
RK06-04	RK07-04	RK09-05	RK11-01	RKB-03RF	CH026
RK06-05	RK08-01	RK09-06	RK11-01A	RKC-02	CPDH0045R3
RK06-07	RK08-03	RK09-07	RK11-02	RKC-02A	CPDH0086R1
RK07-01	RK08-04	RK10-01	RK11-03	RKC-03A	CPDH0094R2
RK07-01RF	RK08-05	RK10-03	RK11-04	RKC-04	
RK07-02	RK08-07	RK10-04	RK11-06	RKC-04RF	

It should be noted that the open holes were drilled to confirm structural continuity of the seams both along strike and down-dip to improve confidence in the validity of the structural model and the seam correlations made. Open holes were only considered if surveyed using total station techniques. Borehole surveys were reconciled against topographic data and were found on the whole to match within a +/- 2.0 m tolerance.

6.2 QUALITY ASSURANCE AND QUALITY CONTROL OF RAW DATA

Quality Assurance (“QA”) concerns the establishment of measurement systems and procedures to provide adequate confidence that correct process are being followed. Quality Control (“QC”) is one aspect of QA and refers to the use of control checks of the measurements to ensure the systems are working as planned.

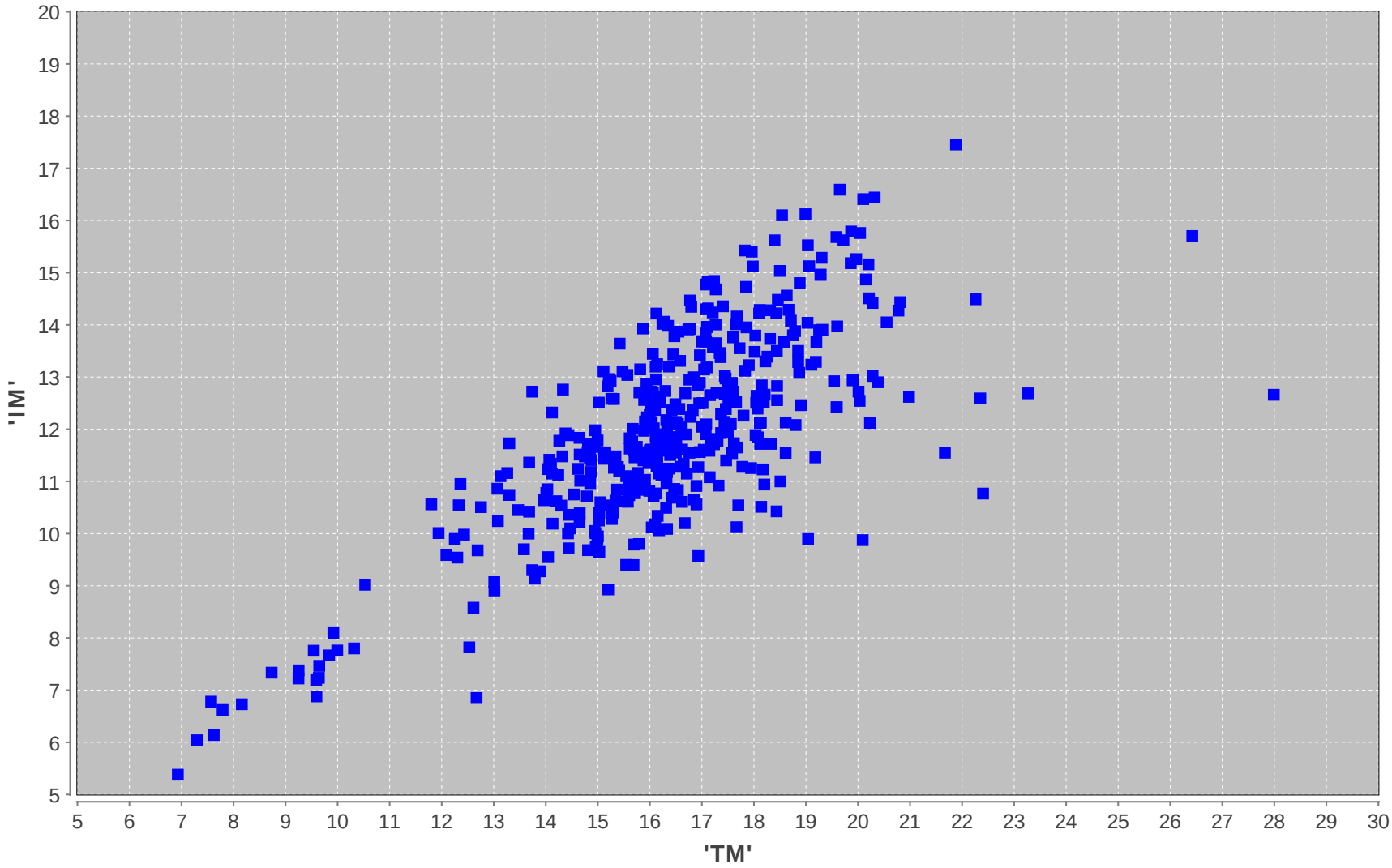
Basic QA/QC checks were undertaken on the raw quality samples as they were received to ensure consistency. Any outliers were immediately noted and duplicate tests were requested to validate the sample. The first sample validation test was to ensure that the proximate air dried Ash (AS), Inherent Moisture (IM), Volatile Mater (VM) and Fixed Carbon (FC) added up to 100 %. Any samples found not adding up to 100 % were sent back for re-analysis. Table 6.3 shows a selection of example sample data. The second validation test was to check that the Total Moisture (TM) was always greater than the IM (Figure 6.1). Checks of Ash vs Relative Density (Figure 6.2) as well as Ash vs Calorific Value were also completed (Figure 6.3). Whilst there is some variability in moisture results between seams, results for both CV and Ash vs Density typically fall within 2 standard deviations. Where anomalies were noted, SMGC requested re-analysed of the samples. Laboratories have re-analysed these apparent anomalous samples and the results shown were similar. There are 2 samples above 2 standard deviations which typically indicate laboratory errors; however the limited number of discrepancies of this type from the large sample population, mean they are considered insignificant in their effect on overall quality.

Table 6.3 – Proximate Analysis Check (ASTM adb) – By Samples

BOREID	SAMPLEID	IM % adb	AS % adb	VM % adb	FC % adb	PROXIMATE
FPDH0120	MID_03	14.96	1.57	42.93	40.54	100
FPDH0120	MID_07	15.76	5.46	38.88	39.9	100
FPDH0120	MID_13	14.22	18.22	33.74	33.82	100
FPDH0120	MID_22	13.14	12.24	37.86	36.76	100
FPDH0120	MID_26	13.11	5.34	39.61	41.94	100
FPDH0120	MID_30	13.26	3.26	40.63	42.85	100
CPDH0150	MID_01	13.86	2.92	41.89	41.33	100
CPDH0150	MID_04	16.44	6.92	34.58	42.06	100
CPDH0150	MID_08	15.48	2.1	38.39	44.03	100
CPDH0150	MID_12	13.93	4.44	39.65	41.98	100
CPDH0150	MID_16	15.46	4.27	36.06	44.21	100
CPDH0148	MID_03	13.98	2.7	39.68	43.64	100
GPDH0214	MID_18	16.41	3.17	38.35	42.07	100
GPDH0214	MID_03	15.94	4.61	35.76	43.69	100
GPDH0214	MID_08	14.44	2.82	39	43.74	100
GPDH0214	MID_10	13.64	4.36	40.93	41.07	100
GPDH0214	MID_14	14.32	3.52	38.92	43.24	100
CPDH0151	MID_03	13.68	8.38	37.03	40.91	100
CPDH0151	MID_07	12.76	6.04	41.75	39.45	100
CPDH0151	MID_11	15.65	2.42	36.89	45.04	100
GPDH0217	MID_21	13.5	2.46	39.89	44.15	100
GPDH0217	MID_03	14.07	3.6	39.65	42.68	100
GPDH0217	MID_08	13.26	4.52	40.69	41.53	100
GPDH0217	MID_13	11.45	4	44.79	39.76	100
GPDH0217	MID_18	12.32	3.6	40.86	43.22	100
GPDH0215	MID_03	11.75	1.54	46.17	40.54	100
GPDH0215	MID_07	15.16	9.72	34.91	40.21	100
GPDH0215	MID_11	13.86	3.39	39.88	42.87	100
GPDH0215	MID_16	14.51	5.74	39.71	40.04	100
GPDH0215	MID_20	16.59	3.4	36.31	43.7	100
GPDH0215	MID_24	14.05	5.92	38.35	41.68	100
GPDH0215	MID_28	11.73	6.3	44.06	37.91	100
GPDH0215	MID_32	13.4	6.18	38.19	42.23	100
CPDH0152	MID_02	12.66	2.84	43.28	41.22	100
CPDH0152	MID_05	11.92	5	42.93	40.15	100
CPDH0152	MID_09	14.3	4.98	36.36	44.36	100
GPDH0218	MID_03	15.38	2.25	40.22	42.15	100
GPDH0219	MID_03	15.13	3.12	37.56	44.19	100
CPDH0153	MID_03	13.88	2.46	40.74	42.92	100
CPDH0153	MID_07	12.51	4.81	42.67	40.01	100
CPDH0153	MID_11	12.84	3.74	41.08	42.34	100
CPDH0153R	MID_03	12.79	3.12	41.95	42.14	100
GPDH0218R	MID_02	11.1	4.83	44.11	39.96	100
GPDH0218R	MID_06	13.73	4.88	35.91	45.48	100

Total Moisture (TM%) vs Inherent Moisture (IM%)

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100 S200 S300 S400 S500 S600 S700 S790 S800 S900 S1000 S1050 S1999 S2001 S2100 S2200 S2300 S2400 S2500 S3000 S3100 S3200 S3300 S4000 S4900 S5000 S5100 S5200



IM =

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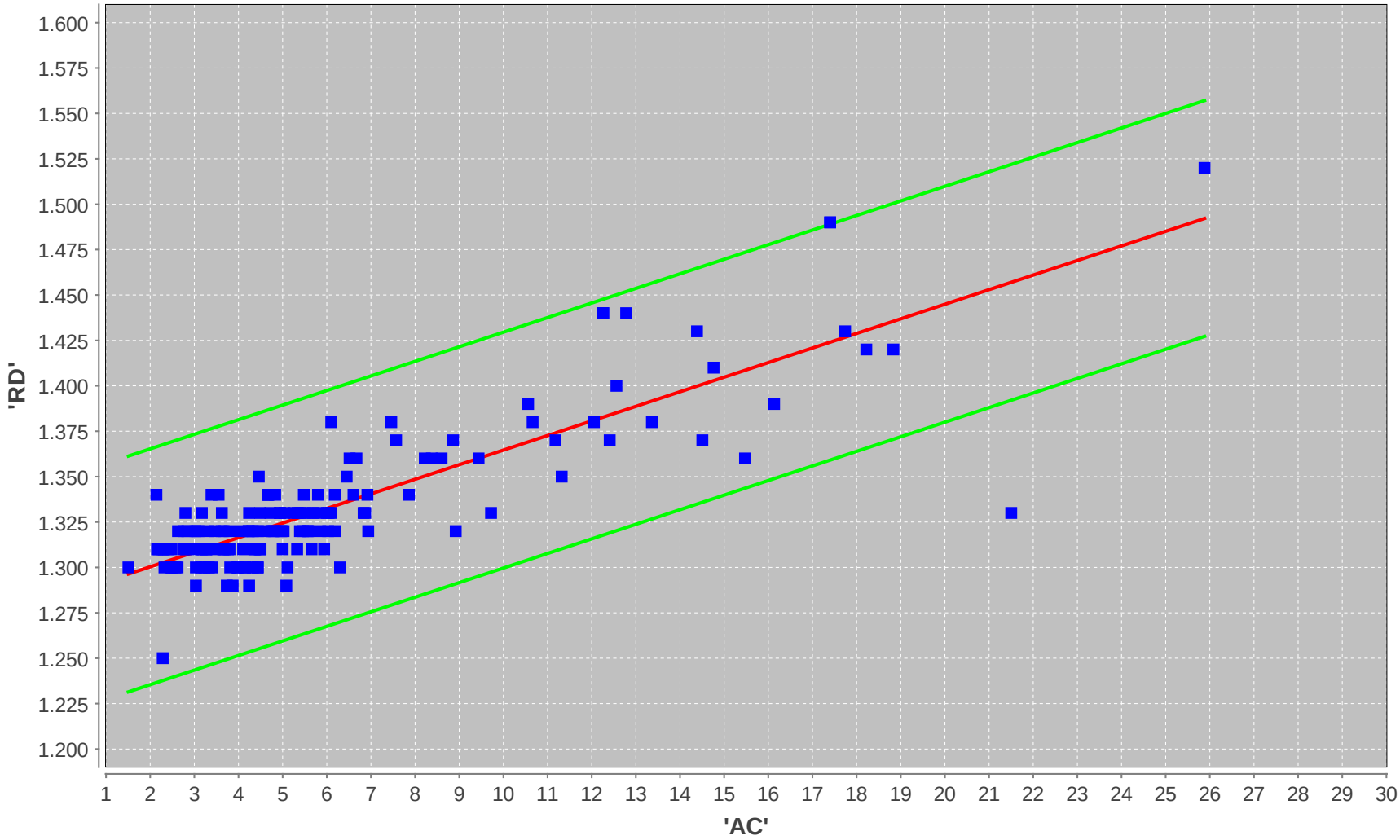
Cross Correlation TM vs IM

Figure No. 6.1

Design	WA	27/01/2017	Scale	N T S	Paper	A4 L	
Drawn	IW	27/01/2017	Cad File	J1613_29 histogram.dwg			

Correlation between 'RD' + 'AC'

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100 S200 S300 S400 S500 S600 S700 S790 S800 S900 S1000 S1050 S1999 S2001 S2100 S2200 S2300 S2400 S2500 S3000 S3100 S3200 S3300 S4000 S4900 S5000 S5100 S5200



Correlation Coefficient: 0.8424135

RD = 1.2843 + 0.0080 * AC

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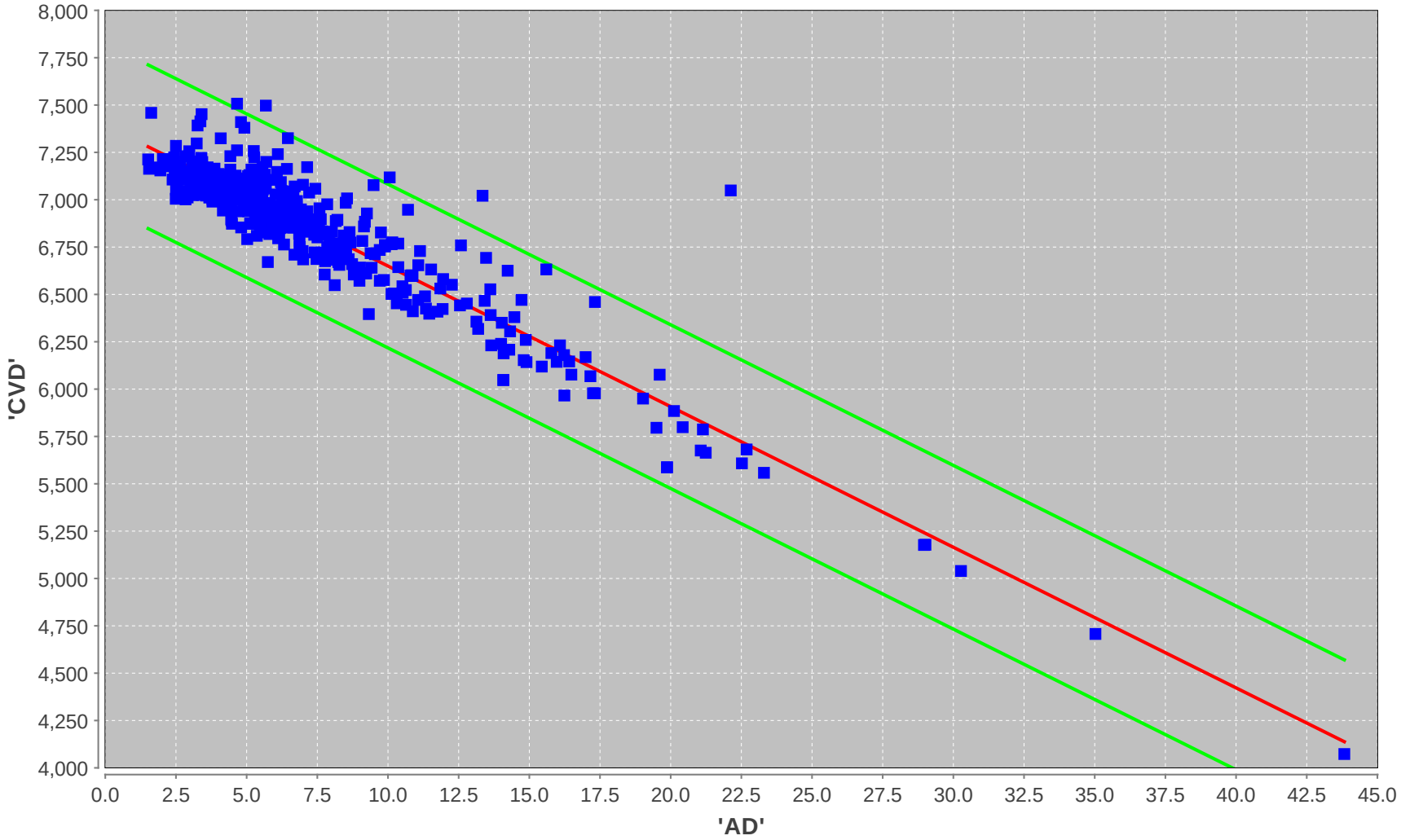
Cross Correlation RD vs Ash

Figure No. 6.2

Design	WA	27/01/2017	Scale	N T S	Paper A4 L
Drawn	IW	27/01/2017	Cad File	J1613_29 histogram.dwg	

Ash Content (db) vs Calorific Value (db)

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100 S200 S300 S400 S500 S600 S700 S790 S800 S900 S1000 S1050 S1999 S2001 S2100 S2200 S2300 S2400 S2500 S3000 S3100 S3200 S3300 S4000 S4900 S5000 S5100 S5200



Correlation Coefficient: -0.93500483

CVD = 7392.335 + -74.2483 * AD

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Cross Correlation Ash vs Calorific Value (adb)

Figure No. 6.3

Design	WA	27/01/2017	Scale	N T S	Paper	A4 L	
Drawn	IW	27/01/2017	Cad File	J1613_29 histogram.dwg			

6.3 MODELLED TOPOGRAPHY

The X, Y and Z coordinate data obtained from the LIDAR topographical survey was used to create the topographic surface used in the modelling process in conjunction with the total station surveyed pit area (end of December 2016 'as mined' and 'as dumped') surfaces. The data was provided in an ASCII data file format by RK and was imported into a Minex seam modelling software database. It was then used to generate a 25 m x 25 m mesh topographical surface named "ADDEC16L.grd". This grid covers the entire Project Area.

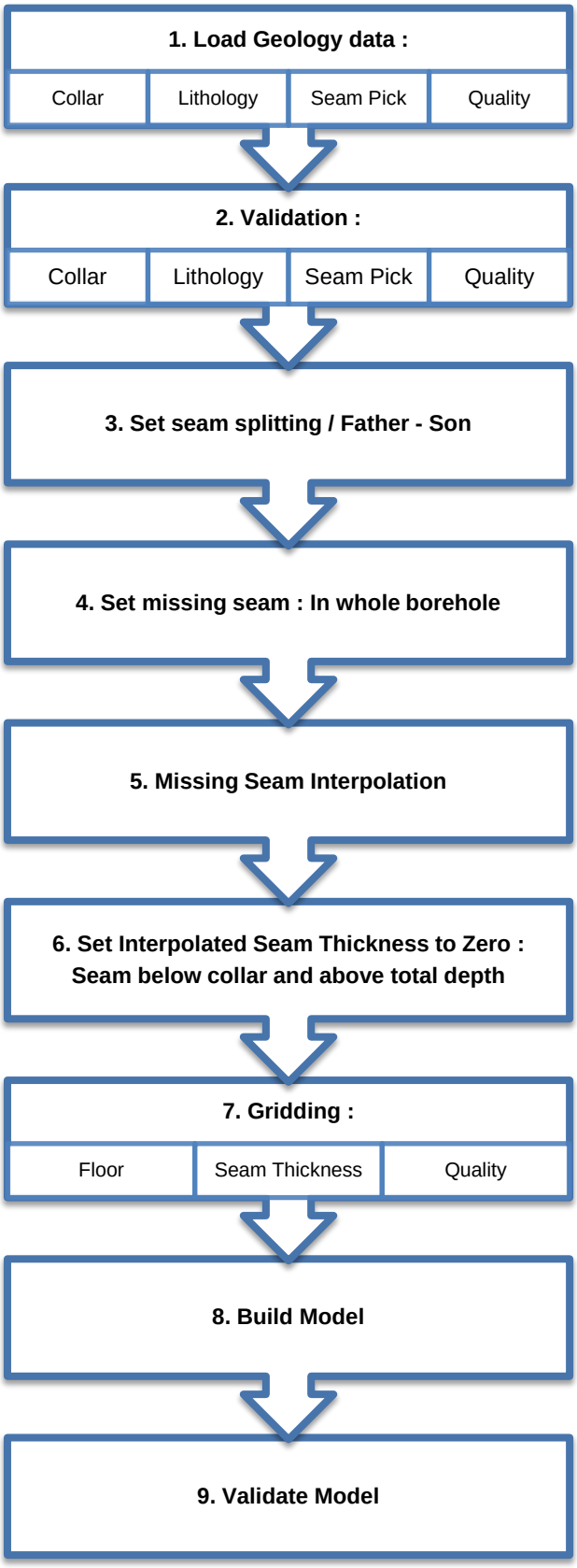
6.4 BASE OF WEATHERING AND UNCONFORMABLE SURFACES

A "non-conformable" base of weathering surface for the RK model was generated using a default depth of weathering of 1.5 m below topography. This was due to the limited logging of the weathered material in the lithological log, but is consistent with the mining operations finding fresh coal 10 horizontal metres and 1.5 vertical metres from the outcrop line. The topography was cut to honour the mined-out portions of the area (31st December 2016). The weathering surface of 1.5 m had been applied to account for actual mining practices encountered at site. No other unconformities have been identified in the RK Project Area.

6.5 SEAM MODELLING PROCEDURE

A structural model of the coal sequence was constructed. This work involved the following stages (Figure 6.4). The seam model is generated following the establishment of a stratigraphic sequence. Minex modelling completes the stratigraphic sequence in each borehole for missing seams. All "added" borehole-picks or alterations of picks are tagged as estimated (E) or interpolated (I). These "added" seam intervals can be selected or de-selected as required for the model building process. The complete sequence is then gridded and truncated by a base of weathering surface (BOW15MR). The base of weathering surface was used to limit the upper projection of seam grid extents.

Figure 6.4 – Seam Modelling Procedure



6.6 QUALITY MODEL

Coal quality grids were generated for all seams with available quality data. Coal quality data was sufficient to model 22 of 41 seams across the RK coal sequence. The Minex Inverse distance weighting technique interpolation method was used with data extrapolated to 2,000 m from the last data point.

The following quality parameters were modelled:

- TM (Total Moisture-as received basis)
- IM (Inherent Moisture-air dried basis)
- AS (Ash Content-air dried basis)
- VM (Volatile Matter-air dried basis)
- FC (Fixed Carbon-air dried basis)
- TS (Total Sulphur-air dried basis)
- CVA (Calorific Value-air dried basis)
- RD (Relative Density)
- HGI (Hardgrove Grindability Index-air dried basis)

The in situ density of the coal has been estimated using the Preston-Sanders method to account for the difference between air-dried density and in situ density. The formula and inputs were as follows:

ID = RD x (100-M1) / (100 + RD x (M2 - M1) – M2)

Where

ID = In situ Density

RD = Relative Density

M1 = Inherent Moisture

M2 = Total Moisture

It should be noted that while the total moisture from laboratory measurements may not necessarily equal the in situ moisture, this is considered to be a best estimate given the limited amount of data. If no adjustment to density is made then it is considered likely that Coal Resources will be significantly overstated.

131 of the 200 RK boreholes contain quality data and associated geophysical logs and are considered valid for quality modelling (Table 6.4).

The modelled coal quality data is summarised on a seam by seam basis in Table 6.5. 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 a Class A Sub-bituminous (Guidebook of Thermal Coal Sub-Bituminous Coal, Koichi Katoh, APBI-ICMA, page 33).

The spatial distribution of modelled quality parameters can be seen in Figure 6.9 and Figure 6.10 for the 2 thickest seams, S700 and S500 respectively. As a general trend, the energy is relatively homogeneous, though Seam S700 has a lower energy zone in the west. The total sulphur plots show some higher sulphur results (> 2 %) in the north. Seam S700 displays some higher ash

content in the east and S500 in the northwest. This can occur due to thin parting bands in the coal seams.

The cross correlation of ash and calorific value on an dried basis for all seams (Figure 6.3) shows a general consistency at RK with only a small number of samples occurring outside 2 standard deviations. This infers a general consistency in coal quality at RK. Samples above 2 standard deviations typically indicate laboratory errors; however the limited number of discrepancies of this type from the large sample population, mean they are considered insignificant in their effect on overall quality. Samples with fairly high ash values may also be indicative of contaminated samples.

Distribution of ASH (adb), TS (adb) and CV (adb) and CV (ar) can be seen in the histograms of coal quality (Figure 6.5 to Figure 6.8).

Table 6.4 – Boreholes with Quality Data

Boreholes					
CPDH0015	CPDH0041	CPDH0061	CPDH0081	FPDH0043	CPDH0148
CPDH0016	CPDH0042	CPDH0064	CPDH0081R	FPDH0080	CPDH0149
CPDH0017	CPDH0042R	CPDH0064R	CPDH0081R2	FPDH0080R	CPDH0150
CPDH0020	CPDH0042R2	CPDH0065	CPDH0082	FPDH0080R2	CPDH0151
CPDH0020R	CPDH0045	CPDH0066	CPDH0083	GPDH0009	CPDH0152
CPDH0022	CPDH0045R	CPDH0066R	CPDH0086	GPDH0031	CPDH0153
CPDH0023	CPDH0045R2	CPDH0069	CPDH0086R	GPDH0037	CPDH0153R
CPDH0028	CPDH0046	CPDH0069R	CPDH0086R2	GPDH0049	CPDH0154
CPDH0028R	CPDH0047	CPDH0070	CPDH0087	GPDH0097	CPDH0154R
CPDH0028R2	CPDH0048	CPDH0070R	CPDH0087R	GPDH0099	CPDH0155
CPDH0030	CPDH0048R	CPDH0070R2	CPDH0088	CPDH0130	CPDH0156
CPDH0032	CPDH0048R2	CPDH0071	CPDH0089	CPDH0131	CPDH0177
CPDH0034	CPDH0052	CPDH0071R	CPDH0091	CPDH0131R	CPDH0178
CPDH0034R	CPDH0052R	CPDH0071R2	CPDH0093	CPDH0132	CPDH0183
CPDH0035	CPDH0054	CPDH0073	CPDH0094	CPDH0133	CPDH0194
CPDH0038	CPDH0054R	CPDH0076	CPDH0094R	CPDH0133R	CPDH0197
CPDH0039	CPDH0058	CPDH0076R	CPDH0100	CPDH0134	CPDH0198
CPDH0039R	CPDH0060	CPDH0076R2	CPDH0101	CPDH0136	CPDH0199
CPDH0040	CPDH0060R	CPDH0078	FPDH0033	CPDH0137	CPDH0201
CPDH0202	CPDH0208	CPDH0211	FPDH0121	GPDH0215	GPDH0218R
CPDH0203	CPDH0209	CPDH0213	FPDH0122	GPDH0217	GPDH0219
CPDH0204	CPDH0210	FPDH0120	GPDH0214	GPDH0218	

Table 6.5 – Coal Quality Summary (Boreholes)

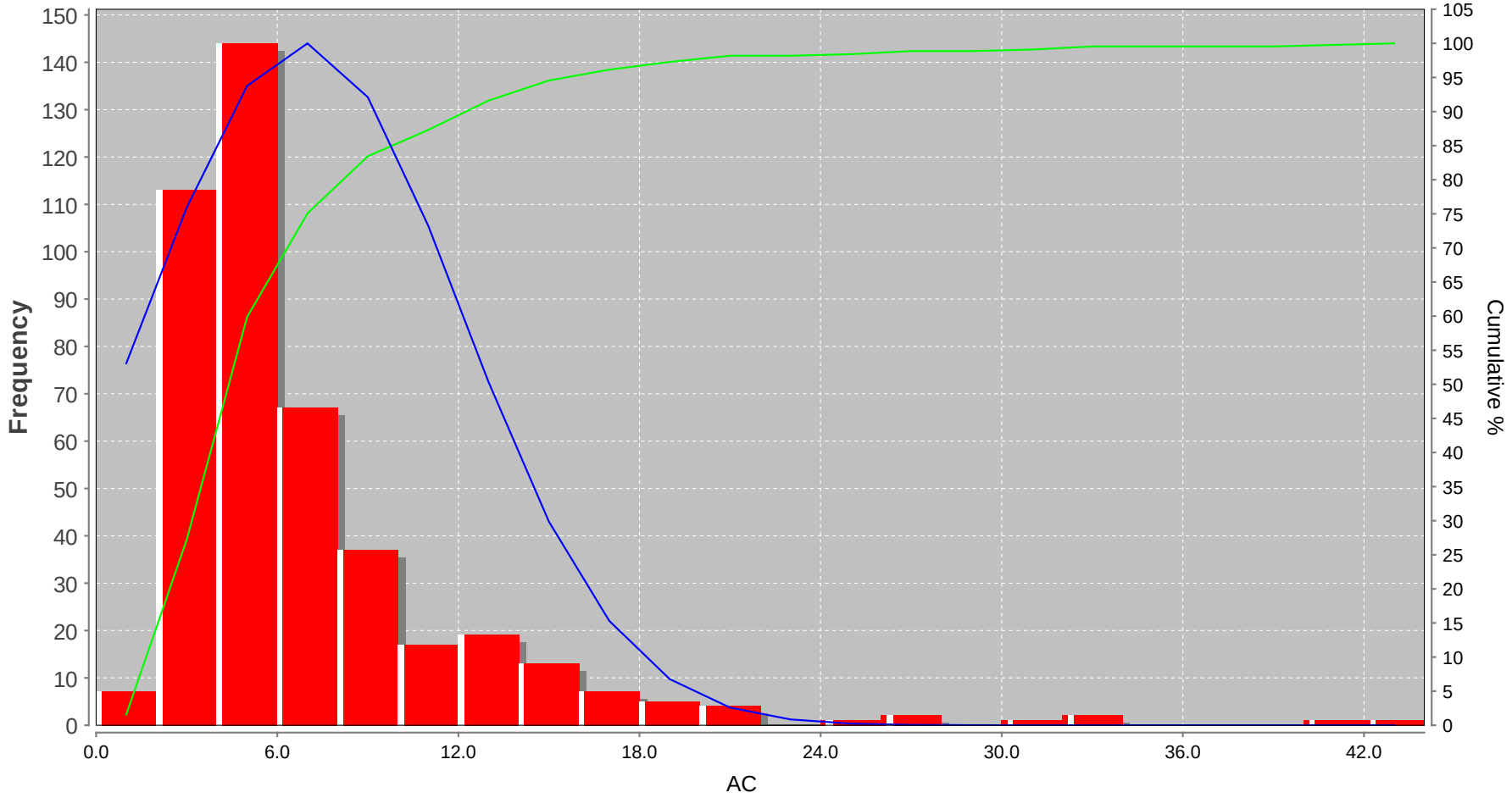
Seam	TM ar (%)	IM ad (%)	ASH ad (%)	VM ad (%)	FC ad (%)	TS ad (%)	RD ad (g/cc)	CV ad (Kcal/kg)	CV ar (Kcal/kg)	Number of Samples
S5	20.2	14.5	2.1	41.7	41.8	1.61	1.34	5988	5588	1
S10U	19.6	13.7	6.3	41.7	40.0	2.59	1.33	5750	5370	3
S10L	19.0	13.9	4.6	42.9	40.5	2.22	1.30	5855	5517	2
S15U	19.6	13.6	10.2	37.8	38.4	5.02	1.41	5427	5053	3
S15L	19.6	13.6	10.2	37.8	38.4	5.02	1.41	5427	5053	3
S20	19.5	13.2	4.6	41.6	40.6	3.32	1.34	5961	5527	4
S30U	21.8	14.3	4.2	40.2	41.5	0.84		5910	5384	5
S30L	21.1	14.6	5.5	39.6	40.6	1.65	1.32	5763	5322	6
S40	18.2	13.2	6.0	39.8	39.6	2.42	1.33	5984	5641	15
S40L	18.8	13.4	8.8	38.0	39.8	3.08	1.33	5638	5288	7
S50U	16.8	12.9	5.7	41.6	39.8	3.07		5945	5683	2
S50	16.9	12.4	5.0	42.8	36.7	3.04	1.31	6089	5778	19
S50L										
S100	19.9	14.6	7.0	37.5	41.2	2.47	1.34	5685	5334	14
S200	16.9	12.3	4.9	40.2	43.1	1.96	1.31	6133	5820	38
S300	15.7	11.8	5.5	42.1	42.2	1.81	1.32	6124	5861	46
S400	17.7	12.7	6.7	38.5	42.6	1.82	1.35	5898	5600	40
S500	16.4	11.8	3.8	41.3	44.0	1.55	1.31	6227	5909	49
S600	15.1	11.1	7.5	42.2	40.1	2.82	1.34	6112	5855	44
S700	17.4	12.9	4.9	38.8	44.1	1.01	1.32	6078	5792	50
S790	14.4	10.4	14.2	39.5	37.9	3.61	1.29	5798	5700	10
S800	16.0	11.9	10.2	38.0	41.6	2.28	1.36	5919	5644	16
S900	14.5	9.9	18.5	35.0	36.2	3.55	1.00	5291	5020	13
S1000	15.9	11.3	9.5	36.9	41.5	2.62	1.32	5873	5570	11
S1050	15.6	11.0	6.8	39.3	42.9	2.18	1.33	6182	5868	3
S1999	15.3	11.1	11.2	40.5	36.9	3.17	1.38	5883	5616	4
S2001	20.1	9.9	27.5			2.63		4526	4012	1
S2100										
S2200										
S2300										
S2400										
S2500	14.1	12.3	5.6	40.0	42.1	2.27	1.32	6171	6044	1

Table 6.5 (continue) – Coal Quality Summary (Boreholes)

Seam	TM ar (%)	IM ad (%)	ASH ad (%)	VM ad (%)	FC ad (%)	TS ad (%)	RD ad (g/cc)	CV ad (Kcal/kg)	CV ar (Kcal/kg)	Number of Samples
S3000	13.7	10.9	7.1	38.6	42.3	2.33	1.36	6167	5974	5
S3100										
S3200	12.7	10.2	9.7	40.7	39.4	2.01	1.35	6185	6012	5
S3300	10.5	9.0	4.2	46.5	40.3	1.54	1.29	6830	6717	1
S4000	7.6	6.8	9.4	44.3	39.6	2.84	1.00	6635	6579	1
S4900	9.7	7.9	5.7	43.1	43.3	3.11	1.33	6583	6459	8
S5000	10.2	7.9	4.9	41.4	48.3	2.41	1.33	6652	6488	12
S5100										
S5200										

Statistics for: AC

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100 S200 S300 S400
S500 S600 S700 S790 S800 S900 S1000 S1050 S1999 S2001 S2100 S2200 S2300 S2400 S2500 S3000 S3100 S3200 S3300
S4000 S4900 S5000 S5100 S5200



Standard Dev: 5.2
Kurtosis: 15.3
Median: 5.3
% Coeff var: 75.9
Maximum: 42.3

Skewness: 2.9
Average: 6.9
Variance: 27.3
No Values: 441
Minimum: 1.3

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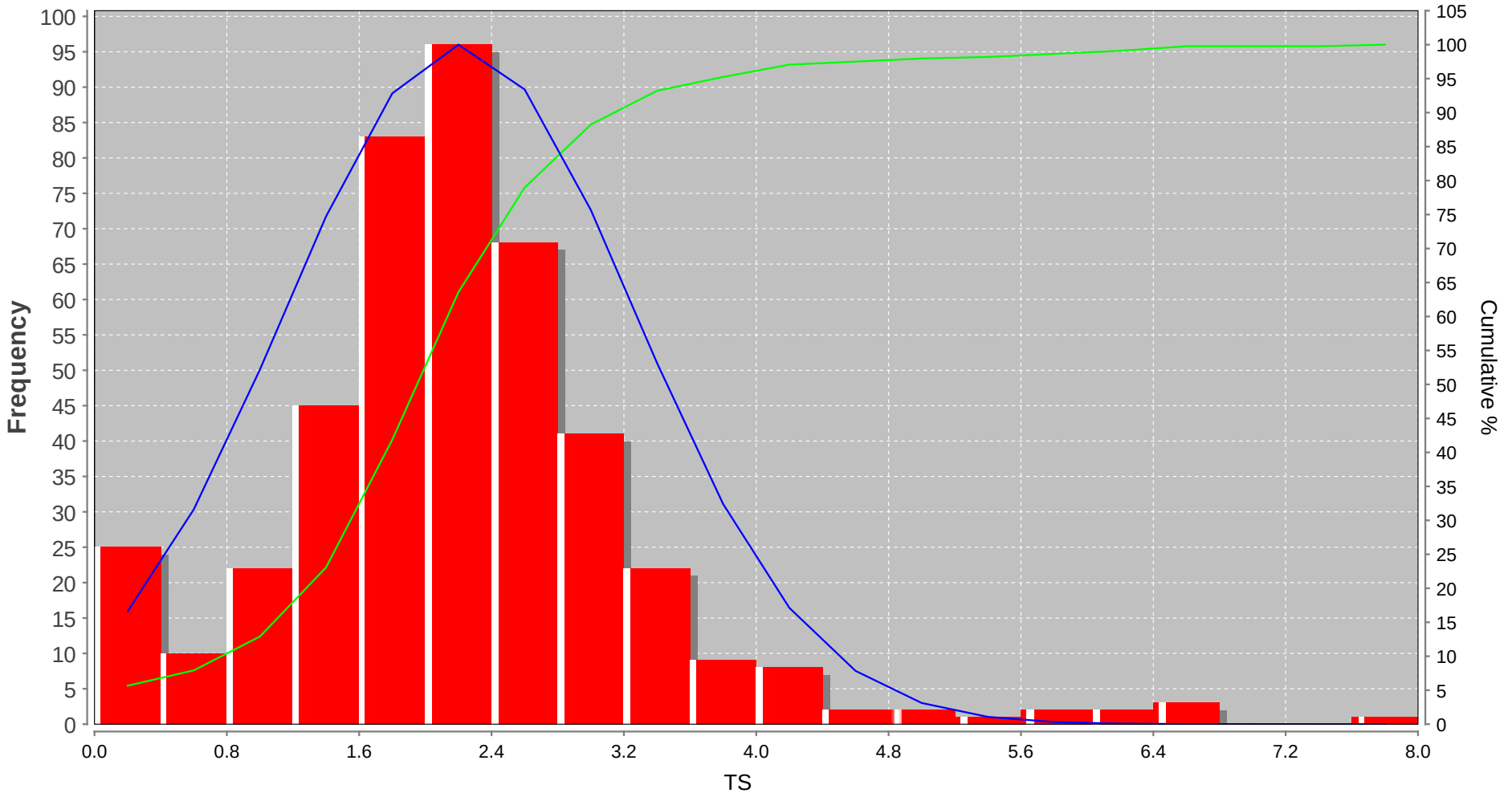
Coal Quality Histogram of Ash Content (ADB) - All Seams

Figure No. 6.5

Design	WA	27/01/2017	Scale	N T S	Paper	A4 L	
Drawn	IW	27/01/2017	Cad File	J1613_29 histogram.dwg			

Statistics for: TS

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100 S200 S300 S400
S500 S600 S700 S790 S800 S900 S1000 S1050 S1999 S2001 S2100 S2200 S2300 S2400 S2500 S3000 S3100 S3200 S3300
S4000 S4900 S5000 S5100 S5200



Standard Dev: 1.1
Kurtosis: 7.3
Median: 2.1
% Coeff var: 48.0
Maximum: 7.9

Skewness: 1.2
Average: 2.2
Variance: 1.1
No Values: 442
Minimum: 0.2

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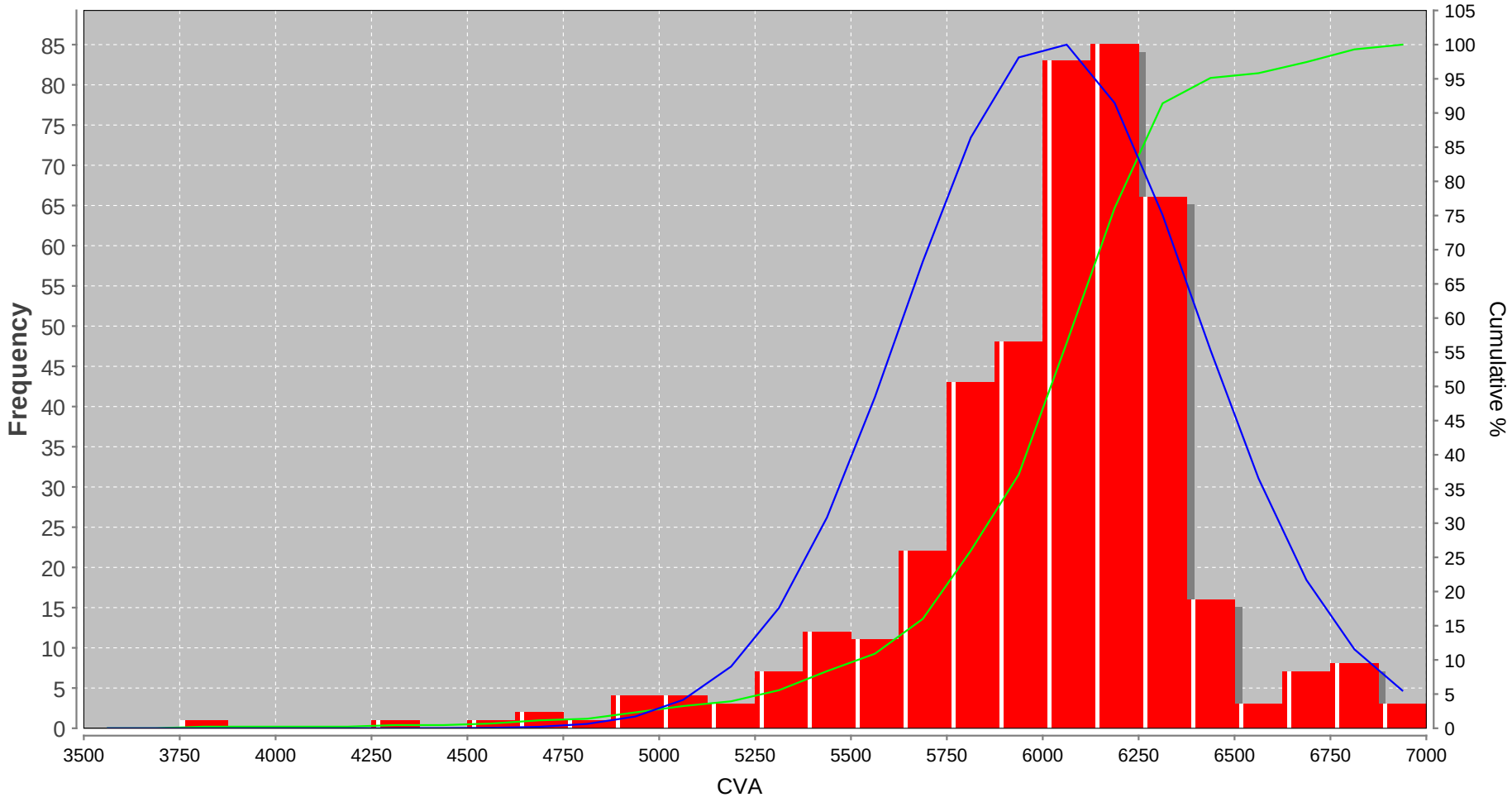
Coal Quality Histogram of Total Sulphur (ADB) - All Seams

Figure No. 6.6

Design	WA	27/01/2017	Scale	N T S	Paper	A4 L
Drawn	IW	27/01/2017	Cad File	J1613_29 histogram.dwg		

Statistics for: CVA

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100 S200 S300 S400
S500 S600 S700 S790 S800 S900 S1000 S1050 S1999 S2001 S2100 S2200 S2300 S2400 S2500 S3000 S3100 S3200 S3300
S4000 S4900 S5000 S5100 S5200



Standard Dev: 380
Kurtosis: 8
Median: 6083
% Coeff var: 6
Maximum: 6911

Skewness: -1
Average: 6022
Variance: 144415
No Values: 431
Minimum: 3794

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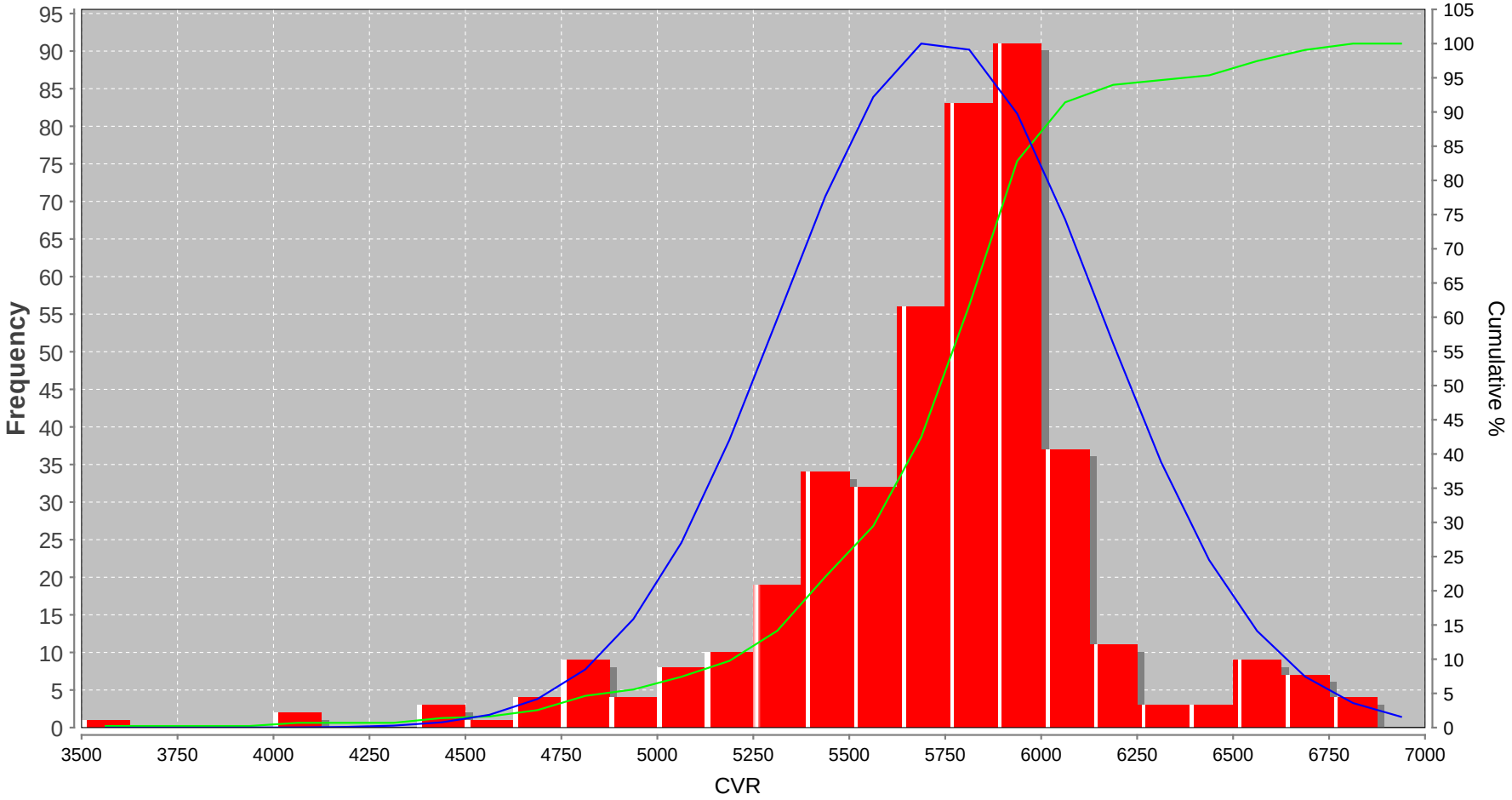
Coal Quality Histogram of Calorific Value (ADB) - All Seams

Figure No. 6.7

Design	WA	15/03/16	Scale	N T S	Paper	A4 L	
Drawn	IW	15/03/16	Cad File	J1613_29 histogram.dwg			

Statistics for: CVR

For Seams: S5 S10U S10L S15U S15L S20 S30U S30L S40 S40L S50U S50 S50L S100 S200 S300 S400
S500 S600 S700 S790 S800 S900 S1000 S1050 S1999 S2001 S2100 S2200 S2300 S2400 S2500 S3000 S3100 S3200 S3300
S4000 S4900 S5000 S5100 S5200



Standard Dev: 416
Kurtosis: 6
Median: 5798
% Coeff var: 7
Maximum: 6835

Skewness: -1
Average: 5738
Variance: 173175
No Values: 431
Minimum: 3557

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Coal Resource Statement

Coal Quality Histogram of Calorific Value (AR) - All Seams

Figure No. 6.8

Design	WA	27/01/2017	Scale	N T S	Paper	A4 L
Drawn	IW	27/01/2017	Cad File	J1613_29 histogram.dwg		

Figure 6.9 – Spatial Quality Plot – Seam S700

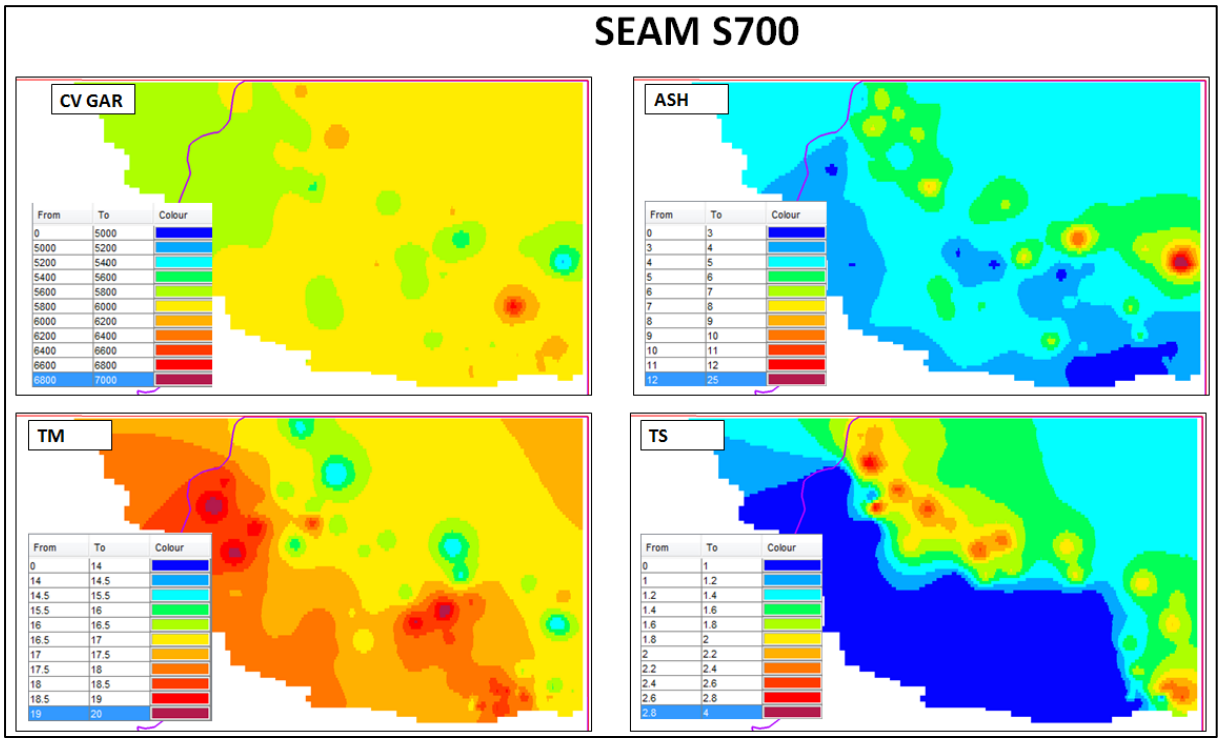
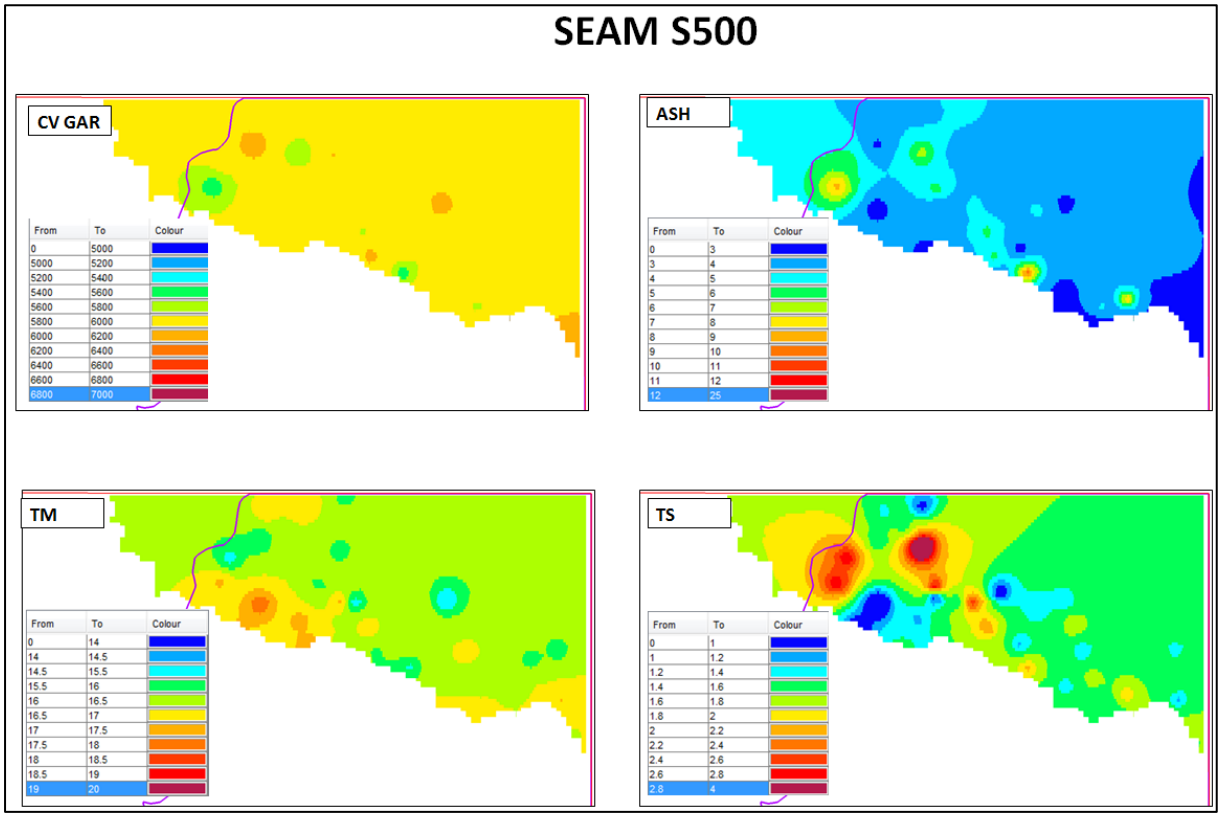


Figure 6.10 – Spatial Quality Plot – Seam S500



7. ESTIMATION OF RESOURCES FOR THE RK PROJECT

7.1 DATABASE INTEGRITY

To perform a complete review of the geological database and ensure that data can be classified as a Resource, certain criteria must be met.

To be able to estimate a Resource, there must be a sufficient number of valid points of observation, and these points must be suitably spaced in order to accurately represent the deposit being modelled. Seam continuity and seam characteristics must be completely understood to allow confirmation of the Resource. Points of observation can be seam outcrops, exploration trenches or boreholes. Valid points of observation require the following information:

- Correct survey location data
- Geological logs detailing the various lithologies and geological structures present at a given location
- Boreholes must be geophysically logged i.e. Gamma, Density and Calliper logs are used to identify seam roof and floor, faults, washouts, cave-ins etc. These logs must be used to adjust the geological log and sample depths
- Representative coal quality samples must be collected and submitted to an accredited laboratory for analysis

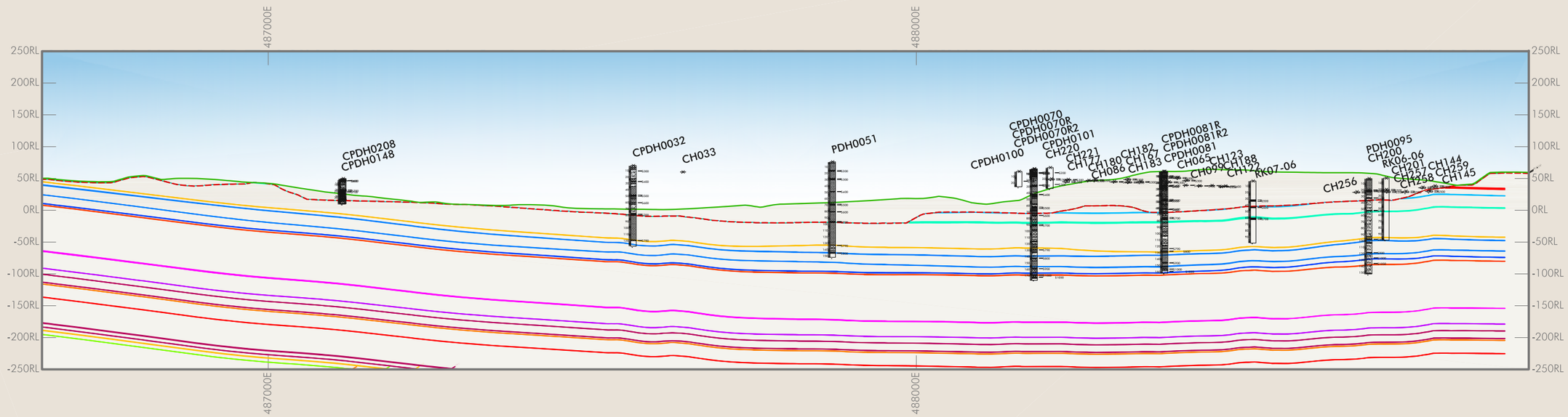
The database is considered by SMGC to be of an acceptable standard to estimate and report Resources. All seam picks have been checked and correlated.

7.2 GEOLOGICAL INTERPRETATION

The RK Geological Model created by SMGC is interpreted as being geologically competent and considered to accurately represent the RK deposit. Coal bearing sequences at RK exhibit splitting up to the 1st phase. The area is characterised by shallow dipping strata, on the maximum stratigraphy dips 10 degrees to the north-northeast.

Large scale faulting has not been identified by current field exploration however minor faulting cannot be ruled out based on the current borehole spacing.

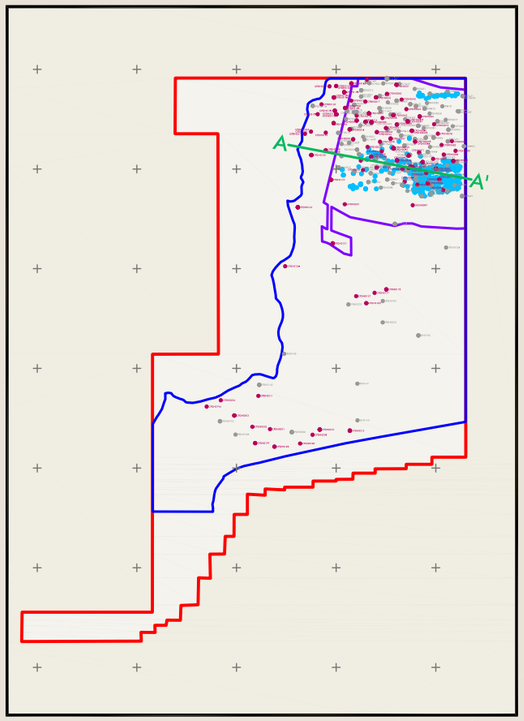
Representative cross sections of the Project Area stratigraphy are illustrated in Figure 7.1 to Figure 7.4.



Cross Section A-A'

H : V = 1 : 1
Vertical Scale 1 : 7,000 @ A3

70 m 0 140 m



LEGEND :

- IUP Boundary
- IPPKH1 - OP
- IPPKH2 - OP
- LIDAR Topography
- Base of Weathering

- Seam S100
- Seam S200
- Seam S300
- Seam S400
- Seam S500
- Seam S600
- Seam S700
- Seam S790
- Seam S800
- Seam S900
- Seam S1000
- Seam S1050
- Seam S1999
- Seam S2001
- Seam S2100
- Seam S2200
- Seam S2300
- Seam S2400
- Seam S2500
- Seam S3000
- Seam S3100
- Seam S3200
- Seam S3300
- Seam S4000
- Seam S4900
- Seam S5000
- Seam S5100
- Seam S5200

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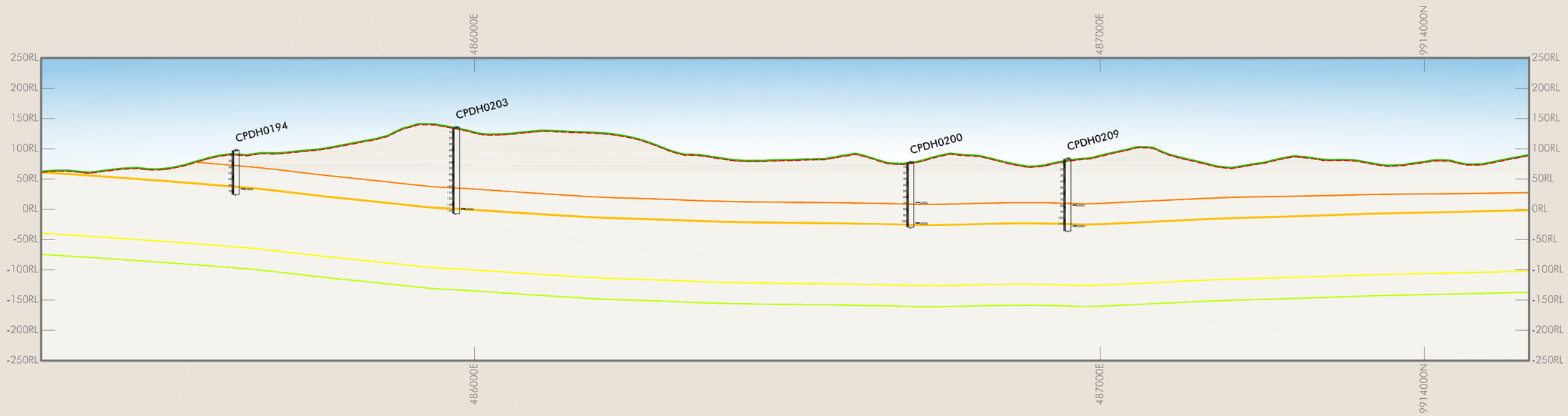
Cross Section A-A'

Figure No. 7.1

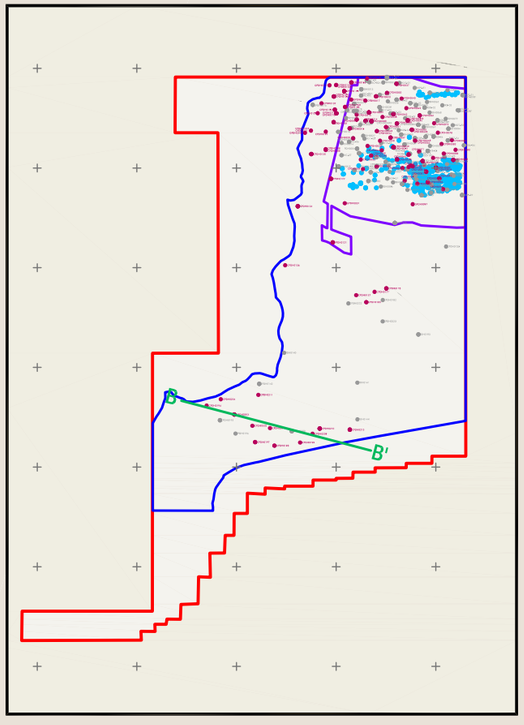
Design	WA	27/01/2017	Scale	1 : 7,000	Paper	A3 P	
Drawn	IW	27/01/2017	Cad File	J1613_28 Section Dec.dwg			



Cross Section B-B'

H : V = 1 : 1
Vertical Scale 1 : 7,000 @ A3

70 m 0 140 m



LEGEND :

- IUP Boundary
- IPPKH1 - OP
- IPPKH2 - OP
- LIDAR Topography
- Base of Weathering

- Seam S100
- Seam S200
- Seam S300
- Seam S400
- Seam S500
- Seam S600
- Seam S700
- Seam S790
- Seam S800
- Seam S900
- Seam S1000
- Seam S1050
- Seam S1999
- Seam S2001
- Seam S2100
- Seam S2200
- Seam S2300
- Seam S2400
- Seam S2500
- Seam S3000
- Seam S3100
- Seam S3200
- Seam S3300
- Seam S4000
- Seam S4900
- Seam S5000
- Seam S5100
- Seam S5200

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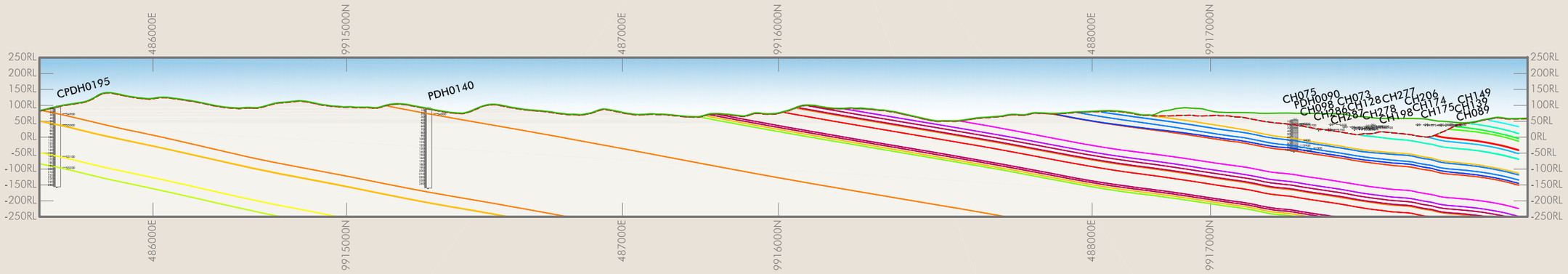
Cross Section B-B"

Figure No. 7.2

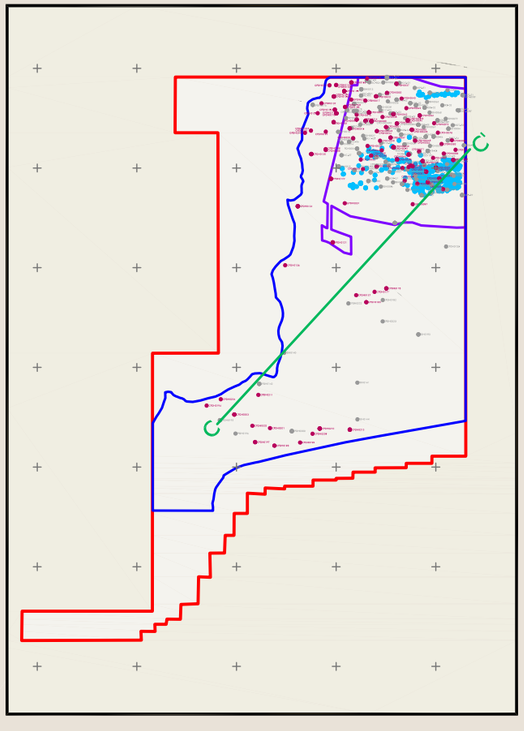
Design	WA	27/01/2017	Scale	1 : 7,000	Paper A3 P
Drawn	IW	27/01/2017	Cad File	J1613_28 Section Dec.dwg	



Cross Section C-C'

H : V = 1 : 1
Vertical Scale 1 : 7,000 @ A3

70 m 0 140 m



LEGEND :

- IUP Boundary
- IPPKH1 - OP
- IPPKH2 - OP
- LIDAR Topography
- Base of Weathering

- Seam S100
- Seam S200
- Seam S300
- Seam S400
- Seam S500
- Seam S600
- Seam S700
- Seam S790
- Seam S800
- Seam S900
- Seam S1000
- Seam S1050
- Seam S1999
- Seam S2001
- Seam S2100
- Seam S2200
- Seam S2300
- Seam S2400
- Seam S2500
- Seam S3000
- Seam S3100
- Seam S3200
- Seam S3300
- Seam S4000
- Seam S4900
- Seam S5000
- Seam S5100
- Seam S5200

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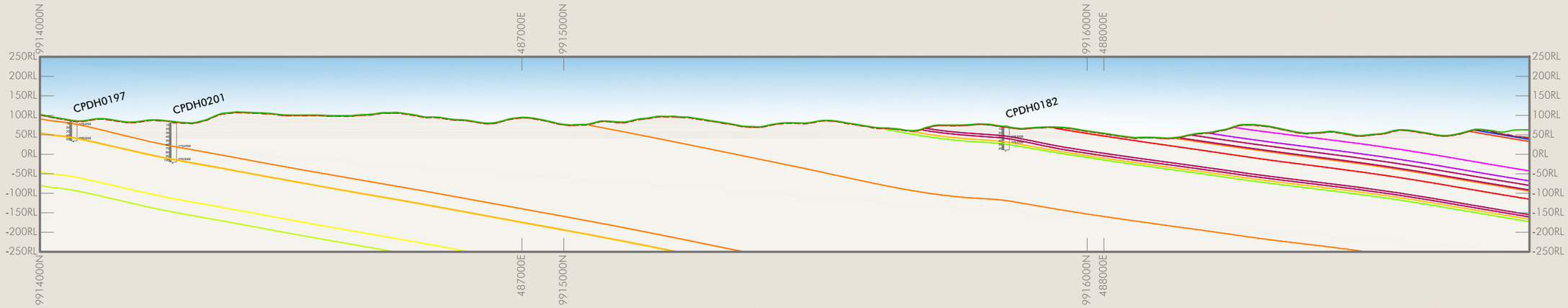
JORC Resource Statement

Cross Section C-C'

Figure No. 7.3

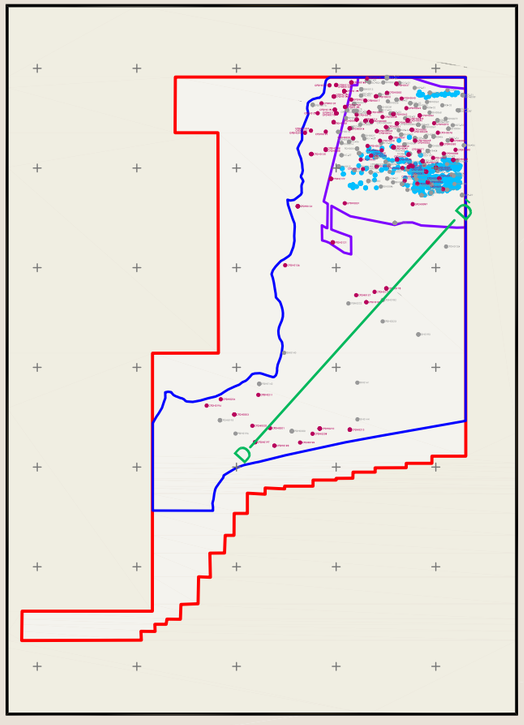
Design	WA	27/01/2017	Scale	1 : 7,000	Paper A3 P
Drawn	IW	27/01/2017	Cad File	J1613_28 Section Dec.dwg	



Cross Section D-D'

H : V = 1 : 1
Vertical Scale 1 : 7,000 @ A3

70 m 0 140 m



LEGEND :

- IUP Boundary
- IPPKH1 - OP
- IPPKH2 - OP
- LIDAR Topography
- Base of Weathering

- Seam S100
- Seam S200
- Seam S300
- Seam S400
- Seam S500
- Seam S600
- Seam S700
- Seam S790
- Seam S800
- Seam S900
- Seam S1000
- Seam S1050
- Seam S1999
- Seam S2001
- Seam S2100
- Seam S2200
- Seam S2300
- Seam S2400
- Seam S2500
- Seam S3000
- Seam S3100
- Seam S3200
- Seam S3300
- Seam S4000
- Seam S4900
- Seam S5000
- Seam S5100
- Seam S5200

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JORC Resource Statement

Cross Section D-D'

Figure No. 7.4

Design	WA	27/01/2017	Scale	1 : 7,000	Paper A3 P
Drawn	IW	27/01/2017	Cad File	J1613_28 Section Dec.dwg	

7.3 RESOURCE DIMENSIONS

Drilling to date has identified a multi-seam coal Resource approximately 5.0 km long and 4.0 km wide within the RK concession area. The geometry of this deposit is restricted by the IUP boundary.

7.4 MOISTURE BASIS

The average Inherent Moisture of the RK deposit is 12.0 % (Table 6.5), however Inherent Moisture results vary stratigraphically through the deposit. All quality results have been provided on an air dried moisture basis.

7.5 CUT OFF PARAMETERS

Coal Resources are confined within the concession (IUP) boundary. The Resource depth was limited to a Lerch Grossman pit optimisation base surface (GEO04.grd) created from parameters in Table 7.1. A pit optimisation base was created to get an overview of reasonable prospects for eventual economic extraction in the RK area.

An upper cut-off 1.5 m below topography and representing the base of weathering has been used to limit the Resource. This surface was also merged with the December 2016 mined-out surface to limit the upper extent of the Resource. A minimum thickness cut-off 0.10 metres was also set for the area, as it is considered unlikely that any seam thinner than this would be extracted during future mining. The ‘as dumped’ surface was merged with the ‘as mined’ and original topography surfaces to form the top surface for the pit optimiser process. This ensured that any waste material dumped over coal that would require re-handling and would be considered in generating the optimised pit shell.

7.6 COAL BENEFICIATION

Coal beneficiation has not been considered in the reporting of the RK Resource.

7.7 REASONABLE PROSPECTS OF ECONOMIC EXTRACTION

All reports of Mineral Resources must satisfy the requirement that there are reasonable prospects for eventual economic extraction (i.e. more likely than not) regardless of the classification of Resource. Mining has been undertaken on the deposit area since 2012.

Portions of a deposit that do not have reasonable prospects for eventual economic extraction must not be included in a Mineral Resource. The basis for the reasonable prospects assumption is always a Material matter, and must be explicitly disclosed and discussed. This has been done by SMGC using Table 1 (Appendix B) from The 2012 JORC Code as guidance.

In the case of Bulk commodities, the JORC code contemplates a period of 50 years when discussing reasonable prospects. SMGC has considered a number of limits in forming an opinion on reasonable prospects to technical and economic extraction within the next 50 years. The limits may be thought of in three categories; Hard limits such as concession boundaries, technical limits such as maximum depth of extraction and economic limits dependant on price forecasts and cost. These are discussed in Table 7.1

Table 7.1 – Limits of Reasonable Prospects

Category	Limit	Discussion
Hard Limits	Concession Boundary	
	Geological Model Boundary	The geological model is limited by a maximum 2 km extrapolation from data.
Technical Limit	Depth of final highwall < 450 m	In Kalimantan topography, it is important to differentiate between maximum depth from topography and final highwall depth as the topography may have localised extreme highs. In SMGC's experience geotechnical sign off by internationally accredited groups has been given in Kalimantan up to a 450 m highwall depth. A few pits exist at or near this depth.
	Maximum Practical Strip ratio 20:1	Beyond a strip ratio of 20:1 or thereabouts equipment congestions, required dump room and support infrastructure requirements render operations increasingly less efficient.
Economic	Maximum plausible thermal coal price equivalent to $150 /t Newcastle index (6,322 kcal/kg gar) adjusted for actual calorific value.	Given the two past coal price spikes of the 1970s and 2010's exceeded this value, it is plausible that conditions may occur within the timeframe contemplated to reproduce these prices. At these prices break even strip ratios well exceed the technical limit of 20:1. Hence economics is largely discounted as a limit to reasonable prospects.

It is SMGC's opinion that based on current and emergent mining technologies, the current understanding of the nature and quality of the ore body and the prevailing economic, social and political conditions that the Resources stated within this report for RK currently meet this requirement and have reasonable prospects of economic extraction within the short to medium term time frame.

As previously stated, the true nature of any body of mineralisation is never known until the last tonne of ore has been mined out. 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 fragmentary 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.

It should be noted that these statements are made at a point in time, and that coal prices, mining costs, legislative, environmental and socio-economic factors can all change dramatically based on both foreseen and unforeseen events and as such any prediction of economic potential should be treated with an appropriate degree of concern with this in mind.

A limiting pit shell was created as shown in Figure 7.5. In the north, south, east, and west areas, the crest of the Base Pit was aligned with the IUP boundary to generate the biggest possible pit inside the concession.

Considering the factors listed in Table 7.1 an optimised pit “GEO04” was created as shown in Figure 7.6. There are 3 big pits, north, middle, and south. The base of north pit is floor seam S1050, floor seam S3200 for middle pit, and floor seam S5000 for south pit. The vertical depth from topography to the Lerch Grossman optimiser base is shown in Figure 7.7.

Figure 7.5 – Base Pit

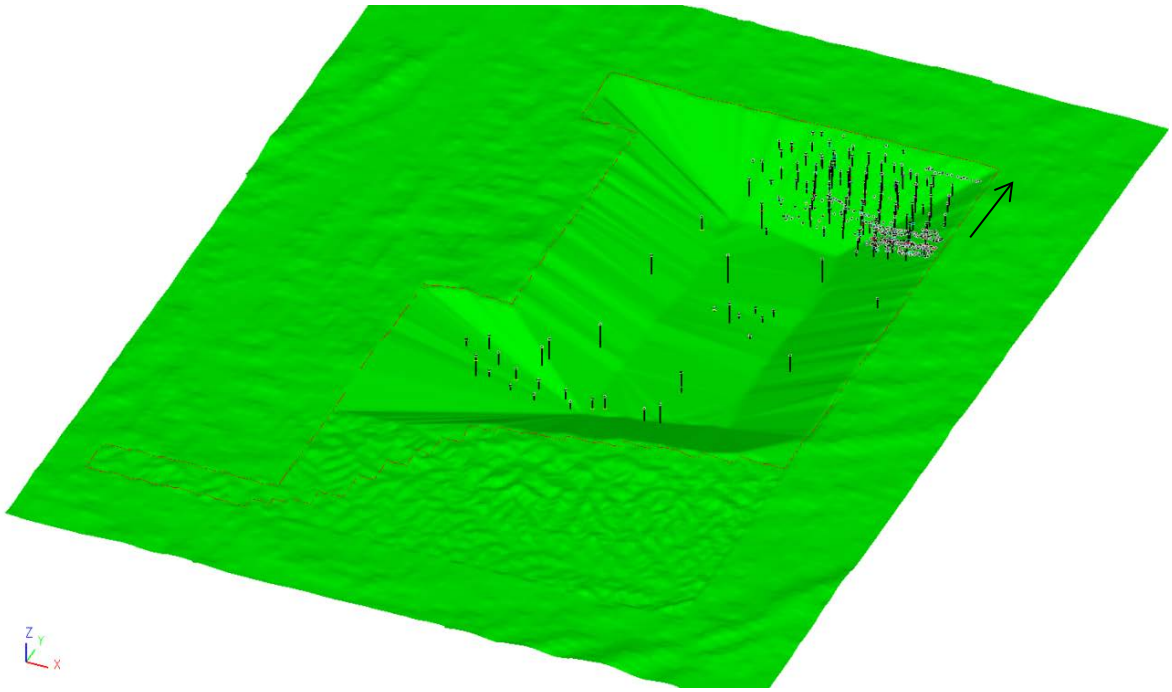


Figure 7.6 – Optimiser Base Pit

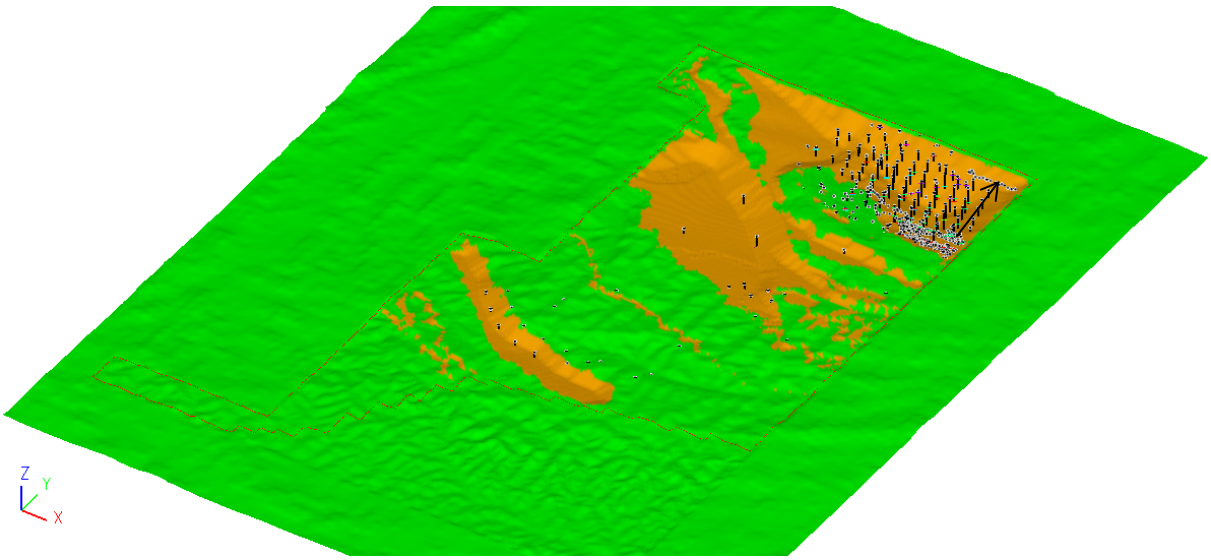
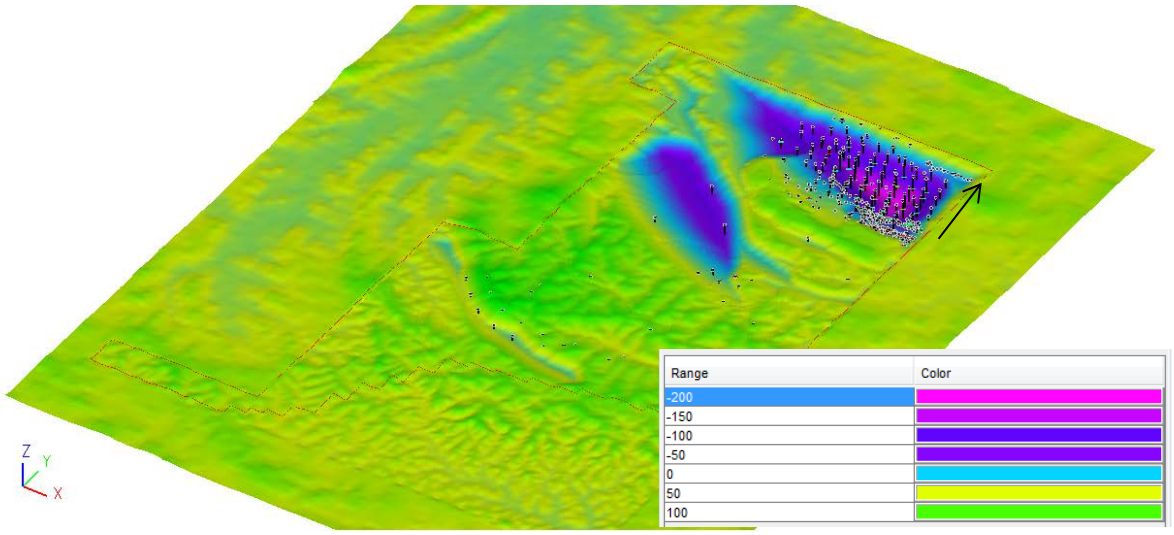


Figure 7.7 – Depth to Optimiser Base



7.7.1 Environmental and Permitting Issues

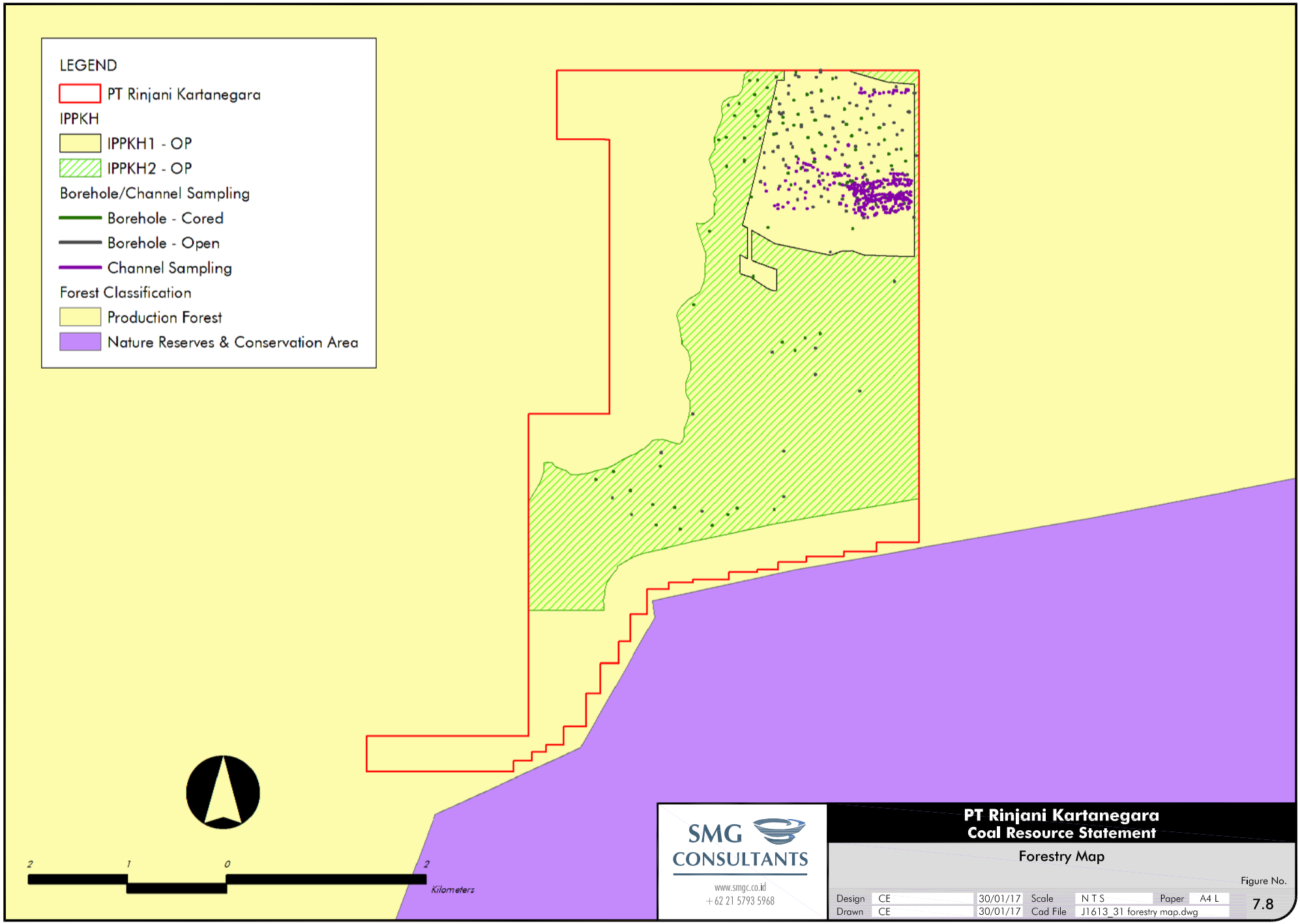
Existing forest in Indonesia is generally classified as either Hutan Produksi (HP), which is forest that may be felled for industry purposes (generally timber), Hutan Lindung (HL) which is protected forest or Kawasan Suaka Alam Dan Pelestarian which is a conservation area. Through negotiation with stakeholders it is possible to obtain a permit to “borrow” land which is classified as HP for use in mining activities. The permit is referred to as “Izin Pinjam Pakai Kawasan Hutan” (IPPKH).

PT Rinjani Kartanegara has two Izin Pinjam Pakai Kawasan Hutan (IPPKH) referred to as IPPKH1 and IPPKH2. The concession area is located adjacent to a conservation area but this is not forecast to be a hindrance to mining activities. No other environmental or permitting issues that would influence the estimation of this Resource have been identified.

The IPPKH2 was granted on July 2016. Now, the IPPKH area for RK is covering 1,186 ha previously the IPPKH only cover 292 ha. In the case of RK, the lease is completely covered by a production forest (HP) area, and all resource tonnages stated in this report fall within this area as shown in Figure 7.8.

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

In the opinion of SMGC, the presence of land classified as HP which is overlying a mineral Resource has no Material impact upon the classification of the said Resource under the JORC Code, provided that the cost of obtaining a IPPKH for HP forest does not exclude the Resource from ‘eventual economic extraction’.


LEGEND
PT Rinjani Kartanegara
IPPKH
IPPKH1 - OP
IPPKH2 - OP
Borehole/Channel Sampling
Borehole - Cored
Borehole - Open
Channel Sampling
Forest Classification
Production Forest
Nature Reserves & Conservation Area
2
1
0
2
Kilometers
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PT Rinjani Kartanegara
Coal Resource Statement
Forestry Map
Figure No.
7.8
Design CE 30/01/17 Scale N T S Paper A4 L
Drawn CE 30/01/17 Cad File J1613_31 forestry map.dwg

7.7.2 Social and Government Factors

There were no identified social or government factor issues that would influence the estimation of this Resource.

7.7.3 Marketing Factors

There were no identified marketing factor issues that would influence the estimation of this Resource.

7.8 RESOURCE CLASSIFICATION

When determining the “level of confidence”, SMGC incorporated elements of Paper 88-21, A Standardized Coal Resource/Reserve Reporting System (1989) and SNI 5015:2011, the Indonesian National Standard for the Coal Resources and Reserves Report (2011). These systems are based on defining coal deposits in terms of geological complexity to determine appropriate borehole spacing for resource categories.

The categorisation of the Resources at RK under Paper 88-21 is summarised in Table 7.2 in accordance with the guideline.

Table 7.2 – Standardised Coal Resource/Reserve Reporting System for Canada

Geology Type	Low			Moderate	Complex	Severe
	Type A	Type B	Type C			
Degree of Complexity			Coal seams in this area show up to 2 phase of seam splitting. Parting in this deposit is less than 0.1 m. Local thinning is common in this area but confidence in seam correlations and continuity is high. The stratigraphy dips, on average, at less than 10°. There is no fault in this area			
	Surface	**Underground**	**Non-conventional**	**Sterilized**		
Deposit Type						
Probable Extraction Method	Coal seams would be extracted by removal of overburden from the surface truck /shovel					
	Seam Thickness	**Areal Extent**	**Coal Bulk Density**			
Quantification Parameters	Local thinning is common in this area	Exploration has been completed covering all of the concession where coal outcrops are the most prominent	Each seams has coal samples to create density model			
	Immediate Interest	**Future Interest**				
Classification of Resources	The strip ratio within this optimiser shell is less than the limiting strip ratio of 20:1. The actual in situ stripping ratio of the selected Lerch Grossman optimiser shell was 4.8					
	Measured	**Indicated**	**Inferred**	**Speculative**		
Assurance Class						
Low - Type C						
Distance from nearest data point (m)	0 - 450	450 - 900	900 - 2400			

The categorisation of the Resources at RK under SNI 5015:2011 is summarised in Table 7.3 below in accordance with the guideline.

Table 7.3 – Indonesia National Standard for Resource and Reserve Report

	Simple	Moderate	Complex
Sedimentation Aspect			
Seam Thickness Variation		Local thinning is common in this area but confidence in seam correlations and continuity is high.	
Seam Continuity	The continuity of seams are high		
Seam Splitting		Coal seams in this area show up to 2 phase of seam splitting.	
Tectonic Aspect			
Geological Structure	There is geological structure in this area		
Seam Dipping	The stratigraphy dips, on average, at less than 10°		
Coal Quality Aspect			
Quality Variation	Minor variation between seams		
Polygon Radius (m)			
Measured	x ≤ 250	x ≤ 125	x ≤ 50
Indicated	250 < x ≤ 500	125 < x ≤ 250	50 < x ≤ 100
Inferred	500 < x ≤ 1000	250 < x ≤ 500	100 < x ≤ 200

The geostatistical approach provides an estimation variance that could replace distance from nearest control point (point of observation) as the primary criterion for assurance of existence categorisation. In practice, however, the application of geostatistical techniques requires the availability of a fairly large dataset to adequately determine the semi-variogram structure. Further, because the determination of semi-variogram models from dataset is a somewhat interpretive process, estimation variances produced from the same dataset by different workers may be different.

For these reasons, it is proposed that distance from nearest point of observation remain the primary method for assurance of existence categorisation in the low and moderate geology type deposits.

A division of the Resources into Measured, Indicated and Inferred status was undertaken for the geological model.

The following Resource dimensions were used:

- Measured – 250 m radius circular polygon around points of observation
- Indicated – between 250-500 m radius circular polygon around points of observation
- Inferred – between 500-1,000 m radius circular polygons around points of observation

Points of Observation for the model in the RK Project Area were defined using the following criteria:

- Only cored boreholes that had valid survey collars (not GPS-survey) were used, i.e. those boreholes not surveyed have not been considered
- Cored boreholes had to be geophysically logged and sampled to be considered as valid points of observation for Resource calculations
- Coal seam recovery had to be greater than 90 % and samples analysed by an accredited laboratory
- The in situ density results were limited and where necessary a default in situ density of 1.30 g/cc was applied to Resource calculations

The extent of the various Resource categories for each of the seams in the RK Project Area can be seen in Figure C.1 to Figure C.22 (Appendix C).

7.9 RESOURCE TONNAGE BY CLASSIFICATION CATEGORY

The RK Resource was calculated by SMGC using Minex Modelling and Resource estimation tools and is shown in Table 7.4 and Table 7.5 with coal tonnage and quality by seam and classification. The Resources have been calculated using in situ density that has been estimated using Preston-Sanders method.

Resource tonnages reported have been based upon in situ density grids that have been estimated using the Preston-Sanders method data where available. A default in situ density of 1.30 g/cc has been applied when ID grids were not available. The Resource estimation has also now been limited to an economically/operationally optimised pit shell “GEO04”. This is a selected pit shell which has been used to limit the bottom surface to a maximum depth based on parameters outlined in Section 7.7.

Appendix C contains the RK Resource polygons based around points of observation which have sufficient core recovery, geophysics and quality to be considered valid.

Table 7.4 – Coal Tonnes and Quality by Seam and Classification

Seam	Resource Classification	Coal Quantity (Mt)	TM ar (%)	IM adb (%)	Ash adb (%)	VM adb (%)	FC adb (%)	TS adb (%)	CV adb (kcal/kg)	CV gar (kcal/kg)	RD adb (g/cc)
S20	Measured	< 0.1	19.2	13.3	4.4	41.8	40.4	3.30	5,982	5,577	1.34
	Indicated	< 0.1	19.2	13.3	4.3	42.1	40.3	3.24	5,994	5,590	1.33
	Inferred	< 0.1	19.2	13.3	4.4	42.0	40.3	3.23	5,987	5,581	1.34
S30U	Measured	0.2	21.8	14.3	4.2	40.1	41.6	0.80	5,909	5,369	1.32
	Indicated	0.1	21.7	14.3	4.2	40.1	41.7	0.79	5,909	5,387	1.32
	Inferred	< 0.1	21.8	14.3	4.2	40.1	41.7	0.80	5,915	5,385	1.32
S30L	Measured	0.2	20.8	14.4	5.8	39.5	40.5	1.95	5,752	5,322	1.32
	Indicated	0.1	20.0	14.1	6.1	39.3	40.5	2.35	5,750	5,360	1.32
	Inferred	< 0.1	20.0	14.2	6.0	39.2	40.6	2.34	5,748	5,358	1.32
S40	Measured	0.3	18.1	12.8	7.0	39.4	39.2	2.46	5,919	5,564	1.33
	Indicated	< 0.1	17.9	12.6	7.0	39.2	39.0	2.54	5,890	5,536	1.33
	Inferred	0.0									
S40L	Measured	0.1	18.7	13.2	9.4	37.8	39.6	3.05	5,616	5,262	1.32
	Indicated	< 0.1	18.5	12.8	10.0	37.6	39.6	3.02	5,609	5,244	1.32
	Inferred	0.0									
S50	Measured	0.4	16.8	12.0	5.4	42.5	38.9	3.00	6,077	5,745	1.31
	Indicated	< 0.1	17.9	12.5	6.9	39.0	40.3	2.90	5,882	5,519	1.31
	Inferred	0.0									
S100	Measured	0.2	19.8	13.6	8.0	37.4	41.2	2.54	5,670	5,264	1.34
	Indicated	< 0.1	19.4	12.2	17.1	34.3	36.4	3.37	4,987	4,593	1.35
	Inferred	< 0.1	19.5	12.2	17.1	34.3	36.3	3.35	4,977	4,585	1.35
S200	Measured	1.4	17.0	12.1	4.5	41.1	43.0	2.01	6,144	5,804	1.31
	Indicated	< 0.1	17.1	13.1	4.1	40.2	42.7	1.93	6,111	5,829	1.31
	Inferred	0.0									
S300	Measured	1.7	15.8	11.6	5.0	42.4	42.3	1.78	6,172	5,887	1.31
	Indicated	< 0.1	16.3	12.5	4.9	42.4	41.5	1.85	6,091	5,833	1.31
	Inferred	0.0									
S400	Measured	0.6	17.9	12.6	6.1	38.8	42.8	1.85	5,954	5,609	1.35
	Indicated	< 0.1	18.7	13.5	6.9	37.9	42.2	1.43	5,821	5,490	1.35
	Inferred	0.0									
S500	Measured	2.0	16.3	11.7	3.8	41.2	43.9	1.62	6,224	5,900	1.31
	Indicated	0.2	16.4	12.6	4.3	40.5	43.1	1.81	6,127	5,863	1.32
	Inferred	0.1	16.4	12.6	4.3	40.5	43.2	1.78	6,136	5,874	1.32
S600	Measured	0.7	15.2	11.1	6.5	42.9	40.4	2.81	6,182	5,903	1.34
	Indicated	0.1	14.7	11.5	6.7	42.7	39.5	3.03	6,130	5,917	1.34
	Inferred	< 0.1	14.7	11.5	6.7	42.6	39.4	3.02	6,130	5,918	1.34
S700	Measured	1.7	17.4	12.9	4.5	39.1	44.2	1.13	6,105	5,813	1.32
	Indicated	0.2	17.7	13.7	4.3	38.6	44.1	1.04	6,047	5,766	1.32
	Inferred	0.1	17.6	13.6	4.5	38.6	44.0	1.17	6,046	5,769	1.32

Table 7.5 – Coal Tonnes and Quality by Seam and Classification - Continued

Seam	Resource Classification	Coal Quantity (Mt)	TM ar (%)	IM adb (%)	Ash adb (%)	VM adb (%)	FC adb (%)	TS adb (%)	CV adb (kcal/kg)	CV gar (kcal/kg)	RD adb (g/cc)
S790	Measured	< 0.1	13.3	9.9	14.5	40.8	37.8	3.01	5,925	6,163	1.37
	Indicated	0.1	14.7	10.2	13.7	39.4	37.9	3.49	5,806	5,784	1.33
	Inferred	0.1	15.3	10.6	14.8	37.3	37.0	4.17	5,554	5,374	1.21
S800	Measured	0.2	16.0	12.4	10.6	37.9	40.5	2.56	5,801	5,559	1.36
	Indicated	0.3	15.9	12.0	11.3	38.1	41.2	2.37	5,882	5,625	1.36
	Inferred	0.1	15.7	12.0	11.8	38.3	40.2	2.35	5,857	5,614	1.36
S900	Measured	< 0.1	13.4	8.7	26.4	32.7	32.0	2.88	4,763	4,525	1.32
	Indicated	0.1	14.0	9.8	17.9	35.8	36.6	3.49	5,340	5,092	1.32
	Inferred	0.1	14.8	10.0	19.9	34.6	35.5	3.07	5,161	4,885	1.32
S1000	Measured	0.1	15.0	11.3	17.5	34.0	37.0	2.40	5,230	5,014	1.44
	Indicated	0.1	15.5	11.6	12.5	35.8	39.7	2.41	5,606	5,362	1.32
	Inferred	0.2	15.6	11.6	11.1	36.3	40.6	2.50	5,728	5,464	1.28
S1999	Measured	0.0									
	Indicated	0.3	16.3	11.3	10.8	41.0	43.0	2.96	5,887	5,569	1.32
	Inferred	0.1	14.5	10.9	11.7	41.0	43.0	3.38	5,871	5,644	1.32
S3000	Measured	0.0									
	Indicated	1.2	14.7	11.2	7.0	41.0	43.0	2.17	6,146	5,905	1.32
	Inferred	0.3	14.3	11.1	6.7	41.0	43.0	2.42	6,182	5,960	1.32
S3200	Measured	0.0									
	Indicated	0.8	12.6	10.1	8.6	42.4	39.0	2.10	6,344	6,169	1.34
	Inferred	0.3	12.4	10.0	9.5	41.5	39.0	1.95	6,255	6,092	1.34
S4900	Measured	0.1	8.0	6.5	7.5	43.6	42.4	4.45	6,562	6,458	1.35
	Indicated	< 0.1	9.9	8.4	5.8	42.8	42.9	3.05	6,536	6,424	1.33
	Inferred	< 0.1	9.6	8.0	5.9	42.9	43.1	3.14	6,573	6,459	1.33
S5000	Measured	0.4	10.7	8.2	4.7	41.7	48.8	2.39	6,611	6,438	1.33
	Indicated	0.1	11.5	8.8	6.1	41.3	48.4	2.56	6,467	6,280	1.34
	Inferred	< 0.1	11.9	9.0	6.9	41.3	48.2	2.68	6,374	6,179	1.36
Total	**Measured**	**10.3**	**16.6**	**12.0**	**5.2**	**40.8**	**42.7**	**1.90**	**6,115**	**5,804**	**1.32**
	Indicated	**3.8**	**15.1**	**11.3**	**8.1**	**40.5**	**41.6**	**2.25**	**6,081**	**5,835**	**1.33**
	Inferred	**1.4**	**14.9**	**11.2**	**9.3**	**39.6**	**40.9**	**2.44**	**5,980**	**5,742**	**1.32**
Total	**Total**	**15.5**	**16.1**	**11.8**	**6.3**	**40.6**	**42.3**	**2.03**	**6,095**	**5,806**	**1.32**

There may be minor discrepancies in the above table due to rounding of tonnes. These are not considered Material by SMGC.
All tonnes shown are calculated using in situ density that has been estimated on an air dried basis, using the Preston-Sanders method.
This table must be presented with the entire Coal Resource Statement from which it was obtained.

7.10 RECONCILIATION

7.10.1 Current Geological Model versus Previous Geological Model

A total of 62 boreholes were drilled during July - September 2016. This additional boreholes data created a refinement of the existing geological model in the west and southern areas. A comparison and reconciliation of the current end of December 2016 geological model against the previous April 2016 geological model is provided in Table 7.6.

Parameters which use are:

- Top limit as-mined surface and base of weathering as of December 2016
- Bottom limit optimum pit of April 2016. “GEO-010” (use for previous resource estimation)
- Minimum thickness 0.1 m
- Seam included S05 to S1050
- Areas are April 2016 resource polygons

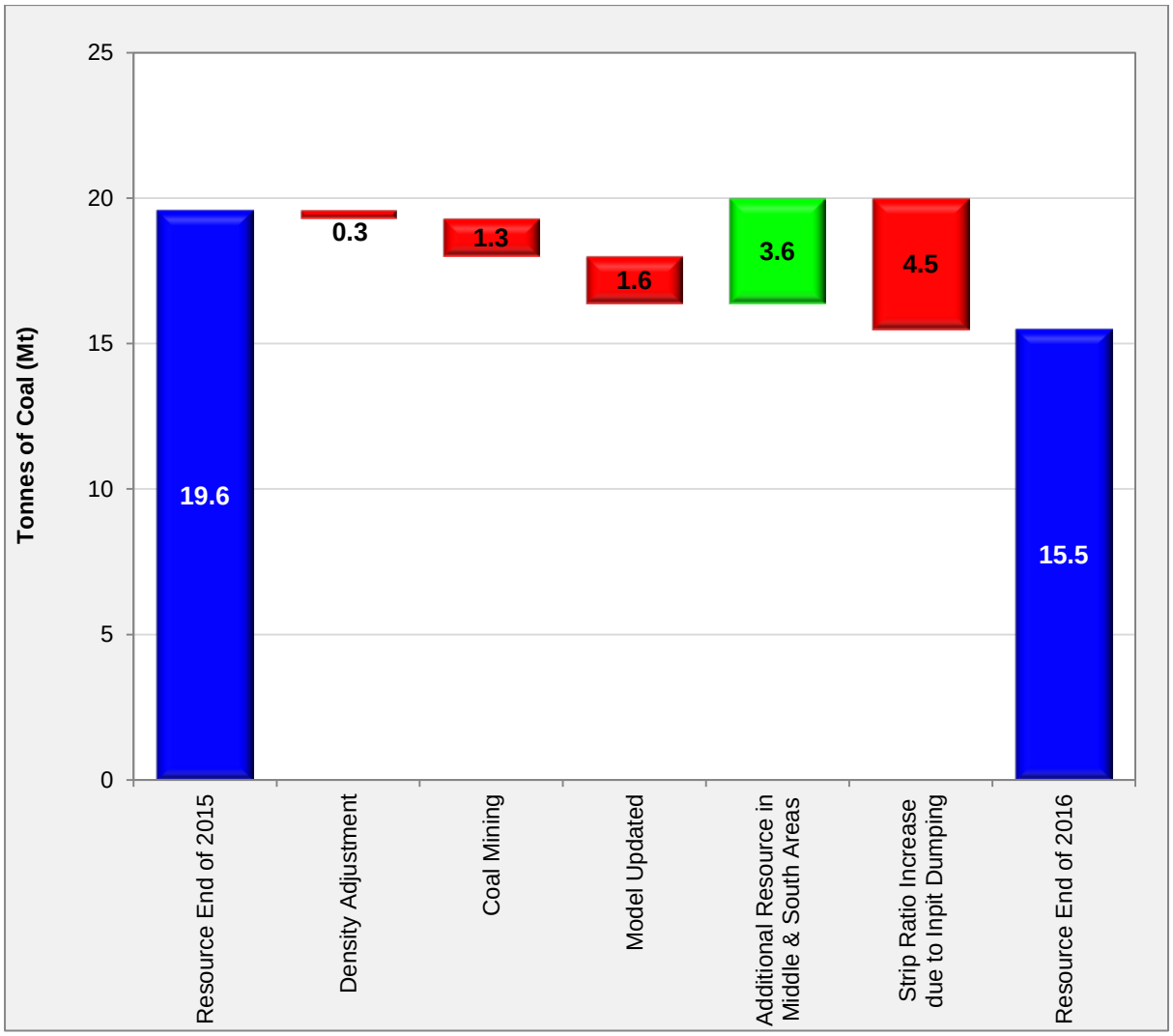
Table 7.6 – Tonnage Reconciliation by Category

	RK (Mt)
MEASURED (Previous)	10.6
MEASURED (Current)	10.3
DIFFERENCE	**-0.2**
INDICATED (Previous)	3.5
INDICATED (Current)	2.9
DIFFERENCE	**-0.5**
INFERRED (Previous)	3.8
INFERRED (Current)	2.9
DIFFERENCE	**-0.9**
TOTAL (Previous)	17.8
TOTAL (Current)	16.2
DIFFERENCE	**-1.6**

The current geological model is 1.6 Mt less than the previous geological model for the same geologic area. Differences are due to the additional borehole data in the western area. Previously outcrop lines in the western area were based on extrapolation from the boreholes within IPPKH 1 and now there are actual boreholes increasing the confidence in the data.

Figure 7.9 illustrates a graphical representation of the Resource reconciliation since the previous Resource estimate to the current Resource estimate.

Figure 7.9 – Reconciliation to Previous Reserve Estimate



8. RESOURCE SUMMARY

Table 8.1 summarises the Coal Resource estimates computed by SMGC within the RK concession area.

Table 8.1 – Resource Estimates for RK Concession as of 31st December 2016

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

There may be minor discrepancies in the above table due to rounding of tonnes. These are not considered Material by SMGC
All tonnes shown are calculated using in situ density estimated using the Preston-Sanders method.
This table must be presented with the entire Coal Resource Statement from which it was obtained

Resource estimates for RK were based upon in situ density that has been estimated using the Preston-Sanders method. Where density data was insufficient, a default value of 1.30 g/cc was used. The Resource was limited to the "GEO04" pit shell (as discussed in Section 7.7) with a minimum seam thickness set to 0.10 m. All Resources were limited to the concession boundary.

9. COMPETENT PERSON STATEMENT

The Resource estimate for the RK Project Area has been calculated, reviewed and verified by SMGC's Principal Geologist Mr. Abdullah Dahlan, 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), as prepared by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia. The information about the deposit and the total Resources for the RK area represent a comprehensive study of the deposit in which all geological and other relevant factors are considered in sufficient detail to serve as a guide to its development.

The Resources Estimate is considered to be reasonable, with the following qualifications:

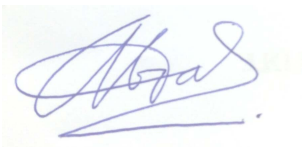
- Resources are current as of the 31st of December, 2016.
- The Resource models and estimations were developed using the MINEX geological and mine planning software system, a worldwide industry proven system used primarily for coal mining operations.
- The modelling algorithms available for generating the geological models in the MINEX system, includes the growth technique and the Inverse Distance Weighting (IDW) method. The grid mesh size used for modelling the geology is 25 m x 25 m.
- The Resources were calculated using the Resource Estimation tools in the MINEX software system. This system has been used extensively and proven to be reasonably accurate when compared to manual estimations of Resources.
- Acquisition of geological data from drilling activities has been conducted professionally and accurately. The sampling and logging procedures during the drilling program have been conducted under supervision.
- Resources are based upon estimated in situ density values. The tonnage reported is based on a default in situ density (ID) of 1.30 g/cc, where density values were not available. This is the average density of all seams in the relevant deposit area.

Mr. Dahlan is a Member of the Australasian Institute of Mining and Metallurgy. He is employed by SMGC and has sufficient experience which is relevant to the style of mineralisation and type of deposit situated in this concession to qualify as a Competent Person as defined in the JORC Code. Mr. Dahlan has over 19 years of experience in the exploration and mining of coal deposits.

Mr. Dahlan and SMGC consent to the inclusion of this Resource Report in reports disclosed by the Company to third parties in the form in which it appears. This Resource Report may only be presented in its entirety. Extraction of selected text from this report is only permitted with the written consent of SMGC.

Yours sincerely

PT SMG Consultants Indonesia



Abdullah Dahlan

BSc (Geology), MAusImm, Principal Geologist

Appendix A – Consent Template

[Letterhead of Competent Person or Competent Person's employer]

Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

(*Insert name or heading of Report to be publicly released*) ('Report')

(*Insert name of company releasing the Report)*

(Insert name of the deposit to which the Report refers)

If there is insufficient space, complete the following sheet and sign it in the same manner as this original sheet.

(Date of Report)

Statement

I/We,

_____

(*Insert full name(s)*)

confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves (the JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code, 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of *The Australasian Institute of Mining and Metallurgy* or the *Australian Institute of Geoscientists* or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.

I am a full time employee of

_____

(Insert company name)

Or

I/We am a consultant working for

_____

(Insert company name)

and have been engaged by

_____

(Insert company name)

to prepare the documentation for

_____

(Insert deposit name)

on which the Report is based, for the period ended

_____

(Insert date of Resource/Reserve statement)

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Exploration Targets, Exploration Results, Mineral Resources and/or Ore Reserves *(select as appropriate).*

Consent

I consent to the release of the Report and this Consent Statement by the directors of:

(Insert reporting company name)

Signature of Competent Person:	Date:
Professional Membership: *(insert organisation name)*	Membership Number:
Signature of Witness:	Print Witness Name and Residence: (eg town/suburb)

Additional deposits covered by the Report for which the Competent Person signing this form is accepting responsibility:

Additional Reports related to the deposit for which the Competent Person signing this form is accepting responsibility:

Signature of Competent Person:	Date:
Professional Membership: *(insert organisation name)*	Membership Number:
Signature of Witness:	Print Witness Name and Residence: (eg town/suburb)

Appendix B – JORC Table 1

Table 1 Checklist of Assessment and Reporting Criteria

JORC TABLE 1
Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections)

Criteria	Explanation
Sampling techniques	• As discussed in Section 4.4 of this report.
Drilling techniques	• As discussed in Section 4.3 of this report.
Drill sample recovery	• As discussed in Sections 4.4 of this report.
Logging	• As discussed in Sections 4.5 of this report.
Sub-sampling techniques and sample preparation	• As discussed in Section 4.4 of this report and Table 4.1 and Figure 4.2.
Quality of assay data and laboratory tests	• As discussed in Section 4.6 of this report and Table 6.4 and Table 6.5 • .
Verification of sampling and assaying	• As discussed in Section 4.4 and section 4.6 of this report. • Visual inspection on site.
Location of data points	• As discussed in Section 4.1 and 4.1.1 of this report and Figure 4.2.
Data spacing and distribution	• As discussed in Section 4.3. Borehole locations identified in Figure 4.2.
Orientation of data in relation to geological structure	• All holes have been drilled vertically. Geological structure and local geology inclusive of seam dip is described in Section 2.2 and 2.3 of this report.
Sample security	• Visual inspection of sample collection and batch creation. Samples were transported to the laboratory by RK personnel/contractors.
Audits or reviews	• A review of the borehole database was made before modelling was undertaken (See Section 7.1 of this report).

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section)

Criteria	Explanation
Mineral tenement and land tenure status	• As discussed in Section 1.3 of this report.
Exploration done by other parties	• As discussed in Section 3 of this report.
Geology	• As discussed in Section 2 of this report.
Drill hole Information	• As discussed in Section 4 of this report. All boreholes exist in a validated Minex database which includes lithological, quality and hole survey information as discussed in Section 6.6
Data aggregation methods	• Sample methodology is discussed in Section 4.4 of this report. All samples have been composited over the full seam thickness and reported using Minex software tools.
Relationship between mineralisation widths and intercept lengths	• Down-hole lengths have been used in the modelling of the seams in Minex.
Diagrams	• All maps, tables and diagrams are identified in the Table of Contents of this report under the headings “Tables”, “Figures” and “Appendices”.
Balanced reporting	• All reporting has been done in a balanced and measured way and is discussed in Section 7.7 of this report.
Other substantive exploration data	• As discussed in Section 3 and Section 4.7 in this report.
Further work	• As discussed in Section 4.7. Further work will be necessary to improve the confidence levels of the deposits and understanding of the full seam stratigraphy. No proposed exploration plan has been proposed in this report.

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section)

Criteria	Explanation
Database integrity	• As discussed in Section 7.1 of this report.
Site visits	• A Site visit was undertaken by an SMGC employee in September 2016.
Geological interpretation	• As discussed in Section 6 and Section 7.2 of this report. The RK 3D geological models have been created in Minex software and are considered to be an appropriate interpretation of the dataset.
Dimensions	• As discussed in Section 7.3 of this report.
Estimation and modelling techniques	• As discussed in Section 7 of this report. • A reconciliation of Actual versus Model is discussed in 7.10 of this report.
Moisture	• As discussed in Section 7.4 of this report.
Cut-off parameters	• As discussed in Section 7.5 of this report.
Mining factors or assumptions	• The RK area is expected to be mined as an open pit excavation by truck and shovel methods based on current intersected coal seam depths.
Marketing factors or assumptions	• As discussed in Section 7.7.3 of this report
Environmental factors or assumptions	• As discussed in Section 7.7.1 of this report.
Relative density	• As discussed in Section 7.8 and Section 7.9 of this report.
Classification	• As discussed in Section 7 and specifically in Section 7.8 of this report.
Audits or reviews	• A review of the borehole data has been made as discussed in Section 7.1. • A reconciliation of the old model versus new model is discussed in Section 7.10 of this report.
Discussion of relative accuracy/ confidence	• As discussed in Section 7.7 and 7.8 of this report.

Section 4 Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section)

Criteria	Explanation
Mineral Resource estimate for conversion to Ore Reserves	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Site visits	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Study status	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Cut-off parameters	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Mining factors or assumptions	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Metallurgical factors or assumptions	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Environmental	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Infrastructure	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Costs	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Revenue factors	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Market assessment	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Economic	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Social	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Other	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Classification	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Audits or reviews	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.
Discussion of relative accuracy/ confidence	• Not Applicable to this Resource Estimate as it relates to estimation and reporting of Reserves.

Section 5 Estimation and Reporting of Diamonds and Other Gemstones (Criteria listed in other relevant sections also apply to this section. Additional guidelines are available in the 'Guidelines for the Reporting of Diamond Exploration Results' issued by the Diamond Exploration Best Practices Committee established by the Canadian Institute of Mining, Metallurgy and Petroleum)

Criteria	Explanation
Indicator minerals	• Not Applicable to this Coal Resource Estimate.
Source of diamonds	• Not Applicable to this Coal Resource Estimate.
Sample collection	• Not Applicable to this Coal Resource Estimate.
Sample treatment	• Not Applicable to this Coal Resource Estimate.
Carat	• Not Applicable to this Coal Resource Estimate.
Sample grade	• Not Applicable to this Coal Resource Estimate.
Reporting of Exploration Results	• Not Applicable to this Coal Resource Estimate.
Grade estimation for reporting Mineral Resources and Ore Reserves	• Not Applicable to this Coal Resource Estimate.
Value estimation	• Not Applicable to this Coal Resource Estimate.
Security and integrity	• Not Applicable to this Coal Resource Estimate.
Classification	• Not Applicable to this Coal Resource Estimate.

Appendix 1 Generic Terms and Equivalents

Throughout the Code, certain words are used in a general sense when a more specific meaning might be attached to them by particular commodity groups within the industry. In order to avoid unnecessary duplication, a non-exclusive list of generic terms is tabulated below together with other terms that may be regarded as synonymous for the purposes of this document.

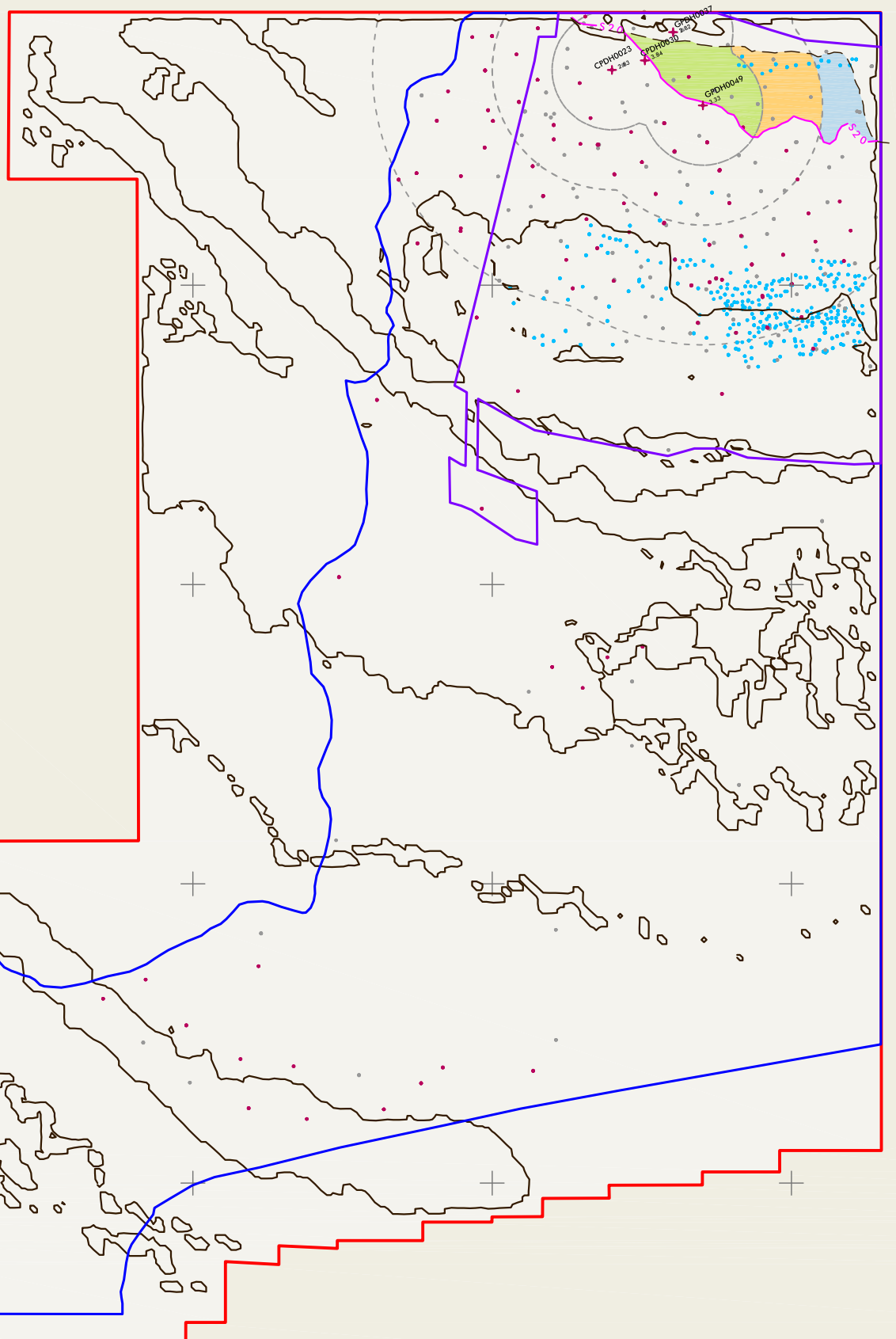
Generic Term	Synonyms and similar terms	Intended generalised meaning
Assumption	Value judgments	The Competent Person in general makes value judgments when making assumptions regarding information not fully supported by test work.
Competent Person	Qualified Person (Canada), Qualified Competent Person (Chile)	Refer to the Clause 11 of the Code for the definition of a Competent Person. Any reference in the Code to the singular (a Competent Person) includes a reference to the plural (Competent Persons). It is noted that reporting in accordance with the Code is commonly a team effort.
Cut-off grade	Product specifications	The lowest grade, or quality, of mineralised material that qualifies as economically mineable and available in a given deposit. May be defined on the basis of economic evaluation, or on physical or chemical attributes that define an acceptable product specification.
Grade	Quality, assay, analysis (that is value returned by the analysis)	Any physical or chemical measurement of the characteristics of the material of interest in samples or product. Note that the term quality has special meaning for diamonds and other gemstones. The units of measurement should be stated when figures are reported.
Metallurgy	Processing, beneficiation, preparation, concentration	Physical and/or chemical separation of constituents of interest from a larger mass of material. Methods employed to prepare a final marketable product from material as mined. Examples include screening, flotation, magnetic separation, leaching, washing, roasting, etc. Processing is generally regarded as broader than metallurgy and may apply to non-metallic materials where the term metallurgy would be inappropriate.
Mineralisation	Type of deposit, ore body, style of mineralisation.	Any single mineral or combination of minerals occurring in a mass, or deposit, of economic interest. The term is intended to cover all forms in which mineralisation might occur, whether by class of deposit, mode of occurrence, genesis or composition.
Mining	Quarrying	All activities related to extraction of metals, minerals and gemstones from the earth whether surface or underground, and by any method (e.g. quarries, open cast, open cut, solution mining, dredging, etc.).
Ore Reserves	Mineral Reserves	‘Ore Reserves’ is preferred under the JORC Code but ‘Mineral Reserves’ is in common use in other countries and is generally accepted. Other descriptors can be used to clarify the meaning (e.g. Coal Reserves, Diamond Reserves, etc.).
Recovery	Yield	The percentage of material of interest that is extracted during mining and/or processing. A measure of mining or processing efficiency.

Significant project	Material project	An exploration or mineral development project that has or could have a significant influence on the market value or operations of the listed company, and/or has specific prominence in Public Reports and announcements.
Tonnage	Quantity, volume	An expression of the amount of material of interest irrespective of the units of measurement (which should be stated when figures are reported).

Appendix C – RK Resource Polygons

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N



Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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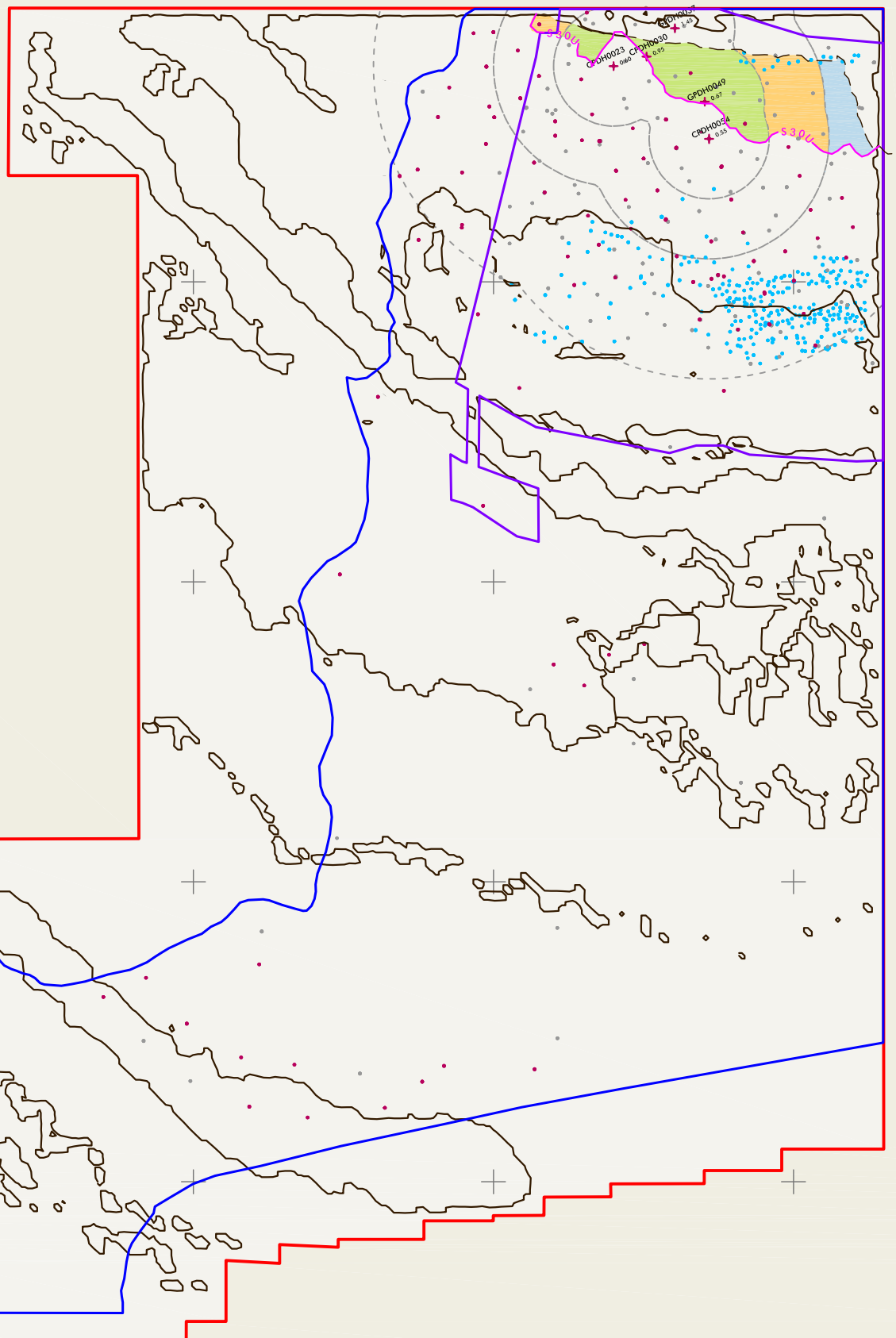
Seam S20 Resource Polygons

Figure No. C.1

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_05 Seam 20.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N



Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S30U Resource Polygons

Figure No. C.2

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P	
Drawn	IW	26/01/17	Cad File	J1613_06 Seam 30U.dwg			

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E
9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N
S30L
S30K
GPDH0023
GPDH0030
GPDH0049
GPDH0054
GPDH0061
Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m
north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S30L Resource Polygons

Figure No. C.3

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_07 Seam 30L.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N

CPDH0120
CPDH0017
CPDH0042R
CPDH0049
CPDH0035
CPDH0042
CPDH0061
CPDH0048
CPDH0054
CPDH0073
CPDH0078
CH056
CH057

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S40 Resource Polygons

Figure No. C.4

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_08 Seam 40.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N

CPDH0034 2.92
CPDH0017 3.16
CPDH0049 2.90
CPDH0035 3.70
CPDH0054 3.86
CPDH0061 2.91
CPDH0073 3.80

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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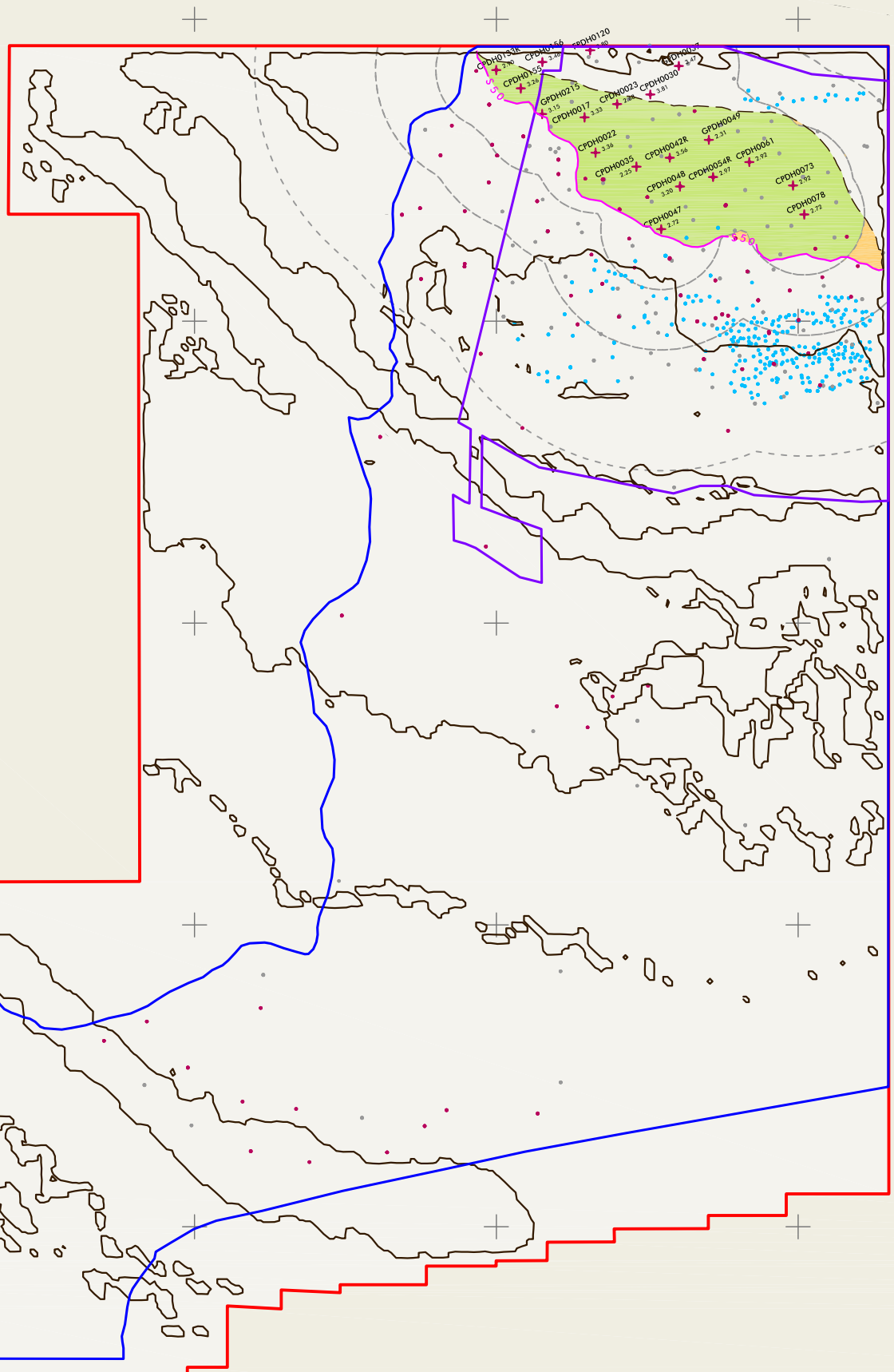
Seam S40L Resource Polygons

Figure No. C.5

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_09 Seam 40L.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N



Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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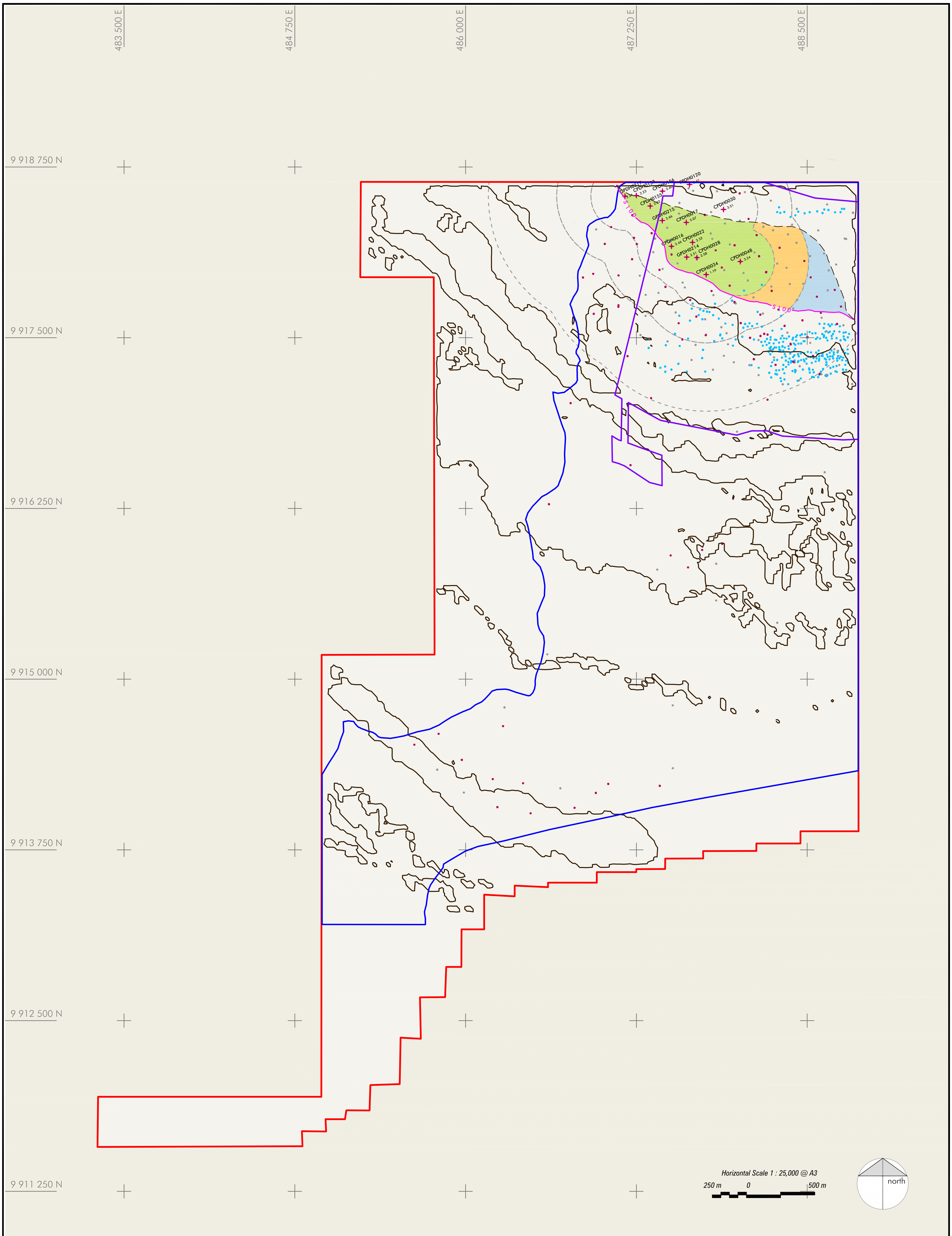
Seam S50 Resource Polygons

Figure No. C.6

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_10 Seam 50.dwg		



LEGEND

Boundary IUP	Boreholes Open
Boundary IPPKH 1	Boreholes Cored
Boundary IPPKH 2	Channel Sample
Outcrop Line	Total Sulphur

Measured Resource
Indicated Resource
Inferred Resource
Optimum Pit Crest
Optimum Pit Toe

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Seam S100 Resource Polygons

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_11 Seam 100.dwg		

Figure No.
C.7

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N

S200

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S200 Resource Polygons

Figure No. C.8

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_12Seam 200.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E
9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N
S300
S300
S300

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m
north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S300 Resource Polygons

Figure No. C.9

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_13 Seam 300.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S400 Resource Polygons

Figure No. C.10

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_14 Seam 400.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E
9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N
S500
S500

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m
north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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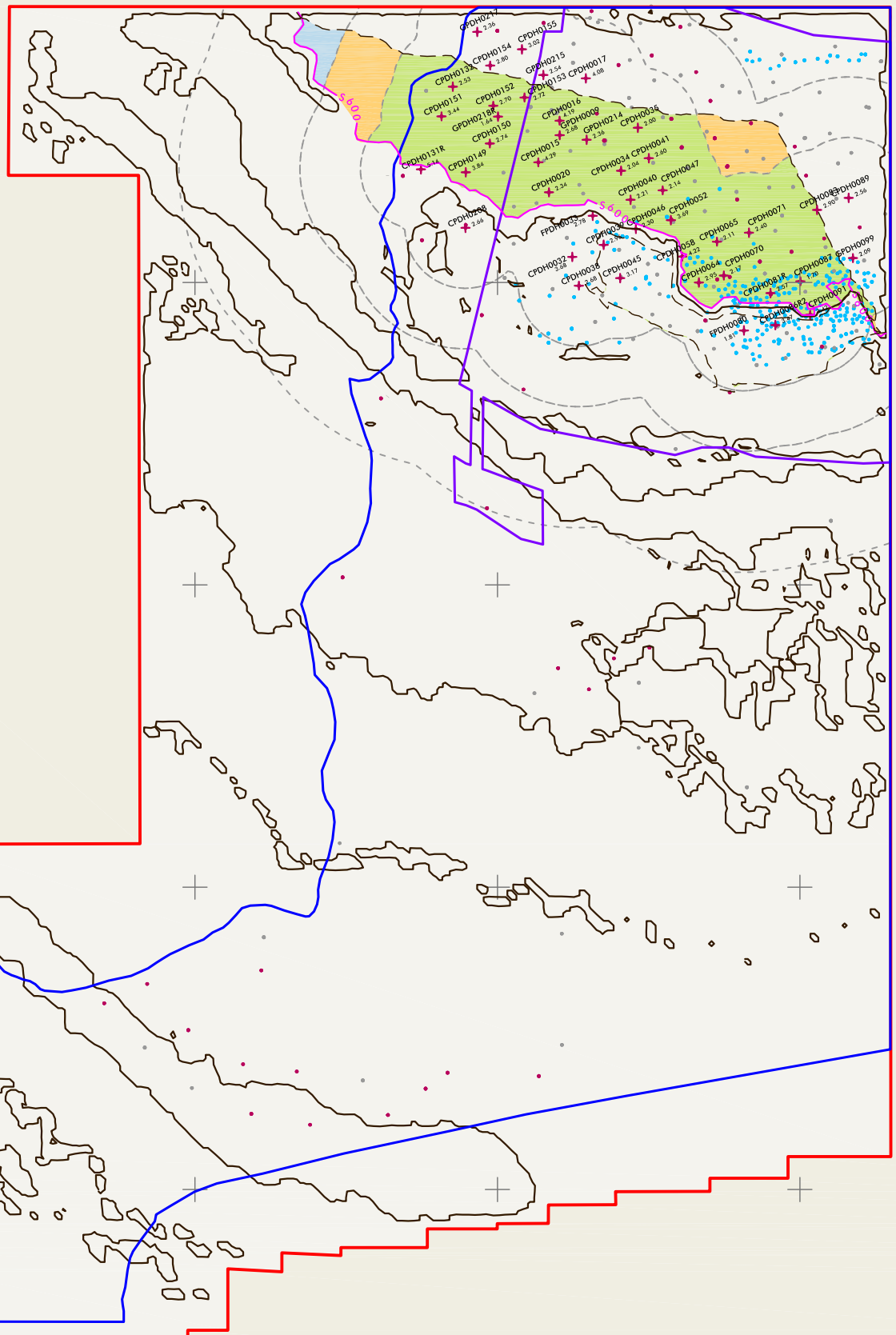
Seam S500 Resource Polygons

Figure No. C.11

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_15 Seam 500.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N



Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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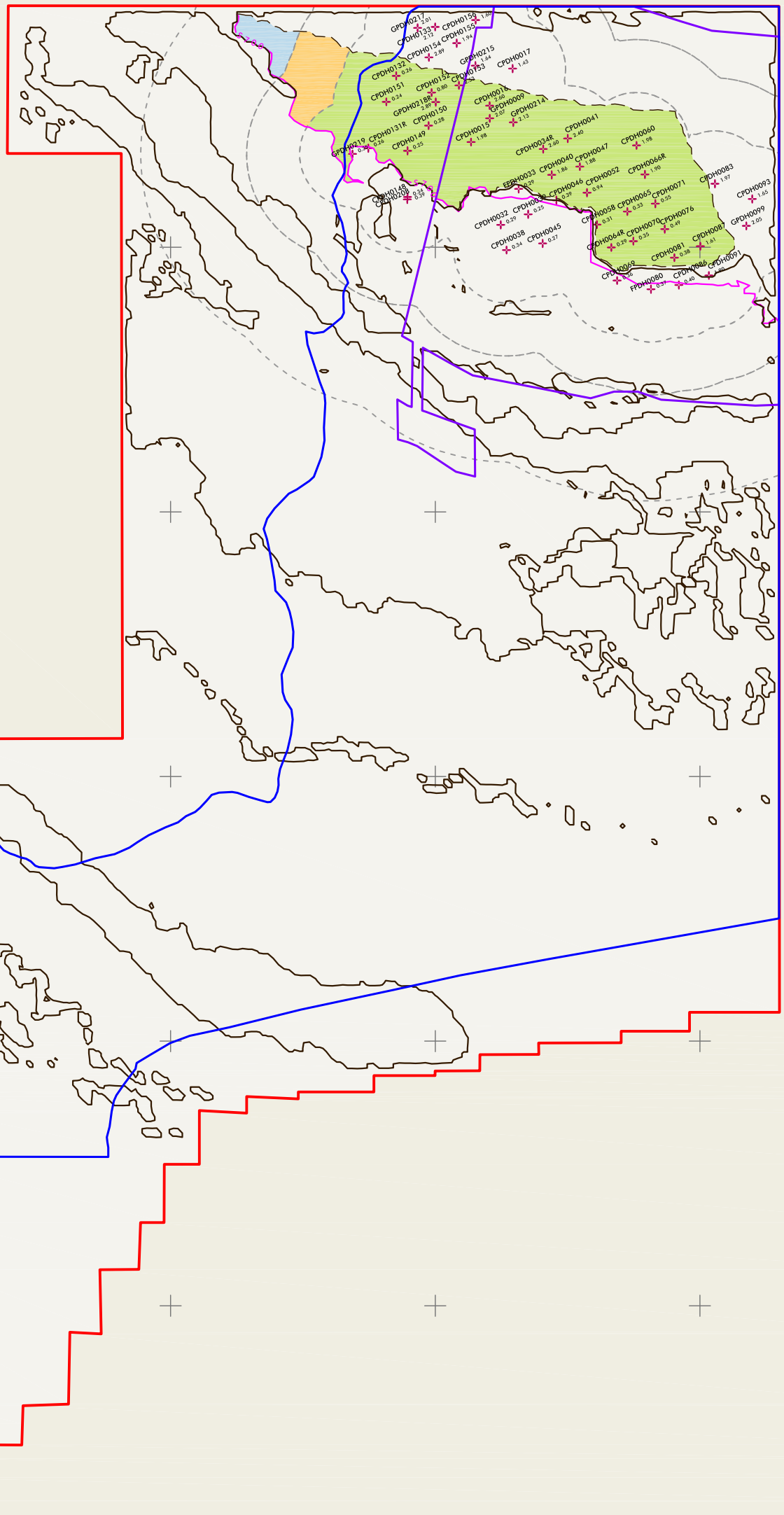
Seam S600 Resource Polygons

Figure No. C.12

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P	
Drawn	IW	26/01/17	Cad File	J1613_16 Seam 600.dwg			

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N



Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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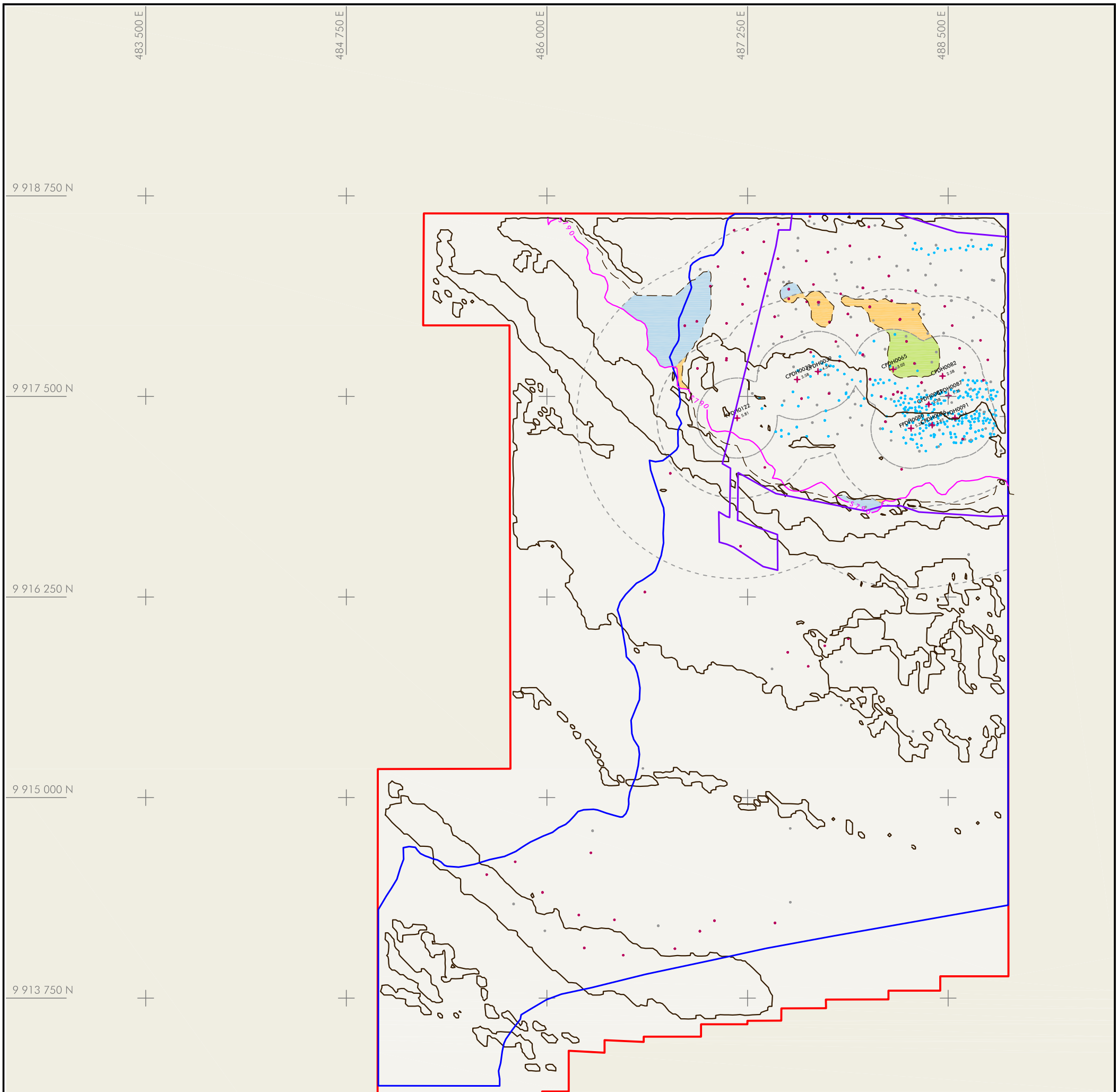
Seam S700 Resource Polygons

Figure No. C.13

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_17 Seam 700.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N



Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S790 Resource Polygons

Figure No. C.14

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_18 Seam 790.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N

S800

CPDH0131 2.35
CPDH0149 1.82
CPDH0015 2.50
CPDH0039 2.23
CPDH0058 1.69
CPDH0070 2.16
CPDH0082 2.91
CPDH0038 2.19
CPDH0064 1.61
CPDH0061 2.64
CPDH0063 1.88
FPDH0080 1.85
CPDH0086 2.41
CPDH0085 2.52
CPDH0084 2.56
GPDH0097 2.21

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S800 Resource Polygons

Figure No. C.15

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_19 Seam 800.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N

S900
S900
S900

CPDH0015 2.82
CPDH0020 3.36
CPDH0052 4.67
CPDH0070 3.40
CPDH0064 2.75
CPDH0087 5.90
CPDH0081 5.51
CPDH0038 2.59
CPDH0122 3.57
CPDH0083 2.42
FPDH0080 5.84
CPDH0084 6.64
GPDH0031 2.02

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S900 Resource Polygons

Figure No. C.16

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_20 Seam 900.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N

CPDH0131 2.50
CPDH0149 1.80
CPDH0015 2.76
CPDH0020 1.55
CPDH0052 1.85
CPDH0064 2.15
CPDH0070 2.36
CPDH0061 2.49
CPDH0063 2.64
FPDH0080 5.62
CPDH0122 1.42

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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Seam S1000 Resource Polygons

Figure No. C.17

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_21 Seam 1000.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E
9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N
CPDH0130
CPDH0122
CPDH0134
CPDH0121
S1999
S1999
S1999

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m
north

LEGEND

Boundary IUP
Boundary IPPKH 1
Boundary IPPKH 2
Outcrop Line
Boreholes Open
Boreholes Cored
Channel Sample
Total Sulphur
Measured Resource
Indicated Resource
Inferred Resource
Optimum Pit Crest
Optimum Pit Toe

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JORC Resource Statement

Seam S1999 Resource Polygons

Figure No. C.18

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_22 Seam 1999.dwg		

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E
9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N
CPDH0134
FPDH0122
FPDH0121
CPDH0136
CPDH0137
S3000
S3000
S3000
Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m
north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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JORC Resource Statement

Seam S3000 Resource Polygons

Figure No. C.19

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P	
Drawn	IW	26/01/17	Cad File	J1613_23 Seam 3000.dwg			

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E
9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N
CPDH0134
1.62
FPDH0121
2.83
CPDH0136
2.12
CPDH0127
1.99
CPDH0140
1.85
S3200
S3200
Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m
north
LEGEND
Boundary IUP
Boundary IPPKH 1
Boundary IPPKH 2
Outcrop Line
Boreholes Open
Boreholes Cored
Channel Sample
Total Sulphur
Measured Resource
Indicated Resource
Inferred Resource
Optimum Pit Crest
Optimum Pit Toe
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JORC Resource Statement
Seam S3200 Resource Polygons
Figure No.
C.20
Design WA 26/01/17 Scale 1 : 7,500 Paper A3 P
Drawn IW 26/01/17 Cad File J1613_24 Seam 3200.dwg

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E
9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N
CPDH0211 2.59
CPDH0202 2.39
CPDH0197 3.88
CPDH0198 7.90
CPDH0199 3.02
CPDH0209 2.02
CPDH0210 1.90
CPDH0213 3.07
4900
4900
4900
Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m
north
LEGEND
Boundary IUP
Boundary IPPKH 1
Boundary IPPKH 2
Outcrop Line
Boreholes Open
Boreholes Cored
Channel Sample
Total Sulphur
Measured Resource
Indicated Resource
Inferred Resource
Optimum Pit Crest
Optimum Pit Toe
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+62 21 5793 5968
PT Rinjani Kartanegara
JORC Resource Statement
Seam S4900 Resource Polygons
Figure No.
C.21
Design WA 26/01/17 Scale 1 : 7,500 Paper A3 P
Drawn IW 26/01/17 Cad File J1613_25 Seam 4900.dwg

483 500 E
484 750 E
486 000 E
487 250 E
488 500 E

9 918 750 N
9 917 500 N
9 916 250 N
9 915 000 N
9 913 750 N
9 912 500 N
9 911 250 N

CPDH0211 1.79
CPDH0204 2.03
CPDH0194 4.87
CPDH0203 2.24
CPDH0202 1.68
CPDH0201 2.40
CPDH0210 2.24
CPDH0209 2.49
CPDH0213 3.02
CPDH0197 1.78
CPDH0198 2.39
CPDH0199 2.61

Horizontal Scale 1 : 25,000 @ A3
250 m 0 500 m

north

LEGEND

- Boundary IUP
- Boundary IPPKH 1
- Boundary IPPKH 2
- Outcrop Line
- Boreholes Open
- Boreholes Cored
- Channel Sample
- Total Sulphur
- Measured Resource
- Indicated Resource
- Inferred Resource
- Optimum Pit Crest
- Optimum Pit Toe

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PT Rinjani Kartanegara
JORC Resource Statement

Seam S5000 Resource Polygons

Figure No. C.22

Design	WA	26/01/17	Scale	1 : 7,500	Paper	A3 P
Drawn	IW	26/01/17	Cad File	J1613_26 Seam 5000.dwg		

Appendix D – Tenure Document

BUPATI KUTAI KARTANEGARA

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

BUPATI KUTAI KARTANEGARA

Membaca : Surat Direktur **PT. RINJANI KARTANEGARA** Nomor : **55/RK-SMD/ XI/2009** tanggal **04 Nopember 2009** Perihal Permohonan Penyesuaian Status KP untuk menjadi IUP

Menimbang : Bahwa Berdasarkan hasil evaluasi kegiatan Izin Usaha Pertambangan (IUP) Operasi Produksi **PT. RINJANI KARTANEGARA** telah memenuhi syarat untuk diberikan persetujuan IUP Opersi Produksi.

Mengingat :

1. Undang - Undang Nomor 23 Tahun 1997 tentang Pengelolaan Lingkungan Hidup (LN Tahun 1997 Nomor 68, TLN 3699);
2. Undang - Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah (LN Tahun 2004 Nomor 125, TLN 4437) sebagaimana telah diubah dengan Undang - Undang Nomor 8 Tahun 2005 tentang Penetapan Peraturan Pemerintah Pengganti Undang - Undang Nomor 3 Tahun 2005 tentang Perubahan atas Undang - Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah menjadi Undang - Undang (LN Tahun 2005 Nomor 108, TLN 4585);
3. Undang - Undang Nomor 25 Tahun 2007 Tentang Penanaman Modal (LN Tahun 2004 Nomor 67, TLN 4724);
4. Undang - Undang Nomor 6 tahun 2007 Tentang Penataan Ruang (LN Tahun 2007 Nomor 68, TLN 4725);
5. Undang - Undang Nomor 4 Tahun 2009 Tentang Pertambangan Mineral dan Batubara (LN Tahun 2009 Nomor 4, TLN 4959);
6. Peraturan Pemerintah Nomor 27 Tahun 1999 Tentang Analisis Mengenai Dampak Lingkungan Hidup (LN Tahun 1999 Nomor 59, TLN 3838);
7. Peraturan Pemerintah Nomor 38 Tahun 2007 Tentang Pembagian Urusan Antara Pemerintah Pusat Pemerintah Daerah Propinsi, Pemerintah Daerah Kabupaten atau Kota (LN Tahun 2007 Nomor 82, TLN 4737);
8. Peraturan Pemerintah Nomor 26 Tahun 2008 Tentang Rencana Tata Ruang Wilayah Nasional (LN Tahun 2008 Nomor 48, TLN 4833);
9. Sesuai Edaran Direktorat Jenderal Mineral,Batubara dan Panas Bumi Nomor : 03.E/31/DJB/2009 Tanggal 30 Januari 2009 tentang Perizinan Pertambangan dan Batubara Sebelum Terbitnya Peraturan Pemerintah Sebagai Pelaksana Undang-Undang Nomor 4 Tahun 2009.
10. Surat Edaran Direktorat Jenderal Mineral,Batubara dan Panas Bumi Nomor : 1053/30/DJB/2009 Tanggal 24 Maret 2009 Perihal Izin Usaha Jasa Pertambangan.

MEMUTUSKAN :

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

KESATU : Memberikan Izin Usaha Pertambangan Operasi Produksi kepada :

Nama Perusahaan	:	**PT. RINJANI KARTANEGARA**
Nama Direktur	:	**NORDIANSYAH NASRIE**
Pemegang saham perusahaan dengan mencantumkan		
Nilai/Persentase saham	:	----------
Nama Pemegang saham	:	**NORDIANSYAH NASRIE**
Pekerjaan pemegang saham	:	**Swasta**
Alamat	:	**Taman Laguna Blok H2/39 RT.004 RW.002 Kel. Jati Karya, Kec. Jati Sampurna, Bekasi**
Kewarganegaraan Pemegang Saham/Negara Asal Perusahaan	:	**Indonesia**
Alamat	:	**Jl. Cendana Gg. Jamrud 678 No. 5 Samarinda**
Komoditas	:	**Batubara**
Lokasi Pertambangan	:	**Loa Janan dan Loa Kulu**
Desa	:	**Bakungan dan Jembayan**
Kecamatan	:	**Loa Janan dan Loa Kulu**
Kabupaten/Kota	:	**Kutai Kartanegara**
Provinsi	:	**Kalimantan Timur**
Kode Wilayah	:	**KW KTN 2009 1654 OP**
Luas	:	**1.933 Ha**

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

Lokasi Pengolahan dan pemurnian.
Pengangkutan dan penjualan.
Jangka waktu berlaku IUP OP: **12 (Duabelas)** Tahun
Jangka waktu Tahap Kegiatan (sesuai komoditas tambang):
a. Konstruksi Selama 2 Tahun
b. Produksi Selama 10 Tahun

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

KETIGA : IUP Operasi Produksi ini dilarang dipindahtangan kan kepada pihak lain tanpa persetujuan Bupati Kutai Kartanegara.

KEEMPAT : **PT. RINJANI KARTANEGARA** sebagai pemegang IUP Operasi Produksi dalam melaksanakan kegiatan mempunyai hak dan kewajiban sebagaimana tercantum dalam Lampiran III Keputusan ini.

KELIMA : Selambat-lambatnya 60 (enam puluh) hari kerja setelah diterbitkannya Keputusan ini sudah harus menyampaikan rencana kerja dan anggaran biaya kepada Bupati Kutai Kartanegara .

KEENAM : Terhitung sejak 90 (sembilan puluh) hari kerja persetujuan rencana kerja dan anggaran Biaya sebagaimana dimaksud dalam diktum kelima Pemegang IUP Operasi Produksi sudah harus memulai aktifitas dilapangan

KETUJUH : Tanpa Mengurangi ketentutan peraturan perundang-undangan maka IUP dapat diberhentikan sementara, dicabut, atau dibatalkan, apabila pemegang IUP Operasi Produksi tidak memenuhi kewajiban dan larangan sebagaimana dimaksud dalam diktum Ketiga, Keempat dan Kelima dalam Keputusan ini.

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

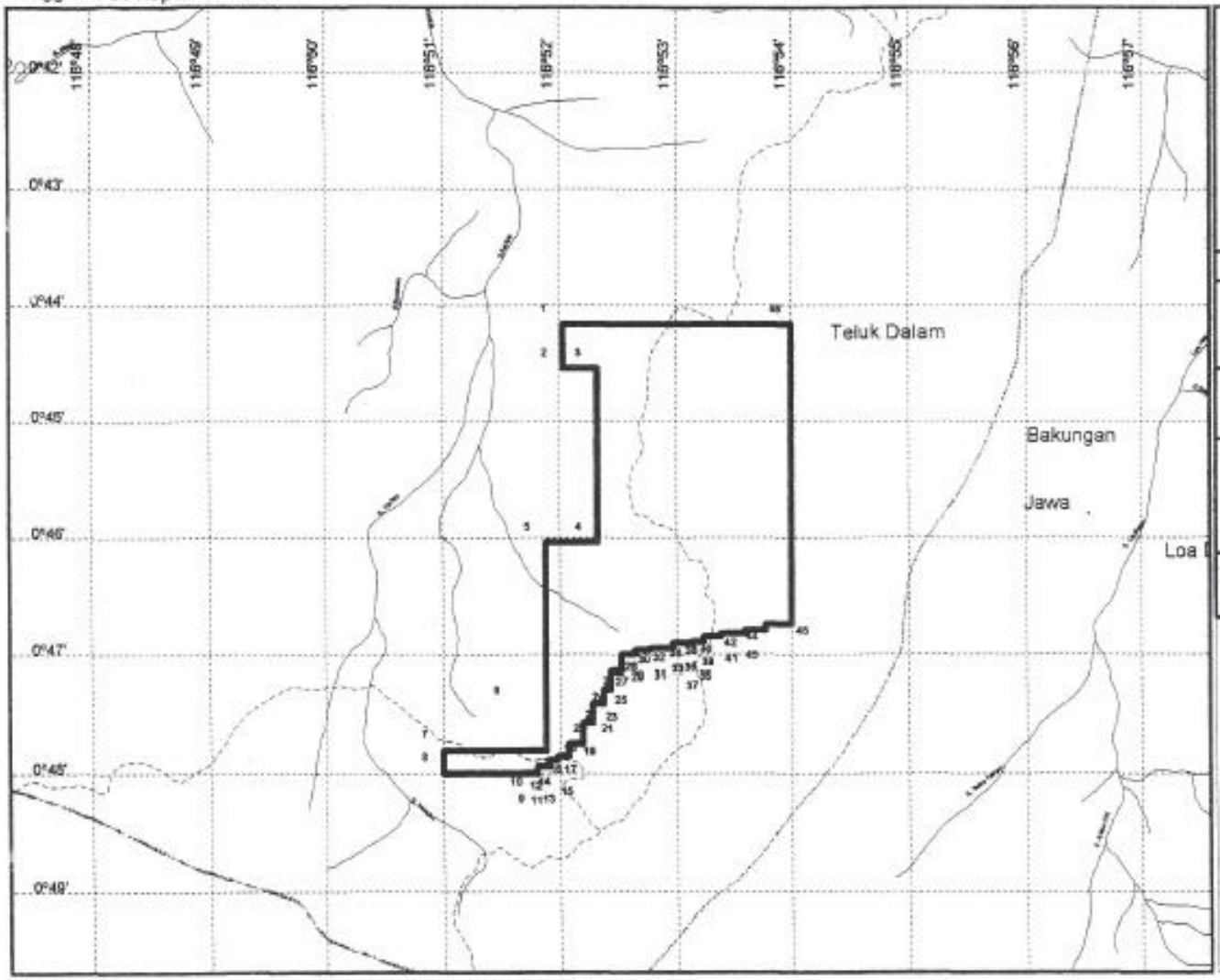
Ditetapkan di : TENGGARONG
Pada Tanggal : 24 Nopember 2009

BUPATI KUTAI KARTANEGARA

Tembusan :
1. Menteri Energi dan Sumber Daya Mineral
2. Menteri Keuangan
3. Sekretaris Jenderal Departemen Energi dan Sumber Daya Mineral
4. Inspektur Jenderal Departemen Energi dan Sumber Daya Mineral
5. Direktur Jenderal Pajak Departemen Keuangan
6. Direktur Jenderal Perimbangan Keuangan
7. Direktur Jenderal Pendapatan Daerah, Departemen Dalam Negeri
8. Gubernur Kalimantan Timur.
9. Bupati Kutai Kartanegara
10. Kepala Biro Hukum dan Humas/Kepala Biro Keuangan/Kepala Biro Perencanaan dan Kerjasama Luar Negeri, Setjen Departemen Energi dan Sumber Daya Mineral.
11. Sekretaris Direktorat Jenderal Mineral, Batubara dan Panas Bumi.
12. Direktur Teknik dan Lingkungan Mineral, Batubara dan Panas Bumi.
13. Direktur Pembinaan Program Mineral, Batubara dan Panas Bumi.
14. Direktur Pembinaan Pengusahaan Mineral dan Batubara.
15. Direktur Pajak Bumi dan Bangunan Departemen Keuangan.
16. Kepala Dinas Pertambangan dan Sumber Daya Mineral Propinsi Kalimantan Timur.
17. Kepala Dinas Pertambangan dan Energi Kabupaten Kutai Kartanegara
18. Direksi PT. RINJANI KARTANEGARA

HONOR: 540/24/MB-PBAT/IV/2010
PENGESAHAN
TELAH DIPERIKSA KEBENARANNYA DAN SESUAI DENGAN ASLINYA
TENGGARONG, 16 APR 16 2010
KEPALA DINAS PERTAMBANGAN DAN ENERGI KABUPATEN KUTAI KARTANEGARA
SEKRETARIS,
Drs. H. ABD. RAHMAN K, S.Sos, I.MM
NIP. 19570317 198001 1 001

Lampiran I
Surat Keputusan Bupati Kutai Kartanegara
Nomor : 540/1654/IUP-OP/MB-PSAT/XI/2009
Tanggal : 24 Nopember 2009



PETA WILAYAH IZIN USAHA PERTAMBANGAN
DI DAERAH LOA JANAN DAN LOA KULU
KABUPATEN KUTAI KARTANEGARA
PROVINSI KALIMANTAN TIMUR

N

Skala 1 : 100.000

Nomor Lokasi	KETERANGAN
KW.KTN 2009 1654 OP	*LUAS : 1.933 Ha*

DINAS PERTAMBANGAN DAN ENERGI KABUPATEN KUTAI KARTANEGARA
UNIT PELAYANAN INFORMASI DAN PENCADANGAN WILAYAH PERTAMBANGAN (UPIPWP)

Keterangan :
- Lokasi IUP
- Sungai
- Jalan
- Batas Wilayah

Sumber Peta :
Peta Rupabumi, Bakosurtanal 1991
Datum Horizontal Datum Geodesi Nasional (DGN 95), WGS 84

PETA INDEKS
KABUPATEN KUTAI KARTANEGARA

Pemohon : PT. RINJANI KARTANEGARA
Hari dan Tanggal Proses : 24 Nopember 2009
Jam Proses : 10.13
Operator : Mei Chidayanto, ST
Catatan : Persetujuan IUP Operasi Produksi

Dikeluarkan di Tenggarong
Pada Tanggal 24 Nopember 2009
Pj. Bupati Kutai Kartanegara

Drs. H. SJACHRUDDIN, MS. MM

LAMPIRAN II
KOORDINAT WILAYAH IZIN USAHA PERTAMBANGAN OPERASI PRODUKSI

Nama Perusahaan : PT. RINJANI KARTANEGARA

Lokasi

- Provinsi : Kalimantan Timur
- Kabupaten : Kutai Kartanegara
- Kecamatan : Loa Janan dan Loa Kulu
- Komoditas : Batubara
- Luas : 1.933 Ha
- Kode Wilayah : KTN 2009 1654 OP

No. Titik Koord.	Bujur Timur			Lintang (LU/LS)			
	ø	'	"	ø	'	"	
1.	116	52	02.13	0	44	10.00	LS
2.	116	52	02.13	0	44	32.63	LS
3.	116	52	19.36	0	44	32.63	LS
4.	116	52	19.36	0	46	02.65	LS
5.	116	51	53.04	0	46	02.65	LS
6.	116	51	53.04	0	47	48.18	LS
7.	116	51	00.00	0	47	48.18	LS
8.	116	51	00.00	0	48	00.00	LS
9.	116	51	48.20	0	48	00.00	LS
10.	116	51	48.20	0	47	56.40	LS
11.	116	51	54.00	0	47	56.40	LS
12.	116	51	54.00	0	47	53.43	LS
13.	116	51	58.61	0	47	53.43	LS
14.	116	51	58.61	0	47	51.20	LS
15.	116	52	04.40	0	47	51.20	LS
16.	116	52	04.40	0	47	45.11	LS
17.	116	52	11.69	0	47	45.11	LS
18.	116	52	11.69	0	47	34.26	LS
19.	116	52	16.44	0	47	34.26	LS
20.	116	52	16.44	0	47	24.45	LS
21.	116	52	22.39	0	47	24.45	LS
22.	116	52	22.39	0	47	17.17	LS
23.	116	52	26.10	0	47	17.17	LS
24.	116	52	26.10	0	47	08.25	LS
25.	116	52	31.60	0	47	08.25	LS
26.	116	52	31.60	0	47	00.08	LS
27.	116	52	38.59	0	47	00.08	LS
28.	116	52	38.59	0	46	57.85	LS
29.	116	52	46.46	0	46	57.85	LS
30.	116	52	46.46	0	46	56.96	LS
31.	116	52	58.21	0	46	56.96	LS
32.	116	52	58.21	0	46	54.43	LS
33.	116	53	07.42	0	46	54.43	LS
34.	116	53	07.42	0	46	53.69	LS
35.	116	53	14.26	0	46	53.69	LS
36.	116	53	14.26	..dst..			

No. Titik Koord.	Bujur Timur			Lintang (LU/LS)			
	ø	'	"	ø	'	"	
36.	116	53	14.26	0	46	52.97	LS
37.	116	53	14.41	0	46	52.97	LS
38.	116	53	14.41	0	46	51.16	LS
39.	116	53	23.32	0	46	51.16	LS
40.	116	53	23.32	0	46	49.38	LS
41.	116	53	35.66	0	46	49.38	LS
42.	116	53	35.66	0	46	47.74	LS
43.	116	53	46.36	0	46	47.74	LS
44.	116	53	46.36	0	46	44.77	LS
45.	116	54	00.00	0	46	44.77	LS
46.	116	54	00.00	0	44	10.00	LS

Lampiran III
Hak dan Kewajiban

A. Hak

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

B. Kewajibau

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

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